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Scientific Technical and Economic Committee for Fisheries (STECF) – Social Data in EU Fisheries: methodology, dissemination, analysis and evaluation (STECF 25-02 & 25-13)

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Abstract

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

This publication includes: 1) a demographic and social overview of the EU fishing, aquaculture and processing sectors in 2023; 2) trend analyses for the years 2017-2023; and 3) a detailed demographic and social overview of each Member State’s fishing sector.

STECF Report on EWG 25-02 & 25-13

Request to STECF

STECF is requested to evaluate the findings of the STECF Expert Working Group social report (ASOR) and make any appropriate comments and recommendations in view of its publication. Furthermore, STECF is requested to confirm the methodology used for the fisheries wages.

STECF comments

STECF acknowledges the substantial effort undertaken by the Expert Working Groups (EWG 25-02 and 25-13) and the supporting ad hoc contracts in preparing the first Annual Social Report (ASOR). The report represents the first systematic effort to enable the assessment progress toward the objective of social sustainability in EU fisheries, complementing the long-established Annual Economic Report (AER) and contributing to the integration of the environmental, economic and social pillars of the Common Fisheries Policy (CFP).

STECF notes that the ASOR compiles and analyses social data collected under the DCF/EU-MAP framework for fisheries, aquaculture and processing sectors for the years 2017, 2020 and 2023. In addition, STECF notes that an ad hoc data call on social variables was issued in 2025 to support the preparation of the ASOR. The report integrates multiple sources of information, including the mentioned Social Data Call, Economic data call and additional datasets provided by Eurostat, EMSA and EUMOFA, enabling a broader perspective on the social dimension of the sector.

STECF notes that the analysis combines quantitative indicators with expert-based qualitative interpretation, reflecting the complexity of social sustainability analysis and the limited availability of harmonised social indicators across Member States. STECF considers that this approach is appropriate given the current limited state of social data collection, but it also requires a high level of expertise and careful interpretation of the available information.

Comments on the outcome of the EWGs

STECF notes that given time and resource constraints, the analysis of the aquaculture and processing sectors in this first edition of the report is limited to a descriptive presentation of the available data, while the fisheries sector is analysed in greater depth. STECF notes that this represents a phased approach, with future ASOR editions expected to expand the analytical scope and integrate cross-sectoral perspectives.

STECF observes that the report outlines important trends in the EU fisheries workforce. In 2023, the EU fisheries employed an estimated 119 989 fishers aboard 53 260 active vessels. STECF notes that fisheries employment has declined 15% since 2017, with full-time equivalents (FTE) falling 25%. The workforce is ageing: the proportion of fishers over 40 rose from 65% to 71%, while those under 40 dropped from 31% to 26%, raising concerns regarding

generational renewal and the long-term attractiveness of the sector. Regarding gender participation, the report indicates that employment is largely male (95%), with low (60%) or medium (29%) education levels dominating. Most fishers (86%) are national workers, though non-EU/EEA workers now represent 10% of the workforce.

Data issues and methodological considerations

STECF notes that the analysis highlights several caveats related to data availability, definitions and data provisions.

Although the quality of social data in terms of completeness and consistency with the Economic data call, appears to have improved between 2017 and 2023, the assessment of trends of key indicators remains challenging. Changes in national data collection approaches over time make it difficult to distinguish real structural developments from methodological effects (e.g. employment profile - owner, employee- by vessel size).

STECF notes that while the reporting framework allows the submission of combined variables (e.g. gender by age or nationality), Member States are not required to provide such combinations. As a result, the ability to analyse relationships between social variables remains limited. STECF observes that such combined variables would significantly improve the understanding of workforce structure and social dynamics within national sectors and at EU level.

STECF also notes that the definitions of several variables require clarification. In particular, the definition of employment status is not sufficiently explicit in the current guidelines (Guidance Document for the Social Variables[1] and the Economic Regional Work Plan 2025-2027[2]). Differences in interpretation among Member States complicate cross-country comparisons and may require data aggregation during data-processing, potentially reducing the analytical value of the dataset.

Regarding employment by age, STECF notes that the EWG considers that it would be beneficial to split the age class 40-64 into 40-54 and 55-64, as already suggested by EWG 22-14 and currently used by some Member States, to better capture ageing within the workforce. STECF notes that this adjustment has already been addressed in the Economic Regional Work Plan 2025-2027.

STECF notes that the definition of the education variable, while appropriate for standard formal education, does not fully capture the specific characteristics of education and training in the fisheries sector. Beyond conventional education levels, fishers are required to undertake mandatory training, which must be periodically renewed, and often participate in vocational training, resulting in a continuous, lifelong learning pathway that builds skills and professional capacity.

STECF also notes that data completeness varies across Member States, with some variables partially reported or classified as “unknown” for some Member

[1] Available at https://datacollection.jrc.ec.europa.eu/documents/d/dcf/eumap_guidance_social
[2] https://datacollection.jrc.ec.europa.eu/documents/d/dcf/econ_rwp_2025-2027

States. STECF considers that this limitation should be explicitly acknowledged when interpreting the results. For example, the nationality variable reports significant percentage of unknowns for several Member States, which limits the robustness of the EU-level analysis of workforce mobility.

According to the EMFAF Regulation 2021/1139 art. 2 (14) small-scale coastal fishing' means fishing activities carried out by (a) marine and inland fishing vessels of an overall length of less than 12 metres and not using towed gear as defined in point (1) of Article 2 of Council Regulation (EC) No 1967/2006 (28); or (b) fishers on foot, including shellfish gatherers. STECF notes that data collected under EU-MAP do not include fishers on foot, either in the fishing AER data call (associated to the vessels) or aquaculture data call. The omission of shellfish and seaweed gatherers from EU fishery statistics results in not only a lower number of total employment than in reality, but also in a substantial under-representation of women in the data, particularly in countries such as Spain, France and Portugal.

STECF notes that the report also identifies specific national data issues. For instance, data reported for Portugal were found to be incomplete, with a confirmed omission of a relevant number of individuals due to reliance on administrative records. This discrepancy affects EU-level trends.

STECF notes that Greece reported FTE by gender for 2017 in the social dataset, but no FTE data for 2017 were submitted in the Economic data call. Nevertheless, the ASOR reports different FTE trends, one based on the fleet economic database and one on the social dataset. As a result, the analysis reports different percentage changes in FTE trends depending on the data source used.

STECF notes that the analysis of wages in the report relies on a comparison between fisheries labour costs derived from the AER data call and labour cost indicators obtained from Eurostat. The approach adopted in the report appropriately recognises that the Data Collection Framework (DCF) records labour costs rather than wages, combining personnel costs and the estimated value of unpaid labour. For the purpose of cross-sector comparison, the report therefore uses Eurostat hourly labour cost data, which include both wage and non-wage components, and converts them into annual labour costs using national full-time equivalent working hours. While this methodology represents the closest available comparison with DCF labour cost data and it has been already used in the EU Blue Economy Observatory and published in recent papers on the wage attractiveness of the EU fishing sector (Guillen et al., 2025; Borriello et al., 2025), STECF notes that the resulting comparison should be interpreted with caution. In particular, the methodology assumes that the share between labour costs and wages is similar in fishing and other sectors. STECF notes that the EWG highlighted how this assumption may affect the interpretation of the results as institutional arrangements in the fisheries sector, such as share-based remuneration systems, self-employment, or lower levels of non-wage benefits in small-scale fisheries, may lead to differences in labour cost composition that are not fully captured by this comparison. STECF considers that the presence of specific regulatory frameworks in the fisheries

sector that reduce taxation and social security contributions on labour, could further contribute to these differences. STECF observes that these aspects highlight the importance of careful interpretation of cross-sector labour costs comparisons derived through this approach.

STECF conclusions

General conclusions

STECF concludes that the ASOR provides a valuable assessment of the social characteristics of the EU fisheries workforce, including employment, demographics, education, nationality, working conditions and generational renewal.

STECF concludes that several data and methodological limitations currently constrain the interpretation of results for trends. STECF concludes that providing more evidence of improvements in data collection for the Member States will increase the usability of the reports.

STECF concludes that based on the review by STECF the draft EWG report submitted to the plenary 26-01 were amended in the following sections: 2. Executive summary; 6. Social dimension of EU fisheries; 7. Social dimension of EU aquaculture, before its publication.

Conclusions on the social data call and data quality

STECF concludes that the current template of the data call cannot be simplified, as it allows for the reporting of combined variables.

STECF concludes that it would be beneficial convening an EWG every three years, aligned with the data call, to ensure data preparation and quality for EU-level analysis and comparability.

STECF concludes that continued efforts should be made to address inconsistencies in the data submitted by Member States and to further improve data completeness and reliability. In this context, STECF encourages the continued use of the Data Transmission Monitoring Tool (DTMT) by future EWGs using the data reported under the social data call to identify and address anomalies or inconsistencies in the reported datasets. STECF concludes that a specific ToR could be added for EWG 26-02 asking to upload and document the data issues identified by EWG 25-13 in the DTMT, following the DTMT guidelines.

Conclusions on the revision and clarification of definition of social data

STECF concludes that RCG_Econ should reinforce the inter-sessional group on social variables to further improve the definition and provision of social data. Areas where improvements are needed include:

- Reporting of data disaggregated by type of fishing activity (Small-scale coastal fleet; Vessels under 12 metres using active gears; Large-scale

fleet; Distant-water fleet), as well as the provision of combined variables. Currently, Member States are not required to provide such information; however, variables combining characteristics such as gender and age, or nationality and employment status, would greatly improve the ability to analyse social patterns and labour dynamics within the sector.

- The introduction of an additional education-level category, namely vocational training, to improve the capacity of the report to assess professional training and workforce development, as already suggested by STECF (PLEN19-03).
- The definition of the variable “Full-time equivalent (FTE) by gender”, which is currently excluded from Table 5.2 of the Economic Regional Work Plan, pending further discussion and agreement within RCG_Econ.
- The introduction of a new fleet segment for social data collection, to enable the reporting of data on fishers on foot, which are currently not captured within the existing fleet segmentation. STECF suggests that RCG_Econ propose this additional segment for inclusion in the social data call.

Conclusions on the structure and methodological development of the report

STECF acknowledges that the ASOR applies sound methodological approaches to assess the social characteristics of European fisheries, including, for example, the comparison between fisheries labour costs per FTE and economy-wide labour cost indicators. However, further methodological refinement in future ASOR editions could be beneficial. In this regard, the work foreseen under EWG 26-18 Economics Methodologies will/may provide useful contributions to support such improvements.

Given that the social data call occurs on a three-year cycle, and considering the limitations associated to the current socio-demographic variables of the DCF to support social impact assessments and the generation of evidence on the social dimension through National Fisheries Profiles[3] and Fisheries Community profiles, additional expert groups in the intervals to address specific or emerging policy priorities could be beneficial.

[3] https://op.europa.eu/en/search- results?p_p_id=eu_europa_publications_portlet_search_executor_SearchExecutorPortlet_INSTANCE_q8EzsBteHybf&p_p_lifecycle=1&p_p_state=normal&queryText=national+fisheries+profiles&facet.collection=EUPub&startRow=1&resultsPerPage=10&SEARCH_TYPE=SIMPLE

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REPORT TO THE STECF

SOCIAL DATA IN EU FISHERIES (25-02 & 25-13)

31 MARCH – 4 APRIL 2025
13 – 17 OCTOBER 2025

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 STECF EWG 25-02 met during 31 March–4 April 2025 virtually. The meeting opened at 09:00 on 31 March and was adjourned at 18:00 on 4 April 2025.

The STECF EWG 25-13 met during 13–17 October 2025 virtually. The meeting opened at 09:00 on 13 October and was adjourned at 18:00 on 17 October 2025.

The structure of the Report was initially developed by EWG 25-02. This design was revisited in August 2025 by a group of experts under an ad hoc contract which aimed to assess how qualitative information could be included in the Annual Social Report (ASOR) in a structured, transparent and systematic way. In order to ensure coherence and robustness in the integration of quantitative and qualitative information. As a result, adjustments were made to the overall structure of the report.

The August ad hoc contract group also prepared the EWG 25-13 meeting agenda, developed comprehensive guidelines for the authors of the Member States chapters, drafted the initial glossary, and coordinated data requests for relevant Annual Economic Report (AER) variables as well as additional sources, including Eurostat and the European Maritime Security Agency (EMSA).

The structure of the ASOR, its implementation for the first time under a newly established configuration, together with the fact that data verification and processing were undertaken within the same EWG 25-13 responsible for drafting the report, prevented the timely completion of the assigned tasks. Consequently, as a contingency measure, an ad-hoc group of experts was commissioned to prepare the EU chapter, ensure data quality and finalize the report in December 2025.

1.1 Terms of Reference for EWG-25-13

1.1.1 Background and general objectives provided by the Commission

The Common Fisheries Policy identifies social sustainability of fisheries and aquaculture as one of its core objectives. Over the past five years, STECF EWGs (notably EWG 24-05, 23-17, 22-14, 20-14 and 19-03) have developed a range of tools and data frameworks under the EU Fisheries Social Dimension Toolbox, including:

- National Fisheries Profiles (NFPs)
- Fisheries Community Profiles (FCPs)
- Social indicators and associated datasets

These tools support the operationalisation of the CFP’s social dimension and the delivery of integrated advice. In 2025, the European Commission will

publish the **first Annual Social Report (ASOR)**, offering a consolidated overview of the CFP's social dimension across fisheries, aquaculture, and processing.

The ASOR will present the analysis of the 2025 social data call, assessing employment, gender, education, working conditions, and generational renewal. It will also respond to an increasing demand for evidence in the context of the 2024 **European Court of Justice ruling (CASE C-330/22)**, which clarified that **Article 2 of Regulation (EU) 1380/2013** must be interpreted as a whole—requiring economic, environmental, and social objectives to be met simultaneously.

The output of **EWG 25-02** (March–April 2025) defined the report structure (1.1.3) and methods (section 5) (see the full report of EWG 25-02 as electronic annex). The report aims to provide an in-depth examination of the factors influencing the social performance of the EU fishing fleet, focusing in particular on the main drivers and emerging issues that intersect with the economic viability and resilience of the sector. In support of this objective, EWG 25-13 will deliver a systematic interpretation of the quantitative data collected through the social data call, identifying patterns, disparities, and structural challenges across Member States and fleet segments. This includes analysing labour indicators, demographic trends, safety at sea, quality of employment, and community dependency on fisheries. The work will also address the limitations of the current dataset and highlight critical gaps in knowledge that may hinder effective monitoring of social sustainability under the CFP.

In addition to the quantitative assessment, EWG 25-13 will incorporate expert-based qualitative analysis to explore the underlying causes and broader context of observed trends in social performance. Drawing on members' scientific expertise and benchmarking with international practices, the group will provide policy-relevant insight into key social drivers such as generational renewal, gender representation, and workforce attractiveness—as well as interactions with market conditions, regulatory pressures, and regional socio-economic dynamics. The overarching goal is to ensure that the ASOR provides a high-quality, policy-useful synthesis of available evidence to inform DG MARE, Member States, and stakeholders at EU, regional, national, and fleet segment levels.

For this first report, due to time and resources limitations, the social analysis of the processing and aquaculture sectors will be limited to a description of the data gathered. Future ASORs will broaden the scope of the analysis.

1.1.2 Data transmission issues

All data-related issues that may affect the completeness, consistency, or interpretability of the social data used in the ASOR, and its associated STECF outputs (e.g. Annual Economic Report), must be reported via the Data Transmission Monitoring Tool (DTMT). This includes missing or inconsistent national submissions, misalignments between variables, or methodological discrepancies that could undermine the quality and robustness of the analysis.

Particular attention should be paid to transmission gaps that prevent full EU-level aggregation or regional comparability.

Experts are also requested to review and follow up on previously flagged data issues, as recorded in earlier EWG reports or the DTMT, and to assess whether these have been appropriately resolved by Member States. Any persisting or newly identified issues should be clearly documented, with recommendations provided where applicable to support improvement in future data cycles and enhance the reliability of the social dimension monitoring framework.

1.1.3 Outline of the ASOR

STECF is requested to provide the Annual Social Report (ASOR) on the EU fisheries sector for 2025, including the following chapters and sections:

1. Executive Summary

2. Using the ASOR to support evidence informed decision-making

3. Introduction

3.1. Overview of the EU Fisheries sector

3.2. Objectives of the report

3.3. Structure of the ASOR 2025 report (v.0) compared to future ASORs (v.1):

- Aquaculture and processing sections in the ASOR 2025 focus on descriptive analysis of the data. Analysis of trends at EU level for these subsectors and across subsectors is intended to be included from 2026 onwards. The descriptive analysis of the aquaculture employment data needs to be fully in line with the social chapter of the latest Aquaculture Report.

- Special topics are not included in the ASOR 2025. From ASOR 2026 onwards one special topic[4] will be selected yearly to be fully analysed.

4. Methods and data, including data availability

5. Social dimension of EU Fisheries

5.1. Demographic characteristics of EU Fisheries

5.1.1. Employment

5.1.2. Age, education, nationalities in EU fisheries

5.1.3. Generational renewal

5.1.4. Gender equality

5.2. EU fisheries trends (social sustainability analysis)

5.3. Outlook and future trends

6. Social dimension of EU Aquaculture

6.1. Demographic characteristics of EU Aquaculture

6.1.1. Employment

[4] In future ASORs special topics could be chosen among the following suggestions: social, cultural and economic aspects of fisheries; governance system and management measures; working conditions and wellbeing; generational renewal; spatial competition; value chain analysis.

6.1.2. Age, education, nationalities in EU fisheries
6.1.3. Generational renewal
6.1.4. Gender equality
7. Social dimension of EU Processing
7.1. Demographic characteristics of EU Processing
7.1.1. Employment
7.1.2. Age, education, nationalities in EU fisheries
7.1.3. Generational renewal
7.1.4. Gender equality 8. Member State Analysis [one chapter per MS]
8.1. Executive summary
8.2. Demographic characteristics of employment and social indicators in fisheries
8.2.1. Employment
8.2.2. Demographics of the workforce
8.2.3. Education breakdown
8.2.4. Nationality breakdown
8.2.5. Gender equality
8.3. Demographic characteristics of employment in aquaculture
8.3.1. Employment
8.3.2. Demographics of the workforce
8.3.3. Education breakdown
8.3.4. Gender breakdown
8.4. Demographic characteristics of employment in processing
8.4.1. Employment
8.4.2. Demographics of the workforce
8.4.3. Education breakdown
8.4.4. Gender equality
9. Appendices
10.1 Data Tables and charts
10.2 Methodology (calculations/forms of indicators)
10.3 Glossary of Terms
10.4 Report on EWG 25-02 ToRs
10.5 References

1.1.4 Workflow and outputs of the EWG

The STECF EWG is requested to:

1. ToR 1 - Draft the Annual Social Report 2025 (ASOR)

1.1. The EWG is requested to draft the National Chapters and subsequently the European Chapters, using inputs extracted from:

- the 2025 social data call for fisheries, aquaculture and processing;
- the EuroStat Labour Force Survey microdata extraction, requested by DG MARE;
- the EMSA accident data extraction, requested by DG MARE;
- the EUMOFA data extraction, requested by DG MARE;
- the templates prepared by EWG 25-02;
- and the input from the ad-hoc contracts on the integration of qualitative data.

1.2. The EWG is request to draft the executive summary highlighting the key policy-relevant findings and the significance of the 2025 data in the context of social sustainability.

1.3. 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 online via the Data Transmission Monitoring Tool (DTMT) available at: https://datacollection.jrc.ec.europa.eu/web/dcf/dtm

2. ToR 2 - Ensure quality control and integration of all chapters

2.1. Harmonise formatting of all chapters and annexes according to STECF guidance (text structure, fonts, references, graphical standards, use of € symbols, etc.).

2.2. Ensure the methodological coherence of indicators and social variables, and link analysis to available economic indicators where relevant.

2.3. Integrate national and EU-level insights from NFPs (National Fisheries Profiles) and FCPs (Fisheries Community Profiles), ensuring coverage of all coastal regions and representative fleet segments.

3. ToR3 - Document how the EWG 25-02 Terms of Reference were addressed, to be included as an annex to the ASOR

1.1.5 Additional Information

The draft ASOR will be submitted for **STECF endorsement in plenary**, to review and validate the final content.

The draft final report will be delivered to STECF and DG MARE in **October 2025**. Once it has been reviewed by the STECF plenary, the final report will be published online.

2. EXECUTIVE SUMMARY: THE ASOR 2025

The ASOR is the first systematic effort to assess the progress to the objective of social sustainability in the EU fisheries. This report covers the period 2017 to 2023 and presents social data collected under the DCF for fisheries, aquaculture and processing in the EU. As such the ASOR provides evidence to inform decision making, identifies relevant social issues and supports the provision of sound scientific advice addressing the social dimension of the fisheries sector. In this first edition of the report, the aquaculture and processing sections of ASOR 2025 are limited to a descriptive analysis of the available social data. In contrast, the fisheries section goes beyond description by contextualizing and interpreting the social data using multiple sources of information. Consequently, this executive summary places greater emphasis on the fisheries sector.

Total employment across all-sectors in 2023.

The EU fisheries, aquaculture and processing industry accounts for an estimated 298 831 jobs in 2023 (DCF social data call for fisheries, Nielsen et al., 2026 for aquaculture and STECF 25-15 for processing[5]) and collectively positions the EU as the world's seventh-largest producer of seafood products (FAO, 2024).

Of these jobs, 40% are found in fisheries where 119 989 people work on board of 53 260 active vessels (out of 70 280 vessels in total). Most of these active vessels belong to the small-scale coastal fleet (77%), which employs over half of all fishers is the EU,

The remaining fishers are employed in other fishing activities mainly the large scale fleet (with 16.5% of active vessels), and vessels under 12m using active gear (L12AG; (5.8% of active vessels). Less than 0.5% of fishers work in the DWF fleet (with comprises 0.5% of active vessels and is present in nine Member States).

Aquaculture employs 23% of the jobs, employing 67 962 people. Spain, France, Greece, and Italy, together account for 64% of the EU's total production volume.

[5] The data presented should be interpreted with caution. While the EU-MAP (DCF) framework establishes an obligation for Member States to collect socio-economic data for the aquaculture and processing sectors, the implementation of social variables is subject to a degree of flexibility. In practice, data availability often depends on partial reporting and, in some cases, on voluntary participation by economic operators, which may result in incomplete coverage. According to the Social DCF, total employment in fisheries, aquaculture and processing sectors in 2023 is 248 875 jobs. However, the STECF periodic reports on Aquaculture and Processing sectors use estimates of the employment figures frequently derived through the integration of multiple sources (DCF, EUROSTAT, Member State data, and Expert Working Group (EWG) assessments), providing a more comprehensive representation of sectoral activity. For reasons of methodological consistency, the Social DCF dataset has been used in the ASOR; however, figures reported in dedicated Aquaculture and Processing studies, which draw on combined data sources, are likely to offer more robust estimates and have been used here for the overall description of the three sectors.

The EU aquaculture sector is diverse and represents less than 1% of global production, yet it supplies 23% of EU's fish and shellfish in 2022.

In the processing sector, 37% of the jobs are found. In 2023, 110 879 people were employed in in 3 262 enterprises across the EU where processing fish is the primary business activity. Approximately two third of these enterprises are micro firms with less than 10 employees. In addition, a further 905 enterprises include seafood processing as part of a broader business portfolio.

Social data trends in Fisheries

Data from the social data call indicate a general downtrend in the EU fisheries sector, reflected in reductions in both the number of vessels and levels of employment. This pattern is consistent with evidence from other data sources, which also indicate decreases in per capita fish consumption in the EU and a declining self-sufficiency rate for fishery products, falling from 46.1% in 2014 to 37.5% in 2022.

In parallel, the AER points to a weakening of economic performance in the EU fisheries sector, with declines in gross value added, gross profit, and net profit, reflecting ongoing structural and economic pressures. In general, the ability to "make a living from fishing" is under strain due to a combination of factors: limited resource availability (stock status and reduced fishing opportunities), economic variability and viability (AER, 2025), weakened social capital (e.g., low trust and respect between fishers and other stakeholders), limited representation of fisheries interests in societal decision-making (e.g., marine spatial planning), and low societal recognition of the sector, linked both to the disconnection between consumers and primary producers and to the prominence of other Blue Economy activities (see National Fisheries Profiles for details by Member State).

Employment across the EU fell by 15% between 2017 and 2023, a general trend across most Member States, with the exceptions of Belgium, Croatia, Cyprus, and Slovenia[6]. Employment remains concentrated in southern Europe, particularly in Greece, Spain, France, Italy, and Portugal, and largely within small-scale coastal fisheries (SSCF), where at least one in two fishers in the EU is employed. The reduction in full-time equivalents (FTEs) since 2017 (–25%) exceeds the decline in total employment, indicating shorter average working hours per fisher and an increasing prevalence of part-time or seasonal employment, although the stability in the number of days at sea suggests a manteined or increased workload highlighting the need to interpret the data in the context each Member State and fishing activity.

Most fishers in the EU are employees (52%), with the remainder being owners (38%) or of unknown status (10%). Recent data indicate a relative increase in owner-based employment. The workforce is heavily concentrated in the 40–64 age group, which accounts for more than 50% in most countries. While shares vary between Member States, the overall trend shows an ageing workforce:

[6] This figure reflects the corrected values for Portugal for 2017. See section 6.3 and Portugal Chapter for details.

between 2017 and 2023, the proportion of fishers over 40 increased from 65% to 71%, while those under 40 declined from 31% to 26%. This represents a notable shift over just six years and aligns with the longer-term trend observed over the past two decades of declining generational renewal, raising concerns over succession, skills transfer, and the attractiveness of fisheries as a career.

The pattern is consistent across most Member States, regardless of fleet size. Generational renewal has been identified as a top priority in the policy agenda at Member States and the EU level, and is influenced by a complex mix of economic, social, and psychological factors affecting the entry of new fishers in the workforce. Additional variables are currently being piloted by several Member States within their DCF national Work plans[7] to better understand the challenges, but available data suggest that, without intervention, the issue is likely to continue worsening. These findings underscore the need for a precautionary approach and targeted policy measures to support generational renewal in the EU fisheries sector.

Employment in the EU fisheries sector is predominantly among individuals with low (60%) or medium (29%) education levels, while those with a high education level account for a small share (4%). Low education is the dominant category in several Member States with large employment bases. However, the definition of the education variable in the DCF, while appropriate for standard formal education, does not fully capture the specific characteristics of education and training in the fisheries sector. Beyond conventional education levels, fishers are required to undertake mandatory training, which must be periodically renewed, and often participate in vocational training resulting in a continuous, lifelong learning pathway that builds skills and professional capacity. Considerable variation exists between Member States, reflecting differences in fleet structure as well as data completeness.

Fisheries employment at EU level remains overwhelmingly male, with women accounting for less than 5% of total employment. Despite EU policies and strategies to advance gender equality, prevailing social perceptions—sometimes rooted in cultural norms and patriarchal values—tend to frame fishing, particularly offshore work onboard vessels, as a predominantly male occupation, often justified by the physically demanding nature of the work. Nevertheless, women have long participated in fishing activities onboard vessels, particularly in small-scale fisheries. In some countries, including Croatia, Finland, Greece, Poland, Spain, and Sweden, young women work alongside men in small-scale fisheries, representing up to 15% of the workforce.

Data collected under EU-MAP do not include shellfish and seaweed gatherers who work on foot, most of whom are women (e.g., 3 779 in Spain, 60% women). This omission leads to both an underestimation of total employment and a substantial under-representation of women in fisheries statistics, particularly in Spain, France, and Portugal. Similarly, while Directive 2010/41/EU formally recognizes women's contributions to family fisheries

[7] See https://dcf.ec.europa.eu/wps-and-ars/work-plans_en for details.

enterprises, participation recorded under the unpaid labour section does not completely capture this role.

In the fishing industry, most Member States rely predominantly on national labour, with the majority exceeding 80%, although reliance varies across fleet segments. Overall, 86% of the fishing workforce are citizens of the respective Member State, a figure that has remained largely stable since 2017. The most notable change at EU level is a 2.2% increase in non-EU/EEA workers, who now represent 10% of the total workforce. Certain countries—Lithuania, Malta, Spain, Belgium, and Germany—and specific fleet segments, particularly the large-scale fleet (LSF) and distant-water fleet (DWF), show higher dependence on non-national workers, increasing exposure to labour market disruptions or shifts in migration policies.

To better capture the social dimension beyond basic demographic indicators, the ASOR assessed additional social variables available across the EU from multiple data sources. Key topics identified by policy and stakeholders (EWG 2025-02) were analysed by selecting variables related to material wellbeing and social welfare. This included examining wages and unpaid labour, with a particular focus on small-scale fisheries; social security coverage for vessel owners and crew operating on EU fishing vessels; compliance with relevant international standards, including ILO Convention C188 and the IMO conventions STCW 1978 and STCW-F on seafarer training and certification; and accidents at sea.

For wages, annual labour cost from EUROSTAT was used as it provides the closest cross-sectoral comparison to fishing labour costs collected under the DCF. Focusing on 2023, the most recent year of comparison, the average fishing labour cost per FTE across the EU fleet was EUR 29 447 per year, just under half (48%) of the EU average of EUR 61 541. Fishing labour costs are below the national average in most Member States (16 of 22 coastal states), with the highest costs per FTE reported in Belgium and Denmark and the lowest in Cyprus, Bulgaria, Malta, Slovenia, Greece, and Poland. While some DCF-reported labour costs per FTE may be unlikely in magnitude, the overall trends over time and across Member States are expected to reflect actual differences in fishing labour costs.

The wages section of the EU and Member States chapters should be interpreted with caution. Assuming that the relationship between labour costs and wages is broadly similar in fisheries and in other sectors, the observed differences in labour costs can be extended to wages, suggesting that fishing wages are lower than the national average in most Member States. However, if non-wage benefits in fisheries are relatively limited—particularly in small-scale fisheries—then fishing wages may compare more favourably to national average wages, as earnings in fisheries may more closely reflect total labour costs than in other sectors.

Social security systems differ across European Union Member States and apply to their citizens and residents. These systems typically include provisions for healthcare, unemployment, sickness, disability, maternity, work-related accidents, retirement pensions, statutory minimum wages, and statutory

retirement ages. In a few Member States, notably France and Spain, fishers fully benefit from a so-called special regime that covers both vessel owners and crew members, regardless of nationality. Other Member States, including Germany, Greece, Croatia, Italy, and Portugal, operate partial special regimes for fishers. In addition, some Member States have introduced specific provisions to address seasonal unemployment linked to particular circumstances or fisheries management measures.

Working conditions on board fishing vessels are shaped in part by international regulatory frameworks, notably ILO Convention C188 and the IMO conventions STCW 1978 and STCW-F, which set standards for labour conditions, training, and the certification of seafarers. In the EU, the provisions of ILO Convention C188 are implemented through Council Directive (EU) 2017/159 of 19 December 2016, which gives effect to the Agreement concerning the implementation of the ILO Work in Fishing Convention, 2007. To date, nine Member States have ratified ILO Convention C188, while IMO STCW 1978 has been ratified by all Member States and STCW-F by nine.

In parallel, safety at sea remains a key dimension of working conditions. Between 2011 and 2023, the number of recorded accidents at sea involving EU-flagged fishing vessels increased sixfold, from 106 to 663. These records include marine casualties and incidents involving vessels flying the flag of an EU Member State, occurring within EU Member States' territorial seas or internal waters as defined under, or involving other substantial interests of EU Member States (EMSA, 2025). Since 2017, the trend has stabilised at around 600 accidents per year. By vessel size, most accidents occur in the 0–12 m fleet and the 24–45 m fleet, with the latter appearing disproportionately affected relative to its share of vessels or days at sea. However, the data itself may diverge from national datasets and need to be interpreted with caution.

The content of this report is derived from data submitted by Member States in response to the 2025 Social data call issued by DG MARE.

Table 1. EU Social data call by sectors

Sector	Social data collection	STECF Reports
Fishing	Mandatory Every three years	STECF 19-03 STECF 22-06
Aquaculture	Mandatory Every three years	STECF 20-12 STECF 22-17 STECF 24-14
Processing	Voluntary Every three years	STECF 19-15 STECF 21-14 STECF 23-14

Source: EU-MAP and STECF reports

The methodologies and procedures employed by individual Member States are described in detail within their respective Work Plans and Annual Reports prepared under the Data Collection Framework (DCF).

These documents are referenced in the metadata file, accessible at: https://stecf.jrc.ec.europa.eu/documents/d/stecf/2025_fleet_metadata. The Economic Regional Work Plan 2025-2027 includes the definition of social varaibles and further specifications, available at: https://fisheries-rcg.eu/wp-content/uploads/2026/01/2025-2027_RCG-ECON_Regional-Work-Plan.pdf.

The collection of social indicators for the EU fishing fleet, aquaculture- and fish processing industry was introduced by Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy (EU MAP). The social variables, to be collected every three years from 2018 onwards, are: Employment by gender; Full Time Employment (FTE) by gender; Unpaid labour by gender; Employment by age; Employment by education level; Employment by nationality; Employment by employment status; Total FTE National (STECF-19-03).

Five STECF Expert Working Groups (EWG) on social data in fisheries have taken place (19-03, 20-14, 22-14, 23-17, 24-05). The first EWG 19-03 reviewed the initial set of social data collected under the DCF (reference year 2017) and provided an EU level overview with Member states chapters describing the data and discussing potential improvements and refinements in the collection of social data in EU fisheries (STECF 19-03). In the subsequent EWGs, a social analysis toolbox was built including National Fisheries Profiles, Fisheries Community Profiles and proposals for new social indicators. Following contributions from the latest EWG reports, the Commission decided to ask STECF to produce the first dedicated annual social report on fisheries using these different resources.

- Social data on fisheries were after 2019 only shortly described in AER 2022.
- Social data collected on aquaculture and the processing industry that have been reported every two years as a separate section in their respective Economic Reports.

3. USING THE ASOR TO SUPPORT EVIDENCE INFORMED DECISION-MAKING

The Common Fisheries Policy[8] (CFP Regulation) aims to ensure the long-term sustainability of fisheries and aquaculture by integrating environmental, economic and social dimensions. In addition, the current legal framework refers to labour conditions, health and safety, as well as to job creation and training, social inclusion and a fair standard of living (STECF 19-03).

In recent years, the social dimension of fisheries and aquaculture has received increasing attention, as evidenced in policy documents, advisory requests, and wide-ranging studies. At the EU level, the Commission's Communication on the Common Fisheries Policy today and tomorrow[9] (2023) states that the CFP's social dimension should be given particular attention and calls for an integrated analysis of the EU social dimension of fisheries. Likewise, the Commission has requested advice for better incorporating social factors and addressing social impacts[10], financed extensive studies on social topics (i.e. Haasnoot et al., 2025) and foresighted analysis to inform strategic policy making for a sustainable, competitive and resilient fishing sector (Davies et al., 2024).

However, to date, there has been no systematic effort to assess the progress in regard to this objective of social sustainability. Nor were there any tailor-made actions and regular evaluations of the social monitoring mechanisms implemented under the DCF. This is problematic because fisheries throughout Europe have undergone major structural changes over the last couple of years. Examples are the impact of the COVID pandemic, Brexit, accelerated competition for the use of the marine space, cumulative impacts of environmental policies affecting fisheries and climate change impacting fish stocks and coastal areas. These events have led to important social consequences for both individual fishers as well as for fisheries communities, yet these are currently largely out of sight. Although economic consequences for fleets are subject to annual oversight, social impact, including that on fisheries communities in coastal regions, remain less recorded and understood. This is particularly regrettable given that, in a number of fisheries communities and regions across the EU, the social importance of the fisheries sector outweighs its direct economic contribution (STECF19-03).

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[8] Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013.

[9] Communication from the Commission to the European Parliament and the Council "The common fisheries policy today and tomorrow: a Fisheries and Oceans Pact towards sustainable, science-based, innovative and inclusive fisheries management" COM/2023/103 final https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023DC0103

[10] Examples include the *EU request to ICES on innovative gears for potential use in EU waters and their impacts* (2020), including behavioural drivers and social trade-offs, the *EU request to ICES on how management scenarios to reduce mobile bottom fishing disturbance on seafloor habitats affect fisheries landing and value* (2023), focused on how to better incorporate social factors, and STECF Expert Working Group on Vulnerable Marine Ecosystems VMEs socio-economic impact assessment (STECF 24-09).

In this context, the EU Better Regulation framework[11] requires that impact assessments of policy proposals “examine whether there is a need for EU action and analyse the possible economic, environmental and social impacts of available solutions”. It also requires that all these findings must be published alongside the proposal. That has been the case, for example, in the assessment of fisheries multiannual plans. However, impact assessments have largely adopted a socio-economic approach in which employment is frequently used as the primary, and often sole, proxy for the social dimension. Since 2020, the reports of the STECF Expert Working Group on Social Data have consistently pointed out to the limitations of such an approach and underscored the need for a broader and more nuanced assessment of social impacts.

In the case of fisheries and aquaculture, the lack of comprehensive data and scientific analysis on the social aspects of the CFP has compromised the policy assessment. Pertinent policy relevant questions such as those asked to the EWG 2023 by DGMARE, amongst others: what are the working conditions of fishers in the EU, and are these the same or do they differ across fleets; how attractive is the fishing industry for (new) fishers (younger, female); what is the social impact of policy changes; how vulnerable and how adaptable are fishers considering the constant change they are faced with, etc. (STECF 23-17) could not be answered. In response to this situation, the subsequent EWGs under the STECF have developed a toolbox to unpack the social dimension since 2020, proposing new social indicators in close interaction with policy and stakeholders, whilst considering feasibility of data collection and interpretation of social variables (such as the NFPs and FCPs). The new tools would allow to move beyond restrictive descriptive analysis such as the assessment done in 2019.

The ASOR provides evidence to inform decision making, identifies relevant social issues and supports the provision of sound scientific advice that addresses the social dimension of fisheries. The analysis of the current variables reported by MS through the Social Data call, in combination with the National Fisheries Profiles, the Fisheries Community Profiles and other social indicators, provide a robust evidence base for policy and management. It can thereby help decision makers to address generational renewal (age, education and training, entry barriers); assess inclusiveness and equality (gender and nationality), improve job quality and stability (employment status, unpaid labour, working conditions, social security), and support the development of tailored interventions for fleet, activity and / or Member States (for instance in response to recovery plans and restrictive measures linked to the availability of resources, energy transition or impacts of climate change).

The ASOR enables the assessment of social performance stated in the EU-MAP, the identification of critical trends and challenges, as the provision of actionable insights on the likely outcomes and impacts of policy and management measures before, during and after implementation. By combining social assessments with ecological, environmental, biological and economic

[11] https://commission.europa.eu/law/law-making-process/better-regulation_en

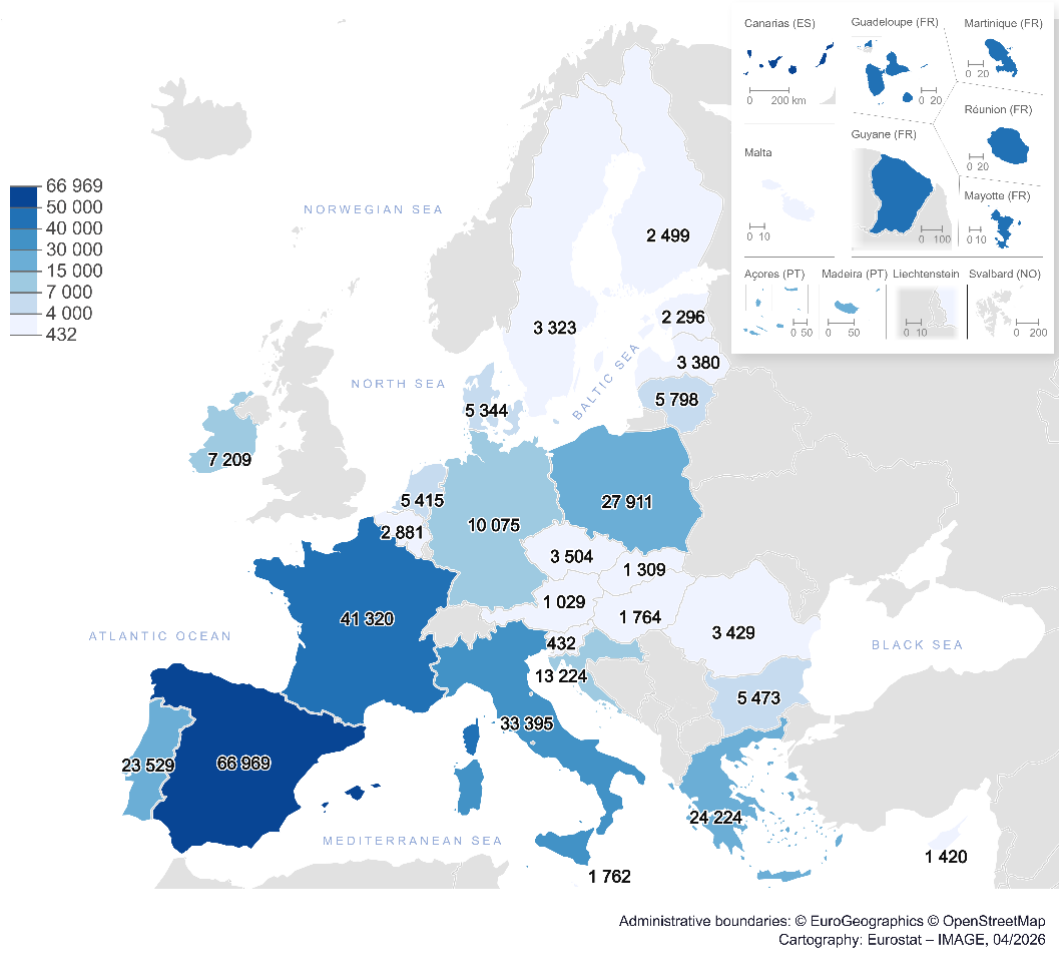
data (AER), the EU is advancing toward the provision of integrated advice to support the EU Common Fisheries Policy.

4. CONTEXT

4.1 Overview of the EU Fisheries sector

The EU fisheries, aquaculture and processing industry accounts for an estimated 284 950 jobs in 2023 (DCF social data call) and collectively positions the EU as the world's seventh-largest producer of seafood products (FAO, 2024).

Figure 1. EU Total employment in fisheries, aquaculture and processing industry (2023)



Source: MS data submission under the 2025 Social Data, Nielsen et al. 2026 for Aquaculture and STECF 25-15 for processing

In recent years, major shocks have affected their economic and social performance. In 2020, the COVID-19 pandemic and related containment measures disrupted supply chains, while placing fishers as essential workers to ensure the continuity in the supply of fishery products as part of the EU food system (Pititto et al., 2021). From February 2022, Russia's invasion of Ukraine led to sharp increases in fuel and energy prices. Impacts on the processing and distribution subsectors were more limited, as imports partially compensated for reduced domestic supply. In addition, the Trade and Cooperation Agreement

following Brexit has progressively reduced the EU share of fishing opportunities in UK waters since 2021 (EC, 2025) and prompted decommissioning schemes and structural adjustments in several Member States.

The assessment of the social performance of the EU fisheries sector builds on STECF scientific advice on biological and economic dimensions, including indicators that can serve as early warning tools. Among these, the fleet capacity balance capacity assessment is selected for its practical relevance to the social dimension.

4.2 Fleet Balance Capacity: a diagnostic tool for social analysis

The balance between fleet capacity and fishing opportunity is analysed through indicators specified in the European Commission Guidelines. The balance capacity indicators provide a harmonised, EU wide screening tool to identify fleet segments where biological, economic, or technical pressures may translate into social impacts. While these indicators do not measure social outcomes directly, they serve as an early signal within parts of the fleet and help to prioritise where deeper social analysis may be required. This screening function is particularly relevant in the context of the CFP, where management measures aimed at addressing capacity imbalance can have downstream effects on employment, income stability, and community resilience.

As reported in STECF 25-12, STECF notes that the terms “in balance” and “out of balance” and analogous terms, are used strictly in relation to the criteria given in the Commission Guidelines (CG), (COM (2014) 545 Final and COM (2024) 223 FINAL). STECF further notes that according to the clarification given by the Commission in COM (2024) 223, for a given fleet segment, if any one of the indicator values prescribed in the CG indicates an imbalance, then this fleet segment is deemed by the Commission to be out of balance with fishing opportunities.

Indicators related to vessel use and economic performance are especially pertinent for social analysis. Reduced vessel utilisation may indicate fewer sea days, irregular working patterns, or underemployment for crews, which in turn can affect income security and household planning. Similarly, unfavourable economic indicators point to pressure on profitability, with potential consequences for wage levels, investment in safety and training, and the long-term attractiveness of fishing as a career. These dynamics have been consistently highlighted in previous STECF social reports as key challenges for workforce sustainability in EU fisheries.

Where fleet segments identified as out of balance are geographically concentrated, the implications may extend beyond individual enterprises to coastal communities. Fishing activity often underpins local employment, services, and cultural identity, and pressures on fleet viability can therefore have wider social and economic consequences at local level. Previous STECF work has emphasised that such distributional and place-based impacts are not well captured by EU level aggregates alone, reinforcing the importance of linking balance capacity results to National Fisheries Profiles and, where

possible, Fisheries Community Profiles (STECF 2022, STECF 2023, STECF 2024).

Overall, the balance capacity assessment should be understood as a diagnostic tool for social analysis rather than a conclusion in itself. Its value for the social dimension lies in highlighting where biological or economic constraints may interact with labour conditions, demographic trends, and community dependence on fisheries, thereby informing more targeted and context specific assessment.

Table 2. Summary of balance indicator values for 2023 (adapted from Table 4.3.4.1 STECF 25-12) with interpretation for social analysis

Indicator	Fleet segments out of balance	Fleet segments assessed	Interpretation for social analysis
Vessel Use Indicator (VUR)	260	463	Suggests under-utilisation of capacity in a large number of segments. From a social perspective, this may indicate fewer sea days, reduced continuity of work, and income volatility for crews and fishing households.
Sustainable Harvest Indicator (SHI)	81	216	Indicates biological pressure in a subset of segments. Social implications are generally indirect and mediated through management responses rather than immediate labour effects.
Current Revenue to Break Even Revenue (CR/BER)	172	338	Points to economic vulnerability in a substantial number of segments. Persistent pressure on profitability can affect wage levels, investment in safety and training, and the longer-term attractiveness of fishing as a career.
Return on Fixed Tangible Assets (RoFTA)	159	338	Low or negative returns suggest limited capacity to renew vessels and equipment, with potential knock-on effects for working conditions and safety at sea.
Return on Investment (RoI)	46	67	Although fewer segments are assessed, unfavourable results indicate weak capital performance, which may constrain resilience at both enterprise and household level.

Source: Own elaboration of Table 4.3.4.1 STECF 25-12 with interpretation for social analysis

4.2.1 Balance capacity results and Member State action plans

Under the CFP framework, Member States are required to submit action plans where fleet segments are identified as out of balance, setting out measures to address the mismatch between fleet capacity and fishing opportunities. The balance capacity report indicates that a significant number of Member States report at least one fleet segment out of balance, thereby triggering the

requirement for such plans, although the scope and coverage of action plans vary considerably across the EU.

The report highlights substantial variation in how action plans are designed and implemented. In many cases, measures focus primarily on technical or capacity related adjustments, such as fleet decommissioning, effort reduction, or changes in fleet structure. In other cases, action plans also refer to economic viability or diversification, although the depth of analysis and the explicit consideration of social impacts differ widely between Member States.

From a social perspective, the limited and inconsistent integration of social considerations into action plans represents a notable gap. While capacity adjustment measures may be necessary to address biological or economic imbalance, they can also have significant implications for employment, income distribution, and coastal communities. The absence of a systematic assessment of these impacts constrains the ability to evaluate how capacity management under the CFP affects social sustainability objectives.

The balance capacity process therefore presents an opportunity to strengthen the link between capacity management and the social dimension of the CFP. Improved alignment between balance indicators, action plans, and social data collection would enhance the evidence base for assessing the social consequences of capacity adjustment and support more coherent integration of biological, economic, and social objectives in EU fisheries management.

4.3 Objectives of the report

This Annual Social Report on fisheries (ASOR) is intended to be the first in a series aimed at reporting on the state and trends of the social dimension of the fisheries sector in the European Union. ASOR is intended to serve as a counterpart to the Annual Economic Report (AER), which has been published since 1999, and encompass the social variables that have been collected since 2019 (reference year 2017) in all EU members states under the Data Collection Framework (DCF). The analysis is conducted in a contextualized manner, a crucial prerequisite for understanding the social data.

National Fisheries Profiles (NPFs) have been developed for this purpose over the last two years (see Figure 2). The NFPs provide a comprehensive assessment and overview of the fisheries sector, emphasizing the social dimension. They help ensure that the best available science is used to inform decision making and societal dialogues. These tools are considered as essential to understand the broader social context of fisheries.

The first ASOR provides a comprehensive assessment of the fisheries social data but is of limited scope in regards to the social data of aquaculture and the processing industries. The participation of a broader range of subject-matter experts would have been needed to provide a deeper assessment of these sectors. In addition, given that this report marks the initial instance of such an endeavour, a phased, step-by-step approach was deemed more suitable. The initial format for reporting on fisheries would be developed and assessed, with

the subsequent potential adaptation and implementation of this format for the other two sectors. In an ideal scenario, cross-sectoral linkages can be identified and incorporated where relevant in the future.

The ASOR draws on additional data sources beyond the social data collected under the DCF including the Fleet economic data, EUROSTAT, EMSA and EUMOFA data. The AER complements its social analysis by identifying where economic pressures may translate into social risks, by identifying how economic and social indicators can be linked to understand trends and patterns in the EU fisheries sector.

4.4 ASOR 2025 and future developments

Understanding and assessing the CFP social dimension requires a comprehensive approach. The ASOR combines quantitative and qualitative data and information. It provides statistical evidence and contextualized comparable metrics to analyse current status, trends and dynamics as well as the underlying causes or common/differential features across the EU. This mixed method approach strengthens the validity of findings and the capability to inform the policy process.

The ASOR 2025 edition adopts a simplified structure, as it represents the first iteration of its kind. Beginning in 2026, the report will be expanded to include additional sections, reflecting a level-up approach— building on the established baseline by increasing analytical depth, expanding scope, refining methodologies, and incorporating more advanced insights—alongside the systematic integration of special topics.

The Aquaculture and processing sections in the ASOR 2025 focus on descriptive analysis of the data. Analysis of trends at EU level for these subsectors and across subsectors is intended to be included from 2026 onwards.

The “special topics” section will be added from 2026 onwards, allowing for a focused analysis of relevant subjects that may not be fully addressed elsewhere in the report. By concentrating on these topics, the section facilitates a more detailed understanding of critical aspects, supporting informed discussion and evidence informed decision-making. The specific topic will be selected by the EWG on Social data each year, based on policy priorities set by DG-MARE in consultation with stakeholders (see STECF 24-05) as well as in the evolving policy agenda. STECF 25-02 (see electronic report) provides a list of potential areas: social, cultural and economic aspects of fisheries, governance system and management measures, wellbeing, and value chain analysis.

4.4.1 How to read this report

The structure of the fisheries chapters for the EU and Member States begins with a general overview presented through a ‘snapshot’ based on Eurostat and EUMOFA data, followed by a short description of the fishing sector based on

contextual economic data (using AER 2025). In the Social Demographics in Fisheries section, data for the social variables collected under the DCF are presented and described. These data illustrate both the current state (reference year 2023) and trends over time (years 2017 – 2020 – 2023). These data are interpreted and contextualized using the National Fisheries Profiles and other relevant sources.

Each member state section begins with a ‘General overview’ that summarises the main outcomes for the different variables. The data presented and the conclusions drawn in this overview are substantiated in the following sections. For some topics the social variables are supplemented by variables derived from other sources than the DCF (STECF 19-03, STECF 20-14, STECF 24-05). When reporting on the educational level of the workforce we add a section on vocational training based on the available literature (i.e. Haasnoot et al 2025). Finally, ASOR includes special topics that are salient, in this case generational renewal (see STECF 24-05). The respective section describes the problem and presents the relevant social data at hand.

The next section on Social Aspects in Fisheries extends beyond demographic considerations. It is intended to be a section than can be expanded other next couple of years. This report covers topics of material wellbeing reporting on wages and unpaid labour as well as on working conditions (social security and accidents on board). Wellbeing and working conditions are important to understand the attractiveness of the sector, which is one of the key policy domains on the social dimension. The specific indicators were selected based on their data availability and comparability across Member States. It thus does not imply to be complete yet should be seen as a starting point.

Where relevant, a section on foreign flagged vessels is included. Although data collection is organized by fleet under the MS flag, social and economic benefits from foreign flagged vessel often accrue to the Member State of the skipper or company owning the vessel – often also hiring crew from its MS. Accounting for these fleets therefore improves our capability for social impact assessments.

Finally, each chapter concludes with an analysis of social demographics per fishing activities, showing differences and resemblances between large- and small-scale fleets. The last section is on trends and challenges that defines the current status and issues that may affect the social sustainability of fisheries in the future.

5. METHODS, DATA SOURCES, QUALITY ISSUES AND COVERAGE

Social Data Call

The main data source used in the ASOR is the Social Data Call of the DCF for the fishing, aquaculture and processing industry. The mandatory variables for the three sectors are gender, age, education and nationality: with employment status also being mandatory for fishing and aquaculture. Cross tabulation is indicated as preferable (e.g. employment by gender and age group).

The 2025 Social Data call requested data for the year 2023 (and previous years if missing or needed to be corrected) on employment by gender, age, education, nationality, and employment status; FTEs by gender, and Unpaid labour by gender, for the fishing and aquaculture sectors, as detailed in Table 9 of the Commission Delegated Decision (EU) 2021/1167. While for the countries involved in the fish processing sector data collection, the variables to be reported are: Employment by gender, age, education, and nationality; and FTEs by gender, detailed in Table 10 of the Commission Delegated Decision (EU) 2019/910.

This report includes data submitted by national totals and by fishing activity (SSCF, L12AG, LSF, DWF) when available (BE, ES, FI, FR, LV and SE do not report social data by fishing activity). Due to additional effort of experts, it was nevertheless possible to report at fishing activity level in the Member States chapter for three of them (ES, FR and SE).

Fleet social data were submitted for the 22 Coastal Member States in 2025. Different sampling strategies were used: 16 member states collect data from all units of a population (census) and six use either a probability sample survey (EL, ES, HR, LV, PT) or a non-probability sample survey (IE), as described in their work plans.

After the official data submission period ended and the database was closed in October 2025, and the EWG was over, the analysis identified critical data inconsistencies in the Portuguese data[12]. The Member State chapter was shared with the National Contact Point, who confirmed that the data reported through the social data call required further improvement and provided updated information. However, in order to ensure process traceability, maintain the integrity of the data quality checks, and preserve the consistency of the analysis and reports underpinning STECF advice, the updated data could not be incorporated into this report. Consequently, the ASOR includes the original data submitted through the social data call for Portugal, with references to the corrected data where applicable and relevant.

Aquaculture social data were submitted for 21 Member States in 2025 (including landlocked CZ and HU; EE and LT did not submit data on

[12] A similar consultation with the NCP from Romania retrieved also some data issues, which has no significant impact in the EU-level figures.

aquaculture[13]) and processing industry social data were submitted by 18 Member States (including land-locked HU). Five member states (EE, FR, IE, NL and PT) did not submit data on processing industry.

In terms of the completeness of the Member States data submissions, most countries submitted the majority of parameters requested under the call. In terms of data quality, some atypical estimates for various parameters were detected by the JRC or experts and in many cases rectified by the Member States. However, some coverage and quality issues remain outstanding on the fleet data on the Social Data Call for 2025:

- Belgium did not report information on education level, while there are ongoing actions to collect this variable.
- Spain's submission shows improvements in data coverage for the nationality (unknow category values have been reduced by 58% from 2017 to 2023). However, the unknow category is still significant for LSF and DWF. The fact that fishers on foot are not included in the Social Data Call neither in Fisheries (Fleet) or Aquaculture call is a major gap. According to the data from national sources, a total of 3 779 workers is omitted from statistics at EU level.
- Malta's submission for 2023 shows sizeable values in the "unknown" category for gender, age, education, nationality and employment status, in some cases after being negligible in previous data calls.
- Netherland's submission shows issues regarding under-reporting or coding of unpaid or part-time labour on small-scale and family-operated vessels as 'unknown', increasing the size of 'unknown' categories and leading to underestimation of active participants.
- Poland excluded distant water fleet (2 vessels over 40 metres fishing outside Baltic Sea) from the analysis due to confidentiality issues.
- Data reported for Portugal for 2017 was found to be inconsistent. Following consultation with the National Contact Point, it was confirmed that 4 097 individuals were not included due to reliance on data derived from administrative records. While these records were incomplete, they provided useful information for estimating the representativeness of gender, nationality, age, and education. This discrepancy has a notable impact on EU-level figures and trends. Where relevant, this effect is highlighted to ensure the accuracy of the report.
- Data reported for Romania included limited discrepancies in terms of FTE, employment status, nationality for 2022, which according to the NCP do not affect the overall methodology or interpretation of the data.

For the aquaculture and processing industry social data calls:

[13] According to Commission Implementing Decision (EU) 2021/1168 aquaculture data collection is not mandatory for Member States if total aquaculture production is less than 1% of total Union aquaculture production by both weight and value.

- Belgium reports the nationality and age group for all the aquaculture and processing sector as “unknown”; likewise, the employment status for all the processing sector is reported as “unknown”.
- Czechia did not report on unpaid labour values for the aquaculture sector.
- Spain did not report on nationality for the processing sector. Age is reported only for two groups (16-39 and ≥40).
- Finland did not report on employment status values for the processing industry (this is a non-compulsory variable).
- France did not report aquaculture and processing industry employment data disaggregated by age, nationality, education level and employment status.
- Croatia did not report on FTE values for the processing industry.
- Hungary did not report on FTE for the aquaculture and processing industry. Furthermore, data are only available for 2016-2018 and therefore the information has not been included[14].
- Italy did not report on FTE values for the processing industry.
- Lithuania did not report on unpaid labour by gender for the aquaculture sector, as well as FTEs by gender for the aquaculture and processing sectors.
- Latvia did not report on FTE values for the processing industry for all years.
- Malta did not report on FTE values and aquaculture values for the aquaculture sector.
- Poland did not report on FTEs by gender for the aquaculture and processing industry sectors.
- Romania did not report on the FTE values for the aquaculture and processing industry, as well as the unpaid labour values for the aquaculture sector. The NCP also informed about reporting error for processing and aquaculture detailed in the national chapter.
- Sweden did not report on FTE values for the processing industry.

Fleet Economic Data Call

Data from the Fleet Data call is used to provide the economic context (number of active vessels, transversal data on landings, etc.). Data coverage and quality issues are reported in the STECF 25-03 and STECF 25-07.

[14] Note the Economic Report on the Fish Processing industry (2025) points out a similar situation.

Aquaculture Economic Data call

Data from the Aquaculture Data call is used to provide the economic context (number of enterprises and sales). Data coverage and quality issues are reported in the STECF 24-14.

Processing Industry Economic Data Call

Data from the Processing Data call is used to provide the economic context (number of enterprises and turnover). Data coverage and quality issues are reported in the STECF 25-15.

Differences between the ASOR and the AER

Data collection is systematically harmonized through the DCF. Consistency is ensured through dedicated data quality checks and expert analysis. However, due to the features of the data and data collection process, there may be some slight differences between the data reported in the Annual Social Report and the ones in the Annual Economic Report (AER, 2025).

ASOR and AER use information on employment-related indicators, namely total employment, unpaid labour and full-time equivalents (FTEs). To ensure the integration of analysis, the EWG compared the data from the fleet data call and the social data call. The comparison revealed some inconsistencies between the two reporting frameworks for a subset of Member States. For 16 countries, a full (100%) consistency was observed for total employment figures, while for three countries the discrepancies were below 5%. Two countries showed higher differences of 7% (LV) and 11% (MT), respectively. Only one country (BE) exhibited a substantial discrepancy of 47%; however, given the small size of its fleet, this difference does not materially affect the overall assessment. In absolute terms, the total discrepancy across all countries amounts to only 506 persons. These differences stem from:

a) issues related to statistical confidentiality for the economic data. When the number of vessels of a specific fleet segment is very small, total employment may be excluded from the fleet economic data calla; however, due to the differences in the structure and aggregation of the data sets in social one, they do not pose the same confidentiality risk and may be included (e.g. BE).
b) potential divergences in the interpretation of the definition of employment across the two data calls (see below).
c) The treatment of casual, occasional or seasonal work and the underlying report units.

Other data sources beyond the DCF for the fisheries sector

Due to the limited number of variables under the social data call, most of them demographic, the ASOR uses three additional data sources: EUROSTAT, the

European Maritime Safety Agency (EMSA) and the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA).

EUROSTAT

The following databases were used to produce the snapshots presented in the EU and Member States chapters:

- Demographic indicators:
  - total population [dataset *tps00001*],
  - demographic balance [dataset *demo_gind*],
  - average household size [dataset *ilc_lvph01*],
  - total fertility rate [dataset *tps00199*].
- National accounts indicator (ESA 2010): GDP per capita in PPS [dataset *tec00114*].
- Labour market indicator: total unemployment rate [dataset *tps00203*].

The following datasets were used for the report section on Wages:

- Labour cost level by NACE Rev.2 activity [dataset *lc_lci_lev],*
- Average number of usual weekly hours worked in the main job from European Labour Force Survey (EU-LFS) [dataset *lfsa_ewhuis].*

EMSA

The EMSA database of Marine Casualties and Incidents records analysis of marine casualties or incidents accidents reported by the EU Member States in the European electronic database (EMCIP) established by the Directive 2009/18/EC.

The records include marine casualties and incidents which: involve ships flying a flag of one of the EU Member States; occur within EU Member States' territorial sea or internal waters as defined in UNCLOS; or involve other substantial interests of EU Member States (EMSA, 2025).

EUMOFA

The EUMOFA estimates on per capita apparent consumption of fishery and aquaculture products by member state in 2020 were used for the snapshot at the EU and Member States levels (EUMOFA, 2024).

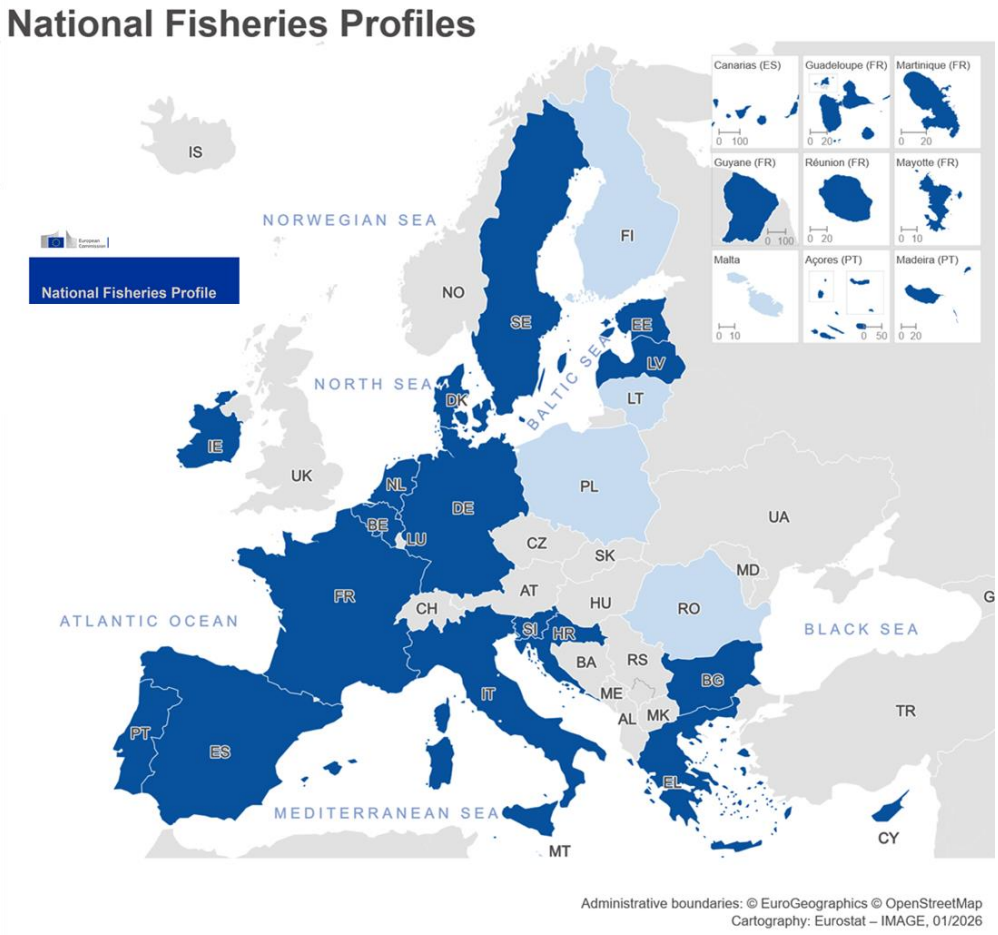
National Fisheries Profiles

The National Fisheries Profiles (NFPs) provide a comprehensive overview of the fisheries sector, emphasising the social dimension and ensuring that the best available science is used in informing decision-making and societal dialogues (STECF 22-14 and STECF 23-17). They stem from a long history of

efforts to gather systematic information on social issues related to fisheries management (e.g. EC Non-Paper on future of the DCF, STECF EWG12-15 and STECF's PLEN 12-03). An overview of the development and evolution of NFPs is presented in STECF 24-05 and STECF 25-02 (the latter is an annex to this report).

The NFPs of 17 of the 22 coastal Member States (see **Error! Reference s ource not found.**) have been systematically used in the elaboration of their respective chapters. The NFPs are available at European Publications Office[15].

Figure 2. National Fisheries Profiles available in the EU.



Source: Own elaboration

Caveats in the data processing and analysis of the Social data call

The main caveats are related to the structure of the data call, the definition of variables and the quality of the data reported.

[15] NFPs are also available at https://oceans-and-fisheries.ec.europa.eu/national-fisheries-profiles_en#list-of-national-fisheries-profiles-nfps

First, the structure of the data call creates some limitations and a need for additional data processing, which are not encountered for other data calls. These issues are largely related to the structure of the social data call tables, which allow the reporting of combined variables (e.g. gender by age or gender by age by nationality). During subsequent data handling, this flexibility may lead to data duplication if appropriate data cleaning is not carried out beforehand.

At present, Member States are not required to report combined variables. Nevertheless, such information would be highly valuable for a more detailed understanding of the social parameters describing the sector. While some Member States already collect data in a way that allows combined reporting, the time allocated for data processing and analysis following data submission should explicitly account for the additional effort needed to reprocess and harmonise the data into a format that ensures cross-country comparability and enables analysis at EU level.

Second, some variables require a clear and explicit definition to allow for analysis and interpretation. In this regard, the variable is employment status. The Economic Regional WorkPlan 2025-2027[16]) define employment status as total employment (paid labour and unpaid labour) as defined for the total fleet sector economic variables:

– Owner (vessel owner involved in vessel activity/operation);

– Employee (all engaged workers on board, excluding owners);

– Unknown.

A voluntary disaggregation between full-time and part-time employees is considered possible.

The fact that some Member States report this indicator only by employee and owner categories, necessitates the forced aggregation of data reported by other Member States for employee full-time and employee part-time. Without such aggregation, data comparability and analysis at EU level would not be feasible.

In some Member States, data duplication is observed, as employed persons are first reported under the categories “worker” and “owner” and subsequently all individuals are again reported under employee full-time and employee part-time. This reporting practice results in double counting of employment and makes data processing and comparison impossible without additional elaboration. In the absence of such adjustments, the resulting values for this indicator would exceed the actual level of employment by more than twofold, thereby significantly distorting the analysis and undermining data comparability at EU level.

The limitations of the age variable have been repeatedly pointed out by the EWG on Social data (STECF 19-03, STECF 20-14, STECF 24-05). The Economic Regional Workplan 2025-2027 has introduced the age classes: <=14; 15-24; 25-39; 40-54; 55-64; >=65; Unknown.

[16] https://fisheries-rcg.eu/wp-content/uploads/2026/01/2025-2027_RCG-ECON_Regional-Work-Plan.pdf

With regard to the analysis of the education indicator and the conclusions that can be drawn based on the collected information, it should be taken into account that, irrespective of the category in which the data are reported (low, medium or high education), this should not be interpreted as an indication that the education is in fisheries or in a related field. Member States are not requested to provide information on the field or specialisation of education, and therefore no such inference can be made.

Although an improvement in the quality of the collected data is observed for 2023 compared to the first year of data collection in 2017, the assessment of a consistent trend over this period remains difficult due to changes in the data collection approaches applied by Member States.

Tools used

The report uses IMAGE, a web-based tool of GISCO (the Geographic Information System of the Commission) designed for the production of choropleth maps. The heatmaps presented in the ASOR are statistical maps that conform to Eurostat’s style guide, ensuring consistency and clarity in data visualization of the social data call variables.

6. SOCIAL DIMENSION OF EU FISHERIES

6.1 Background

This chapter provides an overview of the fisheries social variables in 2023, highlighting key trends from 2017 to 2023, using data submitted by Member States under the 2025 social data call.

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

- A snapshot of the EU social dimension activity, i.e. SSCF, L12AG, LSF, and DWF (including data summary tables).
- A description of the main drivers and trends that may have contributed to the situation of the EU fisheries over recent years.

The four main types of fishing activity used in the ASOR 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’ and ‘active and passive gears’.
- Vessels under 12 metres using active gears (L12AG) - includes all vessels under 12 metres using active gears. 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’ and ‘pelagic trawlers’.
- Large-scale fleet (LSF) - segment includes all vessels over 12 metres operating predominately in EU waters.
- Distant-water fleet (DWF) - includes fishing vessels flying the flag of an EU Member State and fishing predominantly in non-EU waters.

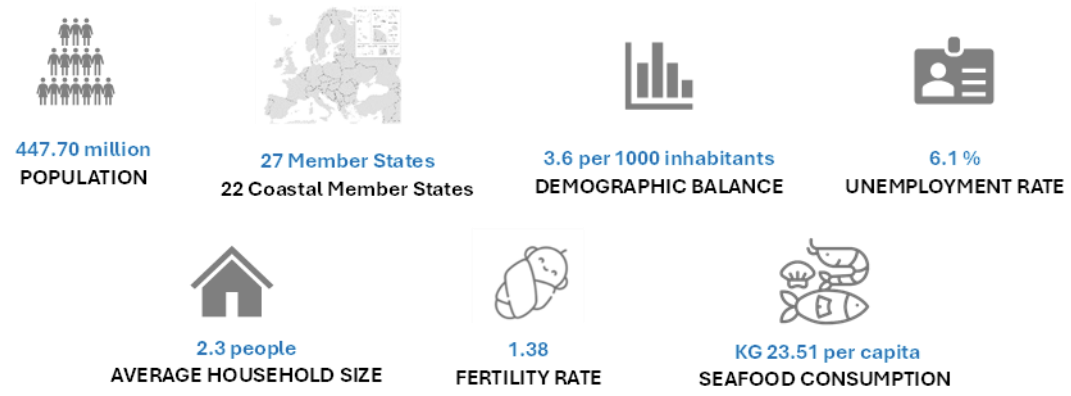
It should be noted that the fishing activity types defined under the DCF may not fully capture the social and economic dynamics associated with differential property regimes, retributions schemes, crew composition, specialization, working conditions, adaptiveness, etc. More comprehensive characterizations of fishing activities -combining structural (e.g. vessel length), geographical (e.g. fishing grounds), functional (e.g. duration of the activity) and governance-related descriptors (e.g. regulatory framework) -are available, where applicable, in the National Fisheries Profiles to complement the ASOR analysis.

Due to incomplete data from certain Member States, some figures of the EU chapter exclude some Member States. This omission is explicitly noted in the text and figures. The reference year is 2023.

6.2 Demographic characteristics of EU fisheries

6.2.1 Snapshot of the European Union

Figure 3. The European Union-27 in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022

In 2023, the EU-27 had 447.8 million inhabitants, led by Germany (18.6%), France (15.2%), Italy (13.2%), and Spain (10.7%). Smaller countries each accounted for less than 0.5% of the total.

Population trends differ sharply across the EU-27. Latvia experienced a decline (8.9%), while Malta grew (+38.7%), with strong growth also in Ireland and Cyprus. Fertility averaged 1.38 children per woman, well below the considered replacement level of 2.1 in developed countries, with the lowest rate in Malta (1.06) and highest in Bulgaria (1.81). Southern Europe shows particularly low fertility, whereas Eastern and Northern countries maintain higher rates.

Economic conditions vary as well. Unemployment in coastal states[17] was high in Spain, Greece, and Italy, and low in Malta, Germany, Denmark, and Portugal. Household sizes averaged 2.3 persons, larger in Poland, Ireland, and Croatia, and smaller in Denmark, Germany, and Sweden. Among these coastal states,

[17] Coastal member states: (BE) Belgium, (BG) Bulgaria, (DK) Denmark, (DE) Germany, (EE) Estonia, (IE) Ireland, (EL) Greece, (ES) Spain, (FR) France, (HR) Croatia, (IT) Italy, (CY) Cyprus, (LV) Latvia, (LT) Lithuania, (MT) Malta, (NL) Netherlands, (PL) Poland, (PT) Portugal, (RO) Romania, (SI) Slovenia, (FI) Finland and (SE) Sweden. Land-locked Member States: (CZ) Czechia, (LU) Luxembourg, (HU) Hungary, (AT) Austria and (SK) Slovakia.

living standards (based on Eurostat data on GNP per capita in PPS[18]) were highest in Ireland and the Netherlands and about two-thirds of the EU average in Greece and Latvia (data in the MS chapters).

Based on EUMOFA and national estimates for 2022, apparent seafood consumption illustrates regional dietary and cultural differences, noting economic factors may also influence consumption patterns as seafood tends to be relatively expensive. Portugal leads with 54.5 kg per capita/year (down from 61 kg in 2018), well above the EU average of 27 kg, while Central and Eastern European countries typically consume less than 10 kg per capita/year. Apparent consumption per capita is declining across EU Member States with historically high levels of consumption, with Croatia representing a notable exception. At the same time, apparent consumption has shown a gradual increase in several Member States with traditionally lower consumption levels, including Hungary, Romania, and Slovakia, where estimates rose consistently over the decade analysed.

The EU's self-sufficiency rate in seafood products, i.e. the capacity of EU Member States to meet demand through their own production, has dropped from the highest point of 46.1% in 2014 to 37.5% in 2022 (EUMOFA, 2024).

6.2.2 Short description of the fishing sector

In 2023, the EU fisheries sector employed 119 989 individuals. While the ASOR focuses on the social dimension, the economic analysis provided by the STECF AER (STECF 25-03 & 25-07) is summarised here to frame the analysis and support the interpretation of social outcomes.

The EU fishing fleet consisted of 70 280 vessels. Of these, 17 020 vessels (24% of the total) were inactive, accounting for 0.139 million GTs and 0.834 million kW. This left 53 260 active vessels, with a combined gross tonnage of 1.15 million and engine power of 4.36 million kW.

Breaking the fleet down by type of activity, 77% of active vessels were part of the SSCF, 16.5% belonged to the LSF, 5.8% were part of the under 12m vessels using active gears (L12AG) segment, and less than 0.5% comprised the DWF.

While the total number of active vessels in the EU fishing fleet continues to decline, the downward trend stabilized in 2023. However, other fleet capacity indicators showed declines, with total fleet engine power dropping by 2.8% and gross tonnage decreasing by 4.2%.

The AER also reports that labour and capital productivity continue to vary significantly by fleet segment. Labour productivity (or the amount of goods and services per unit of labour input) remains lowest in the SSCF and higher in the

[18] PPS stands for purchasing power standard. This is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary).

LSF, reflecting differences in fishing activity with SSCF based on small family businesses, reduced capital investment, earnings potential, and dissimilar working conditions. Recent declines in productivity in several segments highlight increased pressure on returns in 2023.

The AER also demonstrated that economic performance deteriorated in 2023, with declines in gross value added, gross profit, and net profit. Narrow profit margins point to heightened vulnerability in parts of the fleet, particularly where enterprises have limited financial buffers. While these indicators do not directly measure social outcomes, sustained low profitability can affect employment stability, crew renumeration, generational renewal and fishing household security. In fishing dependent coastal communities, such pressures may also generate wider social and economic effects, reinforcing the need to interpret economic performance trends as an important contextual input to social analysis.

Overall, the AER highlights a sector facing continued structural and economic pressure. Declining labour input, uneven productivity, and recent profitability shocks provide important context for understanding trends in employment, income stability, and workforce sustainability. The AER therefore supports the social analysis by identifying where economic pressures may translate into social risks, particularly in regions and fleet segments with high dependence on fishing.

In the EU fishing fleet, 57% of the fishers work on vessels less than 12 m long. Regardless of fleet segment, the number of fishers declined between 2017 and 2023. The number of fishers in the distant-water fleet (DWF) seems to be more stable in comparison with all the other fleets.

Measuring employment by full-time equivalent (FTE) shows a decrease as well for all fleet segments.

Although the number of active vessels reported in the AER increased slightly compared to 2022, overall capacity and labour inputs continue to contract, shaping employment opportunities and long-term career prospects in the sector.

The consistent decline in the number of active vessels (from about 60 900 in 2017 to 53 300 units in 2023) contrast with the relatively sustained levels of days at sea (stabilizing around 5.1–5.2 million days since 2021 according to AER, 2005), suggesting a higher average activity per vessel. This increased vessel activity may be interpreted as an attempt to maintain traditional fishing and business practices in the face of declining turnover, a trend observed since 2017. The data indicates that fishers tend to work more for less revenue (**Error! R eference source not found.**, value of landings). However, given the stabilization in days at sea, this suggests that fishers may have reached the limits of this adaptation strategy.

Fleet capacity remains unevenly distributed across Member States (Figure 4), with a small number of Member States accounting for a large share of vessels and activity. From a social perspective, this concentration implies that structural or regulatory changes may have uneven impacts across regions, particularly in

those coastal areas where fishing remains a significant source of employment and economic activity.

Table 3. EU Summary table

	Units	2023					% Δ 2023-2017				
Indicator	**Units**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
Total employment*	Persons (,000)	119.5	61.1	6.4	46.2	5.7	-15%	-15%	-25%	-14%	-8%
FTE	Full-time workers (,000)	74.0	29.0	2.3	36.2	6.4	***				
Active vessels	Number (,000)	53.3	41.1	3.1	8.8	0.24	-12%	-11%	-24%	-15%	-6%
Landings by weight	Thousand tonnes	3 394	216	72	2 417	690	-25%	-4%	-23%	-32%	-5%
Landings by value	Million €	6 135	1 016	183	3 957	980	-23%	2%	-21%	-28%	-31%
Empl/Tonnes Ratio**	Number/Tonnes	28	4	11	52	121	-13%	13%	2%	-20%	4%

Note: * Total employment in this table is based on the AER figure. While employment totals are consistent across sources (AER and Social data call), the totals by fishing activity may differ due to the presence of blank or unknown activity classifications in the social dataset; therefore, the EU overview (uses disaggregate totals from the AER (119 479 workers) instead of the ASOR figure (119 989 workers), in order to allow a breakdown by fishing activity. In the Social Data call six Member States (BE, ES, FI, FR, LV, SE) do not provide data aggregated by fishing activity. MS chapters for ES, FR, SE include such information, based on experts' data processing.

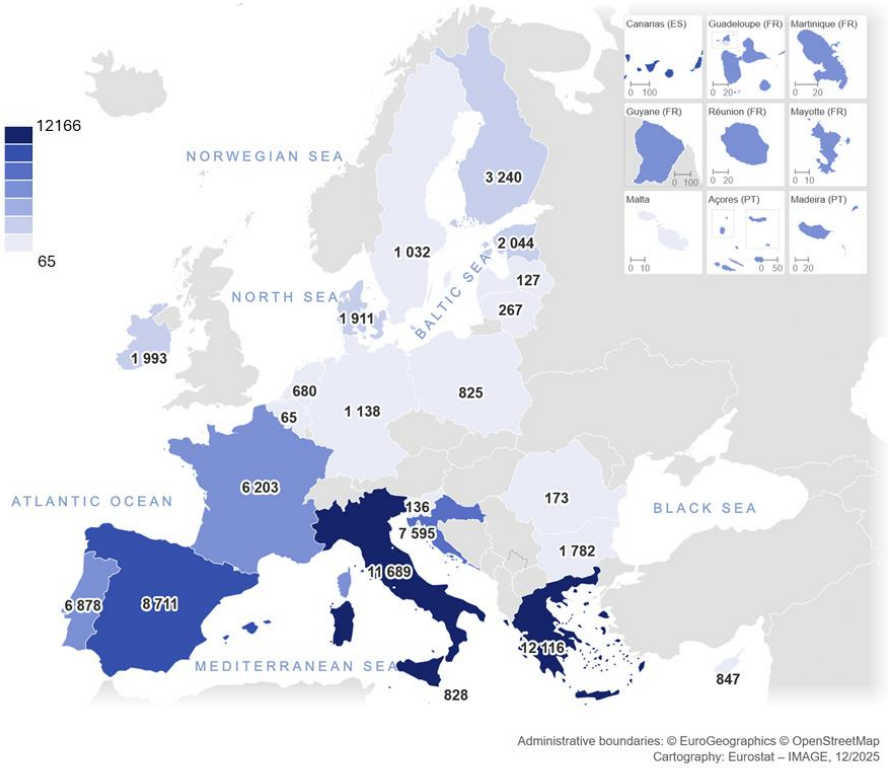
** Total Employment (,000s), divided by Tonnes of Landings.

*** FTE trends prior to 2018 cannot be reliably analysed due to data discontinuities and comparability issues in the underlying dataset; see STECF AER 2025 for methodological details.

Source: Fleet Economic Data call and Social data call

In summary, in 2023 there were approximately 120 thousand people employed in capture fisheries in the EU (see **Error! Reference source not found.** and REF _Ref220406972 \h * MERGEFORMAT **Error! Reference source not found.**). The breakdown by fishing activity is only possible based on the data from the Annual Economic Report, because five Member States do not report at that level in the Social Data Call (see **Error! Reference source not found.**). According to the AER, 61 thousand were engaged in the SSCF, 46 thousand in the LSF with smaller numbers in the <12 m active gear and DWF. These numbers represent a significant decrease of 15% in total employment compared to 2017. The number of active vessels has also decreased to a similar extent, down by 12% since 2017 to 57 thousand vessels. Landings by weight and by value have also decreased significantly over the 2017-2023 period, by 25% and 23% respectively.

Figure 4. Heat map of total registered vessel numbers per Member State (2023)



Source: Member States data submissions under the 2025 Fleet Economic data call.

6.3 Social Demographics in Fisheries

6.3.1 General overview

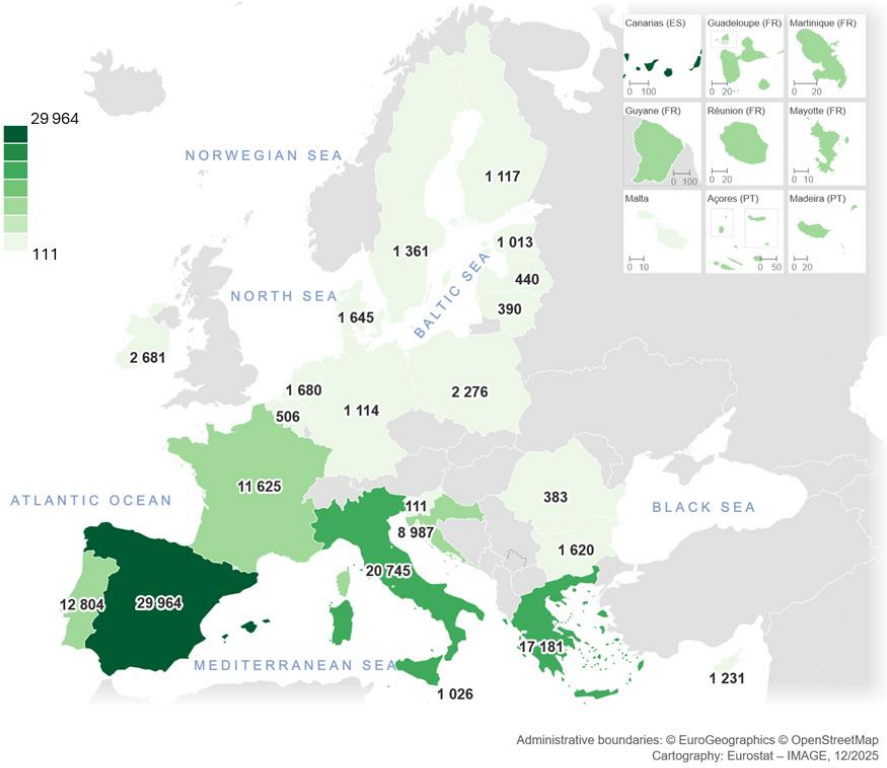
There were 119 989 individuals employed in EU fisheries in 2023. Over three-quarters of the total employment in the EU is concentrated in five member states (Greece, Spain, France, Italy, and Portugal). This indicates that disruptions, such as structural or regulatory changes to the fishing industry in these countries, will strongly impact the state of total employment in the sector. Furthermore, the concentration hinders to the cultural significance of fisheries since employment remains relevant in some countries such as Spain, Italy, Greece and France, with strong traditional maritime and fishing culture, heritage and identity.

Fisheries employment in the EU has declined from 2017 to 2023 by 15%[19]. This trend is evident across the EU, with the exception of four member states (Belgium, Croatia, Cyprus, Portugal, Slovenia; in the case of Portugal this is due

[19]This figure reflects the corrected values for Portugal for 2017, as these have a substantive impact on the EU employment trend. Under the social data call, Portugal reported 10 626 individuals in 2017, where it should be 14 705 (see section 5 for details).

to data inaccuracy for 2017, corrected data show a decrease see section 6.3.2). The drivers of the increase in these Member States are summarized in section 6.3.3 and detailed in their respective chapters. Overall, only Croatia shows a significant increase (approximately 14%).

Figure 5. Heat map of total fishing employment by Member State (2023).



Source: MS data submission under the 2025 Social Data Call

While employment totals are consistent across sources (AER and Social data call), the totals by fishing activity may differ due to the presence of blank or unknown activity classifications in the social dataset; therefore, the EU overview (**Error! Reference source not found.**) uses a ggregate totals from the AER, which align fully at total level

Employment onboard fishing vessels or as shore crew is concentrated in southern Europe around the Mediterranean and Atlantic Ocean. Given that the state of fishing stock has, on average, improved in the North Sea and deteriorated in the Mediterranean, and that almost all EU fishers operate in their country of nationality (see section 6.3.6) the geographical distribution of employment suggests limited mobility of fishers with the EU.

Employment is concentrated in small-sized vessels, in the under 12m segment (52% of the total) meaning that at least one of two fishers in the EU belongs to the SSCF. Trends vary widely by country and vessel segment, indicating that changes are context specific.

Employment is declining in the MS with the largest shares of the total employment -particularly Spain (–13%), Italy (–18%) and Greece (–23%)

between 2017 and 2023[20]- and the fleet segments with highest share of employment i.e. SSCF and L12AG, which suggests that this reduction is a broad general trend and cannot be explained only by isolated events such as national decommissioning or buyout schemes.

The decline in FTEs since 2017 (–25%) is more pronounced than the reduction in total employment, which suggests a decrease in average working time per fisher and a growing prevalence of part-time or seasonal employment. This trend is likely to affect the coverage of social security for fishers, as conditions differ between full-time and part-time employment.

Regarding employment status, most of the fisheries workforce are employees (52%), with the remaining being owners (38%) or unknown (10%). As the dataset on employment status has a number of issues (detailed in the data section), it is difficult to discern EU-wide trends.

The EU fisheries workforce is highly concentrated in the 40–64 age group, which consistently accounts for the majority of employment over the last years (2017 to 2023). The share of employment in the 40-64 age group as well as the >=65 age group has increased over these years. Conversely, the participation of young workers (15-24 age group, and ≤ 14 age group) declined and remains persistently low. These patterns point to an ageing workforce and lack of generational renewal over the last two decades, raising long-term concerns around succession, skills transfer, and the attractiveness of fisheries as a career. The patterns are also consistent across most Member States, regardless of fleet size. Notwithstanding, the definition of age classes is not optimal and limits interpretations as already stated in STECF-20-14 and later in STECF-22-14 (p. 45)[21]. Consequently, a further disaggregation of the 40-64 age group could improve analytical robustness across Member States.

Based on the DCF Fisheries employment variable, employment predominantly consists of individuals with low or medium education levels, with individuals with a high education level representing a small share of employment. Significant variation exists at the Member State level, partly driven by differences in fleet structure but also by data completeness. Low or medium education level figures reflect the large number of EU fishers in the SSCF and L12AG fleets, where the profession is often learned through intergenerational transfer of practical knowledge rather than at formal education institutions.

Fisheries' employment at EU level remains overwhelmingly male, with women accounting for less than 5% of total employment on board fishing vessels or as shore crew. Female participation varies substantially across Member States but remains limited in all major fishing nations. In only a few Member States does

[20] Note that with the corrected data Portugal also shows a decrease (-13%) for the same period.

[21] "The EWG considers that it would be beneficial to split the age class 40-64, as also suggested by STECF EWG 20-14, to provide greater accuracy in terms of supporting the decision-making process. Splitting the categories will inform on the share of fishers close to retirement; in this respect different retirement ages are actually prevalent in MSs and this information could be included in national profiles and matched with the proposed categories for age".

the female share of the workforce significantly exceed the average share (typically 7-10%). Women participation is larger in the SSCF than in the other fleet segments.

In the fishing industry, most Member States rely predominantly on national labour (most above 80%), although the degree of reliance varies by fishing segments. A subset of countries (Lithuania, Malta, Spain, Belgium and Germany) and fleet segments (LSF and DWF) show greater dependence on non-national workers increasing exposure to labour market disruptions or changes in migration policies.

6.3.2 Employment: total employment and FTE

Total employment decreased from 136 908 persons in 2017[22] to 122 648 in 2020, before falling further to 119 989 in 2023. This corresponds to a net reduction of 16 919 persons (–12.4%) over the period 2017–2023. Using the Portuguese corrected data for 2017, the actual net reduction is of 20 998 persons (14.89%).

Employment in the fisheries sector remains strongly concentrated in a limited number of Member States. In 2023, Spain accounted for 29 964 employed persons, followed by Italy (20 745), Greece (17 232), Portugal (12 804), and France (11 625). Together, these five Member States represented 92 371 persons, corresponding to 77% of total fisheries employment.

Between 2017 and 2023, four of five Member States with higher employment levels recorded a reduction in employment. Declines were observed in Spain (from 34 326 to 29 964 persons), Italy (from 25 499 to 20 745), Greece (from 22 471 to 17 232), and France (from 13 414 to 11 625).

While records from the social data call indicate that employment in Portugal increased from 10 626 persons in 2017 to 12 804 in 2023, the analysis revealed data inconsistencies. Using the updated data, Portugal shows a similar trend of employment reduction (from 14 705 to 12 804).

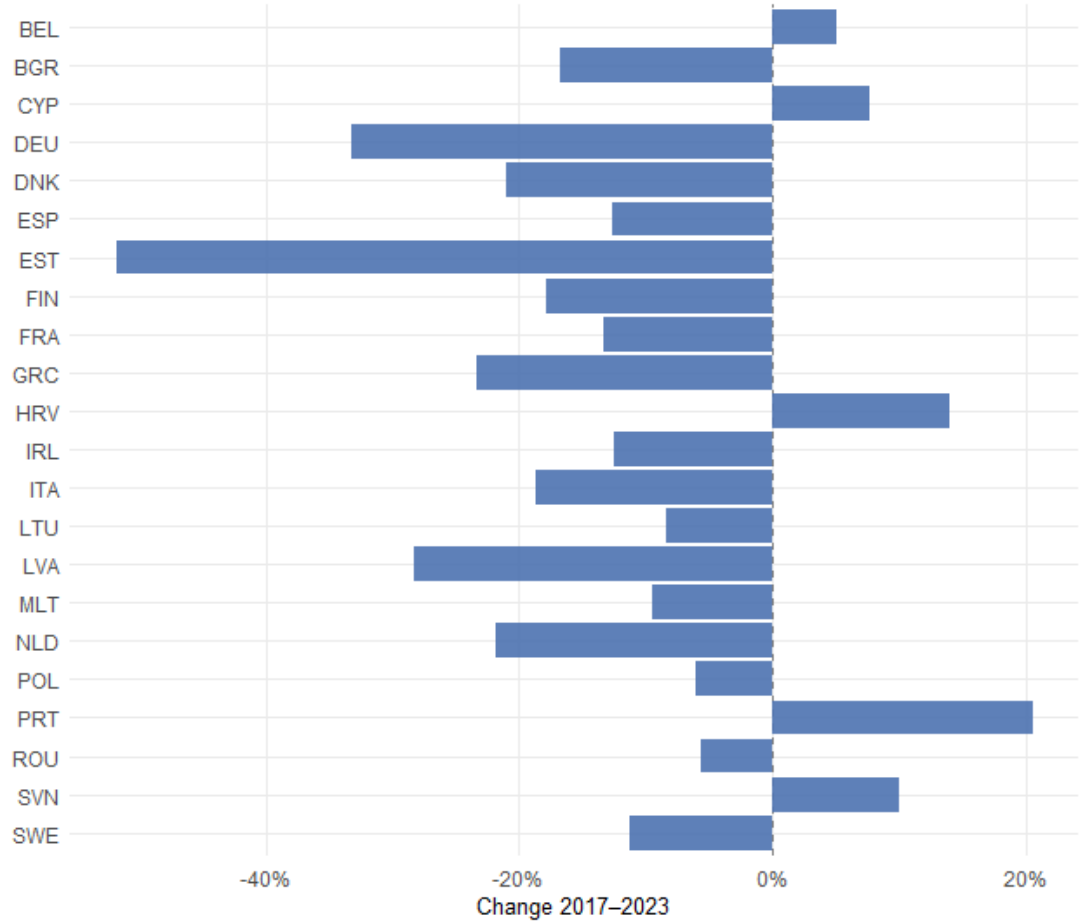
Member States with more limited employment bases display diverse trajectories. The largest relative reductions were observed in Estonia (–51.8%) and Germany (–33.2%), followed by Latvia (–28.3%), Greece (–23.3%), the Netherlands (–21.8%) and Denmark (–21.0%). Poland registered a modest decline over the period (–6.1%).

By contrast, employment growth was concentrated in a small number of Member States. The strongest increases were recorded in Croatia (+13.9%), likely driven by public financial measures that have improved fishers' income and increased the attractiveness of the sector for younger cohorts as a viable

[22] Using the corrected data for PT, employment in 2017 reached 140 987 people.

livelihood (see MS Chapter). Smaller positive changes were observed in Slovenia (+9.9%), Cyprus (+7.7%) and Belgium (+5.0%)[23].

Figure 6. Change in Total employment by Member State (2017-2023)



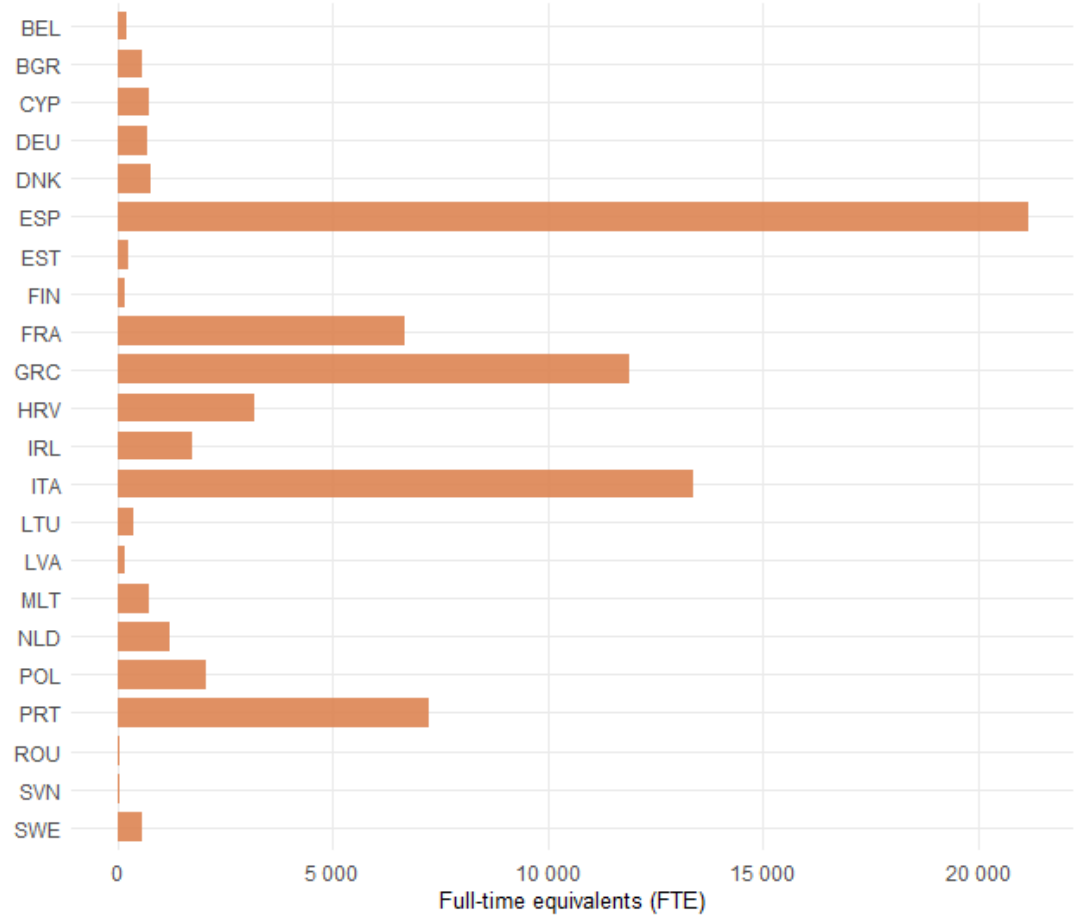
Source: Member States data submissions under the 2025 Social Data Call. Data reported by Portugal showed inconsistencies for 2017. Updated data provided by the NCP indicates rather a 13% decline in employment.

6.3.3 Employment in full-time equivalents (FTEs)

In 2023, the fisheries sector accounted for approximately 74 006 full-time equivalents (FTE) across the Member States for which data are available. This represents a marked reduction compared with around 102 600 FTE in 2017, corresponding to a net decline of about 25 300 FTE over the period. Overall, effective labour input in the fisheries sector decreased by around one quarter between 2017 and 2023.

[23] Details are available in the Member states chapters. Croatia (from 7 890 to 8 987 persons), Cyprus (from 1 143 to 1 231); Belgium (from 497 to 506) and Slovenia (from 100 to 111).

Figure 7. Employment in full-time equivalents by Member State, 2023



Source: Member States data submission under the 2025 Social Data Call.

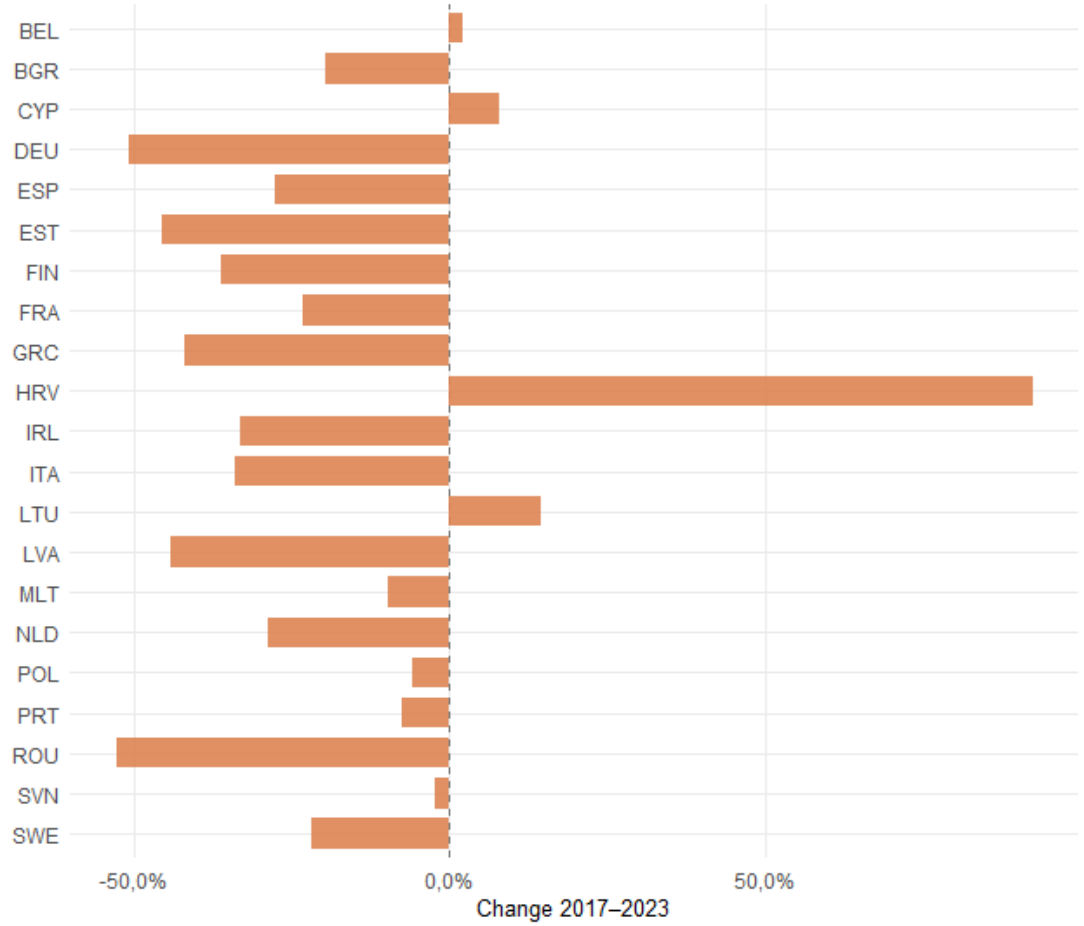
As with headcount employment, FTE in the fisheries sector remain strongly concentrated in a limited number of Member States. In 2023, Spain recorded the highest level of FTE (around 21 200), followed by Italy (13 400) and Greece (11 900). Portugal (7 200) and France (6 700) also represent major contributors. Together, these five Member States account for approximately 81.6% of total EU fisheries FTE, underlining their central role in terms of effective labour input within the sector.

Most Member States show sustained reductions in FTE over the period (**Error! R eference source not found.**), with particularly large absolute declines in countries with the highest employment levels (Spain, Italy, Greece and France), While a few Member States display temporary increases or partial recoveries (e.g. Croatia, Poland) there are insufficient to offset the overall downward trend.

Overall, the percentage-change analysis shows a predominant decline in FTEs across Member States between 2017 and 2023. While a small number of Member States record positive growth in FTE over the period, most countries experience negative changes. The magnitude of these changes varies considerably across Member States, highlighting substantial cross-country

differences in the evolution of labour intensity and employment structures within the fisheries sector over the period considered.

Figure 8. Change in Employment at FTE by Member State, 2017-2023 (in %)



Source: Member States data submission under the 2025 Social Data Call.

Note: DK only reported FTE in the Social Data call since 2020. Data reported by Portugal showed inconsistencies for 2017

6.3.4 Contrasting total employment and FTE

The joint analysis of headcount employment and FTE in 2023 highlights the relationship between the number of individuals employed and the effective labour input in the fisheries sector across Member States. As expected, countries with larger employment levels also record higher FTE in absolute terms; however, the gap between employment and FTE varies substantially across countries, reflecting differences in working-time patterns, employment structures and data reporting (see section 5).

In countries such as Lithuania and Poland, FTE closely matches employment, indicating a predominance of full-time work. By contrast, much lower FTE-to-employment ratios in Finland, Romania, and Estonia suggest more part-time or seasonal employment.

Between 2017 and 2023, in FTE are generally larger than reductions in headcount employment suggesting that labour adjustment has occurred both through fewer workers and labour input per worker.

In the majority of cases, the two indicators move in the same direction: employment and FTE evolve consistently in 18 Member States, while only three countries show opposite movements. A limited number of Member States record increases in both employment and FTE, notably Belgium, Cyprus, and Croatia, pointing to differentiated national trajectories within an overall context of contraction. By contrast, 15 Member States experience declines in both indicators, including all major fisheries countries such as Spain, Italy, France and Greece.

Differences in the relative evolution of the two indicators can also be observed within quadrants. The gap between FTE and employment changes ranges from -47.1 to +78.3 percentage points, underlining that, in some countries, labour input has changed much more rapidly than headcount. The most pronounced divergence is observed in Croatia, where both indicators increased but FTE grew substantially faster than employment (+92.2% vs +13.9%), consistent with a strong increase in labour intensity over the period. Overall, the quadrant representation provides a concise summary of how employment and effective labour input have evolved jointly across Member States between 2017 and 2023.

compares percentage changes in headcount employment and full-time equivalents (FTE) in the fisheries sector between 2017 and 2023 across Member States. Each point represents a Member State, positioned according to the joint evolution of employment (x-axis) and FTE (y-axis) over the period. The dashed reference lines at zero divide the plot into four quadrants, corresponding to different combinations of employment and FTE developments.

The distribution of points highlights heterogeneous adjustment patterns, although the dominant trajectory is contraction. A clear majority of Member States (15 countries) fall in the quadrant showing simultaneous declines in both employment and FTE, indicating broad-based reductions in both headcount and effective labour input. Only three Member States record growth in both indicators, while the two mixed quadrants include two countries with rising employment but declining FTE and one country with declining employment but rising FTE, signalling cases where adjustment occurred primarily through changes in labour intensity rather than through proportional shifts in the number of workers.

[24] illustrates the relationship between headcount employment and FTE in the fisheries sector across Member States in 2023. Each point represents a Member State, positioned according to the number of persons employed (x-axis) and the corresponding level of effective labour input measured in FTE (y-axis). The shaded background areas provide indicative ranges of the FTE-to-employment ratio—<0.50, 0.50–0.75, and ≥0.75—which help to compare labour intensity across countries.

The distribution of the data points shows a strong positive association between employment and FTE, while also revealing differences in labour intensity across Member States. In 2023, 11 countries fall within the medium ratio band (0.50–0.75), including several of the largest fisheries countries such as Spain (~0.71), Greece (~0.69) and Italy (~0.64), indicating that FTE are broadly proportional to headcount employment but still notably lower. Only two Member States are in the higher ratio band (≥0.75), Lithuania (~0.98) and Poland (~0.91) where FTE are close to employment. By contrast, nine Member States fall in the lower ratio band (<0.50), including Romania (~0.10), Finland (~0.15), and Estonia (~0.26), suggesting substantially lower labour input per employed person.

Differences in the relative evolution of the two indicators can also be observed within quadrants. The gap between FTE and employment changes ranges from -47.1 to +78.3 percentage points, underlining that, in some countries, labour input has changed much more rapidly than headcount. The most pronounced divergence is observed in Croatia, where both indicators increased but FTE grew substantially faster than employment (+92.2% vs +13.9%), consistent with a strong increase in labour intensity over the period. Overall, the quadrant

[24] The use of logarithmic scales improves readability across very different employment sizes, ensuring that both large and small fisheries countries remain visible and comparable. Overall, the figure highlights that, beyond the scale effect (large countries having high values on both axes), there is substantial cross-country variation in the FTE-to-employment relationship, consistent with differences in working-time patterns and employment structures.

representation provides a concise summary of how employment and effective labour input have evolved jointly across Member States between 2017 and 2023.

compares percentage changes in headcount employment and full-time equivalents (FTE) in the fisheries sector between 2017 and 2023 across Member States. Each point represents a Member State, positioned according to the joint evolution of employment (x-axis) and FTE (y-axis) over the period. The dashed reference lines at zero divide the plot into four quadrants, corresponding to different combinations of employment and FTE developments.

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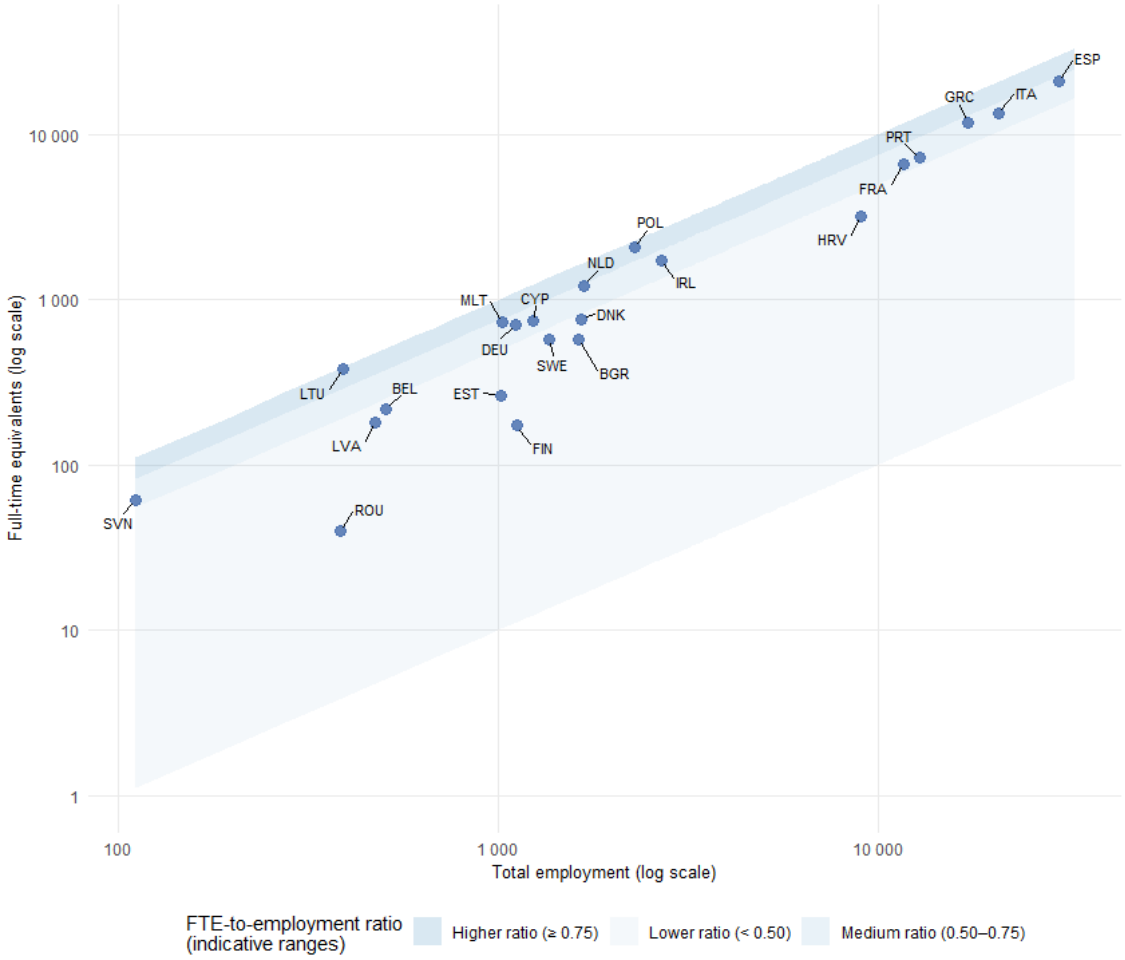
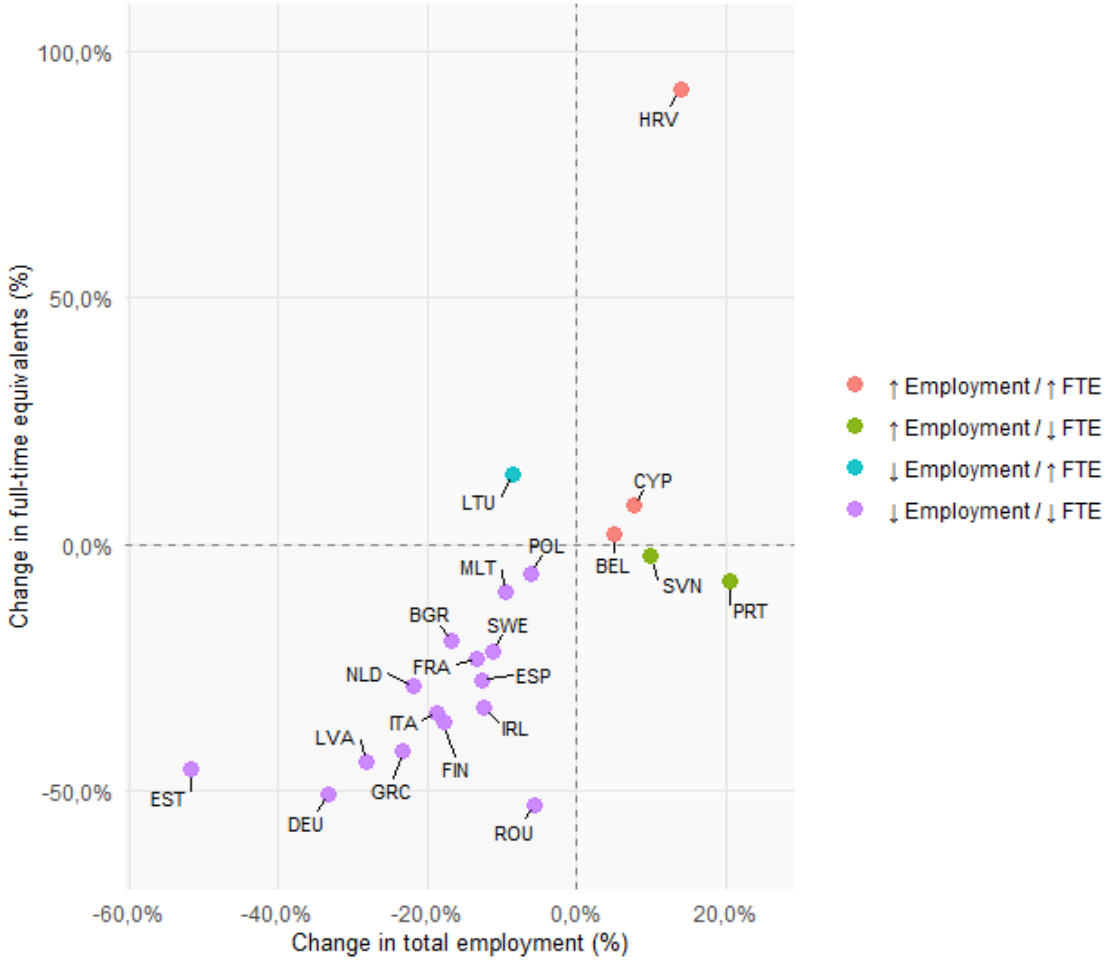
Figure 9. Relationship between total employment and FTE by Member State (2023)



Source: Member States data submission under the 2025 Social Data Call.

Differences in the relative evolution of the two indicators can also be observed within quadrants. The gap between FTE and employment changes ranges from -47.1 to +78.3 percentage points, underlining that, in some countries, labour input has changed much more rapidly than headcount. The most pronounced divergence is observed in Croatia, where both indicators increased but FTE grew substantially faster than employment (+92.2% vs +13.9%), consistent with a strong increase in labour intensity over the period. Overall, the quadrant representation provides a concise summary of how employment and effective labour input have evolved jointly across Member States between 2017 and 2023.

Figure 10. Comparative analysis of changes in total employment and FTE by Member State (2017-2023)



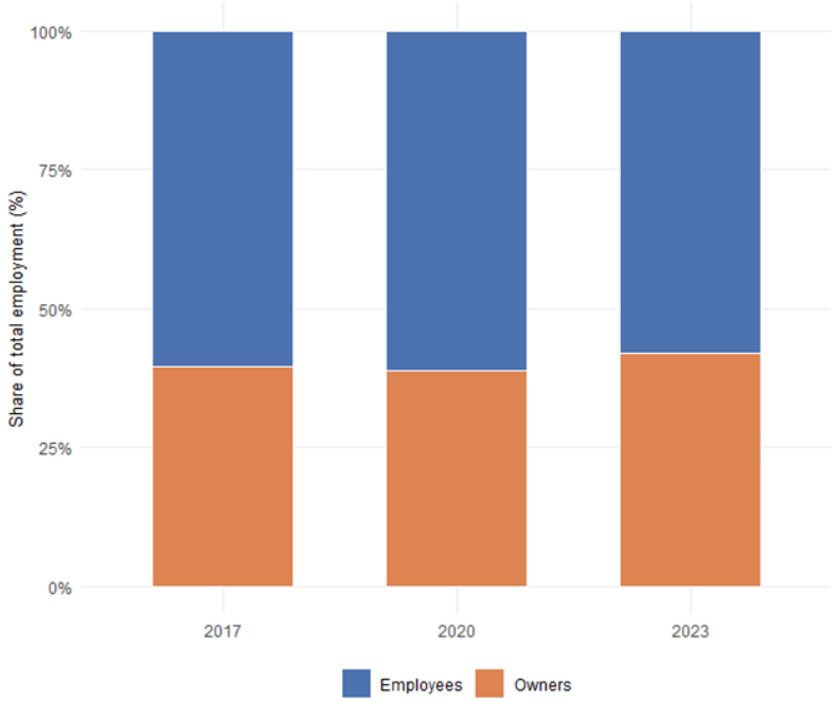
Source: Member States data submission under the 2025 Social Data Call. Note: PT data for 2017 were identified as inconsistent. Data reported by Portugal showed inconsistencies for 2017

6.3.5 Employment status: employees and owners

The variable employment status reflects the differences in labour relations, contractual arrangements and forms of engagement within the fisheries sector. The limitations associated to the lack of a clear definition for this variable are addressed in section 5.

At aggregate level, employees constitute the largest employment group, accounting for 52.0% of total fisheries employment, while owners represent 37.6%. The remaining 10.4% corresponds to other categories, including employment with unknown or not specified status, reflecting differences in data coverage and reporting practices across Member States. Hence these figures should be interpreted with caution due to the lack of consistency in reporting this variable across all MS.

Figure 11. Comparative analysis of employment status (owner, employee) in 2017, 2020 and 2023



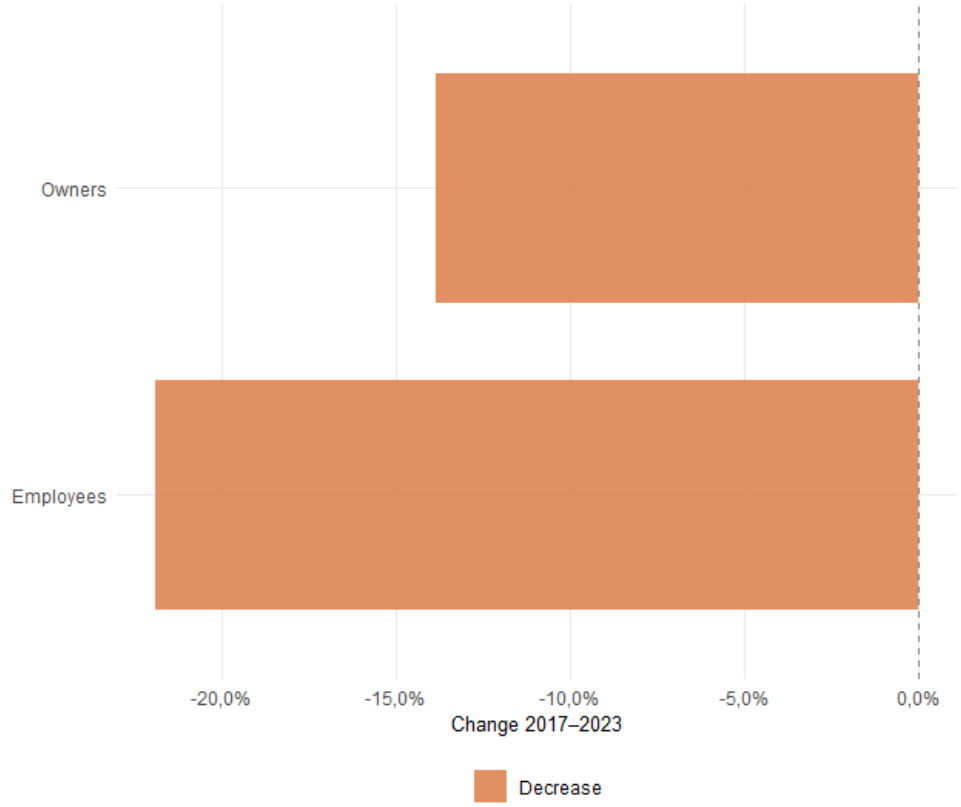
Source: Member State data submissions under the 2025 Social Data Call. Note: PT data for 2017 were identified as inconsistent.

Error! Reference source not found. presents the EU aggregate composition o f fisheries employment by employment status for the reference years 2017, 2020 and 2023, expressed as shares of total employment. The analysis focuses on the core employment-status categories, distinguishing between employees and owners (including full-time and part-time arrangements where reported), and excludes residual categories such as unknown or not specified status in order to ensure comparability across years.

At EU aggregate level, employees account for the majority of fisheries employment in all three reference years. Their share increased slightly from 60.4% in 2017 to 61.1% in 2020, before declining to 58.0% in 2023. Conversely, the share of owners decreased marginally between 2017 and 2020, from 39.6% to 38.9%, and then rose to 42.0% in 2023, indicating a relative strengthening of owner-based employment in the most recent year.

shows the percentage change in fisheries employment by employment status at EU aggregate level between 2017 and 2023. Employee-based employment declined markedly over the period (–25.7%), driven mainly by reductions in full-time employment (–14.4%), while part-time employment increased (+27.7%). Employment among owners also decreased (–12.8%). By contrast, employment recorded under unknown status rose sharply (+175%), reflecting changes in reporting and data coverage rather than underlying employment dynamics.

Figure 12. Change in Fisheries employment by employment status at EU level 2017-2023 (in %).



Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

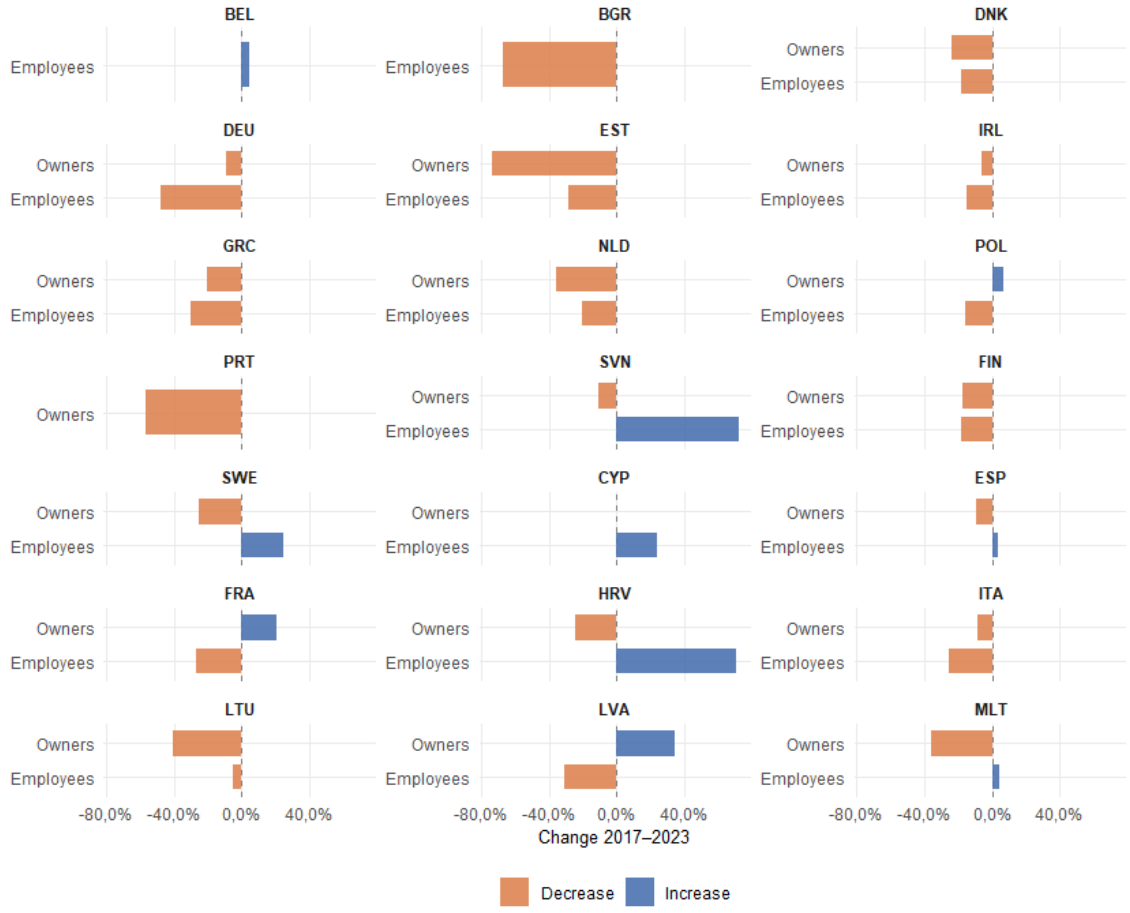
At Member State level, Figure**Error! Reference source not found.** highlights h ow employment dynamics differ across countries and between employee-based and owner-based forms of employment.

Across most Member States, employee-based employment shows predominantly negative developments over the period. Median changes in employee employment are negative in the majority of countries, with particularly pronounced declines observed in Denmark (–83.7%), Germany (–47.5%), Bulgaria (–65.2%) and Greece (–30.2%). By contrast, a limited number of Member States recorded increases in employee employment, including Croatia, France, Sweden, Cyprus and Spain, indicating heterogeneous labour dynamics across national fisheries sectors.

Patterns for owner-based employment are more mixed. In several countries, owner employment declined alongside employee employment, as observed in Italy, Finland, Ireland and the Netherlands. However, increases in owner employment were recorded in a small number of Member States, most notably in Romania, where owner employment rose sharply (+412.5%), reflecting strong growth from a relatively small initial base. Moderate increases were also observed in France, Poland and Latvia.

Overall, the within-country perspective confirms that changes in fisheries employment are highly differentiated by employment status, and that national employment trends often mask diverging dynamics between employees and owners. This underlines the importance of analysing employment developments jointly by country and employment status when assessing structural change in fisheries labour markets.

Figure 13. Change in Fisheries employment by employment status at MS 2017-2023 (in %).



Source: Member States data submission under the 2025 Social Data Call.

Note: RO is not included in the comparison due to data issues with this variable. PT 2017 data were identified as inconsistent.

6.3.6 Age, education, nationalities in EU fisheries

Age

The age composition of fisheries employment provides insight into the demographic structure of the workforce and the extent to which employment is concentrated in younger or older age cohorts across Member States. Analysing employment by age group helps to characterise structural differences in labour supply and workforce profiles within the fisheries sector.

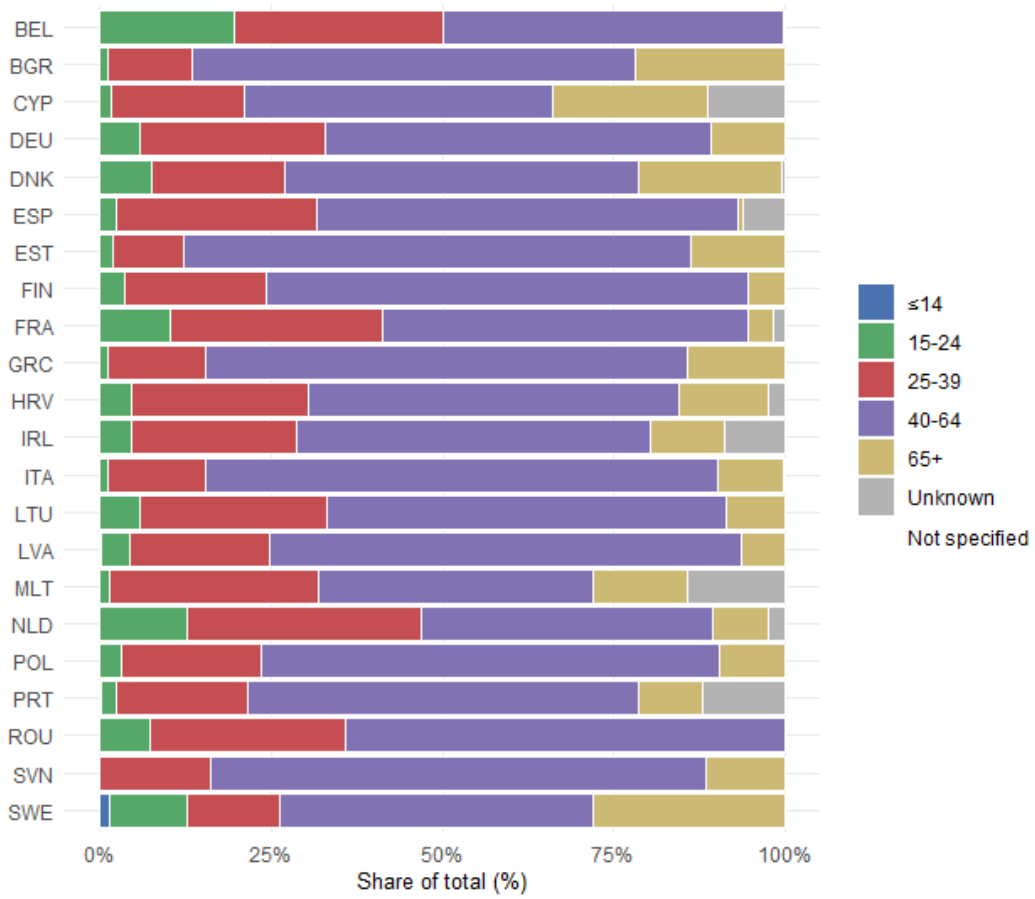
In relation to the data collected on social variables the most notable element is the increasing age profile of the workforce. The ≥ 65 age category has increased by 2.1% since 2017 and is now at 8% and the 40 to 64 age categories has increased by 3.5% to 58%. Conversely the younger age categories, between them covering the ages from 15 to 39, which are typically used to define younger fishers, have both decreased since 2017.

Table 4. Total employment by age groups at EU level (2023) and change (2017-2023)

Age Group	2023 (in %)	% Δ 2023-2017
≤14	0.1%	0.1%
15-24	3.5%	-1.6%
25-39	22.2%	-4.1%
40-64	62.2%	3.5%
≥65	8.4%	2.1%
Unknown	3.7%	-0.04%

Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

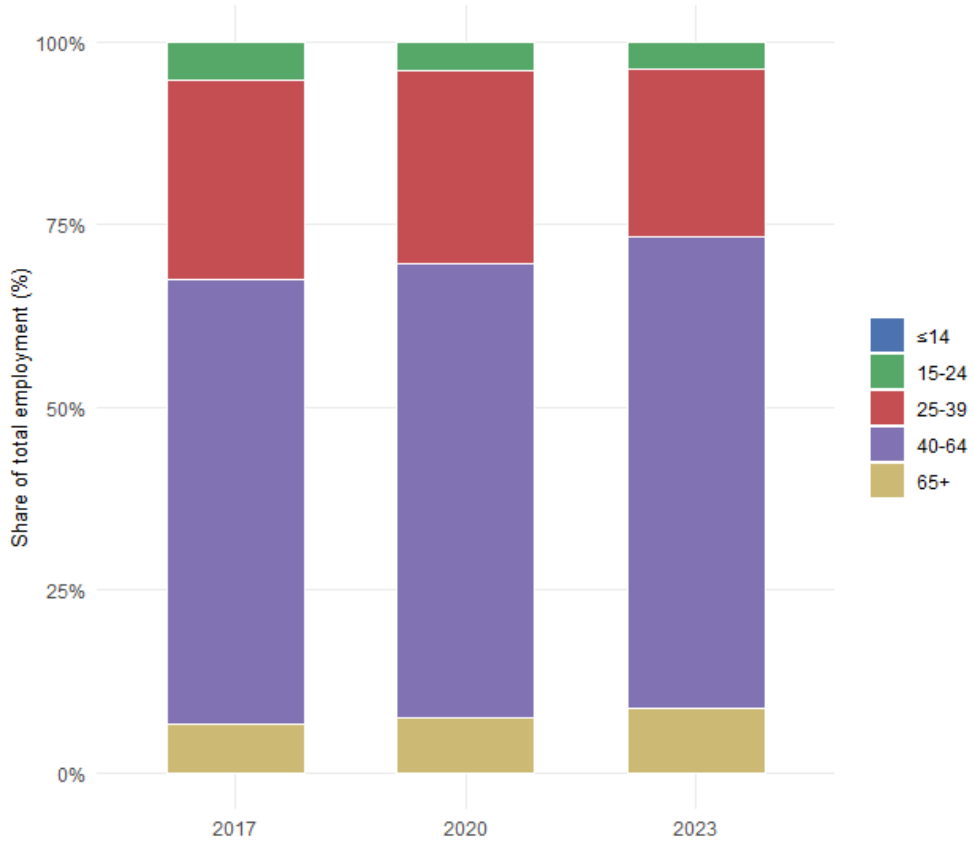
Figure 14. Age composition of total employment by MS, 2023 (%)



Source: Member States data submission under the 2025 Social Data Call.

shows the EU aggregate age composition of fisheries employment in 2017, 2020 and 2023, expressed as shares of total employment. Across all years, employment is strongly concentrated in prime-age cohorts, which accounted for 88.2% of total employment in 2017 and 86.0% in 2023. The 40–64 age group remains the dominant cohort throughout the period, representing around 61% of employment.

Figure 15. Change in age composition of total employment at EU level 2017-2023 (in %).

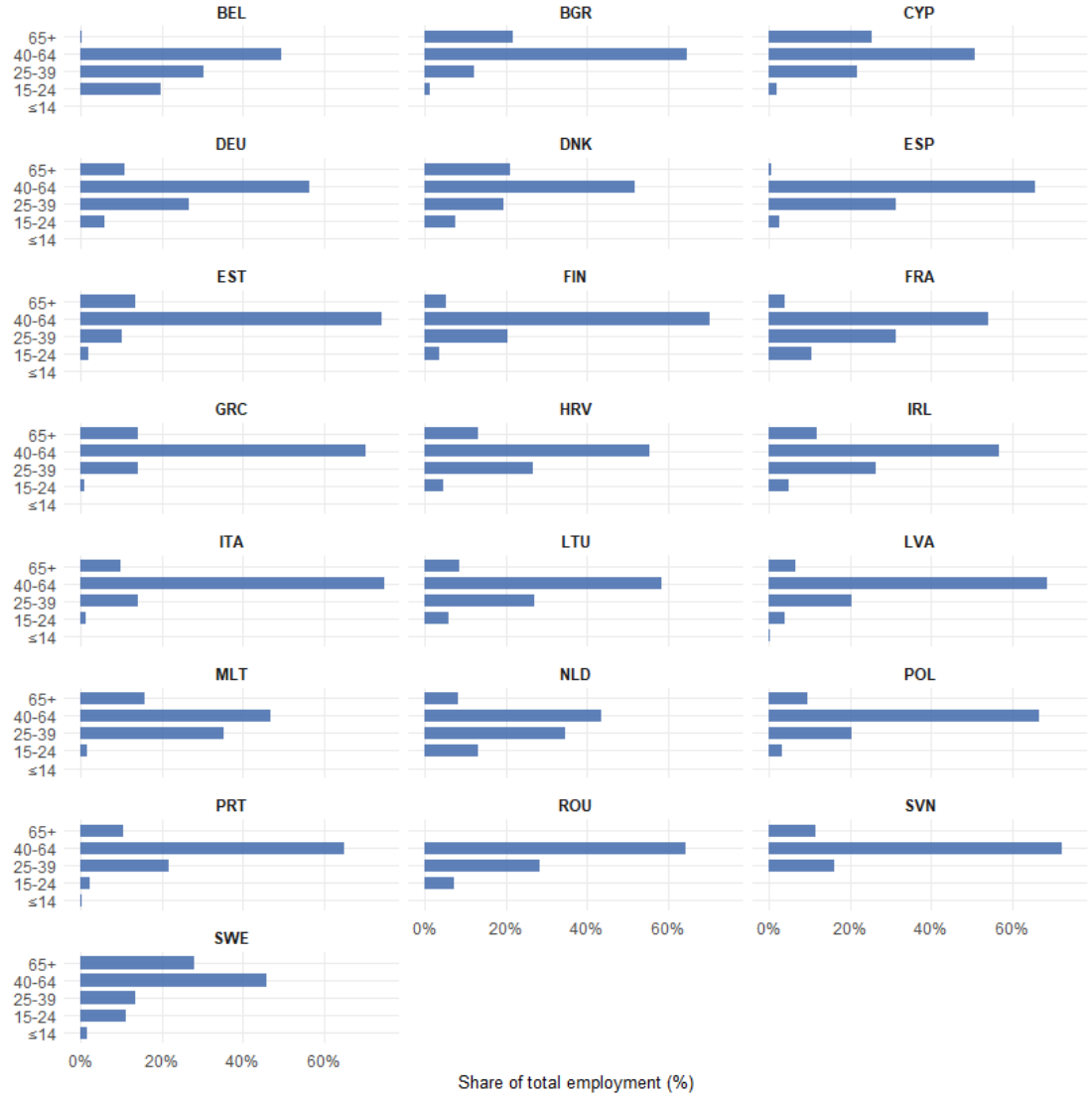


Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

At the same time, the share of older workers increased, rising from 6.5% in 2017 to 10.4% in 2023, driven mainly by growth in the ≥65 age group. By contrast, the share of younger workers declined and remained below 4% in 2023, indicating a persistently limited presence of younger cohorts in fisheries employment.

Examining the age composition of fisheries employment at country level provides insight into national demographic profiles and workforce structures. Analysing employment shares by age group allows for a comparison of how different cohorts contribute to fisheries employment across Member States in 2023.

Figure 16. Age composition of total employment within MS (2023)



Source: Member States data submission under the 2025 Social Data Call.

At the Member State level, the age structure of fisheries employment in 2023 shows substantial variation across Member States, despite a common concentration in middle-aged cohorts. In most countries, workers aged 40–64 years account for the largest share of employment, exceeding 50% in Member States such as Italy (74.5%), Greece (70.2%), Finland (70.2%), Spain (61.4%), Poland (66.6%), and Portugal (57.1%). By contrast, a smaller number of countries display a more evenly distributed age profile, with the 40–64 group accounting for less than 45% of employment, as observed in Denmark, Ireland, Estonia and Lithuania.

The relative importance of older workers (65+) also varies markedly across countries. Shares exceed 20% in Sweden (28%), Cyprus (22.5%), Bulgaria (21.9%) and Denmark (20.9%), indicating comparatively older workforce profiles. In contrast, the share of workers aged 65 and over is very limited in

Spain, Romania and Belgium, where it accounts for less than 1% of total fisheries employment.

Employment among younger workers (15–24) represents a relatively small share in most Member States, remaining below 5% in a majority of countries. Higher shares are observed in Belgium (19.8%), the Netherlands (12.9%), Sweden (11.3%) and France (10.5%), suggesting more pronounced participation of younger cohorts in these national fisheries sectors.

Education

The educational attainment of the fisheries workforce provides insight into the human capital profile of employment across Member States. Examining employment by education level helps to characterise structural differences in workforce composition and the relative prevalence of lower, medium and higher educational attainment within the sector.

According to the Education variable reported by Member States through the Social data call, although the majority of the workforce are in the Low category this has decreased slightly and there is an increase of 3.4% in the Medium category when compared to 2017.

Table 5. Total employment by education level in the EU (2023) and change (2017-2023)

Education Level	2023 (in %)	% Δ 2023-2017
High	4.0%	0.1%
Medium	29.0%	3.4%
Low	60.1%	-1.0%
Unknown	6.9%	-2.5%

Source: Member States data submission under the 2025 Social Data Call. BE does not report this variable. Note: PT 2017 data were identified as inconsistent.

The EWG on Social Data has consistently reported that the definition of the education variable in the DCF, while appropriate for standard formal education, does not adequately capture the specific features of education and training in the fisheries sector. In this regard, STECF 19-03 recommend the introduction of an additional category to better reflect vocational training.

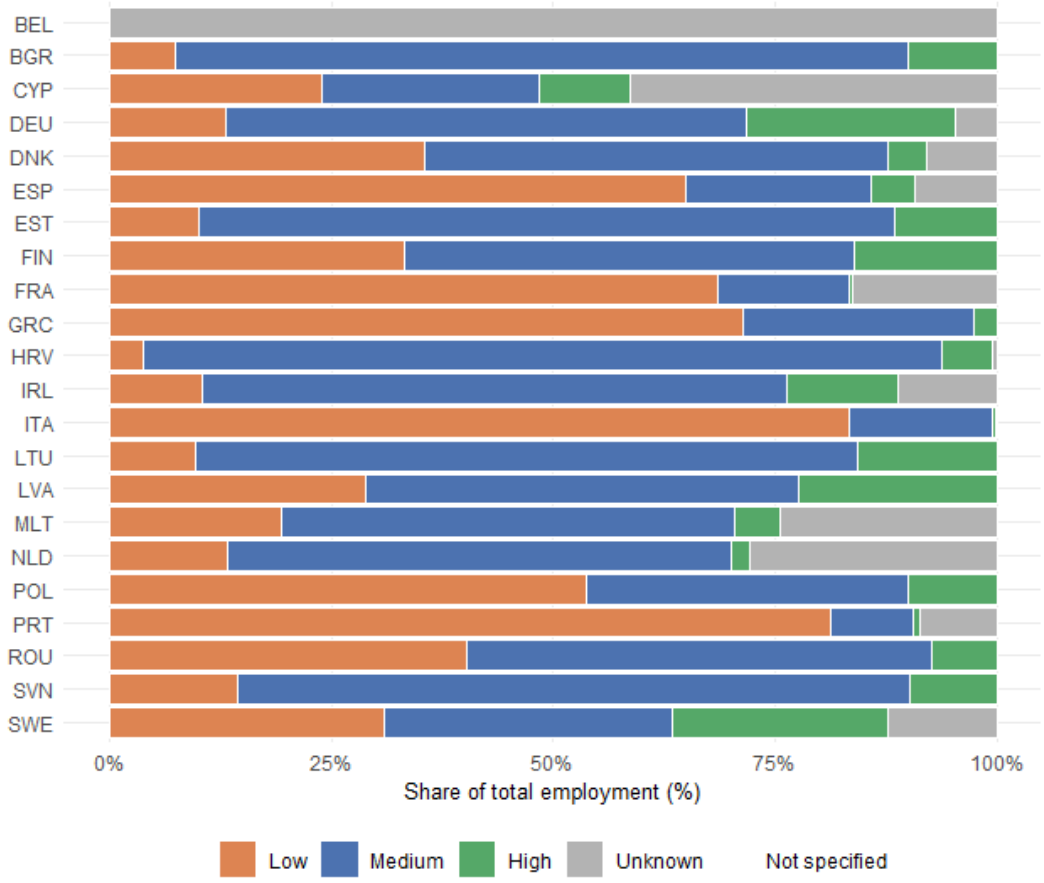
Beyond conventional education levels, the fishing workforce is required to undertake mandatory training, which must be periodically renewed. In addition, fishers often participate in vocational training – defined differently across national education systems (STECF 22-14), thereby developing a continuous, lifelong learning pathway of skills and professional capacity.

The figures presented in this section analyse the DCF categories (high, medium, low), while the MS chapters also include a dedicated section on training. Taken together, this information, complemented by the NFPs and the comparative analysis at EU level (Haasnoot et al., 2025) provides a more comprehensive assessment of the educational profile of the fishing workforce.

At country level, the dominant education category is most frequently medium education, which is the largest group in a broad set of Member States, including Germany, Denmark, Estonia, Finland, Croatia, Ireland, Lithuania, Latvia, Malta, the Netherlands, Romania, Slovenia and Sweden. In contrast, low education is the dominant category in several Member States with large employment bases—most notably Spain, Italy, Greece, France and Portugal—as well as in Poland, indicating a more strongly low-skilled employment profile in those national fisheries sectors.

The figure also shows that the share of employment with unknown education level varies substantially across Member States, affecting comparability. In 2023, the unknown category accounts for all recorded employment in Belgium, and remains high in Cyprus (41.3%), the Netherlands (27.9%) and Malta (24.5%). By contrast, unknown education is negligible in Italy (0.2%) and Croatia (0.5%), and remains below 10% in Spain and Portugal. This fact could be related to the improvements into the data collection, reducing the unknown category to proper data.

Figure 17 Education level of the workforce by MS (2023, in %)



Source: Member States data submission under the 2025 Social Data Call. BE does not report this variable.

At EU aggregate level in 2023, fisheries employment is concentrated in low and medium education levels. Employment with low education represents the largest share (60.1%), followed by medium education (29%). High education accounts for a relatively small share (4%), while unknown education level represents 6.9% of total employment.

Overall, the results highlight a fisheries workforce that is largely concentrated in low and medium education levels, alongside marked cross-country differences in data completeness for educational attainment.

A limited number of Member States display broad-based growth across education levels. In particular, Portugal shows increases in all reported education categories, with changes ranging from +5.6% to +66.9% which may be due to data inconsistencies in 2017, while Cyprus and Slovenia also record increases in most education levels. By contrast, Greece and Italy show consistent declines across all reported education categories, indicating a more uniform contraction of employment by education level.

The magnitude of change varies substantially across countries and education groups. The largest relative increase is observed in Estonia, where employment in the low education category increased by more than 800%, reflecting a very small baseline in 2017.

Nationality

In terms of the nationality of the fishing workforce almost 86% are citizens of the MS and this figure has not changed significantly since 2017. The most significant change at European level in relation to nationality of the workforce is an increase by 2.2% of Non-EU/EEA workers which now stands at 10% of the total workforce.

Table 6. Total employment by nationality in the EU (2023) and change (2017-2023)

Nationality	2023 %	% Δ 2023-2017
EEA	0.1%	-0.1%
EU	2.1%	-0.8%
National	85.9%	0.4%
Non-EU/EEA	10.0%	2.2%
Unknown	2.0%	-1.6%

EEA: European Economic Area (EU, Iceland, Liechtenstein and Norway)

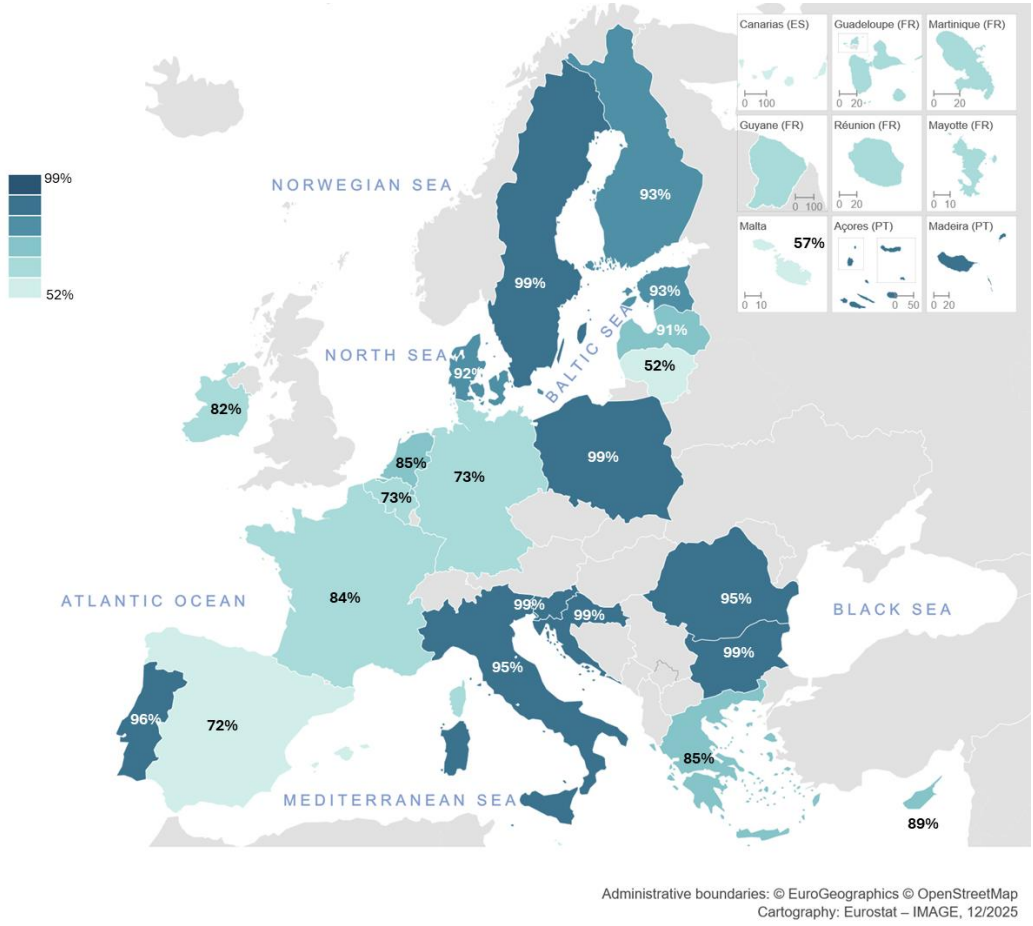
Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

The composition of employment by nationality by Member State highlights important structural differences across Member States and provides insight into labour supply, workforce mobility, and exposure to external labour markets. The data show that, in most Member States, fishing remains predominantly staffed

by national workers, with a high proportion of fishers holding the nationality of the flag state.

In several Member States, national employment shares exceed 95%, including Bulgaria, Croatia, Poland, Romania, Slovenia, and Sweden. In these cases, the fishing workforce is largely domestically sourced, suggesting limited reliance on migrant or intra-EU labour. A second group of Member States displays high but more moderate national employment shares, typically between 80% and 95%. This includes countries such as France, Greece, Ireland, Portugal, Italy, Denmark, Finland, Estonia, Latvia, and the Netherlands. In these fleets, national labour remains dominant, but a meaningful share of employment is filled by non-national or other EU workers (see **Error! Reference source not found.**). T his indicates a degree of labour mobility that may help address skills shortages or demographic pressures, while also raising issues around working conditions, integration, and regulatory consistency.

Figure 18. Heat map of employment by percentage (%) of nationals by Member State, 2023.

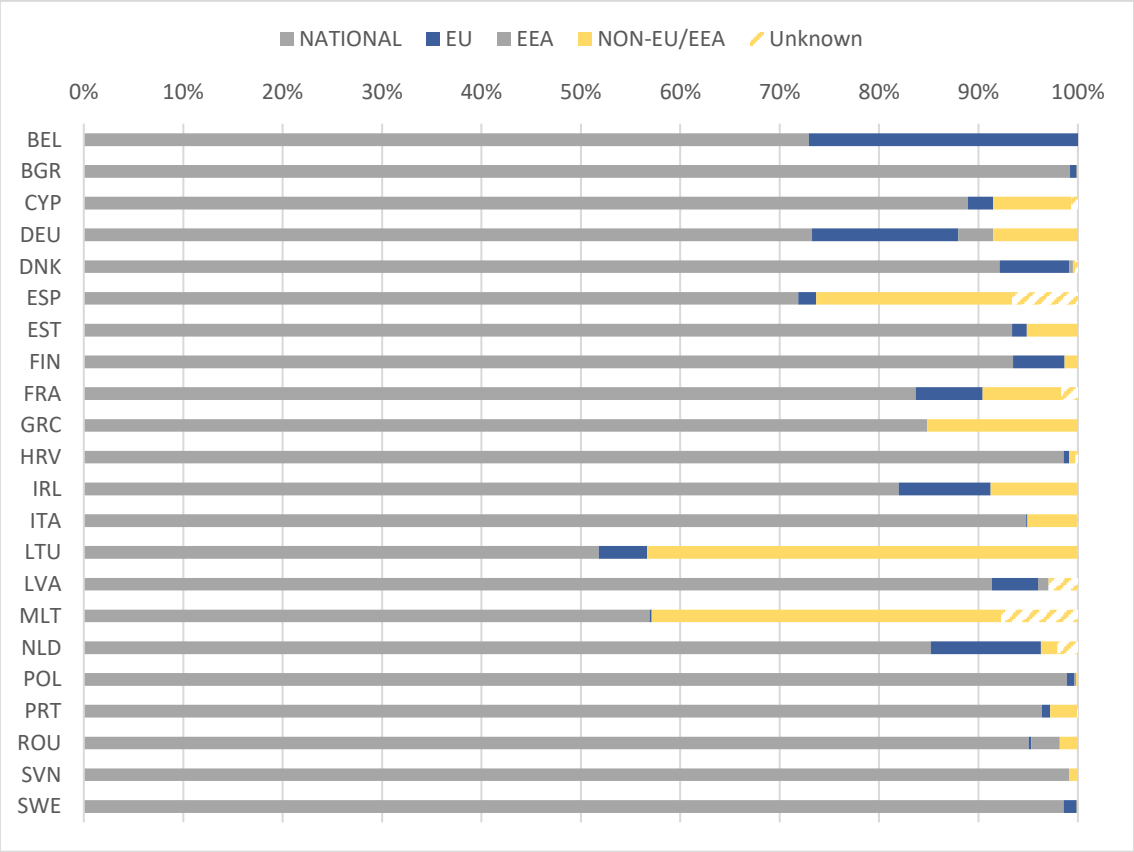


Source: Member States data submission under the 2025 Social Data Call.

Overall, the data suggest that while EU fisheries remain predominantly national in employment terms, labour mobility plays a significant role in specific Member States and fleet segments. From a social sustainability perspective, this diversity highlights the importance of considering nationality composition when assessing workforce resilience and reinforces the need for consistent monitoring of working conditions across national and non-national workers to ensure that employment standards and social protections are applied uniformly within the EU fishing sector.

Error! Reference source not found. presents the main nationality groups (national, EU, EEA, non-EU/EEA) in 2023 by Member State, expressed as shares of total national employment.

Figure 19. Employment by nationality and Member State, 2023



Source: Member States data submission under the 2025 Social Data Call.

Nationals account for more than 90% of total fisheries employment in 12 out of 22 Member States, and exceed 95% in 7 Member States, indicating a very high degree of national concentration in a substantial part of the EU. At country level, the share of national employment ranges from 51.8% to 99.2%, highlighting both the predominance of national labour and the presence of marked cross-country heterogeneity.

Among the largest fisheries Member States, nationals represent the majority of employment in all cases (**Error! Reference source not found.**), a

lthough with varying intensity. Lithuania and Malta record the lowest national share among the countries covered (52% and 57% respectively), while France (83.7%) and Greece (84.8%) remain predominantly national, and Italy shows a particularly high concentration of national employment (94.8%).

6.3.7 Gender in EU Fisheries

The gender profile of the EU fisheries workforce remains highly unbalanced. Despite a marginal increase in the share of women employed in the fleet, reaching 4.3% in 2023, the sector continues to be overwhelmingly male-dominated.

Table 7. Gender profile of the EU fisheries workforce (2017-2023).

Gender	2023 %	% Δ 2023-2017
Female	4.25%	0.35%
Male	95.57%	-0.44%
Unknown	0.18%	0.09%

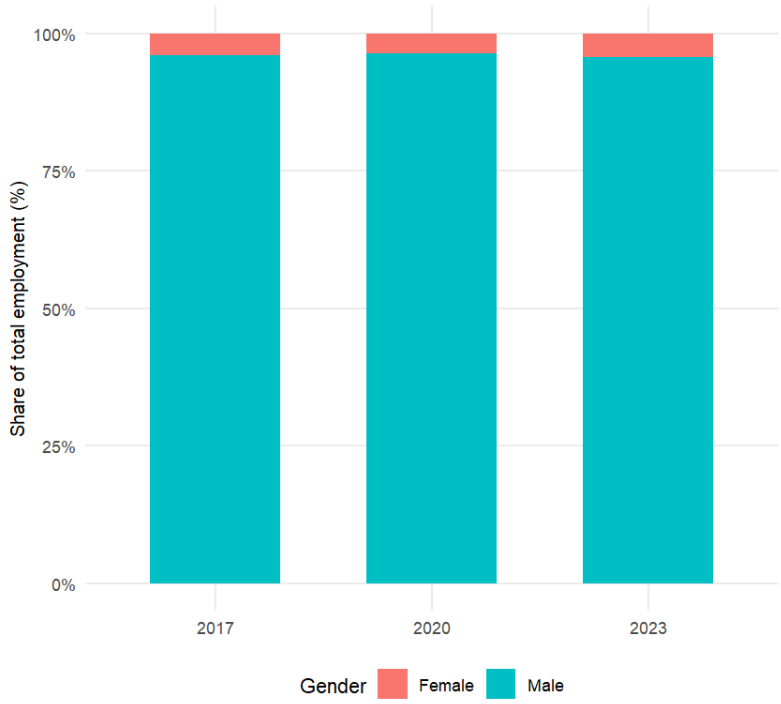
Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

The social data collected from Member States in 2023 indicate that employment of women on board -or onshore paid by the vessel- of European Union fishing vessels remains at a very low level (5 098 women, 4.25%). Despite the range of policies and strategies pursued by the EU to advance gender equality, this reflects prevailing social perceptions, in some cases rooted in cultural beliefs and patriarchal values, whereby fishing activities - particularly offshore work onboard vessels- are considered predominantly male, often justified with the pretext of the physically demanding nature of such work.

Nevertheless, women have long been involved in fishing activities onboard vessels, particularly in small-scale fisheries, where they participate as crew members or vessel owners. The presence of women working on European fishing vessels shows that, despite prevailing perceptions, fisheries harvesting onboard of fishing vessels can also be successfully carried out by women. Furthermore, women work dominated the Icelandic fisheries until the 19th century not only as crews but as skippers and currently 75% of on-foot shellfish collectors in Northwestern Spain are women.

Economic drivers may also contribute to the low representation of women on board vessels, as employment opportunities for women in other sectors can offer more stable household income and help mitigate the income uncertainty associated with fishing activities.

Figure 20. Gender balance in EU fisheries workforce 2017-2023

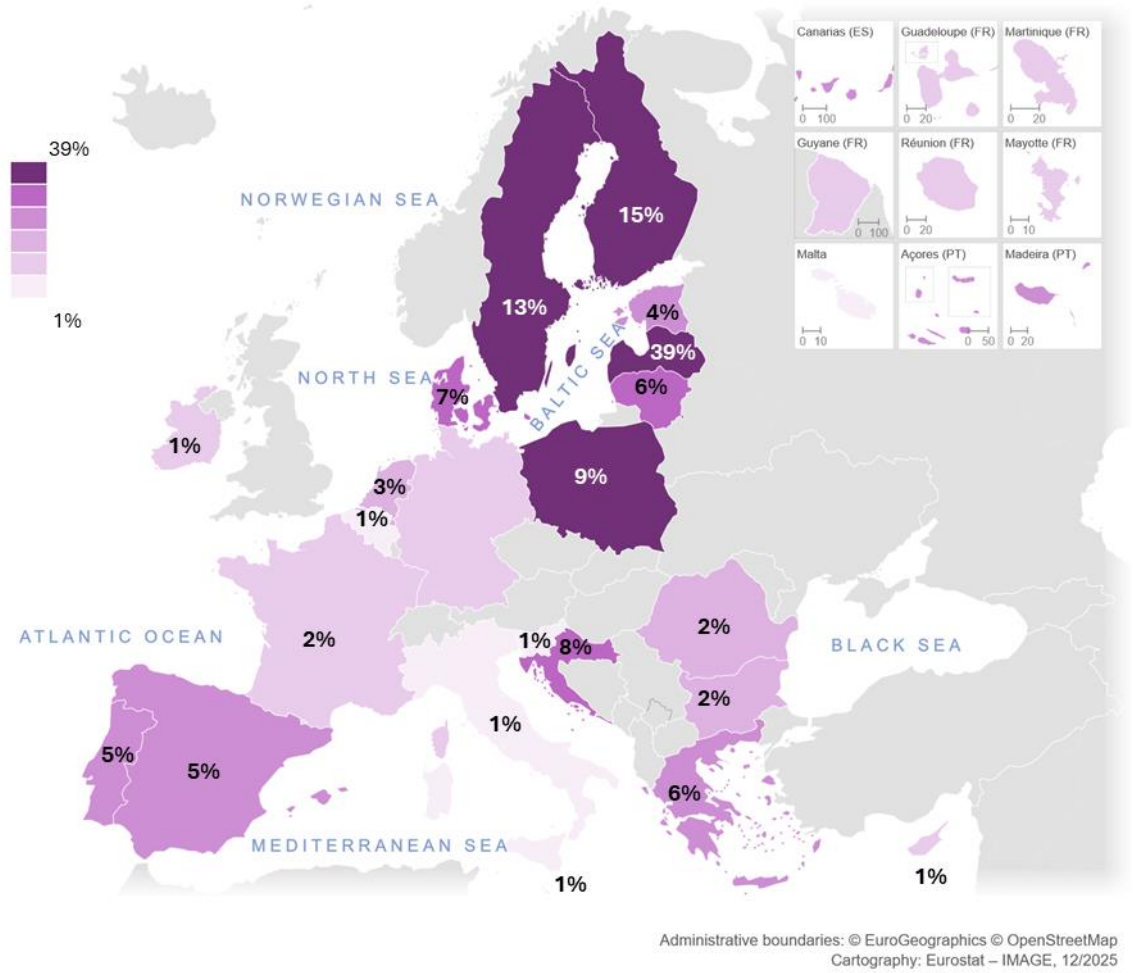


Source: Member States data submission under the 2025 Social Data Call.

Data collected in 2023 show a modest increase in women's employment in fisheries harvesting compared to previous years in certain Member States (e.g., Belgium, Bulgaria, Latvia, the Netherlands, Poland, Sweden, etc.), while male employment declined over the same period. In certain countries, including Croatia, Finland, Greece, Poland, Spain, and Sweden, young women participate in small-scale fisheries alongside young men, making up to 15% of the fisheries workforce onboard. This greater gender balance raises the question of whether labour shortages and recruitment difficulties have contributed to the higher participation of women or whether it is caused by member states' cultural fishing patterns (traditional involvement of women around fishing vessels activities), data collection changes/improvements by Member States. In contrast, the share of women in fisheries in other member states, including Germany, the Netherlands, Malta, is significantly lower, with women making up less than 2% of the workforce, a remarkably small proportion compared to other member states.

Potential data-quality issues are suspected, as illustrated with the Netherlands, where the reported number of women rose from five in 2017 to 46 in 2023, despite the absence of empirical evidence to substantiate such an increase. Likewise in the case of Lavia, the reported number of women represents a 39% over the total; this is likely due to the fact that in this Member states the company owner is usually the fisherman's wife, who is responsible for all legal matters, while her husband does the actual work at sea. The data collection (purpose sample survey instead of census, 91 respondents out of 146 in 2023) might have had also an impact.

Figure 21. Heat map of female fishing workforce (% of total employment) by Member State, 2023.



Source: Member States data submission under the 2025 Social Data Call.

Note: The figure for LT (39%) is linked to data reporting issues.

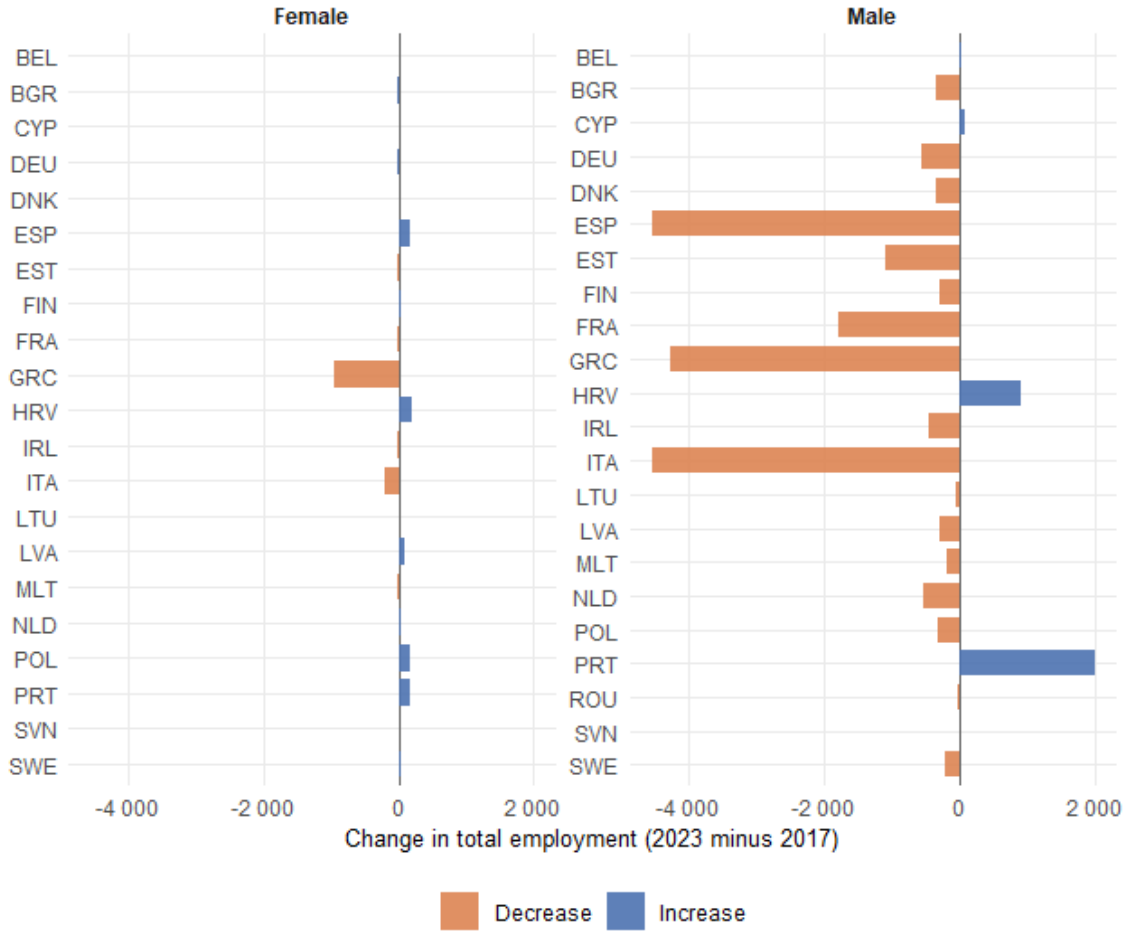
In countries where women's employment in fisheries was significant in 2019, overall declines in employment have also affected women (e.g. Italy, Greece). However, in Finland, women still represent a notable share, accounting for 15% of total employment in the sector.

Overall, these results reinforce the conclusion that changes in fisheries employment in absolute terms are dominated by male employment dynamics. Variations in female employment, while sometimes notable in relative terms, play only a minor role in shaping aggregate employment trends across the EU.

shows the absolute change in fisheries employment between 2017 and 2023 by gender and Member State, excluding employment recorded under unknown gender. By focusing on changes in the number of persons employed, the figure highlights where employment gains and losses are most relevant in absolute terms.

Overall, these results reinforce the conclusion that changes in fisheries employment in absolute terms are dominated by male employment dynamics. Variations in female employment, while sometimes notable in relative terms, play only a minor role in shaping aggregate employment trends across the EU.

Figure 22. Change in total employment of the fisheries workforce by gender and MS (2017-2023)



Source: Member States data submission under the 2025 Social Data Call. Note: PT 2017 data were identified as inconsistent.

Error! Reference source not found. shows that small-scale fisheries employ a h igher proportion of women compared to large-scale fleets. This disparity may be related to the fact that small-scale fishing operations often take place closer to shore and on a daily basis. This allows for more flexible scheduling which can be combined with land-based care work and other (unpaid) responsibilities of women, despite the limited availability of basic facilities such as toilets. LSF and DWF employ 419 and 142 women respectively; this is often related to workers only onshore, which according to the DCF definition (see glossary) are included

in the total employment if they are paid from the vessel and their activity has a direct link with the fishing operation[25].

Remarkably, data collected under the EU-MAP do not include shellfish and seaweed gatherers who work on foot, and most of them are women (3 779 in ES, 60% women). They are not included in the European Union Fleet Register because there are no vessels involved; neither are they counted in the Aquaculture social data call. The omission of shellfish and seaweed gatherers from EU fishery statistics results in not only a lower number of total employment than in reality but also in a substantial under-representation of women in the data, particularly in countries such as Spain, France, and Portugal. This discrepancy creates an inconsistent reporting system, where men who harvest the same species offshore are counted, while their counterparts gathering the species on foot are not, leading to an incomplete picture of the sector's demographics.

Table 8. Nr of women employed in the EU fisheries workforce by fishing activity and Member State (2023).

	Fishing activity					
Member State	SSCF	L12AG	DWF	LSF	Fishing activity not indicated	Total general
BEL					5	5
BGR	28			7		35
CYP	14			1		15
DEU	7		0	12		19
DNK	71			42		113
ESP	460	333	457	142		1392
EST	41		0	0		41
FIN					173	173
FRA	136	22	2	20	180	180
GRC	905			44		949
HRV	476			212		688
IRL	12	3		24		39
ITA	119	0		60		180
LTU	20		2	0		22
LVA					185	185
MLT	9			0		9
NLD	18			27		46
POL	157			58		215

[25]Disaggregated data from the Spanish Government reported 225 onshore workers operating in non-national waters in 2023 (Encuesta Económica de Pesca Marítima, 2024).

PRT	442	40		130		612
ROU	7			1		8
SVN				1		1
SWE					173	173
Total	2786	376	459	761	716	5098

Source: Member States data submission under the 2025 Social Data Call.

Female unpaid labour and its recognition

In 2023 women accounted for 5.9% of the reported unpaid labour (Social Data Call 2025) while the gender of 1.2% of the unpaid labour was unknown. The proportion of women represented in the unpaid labour category is higher than their proportion in the total employment (4.25%) and FTE (4%) categories.

However, these data did may not fully capture the vital role played by women in family fishing enterprises, who manage a wide range of onshore tasks while their spouses are at sea. Women often handle business relations and other social networks, bookkeeping, payments, direct marketing (e.g. farmer markets), and maintenance of gear, usually without being paid, alongside household and other care work responsibilities (Frangoudes et al., 2008, 2011, 2013; Kraan et al., 2023; Mires-Rojas et al., 2025). Expert observations and several social science studies (NFP Italy, Greece, France, Spain) show that women often lead initiatives to diversify fishing businesses, including aquaculture tourism, pescatourism, fish restaurants, coastal sightseeing and processing plant tours, adding value to the products caught by their partners.

European policies on gender equality have increased recognition of these contributions. For example, the Directive 2010/41/EU, replacing Directive 86/613/EEC, grants spouses and life partners of self-employed workers access to social benefits, such as maternity leave, pensions, professional training, and professional organisations, reflecting their integral role in family enterprises. Unfortunately, and as stated in various reports (Frangoudes, 2011, 2013; EU, 2019), these female activities are not remunerated and counted for statistics. Under the umbrella directive, France improved the situation of assisting spouses and partners of fishers, farmers and independent workers, with the modification of the law. Since 2022, women who opted for the collaborative spouse status should, after 5 years, choose one of the two status: employee or associate of the fishing enterprise. The aim of this change is to favour economic independence and improve social benefits. The risk associated with this is that if companies do not have the financial capacity to support the new status, they could easily revert women to unpaid labour and the lack of visibility scenario where they started.

Unpaid labour is defined in the DCF as “Number of engaged crew that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. People working only onshore, not receiving any kind of compensation, should be included if their activity has a

direct link with the fishing operations. Data reporting practice across MS might not align with that recommended definition.

STECF 19-03 identified several issues related to the “unpaid labour variable”. First, the need for a broader definition of unpaid labour to reflect the work done outside the vessels that sustain the operability of the fleet. Second, the fact that many single operator vessels were classified as unpaid labour in the data collection creates an artificial figure and makes it difficult to understand the phenomenon and the gender cleavage. Third, the extent of unpaid labour by family members or others both onboard the vessels and ashore should be included in surveys.

Despite the legal and formal recognition of women’s contributions under Directive 2010/41/EU, the data presented in the unpaid labour section do not capture women’s participation in family fisheries enterprises. This is often because such contributions are not recorded in places where data are available (e.g., Croatia, France, Latvia, Slovenia, etc.) or because, despite formal transposition of the directive, no fisheries-specific measures have been introduced (e.g., the Greece, Italy, Netherlands, etc.). As a result, the unpaid labour section of this report focuses mostly on coastal and small-scale fishers working alone, who are considered self-employed from an economic perspective. Member States did not provide further clarification on this issue.

6.4 Generational renewal in EU Fisheries

Generational renewal refers to the need to replace older individuals in the sector, or those who have exited it, with a sufficient number of younger workers or new entrants.

Significant work has been done by the STECF EWGs on Social Data on this topic in the past two years. The STECF 23-17 report contained a detailed discussion of generational renewal and relevant social indicators. The report focused on 3 questions:

1. How attractive is the profession for the younger generation?
2. How many fishers have "dropped" or discontinued the family business, and why?
3. What could make the profession more attractive?

The STECF 24-05 report discussed generational renewal under the overall heading of Social Indicators. The report provides details of a 2024 Stakeholder Consultation, conducted by the European Commission, on social policy priorities in fisheries. The two policy areas associated with generational renewal (Number of fishers discontinuing the family business; Attractiveness of the profession for the younger generation) were ranked among the top 5 priorities out of 17. This indicates clearly the level of concern among stakeholders regarding the issue.

The 2024 report categorised the social indicators most relevant to generational renewal as either forthcoming or potential and suggested that a pilot

survey/study should be conducted looking at entry/exit motivations for fisheries. Consequently, seven Member States (Belgium, Estonia, Greece, Spain, Croatia, Italy, Finland, Netherlands, and Sweden) have incorporated a pilot study on social indicators in their DCF Work Plan for 2025–2027. The indicators to be tested in relation to generational renewal includes: new entries in the vessel register (Belgium, Greece, Spain, Finland, Croatia, Netherlands), proxies of entry of individuals into fishing (Belgium, Spain, Croatia, Netherlands), and participation in vocational training (Belgium, Spain, Croatia, Netherlands).

Generational renewal is a complex and multifaceted concept, shaped by economic, social, and psychological factors that influence the replacement of older workers with new entrants. While the relative importance of these drivers varies regionally, many cases involve some or all of the elements listed below, which collectively affect the sustainability and continuity of the fishing workforce:

- Low wages, often resulting from limited catches or low market price of catches and intensified by competition from cheap(er) seafood imports.
- Disadvantages in social security schemes for fishers associated with self-employment, in particular in small-scale fisheries (for example limited compensation in case of sickness or fishing stops).
- Perception of fishers that management policies do not work in their interest, associated with a lack of trust, representation and participation in decision-making processes, in particular in small-scale fisheries.
- Uncertain abundance of fishing stocks, potentially related to climate change.
- High levels of stress associated with all of the factors here and also spatial competition in the coastal zone and at sea fostered by global agendas to develop the blue economy (i.e. coastal tourism and recreational fisheries), protect the seas through non-fishing marine protected areas and establishment of offshore wind farms.
- Strong perceptions among workforce that the fishing profession “has no future/there is no future in fisheries” due to a mix of (contextual) circumstances such as decrease of fishing space, public image of fisheries, increased load of rules and regulations, etc.
- Lack of encouragement from fishing families for offspring to enter the fishing workforce.
- Difficulties for offspring to learn by doing onboard SSCF vessels during holidays due to legislation, impeding the traditional way to enter the activity.
- Demanding workload (including administrative work), harsh working conditions and health risks in the fishing sector in comparison with other occupations.
- Old age of the fleet and outdated technologies (the 2025 AER reports that the average age of vessels in the EU fleet has increased from 30 to 34 years between 2017 and 2023).

- Difficulties in obtaining a fishing license and associated administrative burdens, together with an increase in the complexity of general regulations for the activity, create a perception of the activity as a bureaucratically cumbersome.

The age structure of the fishing workforce provides a clear illustration of generational renewal challenges. Since 2017, the EU fishing population has been ageing, with the proportion of older fishers increasing while that of younger fishers' declines. This trend can be summarised by examining the proportions of fishers above and below 40 years of age: between 2017 and 2023, the share of fishers over 40 increased from 65% to 71%, whereas the share under 40 decreased from 31% to 26% (see **Error! Reference source not found.**). This represents a notable shift within a relatively short period.

Table 9. Fishing workforce below and above 40 years of age (2017-2023).

Total employment by age group	**2017**	**2023**
<40 years	31%	26%
>40 years	65%	71%

Source: Member States data submission under the 2025 Social Data Call. Note: PT Data 2017 were identified as inconsistent.

According to EUROSTAT, population aging is a long-term trend that began several decades ago in Europe. The age groups used do not allow for direct comparison[26], 42.8% of the EU population was under range 15-49 years in 2023 (EUROSTAT, 2025).

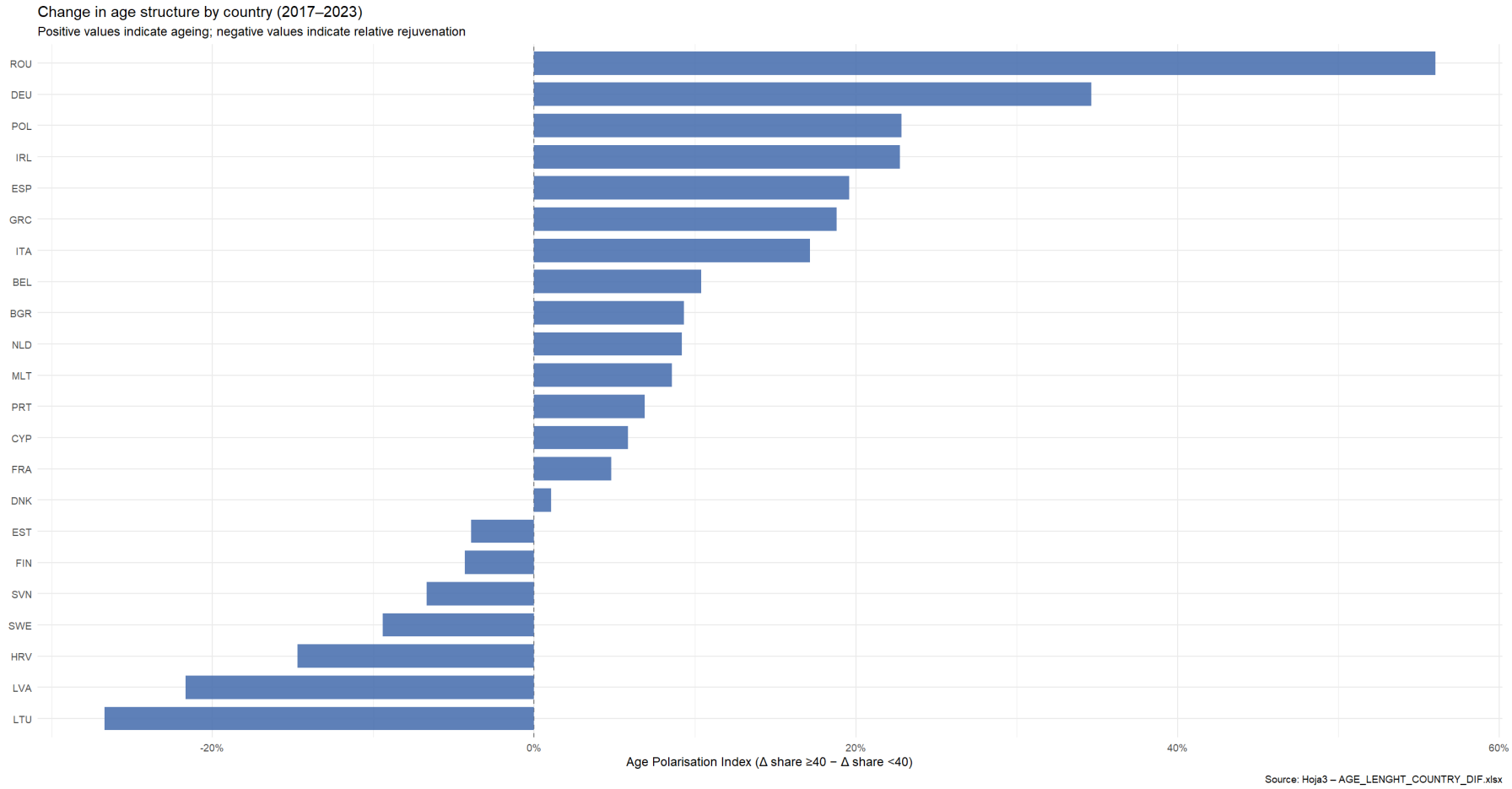
In some Member State fleets, there are significant numbers of fishers in the >65 age category (28% in Sweden, 21% Denmark) with an associated risk that these fisheries will stop during the next few decades (i.e. Swedish and German Baltic Sea SSCF). The disappearance of these fisheries would reduce the diversity and the adaptive capacity or resilience of the sector. It also challenges current efforts to increase food security in the region.

The age profile for fisheries must be viewed in the context of a general ageing of the European population. Eurostat figures show that older people (aged 65 years and over) had a 21.6% share (an increase of 0.3 percentage points (pp) compared with the previous year and an increase of 2.9 pp compared with 10 years earlier). However, the fisheries social data shows a more rapid increase in the over 65 age categories in the fishing workforce of 2.1% in 6 years. Furthermore, the significant difference between the fisheries and Eurostat datasets is that over 65s are considered by Eurostat to fall outside the EUs

[26] Eurostat age groups (dataset for database demo_pjanind) are 0-14, 15-25, 25-49, 50-64, 65-79 and 80 and more. STECF 22-14 proposed refinements to DCF age categories breaking 40–64 into 40–54 and 55–64 to better capture ageing within the workforce.

Working Age category while in fisheries they are forming an increasingly significant part of the fisheries workforce. Likewise, in some member states retirement age is earlier (around 55) and therefore the number of active fishers over 65 is very low.

Figure 23. Change in the age structure of the fishing workforce by MS (2017-2023)



Source: Member States data submission under the 2025 Social Data Call. Note: PT Data 2017 were identified as inconsistent.

A perceived lack of future prospects, compounded by difficulties in accessing structural funds support due to administrative complexity (Ballesteros et al., 2018) and policy uncertainty, contributes to low uptake of available funding and discourages entry into the sector, with experienced fishers often advising younger generations against pursuing a career in fisheries.

Summarising, the trend in the data currently available, points clearly to a growing problem regarding generational renewal. This is particularly evident for age data for the EU fisheries workforce. From 2017 to 2023 the over-40 age category increased from 65 to 71% while under-40s decreased from 31 to 26%.

Vessel age trends further indicate challenges for generational renewal. According to the Fleet Data Call the average age of EU fishing vessels increased from 25.3 in 2008 to 32.2 in 2024. An ageing fleet can deter new entrants, as older vessels often require higher maintenance costs, offer lower profitability, and are less attractive for investment, thereby raising barriers to entry for younger fishers and constraining generational renewal. The ageing of the fleet may also limit investments in vessel modernisation, thereby constraining the upgrading of onboard facilities, the accommodation of mixed women-men crews, improvements in working conditions and crew well-being, and the uptake of technologies required to support the energy transition.

Pilot studies, already underway in some MS, will provide useful information on the viability of additional indicators and proxies that can improve our understanding of the extent of the problem and causes of generational renewal.

However, by the time the data is improved and analysed the generational renewal issue will most likely continue to worsen. Based on what the EU and national level data is showing there is a necessity to urgently apply a precautionary approach and to develop policy measures in order to reverse the trend.

A similar problem in EU agriculture has attracted significant political and policy attention. In 2025 the European Commission unveiled a new strategy for generational renewal in agriculture. “The strategy aims to double the share of young farmers in the EU by 2040, with the goal of young and new farmers representing around 24% of all European farmers[27].”. A similar strategy should be developed for fisheries.

6.5 Material well-being and social welfare

Material well-being in fisheries is a multidimensional concept encompassing physical assets, income security, access to food, social protection, and safe working conditions. It refers to the tangible and economic resources, as well as the social supports and labour conditions that sustain and secure livelihoods in the fisheries sector. Material well-being therefore extends beyond immediate

[27] https://www.tools4cap.eu/european-commission-unveils-new-strategy-for-generational-renewal-in-agriculture/

income or ownership of physical assets to include social protection, health and safety, and equitable working arrangements that contribute to long-term stability.

The key attributes examined in this section are: wages and unpaid labour (with a focus on small-scale fisheries); social security coverage for vessel owners and crew operating on European Union fishing vessels; compliance with relevant international standards, including ILO Convention C188 and the IMO conventions STCW 1978 and STCW-F concerning the training and certification of seafarers; working hours at sea; and accidents at sea.

6.5.1 Wages

Fishing wages are not recorded as part of the DCF. Instead, the DCF records personnel costs and the value of unpaid labour -as defined in the AER- that are combined to calculate labour costs. The difference between wages and labour costs is that whereas wages refer to the direct pay that an employee earns, labour costs are the total expense for an employer and include wages as well as additional expenses including social insurance, employee benefits, paid time off, training, and bonuses. The reporting of fisheries labour cost should therefore be understood as a distinct, and higher, payment for labour than just the wage component. However, for some fisheries, in particular small-scale fisheries where there is a high level of self-employment, this distinction is less important as the difference between wages and labour costs is expected to be smaller. This is also related to the existence of specific regulatory frameworks in the fisheries sector that substantially reduce taxation and social security contributions on labour. Labour taxation in fisheries include reduced employer social security contributions for fishing companies, special contribution regimes for small-scale coastal fishers.

When comparing fisheries to other sectors it is therefore important that the data for comparison is also based on labour costs (rather than wages). For this, Eurostat reports hourly labour costs which comprised of both wages and salaries in addition to non-wage costs at the broad sectoral level (dataset lc_lci_lev). This hourly labour cost can be multiplied by the equivalent number of hours per week that define an FTE in each Member State (dataset lfsa_ewhuis) and then multiplied by 52 weeks in a year. The resulting annual labour cost is the closest cross-sectoral comparison to fishing labour costs from the DCF. It is also the methodology for comparison used in the EU Blue Economy Observatory and recent studies on the wage attractiveness of the EU fishing sector (Guillen et al., 2025). Note that from 2012 it is only available for the years 2012, 2016, 2020-2023.

Focusing on 2023 as the most recent year of comparison, the comparison reveals that the average fishing labour cost across the EU fishing fleet (EUR 29 447 annually) is just under half (48%) the average labour cost in the EU (EUR 61 541). Fishing labour costs are also lower than the national average for most Member States (16 out of the 22 coastal states).

This finding that in most Member States labour costs for fishers (and likely wages) are below the national average contrasts with the study that found that Nordic fishers have above average wages (Nielsen et al., 2018) while aligning for the two EU Member States in the study (i.e. Denmark above average and Sweden below average).

Analysis at the fleet segment level has shown that fisheries with larger vessel lengths tend to have higher labour costs per FTE, as do pelagic trawlers and other active gears, than fisheries with smaller vessel lengths and vessels fishing with passive gears (Guillen et al., 2025). Some of this difference could be due to non-wage benefits that are more common in standard employment contracts used in the large-scale fleet (Guillen et al., 2025).

The highest fishing labour costs per FTE are reported in Belgium and Denmark and lowest labour costs per FTE are reported in Cyprus, Bulgaria, Malta, Slovenia, Greece, and Poland. The ranking of Member States in terms of fisheries labour costs may be partly explained by general labour costs in each Member State as well as the fishing activity (small-scale vs. large-scale). More specifically, countries with higher shares of small-scale fisheries are expected to report lower labour costs compared to countries with more large-scale vessels. However, even when ranking Member States in terms of fisheries labour costs as a ratio of their national average labour cost the results are similar with Belgium, Denmark, and Latvia significantly above the national average while Cyprus, Slovenia, Bulgaria and Malta fall significantly below it (less than 16%), and Greece, Italy, Croatia, Poland and Sweden, lie slightly below (between 30% and 50%) their respective national averages. Both fisheries labour costs and national average labour costs are influenced by factors such as collective bargaining arrangements, but also as aforementioned by the share of small to large-scale vessels. Wage-setting mechanisms in the fishing sector range from nationally coordinated collective agreements to firm-level or individual negotiations, and in some cases to share-based remuneration systems. These institutional differences can lead to substantial variation in reported labour costs that is not directly related to productivity or economic performance.

In some cases, the fishing labour costs and/or FTE from the DCF for specific Member States seem unlikely. Labour costs per FTE in Cyprus, Bulgaria, Malta and Slovenia are all under EUR 10 000 per FTE and less than a quarter of the national average, while labour costs in Belgium are over EUR 130 000 (and more than 50% above the national average). Aside from the plausible contribution of the share of small- to large-scale fisheries, there does not appear to be other consistent explanation for these Member States, for example a high/low share of unpaid labour or a high/low ratio of FTEs to engaged crew. Instead, there may be issues specific to individual Member States which are noted in the national chapters with caution advised.

For example, in Cyprus the personnel costs are fixed despite a class of vessels that spends only 20-25 days fishing and there is increasing use of foreign labour in the large-scale fleet (Guillen et al., 2025) which is expected to have low labour costs. Similarly, in Bulgaria, many fishers are reporting working as a full FTE despite limited working hours and thus a very low labour cost per FTE (this affects not just labour costs but any measure reported per FTE). In

Slovenia it is noted that many fishers have additional earnings coming from other sectors such as tourism and aquaculture. In Belgium, it has been noted that the wages should be interpreted with caution (STECF, 2024), while at the same time there are reasons to expect a high value in Belgium as the crew share is a direct percentage of landed value (without first deducting costs) and there is a guaranteed minimum pay.

More broadly, it has been noted that wages derived from the DCF should be treated with caution as the underlying data are not always collected and calculated in the same way in all Member States (STECF, 2025). The value of unpaid labour is an area of particular divergence. However, while some labour costs reported in the DCF are unlikely in their magnitude, the broad trends across time and across Member States are expected to reflect real labour costs.

Table 10. Average fishing labour cost compared to the national average labour cost, by Member State

	National average		Fishing labour cost		Ratio	
Member State	**2016**	**2023**	**2016**	**2023**	**2016**	**2023**
Belgium	92,248	89,151	165,479	136,201	1.79	1.53
Bulgaria	12,979	19,392	3,888	3,170	0.30	0.16
Croatia	24,990	29,802	10,646	11,432	0.43	0.38
Cyprus	37,190	41,392	2,020	2,500	0.05	0.06
Denmark	85,112	85,143	89,879	144,291	1.06	1.69
Estonia	32,322	35,875	17,556	27,246	0.54	0.76
Finland	76,645	68,872	25,234	70,552	0.33	1.02
France	80,834	82,019	73,908	78,192	0.91	0.95
Germany	75,927	75,133	54,695	76,726	0.72	1.02
Greece	38,631	33,391	9,372	9,958	0.24	0.30
Ireland	67,427	74,836	41,282	55,328	0.61	0.74
Italy	64,265	58,150	16,513	17,724	0.26	0.30
Latvia	22,310	27,308	13,403	38,337	0.60	1.40
Lithuania	22,059	29,888	39,633	24,477	1.80	0.82
Malta	34,076	36,910	6,851	8,836	0.20	0.24
Netherlands	70,086	70,658	117,775	75,075	1.68	1.06
Poland	26,540	30,311	9,196	11,002	0.35	0.36
Portugal	33,359	35,183	21,060	22,815	0.63	0.65
Romania	15,783	22,937	20,306	15,015	1.29	0.65
Slovenia	43,330	52,244	13,675	5,371	0.32	0.10
Spain	50,129	47,902	25,397	29,550	0.51	0.62
Sweden	90,434	77,075	50,615	37,101	0.56	0.48
EU	**62,808**	**61,541**	**27,229**	**29,447**	**0.43**	**0.48**

Data source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

In conclusion, assuming that the wedge between labour costs and wages is similar in fishing and other sectors[28], the conclusion can be extended from labour costs to wages: for most Member States fishing wages are lower than the national average. If, however, non-wage benefits in fisheries are low (which may be the case for small-scale fisheries in particular), then fishing wages themselves would compare more favourably to national average wages (as the fishing wages would be close to the total labour cost, unlike the national average).

6.5.2 Social Security Systems

In the European Union Member States have different social security systems, which are applicable to its citizens and residents. Elements of these systems are provisions for health care, unemployment, sickness, disability, maternity, work-related accidents, retirement pension, statutory minimum wage and a statutory retirement age. This section provides an overview of the social security schemes available to fishers (crew members and owners working on board fishing vessels) in each Member State.

The figure below shows that, in a few Member States (e.g. France, and Spain) fishers fully benefit from what is referred to here as a “special regime” covering owners and crew members on board (from all nationalities). These have been implemented for historic reasons. For example, fishers were considered good seafarers and suitable to work in the merchant and military navies that were historically strategic for these countries. Some member states have a ‘partly’ ‘special regime’ (e.g. Germany, Greece, Croatia, Italy, and Portugal). These ‘special schemes’ for fishers, originated as initiatives for seafarers. The specific characteristics of the fishing profession—its physically demanding nature and the long periods spent away from home—are recognised by some Member States (e.g. France, Spain, Germany, and Greece), particularly with regard to exemptions to the statutory retirement age.

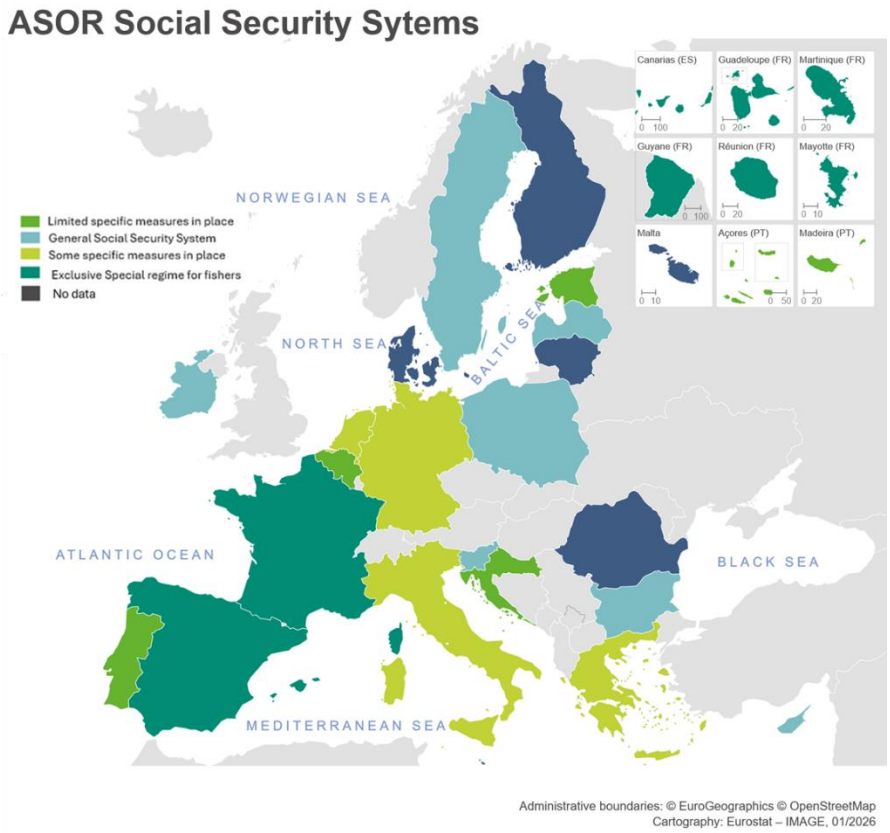
Some member states provide specific provisions to cope with seasonal unemployment due to certain specific situations (e.g. climate change impact on species) or fisheries measures (recovery plans, reduction of quotas). These provisions contribute to the wellbeing of the fisherfolk. Further examples of these are: insurance for weather conditions (France, Sweden), minimum wage (Belgium).

Most fishers (potential exception are non-EU/EEA crew with a contract through a recruitment agency) operating on board European fishing vessels, whether as vessel owners or crew members, are covered by national social insurance systems. In many Member States, crew members are generally classified as

[28] . The main caveat of this assumption is the existence of specific regulatory frameworks in the fisheries sector that substantially reduce taxation and social security contributions on labour. This issue will be further explored by the EWG.

employees, while vessel owners are most often considered self-employed. Nevertheless, in some member states (i.e., demersal fisheries in the Netherlands) and sub sectors (SSCF and L12AG) crew are also self-employed. This latter status applies in the majority of Member States.

Figure 24. Map of social security systems for the fishing workforce by MS (2023).



Source: Member States legislation, National Fisheries Profiles and references.

A comparative analysis of social security systems and labour agreements for owners on board and crew is available in Annex 3.

Information collected through the national chapters in this report and National Fisheries Profiles indicates that, in several other Member States (e.g. Belgium, Germany, Greece and Italy), the demanding nature of fishing is also recognized, at least with regard to determining the legal retirement age, for both vessel owners and crew members. This recognition applies, for example, in Germany for professional fishers, and in Greece for owners operating within the large-scale fleet.

Significant differences remain between Member States in terms of institutional arrangements. In Italy, small-scale fishers are covered by a specific fisheries social security scheme, while owners of large-scale vessels fall under the general national social security system. In Greece, small-scale fishers were

previously affiliated with the agricultural social security scheme and were subsequently integrated into the general system.

With regard to employment relations, collective agreements are in place in Member States where trade unions representing vessel owners and crew members are active. They usually include, legal working hours, holidays, minimum wages, unemployment, accident at sea coverage, etc. In some countries, these agreements are applying only to specific segments of the fleet (e.g. pelagic, demersal, or large-scale fisheries).

Unemployment benefits are available to crew members in Member States where they are classified as employees under national legislation and negotiated under the collective agreements. Coverage for accidents at sea varies across Member States and according to the fisheries work collective agreements. In some cases, fishers are covered under the same schemes applicable to other employees or self-employed workers, while in other countries—such as Belgium—crew members benefit from additional protections linked specifically to their status as fishers. Collective agreements defined also the minimum wages.

In countries where fishers are covered by general national regimes for employees or self-employed people, national collective agreements apply. In these cases, self-employed fishers, including most vessel owners, do not have access to unemployment benefits. National statutory minimum wage applies only to employed fishers as well all others benefits.

In summary, European fishers can benefit from access to health care, statutory retirement age provisions, and retirement pensions, either through general national social security systems or through fisheries special regimes. These general systems do not always adequately reflect the specific working conditions of fishing activities or the prevalence of occupational diseases.

6.5.3 Working conditions: international conventions

Two international conventions are applicable to all seafarers working on board of fishing vessels. The International Labour Organization's (ILO) "Work in Fishing" Convention (C188) and the International Maritime Organization (IMO) STCW-F Convention. Both aims to improve working conditions and safety on board, and their ratification is supported by the European Union. The third convention presented here is STCW-78, which concerns seafarers in the merchant navy and is the convention from which the STCW-F convention originates.

- The ILO Work in Fishing Convention (C188, 2007) sets labour standards for fishing, including work and rest hours, repatriation, medical exams, and accommodation.

- The IMO STCW-F Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (1995) sets minimum standards for the training, certification, and watchkeeping of fishing vessel personnel.
- The IMO STCW 1978 Convention sets the first international minimum standards for seafarer training, certification, and watchkeeping, replacing varied national rules.

STCW-1978 was amended in 1995 and in force since 1 February 1997 and it has been ratified by all Member States, unlike the STCW-F Convention for fisheries, which remains unratified despite European Union efforts.

Council Directive (EU) 2017/159 of 19 December 2016 implements the Agreement concerning the implementation of the Work in Fishing Convention 2007 of the International Labour Organization (ILO). This Agreement was concluded on 21 May 2012 between the General Confederation of Agricultural Cooperatives in the European Union (Cogeca), the European Transport Workers' Federation (ETF), and the Association of National Organizations of Fishing Enterprises in the European Union (Europêche). All these organizations participate in the Social Dialogue Committee[29] and represent either owners or crew of European Union fishing vessels. They were key to the development of this Council directive.

Through this Directive, the European Union calls upon all Member States to implement the Convention in their national legislation. Member States were required to bring into force the laws, regulations, and administrative provisions necessary to comply with this Directive by 15 November 2019 and all transposed the convention in their national regulation. However, ratification of the Convention can be undertaken only by individual States. The table below shows the countries that have ratified the Convention.

Regarding the STCW-F Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, in 2015, the European Union authorized Member States to ratify the Convention, recognizing its significant contribution to the fishing sector by promoting safety at sea and protecting the marine environment (Council Decision (EU) 2015/799). By 2019, only nine-member states ratified the STCW-F Convention, prompting the European Commission to urge others to do so. Currently, ten EU Member States have ratified the Convention: Belgium, Denmark, Spain, France, Latvia, Lithuania, the

[29] The sectoral social dialogue committee has been created in 1999, replacing the Joint Committee on Social problems in Sea Fishing previously functioning since 1974. Social dialogue in the sea fisheries industry covers marine fishing and aquaculture. The Committee has been a pioneer in tackling challenges such as safety, decent work, and sustainable practices. https://socialdialogueseafisheries.eu/

Netherlands, Poland, Portugal, and Romania. Further details can be found in Haasnoot T. et al. (2025) and Arias Schreiber et al., 2023).

In contrast, all Member States have ratified the IMO Convention STCW-78 that covers the diploma and training for all working in maritime shipping. Further research would be required to understand the reasons for these trends.

Table 11. Status of ILO convention C188 Work in Fishing and IMO STCW 78 and STCW F 95 as of 29 September 2025

Country	**ILO C188 convention** Work in fishing		**STCW 78* amended** IMO/convention	**STCW F** 95 IMO/convention
	Date of signature	**Status**		
Belgium	11 Jun 2025	Enter into force 11 Jun 2026	Yes	Yes
Bulgaria	-		Yes	No
Croatia	-	-	Yes	No
Cyprus	-		Yes	No
Denmark	3 Feb 2020	In force	Yes	Yes
Estonia	3 May 2016	In force	Yes	No
Finland	-	-	Yes	No
France	28 Oct 2015	In force	Yes	Yes
Germany	-	-	Yes	No
Greece	-	-	Yes	No
Ireland	-	-	Yes	No
Italy	-	-	Yes	No
Latvia	-	-	Yes	Yes
Lithuania	16 Nov 2016	In force	Yes	Yes
Malta	-	-	Yes	No
Netherlands	19 Dec 2019	In force	Yes	No
Poland	17 Dec 2019	In force	Yes	Yes
Portugal	26 Nov 2019	In force	Yes	Yes
Romania	-	-	Yes	Yes
Slovenia	-	-	Yes	Yes
Spain	28 Feb 2023	In force	Yes	Yes
Sweden	-	-	Yes	No

Sources: ILO and IMO websites

6.5.4 Fatalities and accidents on board

Safety concerns have frequently been noted in the fisheries sector, with specific concerns including both a high rate of injury and a high rate of fatality (STECF 23-17). To help address these longstanding concerns, many safety measures have been implemented following international standards such as the requirement to obtain medical certificates.

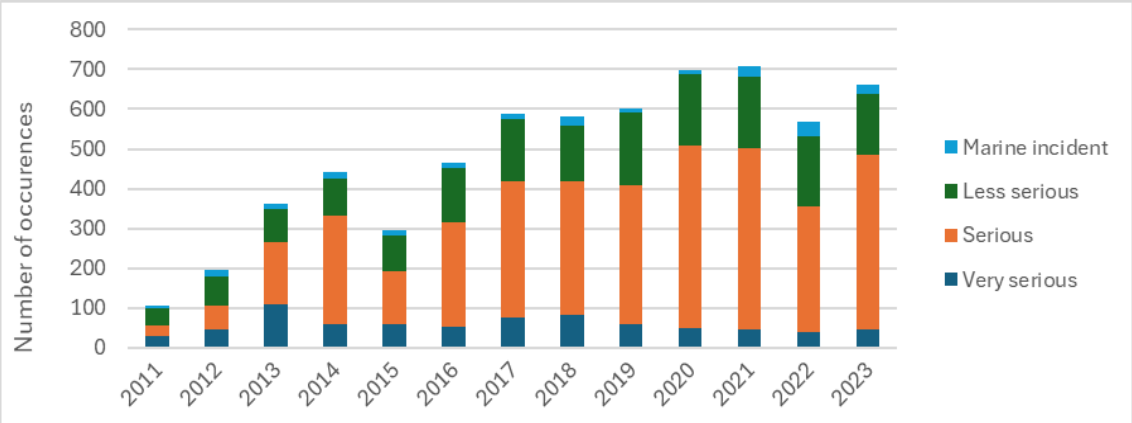
Trends in accidents at sea may be linked to other social drivers identified in this report, including the aging of both the fisheries workforce and the aging (and expected deterioration) of fishing vessels. With a small number of accidents per Member State and fleet segment, it is not possible to statistically link these trends.

The European Maritime Safety Agency (EMSA) publishes an annual overview of marine casualties and incidents. The data is submitted by EU Member States in the European electronic database (EMCIP) established by the Directive 2009/18/EC. Using the EMSA reports as a data source has several advantages, including the harmonised nature of the data collection and reporting.

The records include marine casualties and incidents which: involve ships flying a flag of one of the EU Member States; occur within EU Member States' territorial sea or internal waters as defined in UNCLOS; or involve other substantial interests of EU Member States (EMSA, 2025). However, the data itself may diverge from national datasets (e.g. figures from the Institut Maritime de Prévention, based on ENIM data in France). The data is analysed in this report based on vessel flag.

Between 2011 and 2023, the number of accidents at sea involving EU-flagged fishing vessels increased sixfold, from 106 accidents to 663 accidents. Since 2017 the trend has stabilised. The majority of the accidents are recorded by France, which accounts for 390 of the 663 accidents (59%). This is likely due to differences in data reporting between Member States.

Figure 25. Accidents at sea involving the EU fishing fleet, by severity



Source: EMSA database of Marine Casualties and Incidents

Most accidents are classified as “Serious”[30]. In 2023, there were 439 “Serious” accidents 153 “Less serious” accidents, 46 “Very Serious” accidents and 25 “Marine incidents”. The severity of accidents is relatively stable in recent years (i.e. the composition of categories).

By vessel size, most of the accidents are in the 0-12m fleet or the 24-45m fleet, the latter appearing disproportionally high relative to the number of the vessels or days at sea for that fleet. In 2023, there were 245 accidents in the 24-45m fleet (37%) and 233 accidents in the 0-12m fleet. The severity of accidents varies slightly by vessel length, with a higher proportion of “Very Serious” accidents in the <12m length class and a higher proportion of “Less Serious” accidents in the >=45m length class.

From the 663 accidents in 2023 there were 110 injuries for a rate of 0.17 injuries per accident. This rate decreased significantly from a high of 0.52 in 2014 to 0.17 in 2020 and has remained stable since. From the 663 accidents in 2023 there were also 15 lives lost. This number has generally declined over time yet with high variability.

Overall, the number and severity of accidents on EU vessels appears to be relatively stable in recent years. The decline in lives lost is an important exception, as this trend continue with the 15 lives lost in 2023 one of the lowest levels recorded.

6.6 EU aggregate vessel-size structure in fisheries employment

Overall, the EU-aggregate distribution across vessel size highlights a strong concentration of fisheries employment in a limited number of vessel length classes, and allows an assessment of whether the relative importance of smaller and larger vessel segments has changed between 2017 and 2023. The comparison provides an overview of structural developments in the employment profile by vessel size over the period considered.

The figure below presents the EU aggregate composition of fisheries employment by vessel length class in 2017 and 2023, expressed as shares of total employment. In both years, employment is unevenly distributed across vessel sizes, with medium-sized vessels accounting for a substantial proportion of total employment. In particular, vessels in the 6–12 metre range remain a central segment in terms of employment weight at EU level in both reference years.

Changes in the relative distribution of employment across vessel length classes can be observed over time. The results indicate a shift in employment[31] away from some smaller and intermediate vessel categories towards larger vessel segments. In particular, vessels above 12 metres account for a larger share of

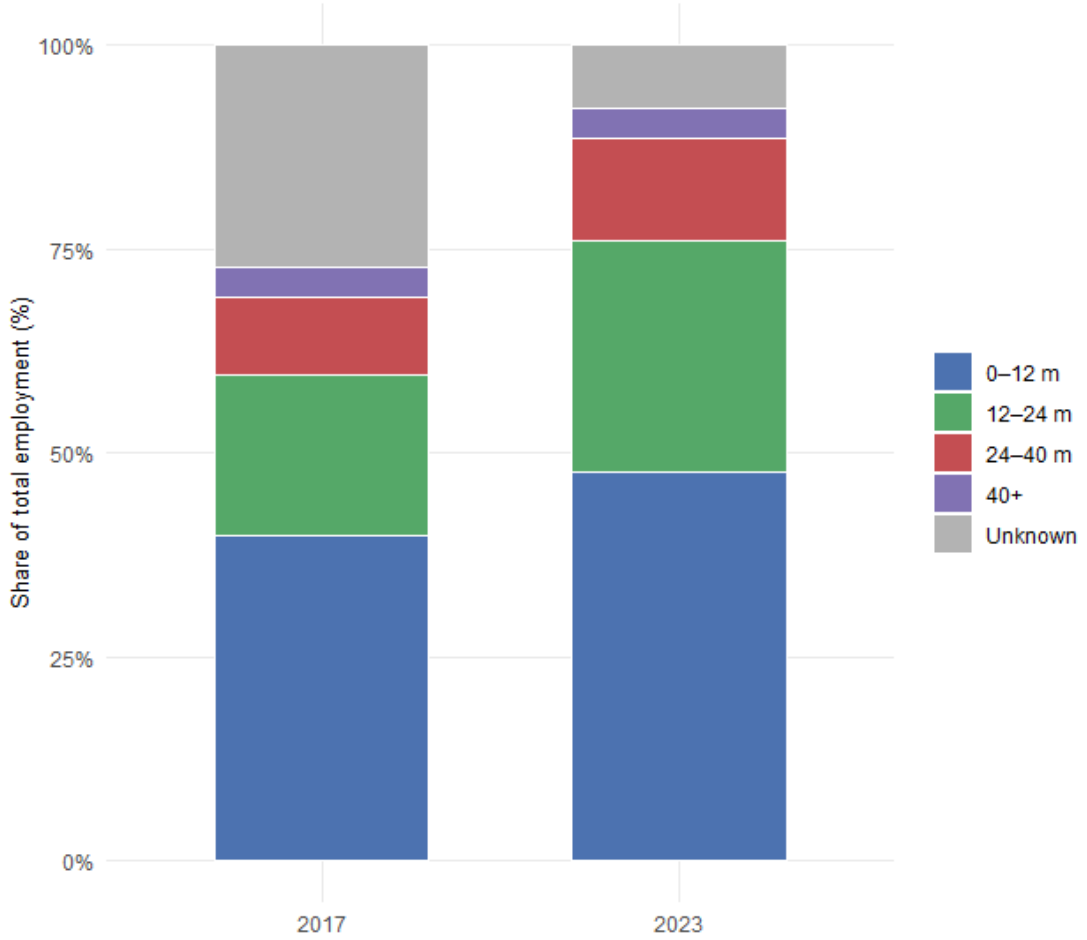
[30] Full definition contained in Circular MSC-MEPC.3/Circ.3 of the IMO Maritime Safety Committee and Marine Environment Protection Committee of 18th of December 2008.
[31] The difference could be due to the different composition of the fleet.

total employment in 2023 than in 2017, while the relative contribution of smaller vessels shows a declining trend at EU aggregate level.

Overall, the observed patterns suggest a moderate structural adjustment in fisheries employment, characterised by a gradual increase in the relative weight of larger vessel segments and a corresponding reduction in the share associated with the smallest vessels. This evolution is consistent with broader changes in fleet composition and operational characteristics across Member States over the period analysed.

Error! Reference source not found. presents the EU aggregate distribution of f isheries employment by vessel length class in 2017 and 2023, expressed as shares of total employment. Each bar represents the relative contribution of the different vessel-size categories to overall fisheries employment in the Member States covered.

Figure 26. Total employment by vessel length 2017-2023 (in %).



Source: Member States data submission under the 2025 Social Data Call. Note: PT data for 2017 were identified as inconsistent.

By focusing on percentage shares, rather than absolute levels, the figure highlights the structure of employment across vessel length classes and allows for a direct comparison between the two reference years, irrespective of

changes in total employment. The comparison provides an overview of how the relative weight of different vessel-size segments in fisheries employment has evolved at EU level over the period considered.

Fisheries employment is unevenly distributed across vessel length classes and Member States, reflecting differences in fleet structure, operational patterns, and the scale of fishing activities. Examining employment by vessel size provides insight into how labour is allocated across segments of the fleet and helps to characterise structural differences in fisheries employment at national and EU level.

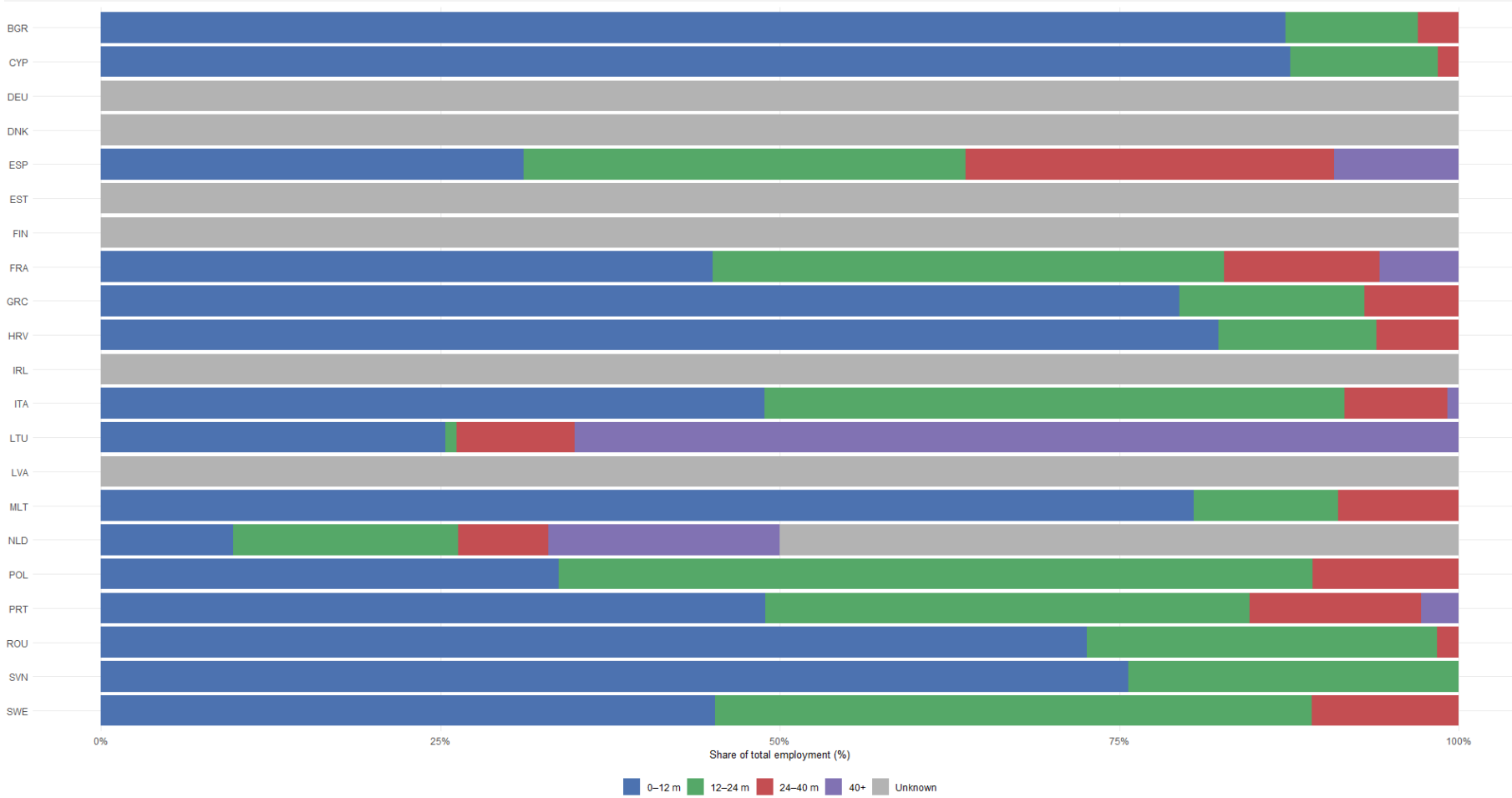
Total employment levels vary widely across countries, ranging from 111 persons in the smallest employment base to almost 30 000 persons in the largest one. Employment is highly concentrated geographically, with the five Member States with the highest employment levels accounting for 88.4% of total fisheries employment covered by the dataset.

At EU aggregate level, employment in 2023 is predominantly associated with small-sized vessels, particularly those in the 0–12 metre length class, which represent the largest single vessel-size segment, accounting for 26.6% of total employment. This vessel-length class is also the leading employment segment in seven Member States.

Beyond this dominant segment, employment is distributed across a range of vessel sizes, with vessels in the 12–18 metre and 24–40 metre classes each accounting for around 15% of total employment at EU level. Smaller vessels below 6 metres remain an important source of employment in absolute terms, although their contribution is more limited when compared with medium-sized and larger vessel segments.

Overall, **Error! Reference source not found.** highlights both the strong c oncentration of fisheries employment in a small number of Member States and the heterogeneity in vessel-size composition across countries, providing a detailed snapshot of how employment is allocated across vessel length classes at national level in 2023.

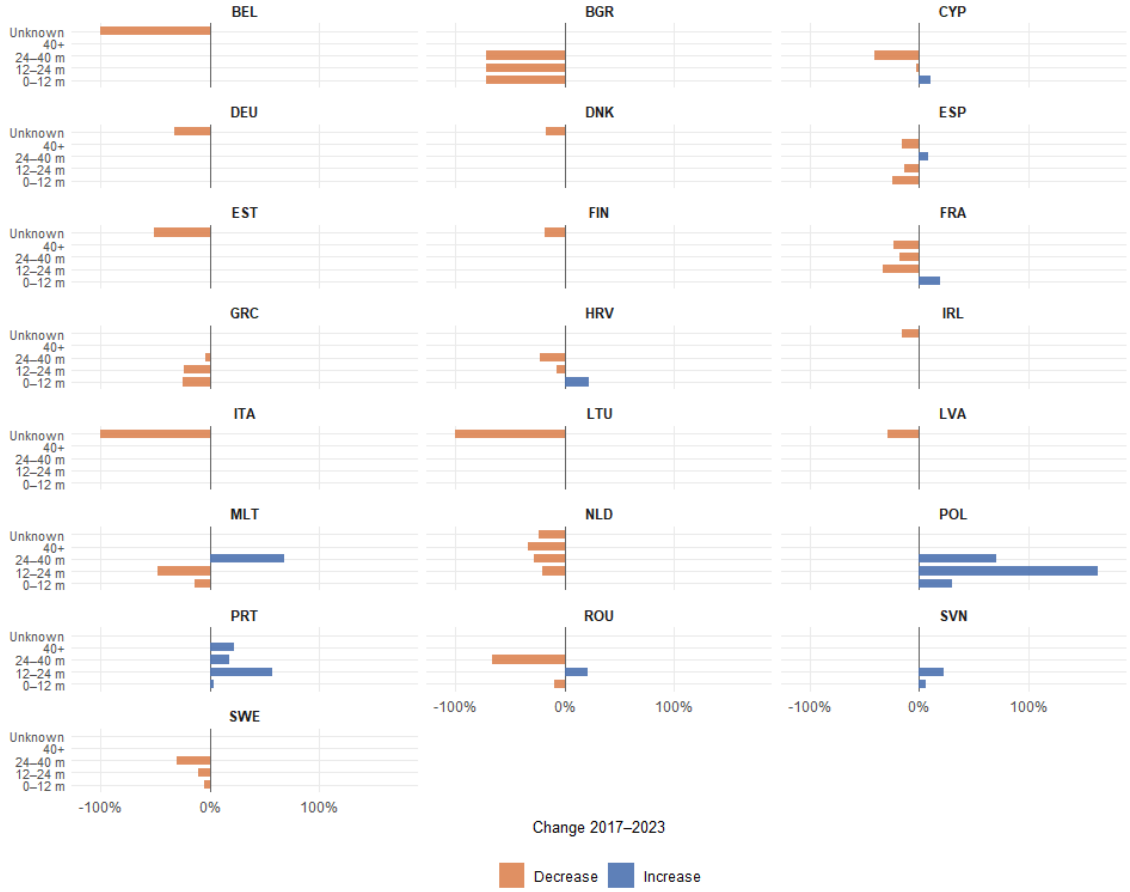
Figure 27. Total employment by vessel length and Member State, 2023 (in %).



Source: Member States data submission under the 2025 Social Data Call.

Changes in fisheries employment over time differ not only across Member States but also across vessel length classes. Examining employment dynamics simultaneously by country and vessel size provides a more granular view of structural change, revealing how different fleet segments have evolved between 2017 and 2023.

Figure 28. Total employment by vessel length and Member State, 2023 (in %).



Source: Member States data submission under the 2025 Social Data Call.

Error! Reference source not found. illustrates the percentage change in f isheries employment between 2017 and 2023 by vessel length class and Member State, highlighting marked differences in employment dynamics across fleet segments. Within each vessel-length class, Member States display heterogeneous patterns, with employment increases and declines often coexisting within the same segment.

The extent and direction of change vary substantially across Member States. In some countries, employment growth is broad-based across vessel segments: e Poland recorded increases across all reported segments, while increases in Portugal are due to data inconsistencies in 2017. By contrast, other Member States exhibit predominantly negative developments, with employment declining in the majority of vessel-length classes, as observed in Spain, Sweden, the Netherlands and Greece.

The magnitude of adjustment also differs markedly across countries and segments. The wide ranges among them underline the asymmetric nature of employment change across fleet segments within countries.

6.7 EU Fisheries trends

Drawing on data and empirical evidence from the DCF social data call and additional sources (Eurostat, EUMOFA, EMSA, National Fisheries Profiles, European Commission and EU Parliament technical reports and studies, and scientific literature) several trends shaping the social performance of EU fisheries can be identified.

All coastal EU member states have people employed directly or indirectly in the fisheries, trade and ancillary activities. In most regions, these occupations have occurred for centuries and coastal communities have developed centred on these activities. In 2023, the EU has around 119 989 fishers.

As in other regions worldwide, EU fisheries contribute substantially to the region's sustainable development in terms of provision of healthy food, employment opportunities, and sources of income; noting that the downsizing of the fleet has greatly affected such contribution These benefits are particularly relevant for coastal communities, where the contribution expands to the preservation of local maritime cultures and traditions, production and dissemination of traditional ecological and experiential knowledge, and the shaping of local identity, social cohesion, and a sense of community belonging. Coastal communities are often characterized by isolation and their distance from urban and administrative centres. Therefore, fishing and associated activities (e.g., ancillary, trade) are particularly important for rural regions where alternative economic opportunities are scarce. In other cases, fisheries constitute one of the central attractions for tourism as a central activity within the land-seascape, maintaining vibrant and visually attractive harbours, supplying fresh fish, anchoring traditional practices and festivals, featuring prominently in local stories and artistic production, maintaining local knowledge of the environment and helping to secure facilities that also support recreational fisheries. As such, these aspects are all integral to the overall well-being of the EU society. The negligible economic contribution of fisheries to national GDPs obscures their social and cultural significance to societal wellbeing at a local and regional level in tandem with the EU commitments towards sustainable development targets.

All MS report the presence of a LSF and a SSCF (including vessels under 12 metres using active gears or the L12AG fleet). Nine MS have also DWF operating in international or non-EU country waters, in particular Spain, Portugal and France. The number of people working in these fleets, varies substantially within regions. For some countries most fishers work in large-scale fleets (i.e. Belgium, Baltic coast of Germany), for others most fishers work in small-scale fisheries (i.e. the outermost regions in France, Greece, Cyprus) and in other countries it is more a mix (i.e. France, Sweden). Overall, the majority of fishers in the EU work on vessels that are less than 12 m long (59%). Small-scale

fisheries continue to anchor local livelihoods and support short supply chains, providing fresh, high-quality fish to domestic markets. Large-scale fisheries contribute to global food security and help maintain vibrant coastal regions. Both are rooted in social values (e.g. community and sense of belonging onboard and onshore) and both play a significant role in shaping individual and collective identities in coastal regions. They also face some similar challenges (e.g. accelerated competition for the use of marine and maritime space) and are affected by common drivers (e.g. global change or evolving societal expectations regarding sustainability and working conditions).

The data in this report show a 15% drop in the number of fishers compared to 2017. The total work that these fishers perform together (total FTE) also reflects this decreasing trend with a 25% decrease since 2017[32]. These figures, combined with reports all over the EU of an ageing fleet (71% in 2023 being over 40, compared to 65% in 2017) and a shrinking pool of new entrants (Bulgaria, Cyprus, Germany, Estonia, France, Ireland, Italy, Latvia, Malta, the Netherlands, Poland, Spain and Sweden), are indicative of a threat to the resilience of the sector. Particularly in light of the inherent uncertainty of fish stocks, uncertainties introduced by climate change, recent European geopolitical developments (i.e. Brexit) and a trend of reduced access to fishing grounds due to uses of space at sea by other sectors (i.e. wind farms) or for conservation (marine protected areas). In addition, lately decommissioning schemes in the Netherlands and Ireland have contributed to this trend of decline.

Reduced generational renewal has become a systemic issue across nearly all fleet segments. However, industrial fleets show slightly better succession prospects than small-scale fisheries. Importantly, this challenge extends beyond fishing itself to encompass directly and indirectly related occupations, including net making and gear production, fish transport and logistics, processing activities, and fish retail. Together, these trends indicate a broader erosion of fisheries-related skills, culture and traditional professions within coastal economies. Where fisheries are based on family businesses, linked to fisheries communities, it is important to realise that any changes in the size and social structure of the fleet will eventually also transform fisheries communities (including the social fabric of fisheries communities onshore and onboard). Reduced fleet sizes have for instance transformed fisheries communities along the Baltic Swedish coast where they once flourished.

Women make up only 4.3% of the workforce. This low number, only slightly higher than in 2017, reflects prevailing social perceptions about the nature of work and gender roles. This figure, however, obscures the much larger role that women play as crucial members in fishing family businesses.

The EU fisheries workforce is ageing and facing a shortfall of young workers. As in many other sectors across the EU (EUROSTAT, Labour Force Survey, 2025), this gap in generational renewal is partially absorbed by an increase of

[32] These total percentages are based on the corrected data for Portugal which showed data inconsistencies in 2017 as detailed in section 5.

non-national crew (see Heat map of workers, **Error! Reference source not found.**). Currently 10% of the workforce is non-EU/EEA showing a growth of 2.2% since 2017. More research is needed to better understand what are the underlying social implications hereof. Examples of large non-local workers settling and integrating in existing fisheries communities are also available, as well as of the impacts of multicultural communities onboard (see Ballesteros, 2023). The ongoing development of Fisheries Communities Profiles (STECF 24-05; STECF 25-03) will provide a systematic and evidence-based foundation to assess and better understand these dynamics across the EU.

The broader policy and political context have a direct impact on recruitment in the fisheries sector. In particular, the employment of non-EU workers is shaped by immigration policies, in the form of visa requirements, training requirements (STCW-F Convention) and recognition, work permits, and residency regulations. These requirements can influence the availability, mobility, and continuity of this labour force, with potential implications for addressing workforce shortages and challenges related to generational renewal. Likewise, in certain instances, regulations may generate unintended effects on working conditions, such as restrictions of foreign fishers' ability to leave vessels where at the harbour, which require further analysis.

In general, the ability to "make a living of fishing" is under pressure, resulting from the combination of resource availability (stock status and reduced fishing opportunities), economic viability and variability (STECF AER, 2025), undermined social capital (lack of trust and respect between fishers and other stakeholder), lack of representation of fisheries stakes in societal negotiations (e.g. marine spatial planning) and the limited societal recognition of the activity (linked to the disconnection between consumers and primary producers as well as to the relevance of other Blue economy activities).

Adaptiveness has been central to such ability of make a living. Fishers regularly face uncertainties related to resource availability and market conditions, which has fostered significant adaptive capacity within the sector. They have developed strategies to cope with variability and change, drawing on traditional and experiential knowledge of the ecosystem, flexible decision-making and community support. Yet this adaptive capacity is increasingly constrained by external factors, notably the cumulative impact of rules, regulations and policies (e.g. CFP, MSFD, MSP, HD, WFD, Nature restauration, Blue Economy and Green deal) which limit operational flexibility, reduce predictability and further weaken their economic resilience and investment capacity. Lack of generational recruitment and exit of fishers which prevent their sons and daughters to entering the industry, suggest that the sector's capacity to adapt to social and environmental conditions could be reaching a tipping point. In this case, the fishing sector might not fully recover even if depleted fishing stocks improve or other conditions become more favourable.

Fleet characteristics are a core determinant of fisheries' viability as a livelihood in the EU. Sustained efforts to balance fleet capacity with resources (STECF 25-12) have contributed to their sustainability; however, the EU has an overaged fleet (average vessel age 34.2 years in 2024) that depending on

specific fleet segments may create challenges in terms of safety at sea, technological upgrades (including transition to low-impact energy systems and selective gears), adaptation to mix men-women crews and operational needs.

Currently there is high uncertainty and stress linked to fleet life cycles. Many vessels were last renewed in the late 1990s and early 2000s and are now reaching the end of their economic and technical life. At the same time, there is no clear commercial or regulatory signal that would justify or enable reinvestment, generating strong uncertainty about the future viability of fishing activities and increasing mental and social pressure on fishers.

Finally, due to the many uncertainties fishers are faced with, in combination with economic vulnerability, stress levels among fishers and their families can be high. This is not only problematic in terms of the wellbeing of individual fishers and family members, but can also result in domestic problems or impact the decision making on board of the vessel. Mental health is increasingly recognized as a relevant issue by both stakeholders—for example, the Joint NSAC/NWWAC Social Aspects Focus Group—and researchers (Micha et al., 2025).

7. SOCIAL DIMENSION OF EU AQUACULTURE

7.1 Background

This chapter provides an overview of the EU aquaculture sector, drawing on two distinct sources: the 2024 Aquaculture Economic Report (STECF 24-14), which provides a brief description of the sector based on 2022 data, and the 2025 social data call, which sheds light on demographics in EU aquaculture as of 2023. However, due to inconsistencies in the social data reported by individual member states, trend analyses are only presented at the member state level, rather than at the EU level, to ensure accuracy and reliability.

For the aquaculture sector, the Social DCF data should be interpreted with caution, as coverage is affected by variable Member State implementation and, in some cases, partial or voluntary reporting; while data reported under the social data call provides 2023 employment figures around 53 001 people, STECF aquaculture-specific analyses indicate this figure is around 67 962 (harmonised estimates integrating DCF, EUROSTAT, Member State data and EWG assessments) which are considered more robust and are therefore preferred for sectoral description.

7.2 Short description

The European Union contributes a relatively small share of global aquaculture production, accounting for less than 1% of the world's total by volume and 1.6% by value (FAO 2024). However, as the EU's capture fisheries production has declined since 1990, aquaculture has become an increasingly important source of seafood, supplying around 23% of the EU's fish and shellfish in 2022 (STECF 24-12, pp.10-21). The EU's aquaculture sector produced 1.2 million tonnes of seafood in 2022, with a total turnover of EUR 4.8 billion. In terms of production, shellfish dominated the sector, accounting for 49% of the total weight, followed by marine fishes (27%) and freshwater fishes (24%). However, in value terms, marine fishes generated the largest share (51%) of the sector's production value, followed by shellfish (28%) and freshwater fishes (22%).

The EU aquaculture sector is characterized by its diversity, with varying traditions, value chains (local, regional, or international), production environments, and systems. For example, marine finfish aquaculture (sea bass and sea bream, salmon) tends to be dominated by larger companies with a high degree of automatization. In contrast, the shellfish sector is more labour intensive and dependent on natural conditions, such as tides. The shellfish sector and traditional freshwater systems, such as pond-based aquaculture, is predominantly comprised of small, family-run enterprises, which play a vital social role in certain regions, contributing significantly to the local economy and community. Geographically, the EU's aquaculture production is concentrated in four countries: Spain, France, Greece, and Italy, which together account for 64% of the EU's total production volume. Spain is the largest producer, accounting for 24%, followed by France (18%), Greece (12%), and Italy (10%).

In terms of species, the EU's aquaculture production is dominated by nine key species, which make up 87% of the total production weight.

There is significant specialization in production across EU countries, driven by climate and production environment, and notable variations exist in terms of productivity, revenue, employment, and other factors across the 27 EU member states. Despite these variations, the sector's structure remains relatively stable.

Table 12. Economic and employment indicators for the EU aquaculture 2021-2022.

	Total weight of sales (tonnes)		Turnover (million euro)		Number of enterprises		Employment (number)		FTE (number)	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Austria	4 920	4 719	34.3	32.8	196	157	893	725	536	435
Belgium	223	243	1.4	1.7	17	17	101	120	72	81
Bulgaria	11 691	9 440	33.3	32.6	756	714	1 503	1 518	1 219	1 236
Croatia	27 922	27 322	167.4	178.2	138	144	1 509	1 599	1 242	1 267
Cyprus	7 862	7 594	45.1	47.7	17	15	230	211	138	127
Czechia	23 508	24 077	47.5	66.3	480	440	2 180	2 463	1 308	1 478
Denmark	57 837	56 259	192.2	213.0	84	79	643	602	500	459
Estonia	581	506	3.0	3.4	17	16	78	75	47	45
Finland	12 598	13 929	79.4	94.2	173	161	575	583	395	385
France	224 763	217 687	871.7	910.6	2 304	2 489	15 381	16 890	9 056	9 518
Germany	26 052	27 381	85.0	93.7	2 382	2 283	4 837	4 980	2 745	2 932
Greece	136 420	137 082	578.3	769.8	648	657	4 903	5 007	3 918	3 958
Hungary	17 847	18 948	38.1	55.4	189	189	1 245	1 216	747	730
Ireland	42 607	44 040	178.0	183.4	298	281	2 002	2 045	1 111	1 153
Italy	141 340	123 446	459.1	404.1	582	582	7 800	7 283	1 969	2 017
Latvia	1 063	925	5.7	6.2	75	69	307	310	206	202
Lithuania	5 135	4 859	15.1	19.7	87	94	423	423	254	254
Malta	16 425	16 632	210.4	286.1	9	10	371	370	318	315
Netherlands	39 024	39 330	110.8	107.7	118	119	306	311	277	276
Poland	45 364	46 856	119.8	191.9	1 242	1 242	5 148	5 206	3 844	3 888
Portugal	16 012	16 063	134.9	158.2	680	715	1 579	1 981	1 185	1 482
Romania	11 714	48 316	47.0	49.9	490	463	2 274	1 956	2 621	1 956
Slovakia	2 514	2 614	7.2	7.8	41	38	934	934	560	560
Slovenia	1 719	1 603	6.1	7.1	36	33	191	177	124	114
Spain	280 673	279 696	677.3	845.4	2 880	2 757	16 777	15 381	5 333	5 593
Sweden	16 161	12 607	62.2	68.8	105	91	531	433	237	269
TOTAL	**1 171 975**	**1 182 174**	**4 210**	**4 836**	**14 045**	**13 855**	**72 723**	**72 798**	**39 961**	**40 727**

Source: STECF 24-14, p. 13.

7.3 Demographic characteristics of EU Aquaculture

7.3.1 Employment

As of 2023, the data reported under the social data call show that EU aquaculture sector employed a total of 53 001 individuals. According to the 2025 social data call, employment details were available for 36 028 of these individuals, comprising 27 580 employees and 8 448 owners. Furthermore, an analysis of a subset of 16 675 employees revealed that the majority (73%) worked full-time, while 27% worked part-time. In addition, an analysis of 1 845 instances of unpaid labour found that the vast majority (91%) consisted of owners who contributed unpaid work. The remaining cases were comprised of part-time unpaid family labour (5%), full-time unpaid family labour (2%), and unspecified unpaid labour (2%).

According to STECF 24-14 (p. 17), the average wage in the EU aquaculture sector is determined by calculating the gross average wage, which takes into account the total costs of wages and salaries, as well as the imputed value of unpaid labour, divided by the total number of full-time equivalent (FTE) employees. According to data from 22 countries, the average annual gross wage per FTE in the EU aquaculture sector was approximately EUR 25 800 per year in 2022.

7.3.2 Age, education, nationalities in EU aquaculture

Age

For 25 802 employees and 460 unpaid labourers, the distribution across age classes was reported as follows in 2023.

Three employees were younger <14 years. 1 694 individuals were between 15 and 24 years old (7%). 7 999 individuals were between 25 and 39 years old (31%). 14 713 individuals were between 40 and 64 years old (57%). No individuals were older >65 years old. For 280 employees the age was unknown.

The age distribution of unpaid labourers reveals that no individuals under the age of 14 contributed to unpaid work. The majority of unpaid labourers fell into the 40-64 age range, with 283 individuals (62%) belonging to this category. Additionally, 118 individuals (26%) were between 25 and 39 years old, 8 individuals (2%) were between 15 and 24 years old, and 51 individuals (11%) were 65 years or older. Notably, the age profile of unpaid labour tends to be older than that of employees, with a significant proportion of unpaid labourers concentrated in the older age groups.

Education

For 28 555 employees and 464 unpaid labourers, the distribution across levels of education was reported as follows in 2023.

There were 3 992 employees with a high degree of educational background (14%). A total of 11 991 employees had achieved a medium level of educational

attainment (42%). 11 912 employees possessed low educational qualifications (42%).

The educational background of unpaid labourers shows a significant skew towards higher levels of education. Specifically, 172 individuals (37%) held a high level of educational attainment, while 269 individuals (58%) had achieved a medium level. Only 23 individuals (5%) had low educational qualifications. Given that unpaid labour is predominantly comprised of owners, it is not surprising that the overall level of education tends to be higher compared to employees.

Nationality

For 30 072 employees and 473 unpaid labourers, the distribution across nationality was reported as follows in 2023: Almost 100% of the unpaid labourers were from the EU. 90% of employees were from the EU. Only 10% of employees were from Non-EU or EEA countries.

7.3.3 Gender

For 39 989 employees and 13 012 unpaid labourers, the distribution across gender was reported as follows in 2023.

The workforce in aquaculture is predominantly male, with men making up 76% of employees, compared to 24% who are female. However, women's participation is slightly higher in unpaid labour roles, where they account for 30% of the workforce, while men make up 70%. Notably, the vast majority of owners (95%) are male. In contrast, women make up 50% of unpaid labourers who also hold employee positions. Overall, while aquaculture shows greater gender balance than fisheries, with more women in employee and unpaid labour roles, they are significantly underrepresented as entrepreneurs.

7.4 Demographic characteristics per aquaculture segment

For the first ASOR report, it is not applicable to report nor to analyse the diverse EU aquaculture per segment. The amount of data, five social variables, and its allocation across >30 segments need additional resources, if demanded. However, first general data issues referring to certain member states should be reliably solved before stepping into analysing EU aquaculture segments. Otherwise, the analyses would lead to misinterpretations.

8. SOCIAL DIMENSION OF EU PROCESSING

8.1 Background

This chapter provides an overview of the processing industry in 2023, highlighting key trends from 2018 to 2023, using data submitted by Member States under the 2025 social data call. For this first report, due to time and resources limitations, the social analysis of the processing and aquaculture sectors will be limited to a description of the data gathered. Future ASORs will broaden the scope of the analysis.

This chapter provides an overview of the social dimension of EU fish processing sector in 2023. It is based on three main sources:

- Social data from the data call 2025 for demographic data (STECF 25-13).
- Economic Report on EU fish processing (STECF 25-15) for total employment, total number of companies, turnover, etc. in the sector's short description.
- Report on EU Fish Market (edition 2023, 2024, 2025) of European Market Observatory for Fisheries and Aquaculture Products (EUMOFA) for supply and consumption data (in- and export) in the sector's short description.

Noting that under the EU-MAP, the fish processing data collection is voluntary, social and economic data for the reference year 2023 had been uploaded by 16 Member States: Belgium, Bulgaria, Croatia, Denmark, Finland, Germany, Greece, Hungary, Italy, Lithuania, Malta, Poland, Romania, Slovenia, Spain, and Sweden. For the other remaining countries, Eurostat's Structural Business Statistics (SBS) were used in case of economic data.

Regarding data on age classes, Belgium only uploaded the value "unknown". In consequence, the section on age classes bases on information provided by 15 Member States. In consequence, the data source and sample for the overall view on companies, total employment and full-time labour equivalent (FTE), production volume and turnover in section 8.2 (short description) are not comparable with the information on demographics in section 8.3.

8.2 Short description

EU fish consumption was 22.89 kg per capita in 2023 (EUMOFA 2025). Overall, EU households consumed an estimated 10.25 million tonnes LWE[33] of seafood, whereof EU fisheries and aquaculture provided 3.9 million tonnes. 8.48 million tonnes of aquatic raw material were imported for seafood supply. 2.14 million tonnes of seafood were exported. The self-sufficiency rate differs by seafood commodity. Across all commodities, the EU self-sufficiency rate of fishery and aquaculture products was at 38% in 2023. Processed seafood products account

[33] LWE = live weight equivalent.

for more than 50% of total seafood products purchased by EU households. EU processing industry is a net importer.

In 2023, the industry was made up by 3 262 enterprises having fish processing as a main activity (STECF 25-15). Although the number of enterprises, in particularly the number of small companies with less than 10 employees fluctuated in the past decade, the number of employees (FTE) increased from more than 89 300 in 2013 to over 110 000 in 2023. The overall turnover of the EU processing sector was estimated at EUR 33.5 billion in 2023, following an increasing trend since 2013 with a turnover of EUR 22.3 billion.

Table 13. Number of enterprises, employment and turnover in the fish processing sector by EU countries, 2023

Country	Number of enterprises	enterpises %	Turnover (million €)	turnover %	Total employment	employment %
Belgium	77	2%	1,169	3%	2,227	2%
Bulgaria	66	2%	200	1%	2,346	2%
Croatia	35	1%	169	1%	2,547	2%
Denmark	89	3%	2,398	7%	3,064	3%
Finland	139	4%	407	1%	955	1%
Germany*	204	6%	2,165	6%	4,867	4%
Greece	178	5%	361	1%	2,257	2%
Italy	404	*12%*	2,201	*7%*	6,047	*5%*
Lithuania	47	1%	674	2%	5,020	5%
Malta	9	0%	74	0%	151	0%
Poland	145	4%	5,044	15%	20,514	19%
Romania	16	0%	100	0%	1,042	1%
Slovenia	16	0%	43	0%	179	0%
Spain	604	19%	7,968	24%	25,354	23%
Sweden	166	5%	579	2%	1,439	1%
EU DCF MSs	2,195	67%	23,552	70%	78,009	70%
Austria	16	0%	65	0%	192	0%
Czechia	23	1%	178	1%	785	1%
Estonia	77	2%	238	1%	1,188	1%
France	381	12%	5,285	16%	13,117	12%
Hungary	14	0%	12	0%	111	0%
Ireland	112	3%	609	2%	2,497	2%
Latvia	93	3%	309	1%	2,604	2%
Netherlands	182	6%	1,501	4%	3,438	3%
Portugal	165	5%	1,721	5%	8,786	8%
Slovakia	4	0%	30	0%	152	0%
EU not-DCF MSs	*1,067*	*33%*	*9,946*	*30%*	*32,870*	*30%*
Total EU	**3,262**	**100%**	**33,498**	**100%**	**110,879**	**100%**

*Source: Elaboration by the EWG on MS data submissions under the 2025 fish processing data call and on Eurostat/SBS. Notes: 1) EU DCF MSs= EU MSs participating in data collection of fish processing under DCF/EUMAP for the 2023 data call. 2) EU not-DCF MS s= EU MSs not covered by obligation under DCF/EUMAP but having a fish processing industry, namely Austria, Czechia, Estonia, France, Hungary, Ireland, Latvia, Netherlands, Portugal and Slovakia, for which Eurostat/SBS data have been used. *Number of enterprises for Germany refers to the overall population while turnover, employment and all the other economic variables refer only to the number of enterprises with employees>20 units (STECF 25-15, p. 22).*

The EU processing industry is dominated by small and medium-sized enterprises (SMEs) with fewer than 250 employees (STECF 25-15). In fact,

about two-third of the EU fish processing companies consist of micro firms having less than 10 employees. The remaining share is dominated by small firms (11-249 employees). In 2023, only 66 companies had more than 250 employees. Notwithstanding, there are structural differences across the Member States. Industries in Northern and Western Europe are largely driven by small businesses whereas in Eastern Europe larger companies typically dominate the sector. On average, a fish processing enterprise in the EU has about 36 employees[34], which is comparable to the average size of similar EU food processing sectors. In terms of turnover and employment, Spain and Poland rank first and second at EU level, representing together 42% of EU employment and 39% of EU turnover in fish processing.

In addition to 3 262 companies where fish processing is the primary business activity, there were an estimated 905 enterprises in 2023, where processing of seafood was an integrated element of other enterprises' activities (STECF 25-15). Standing for an estimated turnover of EUR 1.6 billion (around 5% of total turnover of the sector) there contribution was substantial of the overall industries. In some countries such as Italy, Belgium and Germany a significant proportion of businesses in the sector have seafood processing as a secondary activity, rather than their primary focus.

By trend, data shows a slight but consistent increase in total income for the industry, pointing to a robust and stable financial situation (STECF 25-15). As seen in other industry sectors, the EU fish processing is undergoing a modest gradual process of concentration, where a smaller number of medium and large firms expanding, while the number of micro and small firms slightly decrease over the past decade.

8.3 Demographic characteristics of EU Processing 2023

8.3.1 Employment

The EU fish processing sector employed a total of 110 879 individuals in 2023 (STECF 25-15). In general, social data on employment in the EU fish processing is poor. Data on employment status (employees/unpaid labour or full-time/part-time) were not part of the last data call and no further analysis can take place here. According to STECF 25-15 (p. 27), the average wage in the EU fish processing sector is determined by calculating the gross average wage paid by the entrepreneur, which considers the total personnel costs per FTE. The annual gross average wage per FTE in the EU fish processing sector was around EUR 32 600 in 2023, based on data submitted by 16 Member States. The national averages here differed a lot across Member States from EUR

[34] STECF 25-15, p. 22: "The average number of people employed per firm at EU level in the text is not consistent with that calculated starting from the totals in **Error! Reference source not found.** (being =34) because number of enterprises for Germany refers to the overall population while total employment refers only to the number of enterprises with employees>20 units."

8 000 per year (Romania) to EUR 75 400 per year (Denmark). Obviously, the different gross wages paid correlate with the different purchasing power standards and therein with the different price level for final household expenditures in EU, where Denmark reported the highest prices among EU states (Eurostat 2025[35]). In contrast, Romania and Bulgaria reported the lowest prices for household expenditures.

8.3.2 Age, education, nationalities in EU processing

Age

For 72 655 individuals in the fish processing, the distribution across age classes was reported for 2023. Unfortunately, the submitted data did not follow the standardized age classes. Spain, which represents the highest employment share in EU fish processing provided data for 25 354 individuals, but only for two age classes ("16-39 years" old and ">=40 years" old), which are both not in line with EU-MAP (age classes = "15-24, 25-39, 40-64, 65+"). Further, STECF 22-14 recommended to split the age class "40-64" into two categories "40-54" and "55-64". Bulgaria, Germany, Denmark, Croatia, Italy and Poland followed this advice and provided information on these sub-classes "40-54 years" and "55-64 years". Finland, Greece, Lithuania, Malta, Romania, Slovenia, and Sweden did not and have still used the larger age class "40-64 years".

However, the data provided by 14 Member States indicates that 4% of individuals in fish processing were between 15 and 24 years old in 2023. 33% of individuals were between 25 and 39 years old. The majority of individuals in fish processing were between 40-64 years old. Only 2% of individuals were 65 years old or older.

Education

The level of education has been reported for 72 600 individuals in the fish processing industry. 43% of the labour possessed low educational qualifications. 34% of individuals had achieved a medium level of education. 21% of individuals had a high degree of educational background. For 1% of the sample the educational level was unknown.

Nationality

For 47 664 individuals the distribution across nationality was reported as follows in 2023: 82% of the labour in fish processing were from the Member State, where the processing enterprise is located (national), 13% were from Non-EU or EEA countries, and 6% were from other EU member states.

[35] Purchasing power parities, price level indices, nominal and real expenditures by analytical categories - based on COICOP 1999, https://ec.europa.eu/eurostat/databrowser/view/prc_ppp_ind/default/table?lang=en

8.3.3 Gender

For 74 884 individuals in fish processing, the distribution across gender was reported in 2023. The workforce in fish processing is predominantly female, with women making up 66% of individuals, compared to 44% who are male. In general, fish processing shows greater gender balance than fisheries and aquaculture, with more female workforce. But, as the employment status is unknown for the employees in the processing industry, we also have no sight on the division of full-time/part-time employees or even entrepreneurs across gender.

8.4 Demographic characteristics per processing segment

For the first ASOR diverse issues on data availability and quality occurred during writing the section on EU processing. Totals of social variables on EU level provided by JRC were not correct or in line with data submitted by Member States for unclear reasons. Further, social data submitted by 16 Member States for the reference year 2023 were partly incomplete (e.g., Belgium provided data on gender and education level for 2023, but not on age) or differentially aggregated (e.g., two age classes “16-39” and “40+” for Spain). Against this background, it is not applicable to report nor to analyse the EU fish processing per segment. The data per segment, enterprises with up to 10 employees (micro), enterprises with 11-49 employees (small), enterprises with 50-249 (medium), and enterprises with more than 250 employees (large), should be available for all Member States participating in the social data call for fish processing and the data on EU level should be processed next time correctly in advance of EWG writing the ASOR.

9. EU NATIONAL CHAPTERS

9.1 2023 EU Member State Summary Results for the fishing sector

The following paragraphs present a concise summary of each the national chapter containing results for the main social indicators in 2023 and developments in relation to the previous year. Trends in employment are highlighted in bold.

BELGIUM: In 2023, 506 people were employed in fisheries. This is a slight increase compared to the average employment (497) of the years 2017; 2020-2022. This corresponds to 218.5 FTEs in 2023. Note that this number only includes crew members. The workforce is dominated by male workers (99%). About 50% of the crew members are in the age category 40 to 64 years, while 30% of the crew is in the age group 25-39, and 20% is in the age group 15-24. Crew members of 65 years or older are scarce (<1%). Compared to 2017, there is a slight increase in the 40-64 age group (+5%), and a small decrease in the 25-39 age group (-6%). The workforce is dominated by Belgians (65%), followed by Dutch employees (25%) which mainly work for Dutch owned fishing vessels registered under the Belgian flag. The wages (per FTE) in the Belgian fisheries are among the highest in the EU fisheries. This is likely related to the fact that wages are based on a share (33%) of the total revenues by fishing trip. Fishers that fish for at least 100 days can be recognition for a dedicated social security system after application. This system offers several social benefits in terms of renumeration, sickness, training, etc.

BULGARIA: In 2023, total employment in Bulgaria's fishing sector declined to 1 620 fishers, marking a 16.8% decrease compared to 2017. This reduction affected both the small-scale coastal fleet (SSCF), which employed 1 397 fishers (−15.8%), and the larger-scale fleet including 12LAG (LSF + 12LAG), which employed 223 (−22.3%). The age profile shows a clearly ageing workforce, with workers aged 65+ now accounting for 21.85% of total employment — a 57.6% increase since 2017. Women remain underrepresented at 2.16% of the workforce, though their participation has grown by over 40% during the same period. National fishers continue to dominate, comprising 99.2% of the total workforce.

CROATIA: Croatia's 6 047 active vessels employed 8 987 individuals in 2023, dominated by small-scale coastal fleet (SSCF) at 87% of vessels (5 261 vessels) versus 13% large-scale fleet (786 vessels). Distinctive features include high unpaid labour (57% overall, 71% in SSCF) related to ~3 500 quasi-subsistence vessels which are officially part of the commercial/SSCF fleet, increase in employment (+1 097, +13.9% from 2017), a rejuvenating workforce (under-40s rising from 24% to 31%), and increasing importance of foreign workers.

CYPRUS: In 2023, the total number of fishers was estimated at 1 231, representing an increase of 7.7% in relation to 2017, mainly caused by the entries of part-time workforce in SSCF. In contrast, net exits were registered in the LSF fleet. The majority of employment is concentrated in the SSCF (95% of jobs), often in family-based operations with mixed full-time and part-time status.

In 2023, a high percentage of the workforce remains active beyond the retirement age, since 23% of fishers were aged 65 or above. The share of women in fisheries is 1.2%. The workforce is mainly dominated by national fishers. 89% of fishers holding a Cyprus citizenship.

DENMARK: The Danish fleet operates mainly in the North Sea, Skagerrak, and Kattegat, with smaller coastal activity in the Baltic Sea. The fleet is modern and efficient, dominated by large pelagic and demersal trawlers, while small-scale vessels account for most of the fleet by number but only a small share of total landings. In 2023, about 1 634 people (1 377 FTEs) were employed in Danish fisheries, a 21% decline in employment and a 24% drop in FTEs since 2017. Employment is concentrated in Northern Jutland, particularly around Skagen, Hirtshals, Hanstholm, and Thyborøn. The workforce is predominantly male (93%) and aging, with women representing around 6–7% of employment, mainly in shore-based or administrative roles. Around 7–8% of crew are foreign workers—mostly from Poland, Latvia, Lithuania, and the Philippines — employed primarily on large offshore vessels.

ESTONIA: Total employment was estimated at 1 013 jobs in 2023. Compared to 2020, the decrease was 31%. The reduction in the workforce was observed in all segments of the fishing fleet (SSCF, LSF and DWF). The proportion of fishers aged 40-64 has increased over this time period. Only 4% of women are employed in professional fishing in Estonia and they all operate in coastal fisheries. Considering nationality, the Estonian fishing fleet are dominated by Estonians (93%) and this proportion has increased (86% in 2020). Compared to 2020 wages have increased significantly in the trawl fishing sector in 2023.

FINLAND: The Finnish fleet operates exclusively in the Baltic Sea, predominantly fishing in the Bothnian Sea. Finnish vessels also fish along the Finnish coastline and in the southern Baltic Sea. The fishing fleet is predominantly composed of small-scale vessels, with 1 120 out of 1 158 (97%) active vessels operating within the SSCF. The total employment and the FTE decreased by 18% and 36% respectively from 2017 to 2023.

FRANCE: In 2023, the total number of fishers was 11 625, representing a decrease of 6% in relation to 2020. The decrease in employment in DWF seems to be high with -23% in 2023 compared to 2020. But trends for DWFs are not interpreted due to inconsistencies in the data. The largest decrease is recorded in the LSF (-9%), followed by SSCF (-3%) and L12AG (-3%). Overall, 42% of fishers were under 40 years old. The situation varies across the different supra-regions, with 49% of fishers under 40 in NAO, 35% in MBS, 55% in OFR and 24% in OMR. Recruitment in the fisheries sector has become a significant concern, as the job no longer appeals to younger generations, resulting in limited workforce renewal. The share of women in the workforce is at 1.5%. The workforce is mainly dominated by national fishers. 83.7% fishers holding a French citizenship.

GERMANY: The German fleet operates in the North Sea and Baltic Sea, with smaller vessels concentrated in the Baltic Sea and larger vessels fishing in the North Sea. While small-scale vessels account for about 75% of the vessels, large scale and DWF vessels provide 96% of the fishing capacity (gross

tonnage). In 2023, about 1 114 people (702 FTEs) were employed in German fisheries, a 33% decline in employment and a 42% drop in FTEs since 2017. Employment is concentrated in numerous harbours along the Baltic Sea and North Sea coast. There were 1 174 registered vessels, 316 of them inactive – mostly in the small-scale fishery. The workforce is predominantly male (98%) and aging, with an average age of skippers of 54.4 years and a growing age group of fishers above retirement age (65+ in 2023: 11%). Fishers are about equally employees (49%) as well as owners (51%), with the numbers of employees declining more strongly (-47%) than the number of owners (-9%) since 2017.

GREECE: In 2023, a decrease was noted in total employment, reaching 17 232 fishers, which represents a reduction of about -24% compared with 2017 (AER, 2025). The decline was more pronounced in the small-scale coastal fisheries (SSCF), which account for roughly 80% of total employment, while the large-scale fleet (LSF) experienced a comparatively smaller contraction. The age profile shows an ageing trend, with an increase in those over 65 years old (+37.5%) compared to 2017. In 2023, 14.3% of fishers were older than 64 years. The nationality profile remains stable, dominated by Greek nationals (mainly in the small-scale fleet), while non-EU/EEA migrant workers continue to play an essential role in maintaining crew capacity in the large-scale fleet.

IRELAND: In 2023, total employment in the fleet was 2 681 fishers, a -9% decrease since 2020. The decline was mainly driven by reductions in the SSCF (-13%), which remains the largest employer, while the LSF had a more modest reduction (-2%) and is increasingly reliant on migrant crew. The workforce is ageing, with a growing share of over 55, and 18% of the crew are non-Irish nationals, highlighting continued dependence on foreign labour amid recruitment challenges in coastal communities.

ITALY: In 2023, total employment in the fleet was approximately 20 745 fishers, marking a 4% decrease compared with 2020. The reduction was mainly concentrated in the large-scale fleet (LSF), while employment in small-scale coastal fisheries (SSCF) remained relatively stable and continued to account for nearly half of all jobs in the sector. The distant-water fleet contributed marginally to total employment. The age structure confirms an ageing workforce, with the average age around 47 years and a growing share of fishers aged 55 years or older. The nationality profile shows that the vast majority of fishers (over 90%) are Italian nationals, while foreign workers, mainly from non-EU countries, play a limited but increasing role, especially in Southern regions.

LATVIA: In 2023, the workforce consisted of 185 women and 289 men. The majority were national, with a small number from the EU and EEA, and a few of unknown nationality. The majority of workers were aged 25–54, with smaller proportions in the youngest and oldest age groups. The highest education levels were in the high and medium categories, while full-time employment remained the most common status. The average wage per job was EUR 15 044.

LITHUANIA: Lithuanian fishing fleet includes SSCF segments in the Baltic Sea's coastal area, LSF segments in the Baltic Sea, and LDF segments in

CECAF, SPRFMO, North Sea, and East Arctic regions. The average labour cost in the Lithuanian fishing fleet depends on the operating region and significantly varies from coastal fleets to long-distance vessels. The highest labour costs were paid to the long-distance fleet. In 2023, the average annual labour costs for long-distance fisheries were EUR 24 700 per FTE. The capacity of the national fleet has decreased by 15% since 2017. The total employment and the FTE decreased by 8% and 11% respectively from 2017 to 2023.

MALTA: Total employment in Malta's fisheries sector shows a moderate decreasing trend over 2017–2023, falling to 919 fishers in 2023 (a net reduction of 215 persons, around –19% over the period). The majority of fishers (77%) work on vessels that are less than 12 meters long. Gender composition in Malta's fisheries employment remains overwhelmingly male, with very limited female participation of 0.9%. The age profile continues to be concentrated in prime working ages, but with signals of both limited entry of younger cohorts and data completeness issues in 2023. The largest age class is 40–64 (around 46% of fishers), reflecting that many active fishers are in mid-career or approaching retirement. The nationality profile indicates a marked compositional shift in 2023, characterised by a sharp decline in nationals alongside a strong increase in non-EU/EEA workers. Non-EU/EEA employment rises +67% compared to 2017, indicating a growing reliance on third-country labour within the fishing workforce.

NETHERLANDS: In 2023, about 1 680 people were employed in Dutch fisheries, representing a 22% decline since 2017, indicating long-term structural contraction. Employment is strongly concentrated in the large-scale fleet (LSF), which accounts for 83% of total jobs. Small coastal vessels and demersal trawlers remain socially important in coastal communities, comprising 44 communities. The workforce is predominantly male (95%) and largely Dutch (85%), although the pelagic fleet shows a growing share of EU and foreign crew (35%), reflecting increasing internationalisation. The sector shows signs of an ageing workforce (≥40) and limited entry of younger age groups (15–24). Fishers in the demersal fleet are mainly self-employed owner-operators, while pelagic crews are fully salaried employees under collective agreements. Education levels are dominated by medium-level vocational maritime training, reflecting the high degree of professionalisation of the Dutch fleet.

POLAND: In 2023, the total number of fishers was 2 276, representing a decrease of 12% in relation to 2017. The decrease results from a negative trend in employment in LSF (-24%), while employment in SSCF increased in the period (+9%). The majority of fishers - two out of three - work on SSCF vessels. The age distribution of Polish fleet crew members indicates the domination of people aged between 40 and 64 years. Newcomers aged 15-24 covered 3% of labour force in 2023, with a relatively stable trend. More detailed analysis reveals a general trend of aging fishing vessel crews, but in SSCF last two years indicate a modest growth in the group of the youngest (15-24) to 5% share in 2023 (2% in 2017). The share of women in the workforce is 2%. Almost all fishers hold a Polish national citizenship.

PORTUGAL: In 2023, the total number of fishers was 12 804, with a slight increasing trend of 4% compared to 2020. The age distribution of Portugal's fleet crew members indicates the domination of people aged between 40 and 64 years in 2023 (57.1%), but with a decreasing trend of this group compared to 2017 (-8%), while the share of fishers older than 65 increased from 2017-2023 (+3.3%). The share of women in the workforce is 4.8%. The workforce holds almost totally Portuguese citizenship (96.4%).

ROMANIA: In 2023, the total number of fishers was estimated at 383, representing a decrease of 5.7% in relation to 2017. The majority of fishers - three out of four - work on SSCF vessels. 64% of fishers fall under the age category of 40-64 years. There is a 48% decrease in the 15-24 age group and a 47% decrease in the 25-39 age group, while the 40-64 age category experiences a 67% increase, highlighting the issue of generational renewal the sector is facing. There are no individuals reported in the 65+ group. The share of women in the workforce is 2%. The workforce is mainly dominated by national fishers. 95% fishers hold a Romanian citizenship.

SLOVENIA: In 2023, total employment in Slovenia's fishing fleet reached 111 individuals, with 84 working in the small-scale coastal fleet (SSCF) and 27 in the large-scale fleet (LSF). Compared to 2017, this represents a 10% increase in total employment. The SSCF contributed 6% to the increase in total employment, while the LSF contributed 23%. In 2023, most fishers in Slovenia were aged 40-64 (80), with slight increases in those aged 25-39 (18) and 65+ (13) compared to 2020. In 2023, the majority of fishers in Slovenia were nationals (110), up from 81 in 2020, while fishers from EU countries dropped to zero, and non-EU/EEA nationals remained steady at one.

SPAIN: Employment decreased in fisheries, reducing from 34 326 in 2017, to 29 964 in 2023, a reduction of -12.71%. This reduction is more evident in the male workforce, the female workforce shows an increase of 14% between 2017 and 2023. The share of women in the workforce is at 5% in 2023. In the age structure of the fisheries, it is evident that there is a slow increase in the cohort aged 40-64 in 2023 compared to 2017 (+10%) and even a more pronounced increase trend in the cohort of those over 65 (+142%, with very low numbers comparatively). This suggests a growing aging of the workforce in fisheries. The workforce in fisheries is mostly national, accounting for around 72%. Compared to SSCF, the relevance of the foreign workforce is much higher in the LSF and DWF. In the latter, the Spanish nationals reach 39.1% of the workforce.

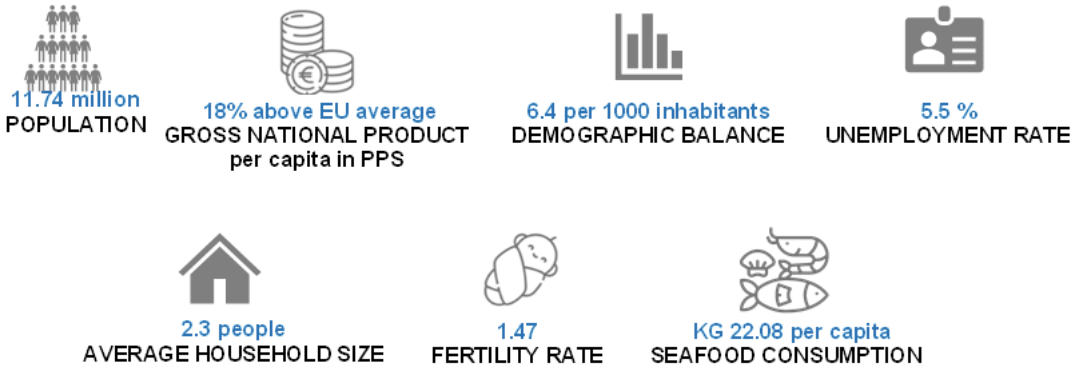
SWEDEN: In 2023, the total number of fishers was estimated at 1 316, representing a decrease of 6% in relation to 2020 and 11% in relation to 2017. The majority of fishers - three out of four - work on vessels that are less than 12 meters long equipped with both passive and active fishing gears. The decrease in numbers of fishers impacted the SSCF and the LSF segments while the vessels less than 12m long using trawlers (L12AG) increased. The reasons for fishers' exit are unknown but research suggests low levels of satisfaction besides economic profitability, in particular among coastal fishers in the Baltic Sea. The decrease in the number of fishers in LSF and increase in L12AG could be related to the closure of the fisheries for the eastern Baltic cod since

2019 and the government’s incentives to enter the shrimp fisheries. The workforce is notably ageing, with the highest share of fishers over 65 years old in SSCF (39%). The share of women in the workforce is at 15%. The workforce is mainly dominated by national fishers (fishers holding a Swedish citizenship).

9.2 Belgium

9.2.1 Snapshot of Belgium

Figure 29. Belgium in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

In 2023, Belgium accounted for 2.62% of the total population of the European Union. The country's population continues to grow, with an increase of 6.4 people per 1 000 inhabitants in 2023—well above the EU average of 3.6. This stronger growth likely reflects Belgium's higher fertility rate and higher net migration compared to the EU average. The unemployment rate is slightly below the EU average, while the Gross National Product (in purchasing power standards) stands 18% above the overall EU GDP per capita. In contrast, average seafood consumption per capita, measured in live weight per capita per year, remains slightly below the EU average.

9.2.2 Short description of the fishing sector

In 2023, there were 65 registered vessels that all belong to the LSF segment (excluding those registered in the aquaculture segment), with a total capacity of 13 668 GT and 44 789 kW. The capacity of the national fleet has decreased compared to 2013. The estimated total number of inactive vessels in 2023 was 7 (AER 2025).

In 2023, the GVA of the Belgian fisheries sector was estimated at EUR 41.7 million. This accounts for <0.1% of the overall Belgian GVA across all sectors which was estimated to be EUR 539 billion in 2023. The importance of the Belgian fisheries sector is also limited in the wider EU fisheries context as shown by the following figures (reference year 2023):

- Belgium had the fewest vessels among all Member States accounting for approximately 0.1% of the overall EU fishing fleet;

- The Belgian fishing fleet accounts for 1.3% of the GVA of the total EU fleet (EUR 3.2 billion).
- The employment in the Belgian fisheries (218 FTEs) accounted for approximately 0.3% of the total employment in EU fisheries (74 006 FTEs) in terms of FTEs.

In 2023, total employment in Belgium's fishing sector amounted to 506 people, corresponding to 217.6 full-time equivalents (FTEs). Compared to 2017, overall employment increased slightly by 1.6%, while the number of active vessels declined to 58 vessels compared to 2017 (67). Employment is fully concentrated in the large-scale fleet (LSF).

The workforce remains predominantly male. The proportion of older workers (>64 years) decreased markedly. Likewise the employment of women in the sector, careful interpretation is needed as the overall proportion of aged workers is low. Nationals continue to represent the majority of the workforce (73%), showing a modest increase of 7% since 2017.

Between 2017 and 2023, employment showed moderate growth, while landings by weight declined by 28%. Despite this, the total landing value slightly increased by 0.8%, suggesting higher average prices. Social indicators point to a younger, slightly more gender-diverse, and increasingly national workforce, however, given the overall low presence of women and aged workforce, trends are likely not meaningful.

Table 14. Belgium summary table

	Units	**2023**		**% Δ 2023-2017**	
Indicator	**Units**	**Overall**	**LSF**	**Overall**	**LSF**
Total employment	Number	506	506	1.6%	5%
FTE	Number	217.58	217.58	1.6%	1.6%
Active vessels	Number	58	58	-13%	-13%
Landings by weight	1000 tonnes	17.4	17.4	-28%	-28%
Landings by value	Million €	88.9	88.9	0.8%	0.8%
Aging work force (>64y)	%	0.4%	0.4%	-60%	-60%
Gender (women)	%	1%	1%	500%	500%
Nationality: nationals in work force	%	73%	73%	7%	7%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call and the 2025 Fleet Economic data call.

9.2.3 Social demographics in Fisheries

The Belgian fishing fleet operates in both the Extended North-Western waters and North Sea. A vast majority of the vessels operates in both areas and therefore social demographics are presented for the entire fishing fleet.

9.2.4 Employment in Fisheries

Total Employment

The employment in the Belgian fishing fleet is dominated by men (>99%) with an unclear trend on the participation of women. The total employment fluctuated around 500 during the period 2017-2023. For the years 2018-2019, no data was available.

Note that these figures are likely incomplete and only consider the crew on board. Vessel owners and other people working in the fishing companies are not included in these figures as this data is provided by other social secretariats (i.e. for self-employed people) which is currently not available for this study.

Table 15. Belgium: Employment by gender and year.

	2017	2020	2021	2022	2023	Δ 2023-2017
Female	1 (0%)	8 (2%)	3 (1%)	0 (0%)	5 (1%)	400%
Male	481 (100%)	506 (98%)	492 (99%)	496 (100%)	501 (99%)	4%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call.

Full-Time Equivalent

Likewise the employment, the FTEs in the Belgian fishing fleet are dominated by men (>99%) with an unclear trend on the participation of women. The total employment fluctuated around 215 FTEs during the period 2017-2023. For the years 2018-2019, no data was available.

Both the employment and FTE indicator depict similar figures regarding trends over time and gender distribution. There is no clear indication whether employment or FTEs is the preferred indicator to monitor labour in the Member State.

Note that these figures are likely incomplete and only consider the crew on board. Vessel owners and other people working in the fishing companies may not be included in these figures.

Table 16. Belgium: FTEs by gender and year

	2017	2020	2021	2022	2023	Δ 2023-2017
Female	0 (0%)	5 (2%)	2 (1%)	0 (0%)	1 (0%)	1417%
Male	214 (100%)	210 (98%)	215 (99%)	221 (100%)	218 (100%)	2%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Employment status

According to the data submitted under the DCF data call, all workers in the Belgian fishing fleet were registered as employee over the period 2017-2023.

Note that these figures are likely incomplete and only consider the crew on board. Vessel owners (often self-employed) and other people working (i.e. part time, family labour) in the fishing companies are not included in these figures since this data is provided by other social secretariats (i.e. for self-employed people) which is currently not available for this study.

In 2023, another 512 people were registered in the fisheries sector as member of the social security of self-employed entrepreneurs[36] which likely includes vessel-owners.

9.2.5 Demographics of the Workforce

Age

The age distribution of the workforce is shown in **Error! Reference source not found.** and **Error! Reference source not found.**. About 50% of the workforce is below 40 in 2023 which is 7% less than in 2017. There are few people of 65 and older working in the fleet. The age distribution of women employed in the fisheries is too scattered and it is therefore unclear whether this is a difference in age distribution among the female workers in the fisheries sector.

The Belgian National Fisheries profile provides more information about the age distribution of the self-employed workforce, which likely represents the vessel owners, in the Belgian fisheries. In these figures, 25% of the self-employed men and women engaged in the fisheries sector was reported to be 65 or older in 2023, and about 10% of the self-employed workforce was below 35 years. These figures depict the difficulties regarding generation renewal among vessel owners in the Belgian fisheries.

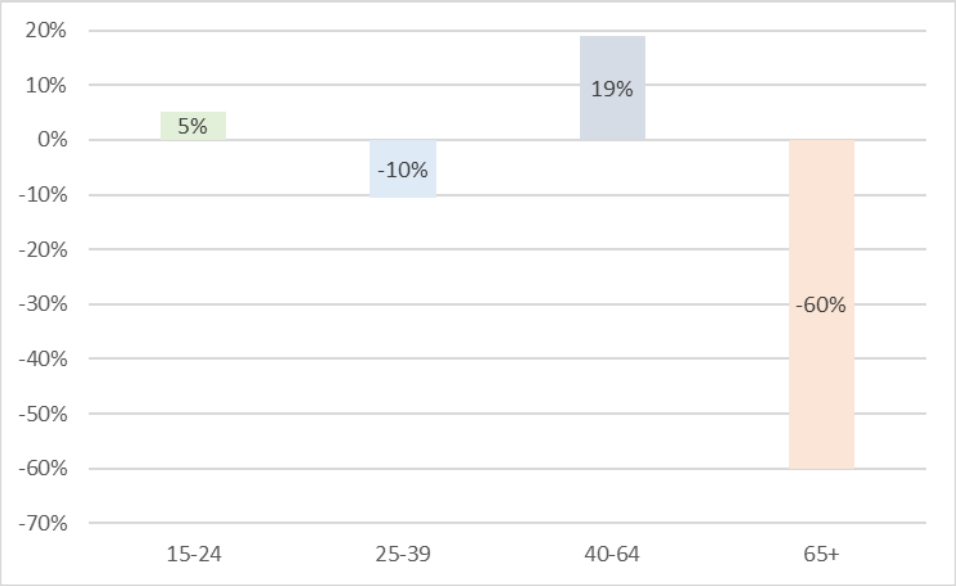
Table 17. Employment by age category and year. The relative distribution by year is shown as percentages between brackets.

	2017	2020	2021	2022	2023	Δ 2023-2017
15-24	95 (20%)	67 (13%)	98 (20%)	101 (20%)	100 (20%)	5%
25-39	172 (36%)	184 (36%)	154 (31%)	160 (32%)	154 (30%)	-10%
40-64	210 (44%)	261 (51%)	238 (48%)	235 (47%)	250 (49%)	19%
65+	5 (1%)	2 (0%)	5 (1%)	0 (0%)	2 (0%)	-60%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

[36] https://www.rsvz.be/sites/rsvz/files/2024-05/cijfers_en_tendensen_2023.pdf

Figure 30. Belgium: Change in fishers workforce by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.2.6 Workforce education and training

Education

According to the data submitted under the DCF data call, the education level of all workers in the Belgian fishing fleet was reported as unknown over the period 2017-2023.

Nationality

Belgians represent around 65% of the workforce in the Belgian fishing fleet during the period 2017-2022. However, in the most recent data year, the share of Belgian in the workforce has increased to 73%. In the EU group, a vast majority (about 25% of the total workforce) is Dutch which is likely related to the fact that several fishing vessels of the Belgian fleet are Dutch owned vessels fishing under the Belgian flag. In 2023, there were no fishers in the “unknown” category, while a small number of fishers was included in the “unknown” category in the years 2020-2022.

In summary, about 95% of the employees in the fisheries sector are Belgian or Dutch which reflects the nationalities of the vessel owners in the fishing fleet. There are a few other vessels that are owned by foreign Member States which likely introduce some other nationalities to be present in the Belgian fisheries. In addition, a small minority of the workers has a nationality that cannot be related to foreign owned vessels; however, the overall dependency of the fishing fleet on such workers is estimated to be low (see National Fishing profile).

All foreign fishers are eligible for recognition as sea fishers. There is no nationality requirement in the Belgian legislation. However, applicants for the statute of sea fisher must:

- be legally employed in Belgium (a valid work and/or residence permit);
- meet medical and professional competence standards;
- be employed by a recognized Belgian fishing company or work on board of a Belgian registered fishing vessel.

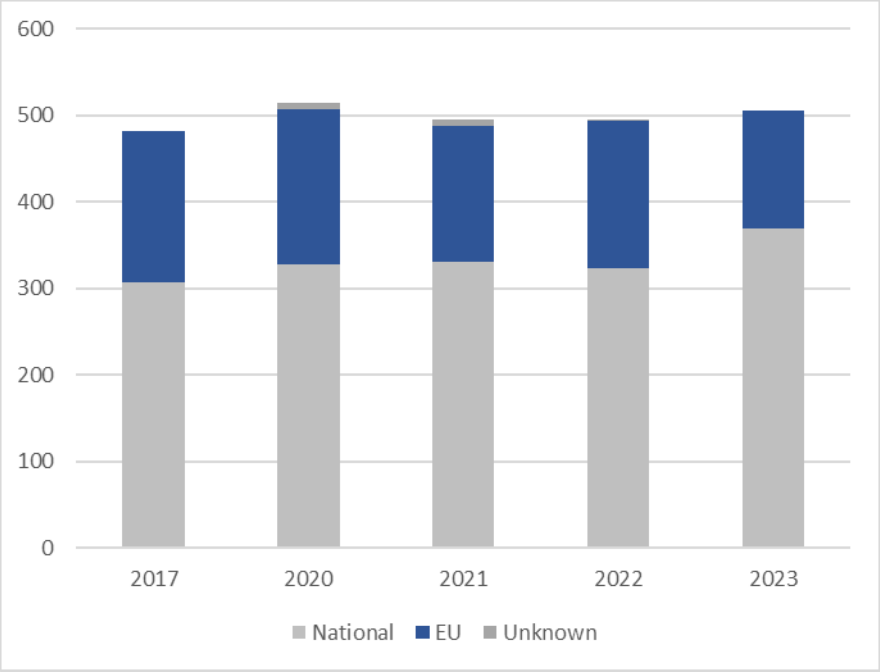
Note that these criteria do not differ from the criteria that Belgian fishers need to meet in order to apply for the statute of sea fisher.

Table 18. Employment by nationality and year. The relative distribution by year is shown as percentages between brackets.

	2017	2020	2021	2022	2023	Δ 2023-2017
National	307 (64%)	328 (64%)	331 (67%)	324 (65%)	369 (73%)	20%
EU	175 (36%)	179 (35%)	157 (32%)	170 (34%)	137 (27%)	-22%
Unknown	0 (0%)	7 (1%)	7 (1%)	2 (0%)	0 (0%)	-

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 31. Belgium: Employment by nationality and by year



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.2.7 Gender

Although female employment is reported, it is unclear whether these are female crew members. No females have been granted the official status of sea fisher in

2023, which is granted after application and when at least 100 days at sea are being spent.

Unpaid labour by gender

There is no information on unpaid labour in the Belgian fisheries.

Belgium has agreed to the Directive 2010/41/EU Directive 2010/41/EU of the European Parliament and of the Council of 7 July 2010 on the application of the principle of equal treatment between men and women engaged in an activity in a self-employed capacity and repealing Council Directive 86/613/EEC. The Directive was already covered by several Belgian laws (i.e. law of 7 May 1999).

No fisheries-specific policies have been adopted because of 2010/41/EU.

Social aspects in Fisheries

9.2.8 Material well-being

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Belgian fishing fleet reported an average annual labour cost of EUR 136 201 per FTE in 2023, the second highest level in the EU after Denmark. This high level is consistent across time, with EUR 135 079 per FTE in 2020 and EUR 177 580 EUR per FTE in 2017 (the historical high).

Table 19. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	146 017	125 497	141 534	165 479	177 580	167 031	163 912	135 079	140 253	161 025	136 201
National average				92 248				91 502	88 302	84 908	89 151
Ratio of fishing labour cost to national average				1.79				1.48	1.59	1.90	1.53

Source: Own elaboration from MS data submissions under the 2025 Fleet Economic Data Call and Eurostat's hourly wages and hours worked. All values inflation-adjusted to 2023.

In the Belgian fishing fleet, wages are directly related to the revenue of fishing as the Belgian crew is paid a fixed proportion of the landed value of a fishing trip. The crew share depends on the specific roles and differ between e.g. a skipper and a common seaman. The shares also differ between vessels with engine powers up to 221 kW and vessels with engine powers >221 kW. However, on average, about 33% of the landed value goes to personnel costs.

Another feature in the determination of Belgian fishing wages is that a minimum wage is agreed in case the trip revenue is too low and the individual crew shares would fall below a predefined threshold.

Fishing labour costs in Belgium are well above the national minimum wage (EUR 24 000), the average wage (EUR 47 000 Stabel; EUR 58 000 Eurostat), and the average labour cost (EUR 89 151).

Working conditions

The total working hours are reported as 736 480, 136 589, 104 559 in 2017, 2020 and 2023, respectively. It is unclear how this data has been derived and why the value for 2017 deviates so much from the other years.

Crew members generally work long periods at sea, especially in the fleet segment with engine power >221 kW, where multi-week fishing campaigns in distant waters are common and foreign harbours are frequented. Crew members of these vessels are often away for multiple weeks depending on the crew rotation system.

The vessels of the fleet segment with engine powers up to 221 kW makes shorter fishing trips which last one night up to 5 days. These vessels usually conduct trips from and to their home port. The work scheme on a beam trawler is intensive with most fishing vessels conducting hauls of 3 hours continuously throughout the fishing trip once the fishing ground has been reached. This work scheme implies that the crew needs to be on deck every 3 hours, both during the day and night, for several days in a row to handle the fishing gear and process the catch.

Coastal vessels have shorter trips of one to two days. The work is physically demanding, with exposure to weather, heavy machinery, and long hours, yet professional safety standards have improved due to mandatory safety training and vessel inspections.

Social security

Belgium has a distinct social security scheme for sea fishers who work on board Belgian registered fishing vessels (EC and Sys, 2025). It is administered by the Social Security for Sea Fishers (Sociale Zekerheid der Zeevisserij / Sécurité sociale de la pêche maritime). This social security system fixes the renumeration system applicable for fishers active on Belgian registered vessels and includes:

- end-or-year bonus,
- livelihood security,
- social premium,
- training fee,
- supplementary pension, and
- supplementary allowance in the event of long-term illness.

In addition, a number of other benefits apply for this statute. A basic package of protective clothing and a fixed amount to purchase additional items tailored for a fishers’ needs. The right to be taken back to one's place of residence at the

shipowner's expense when landing in a foreign port. Various additional insurances and additional entitlements for older fishers (55+) to reduce labour. In addition, the Sea Fishery Fund also organises and finances training courses for fishers to renew the boating licence, for promotion and training for starters.

The Sea Fishery Fund also offers a platform where can find information and get assistance on career opportunities, administrative forms such as certificate of competency and medical attests.

Ship-owners with a self-employed statute fall under the general social security scheme for self-employed workers. They pay contributions and receive benefits like any other self-employed person (pension, health insurance, etc.).

Accidents on board

Accidents on board in terms of numbers of injured and fatalities are reported in **Error! Reference source not found.**. Although the total number of registered i ncidents declined, this is not visible in the number of severe incidents and fatalities. Note that the numbers should be measured against a metric of fishing effort for a better picture of how the safety in the fisheries sector changed over time. Differences appear to be present between data reported by EMSA and the data reported by the National Agency (**Error! Reference source not found.** a nd **Error! Reference source not found.**).

Table 20: Total number of registered incidents on board of Belgian fishing vessels by year

	Total registered incidents	Severe incidents	Fatalities
2009	61	9	0
2010	39	4	0
2011	49	9	3
2012	40	8	0
2013	33	5	1
2014	35	8	0
2015	35	11	4
2016	32	9	2
2017	38	10	0
2018	41	19	2
2019	28	6	1
2020	23	6	1
2021	22	7	0
2022	20	4	0
2023	30	10	1
2024	16	4	0

Source: *https://landbouwcijfers.vlaanderen.be/visserij/totale-visserij/arbeidsongevallen-de-visserij*

Table 21. Total number of registered incidents on board of Belgian fishing vessels by year

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Injured people	3	2	0	0	0	1	2	4	11	11	6	2	1	1
Fatalities	0	0	1	0	0	2	0	4	1	0	0	0	0	0

Source: EMSA

Foreign flagged vessels

There are a few small-scale vessels owned by Belgians that fish for seabass under the Dutch flag. They land their fish mainly in the harbour of Nieuwpoort. Nevertheless, specific data on these vessels has not been made available for the purpose of this EWG.

9.2.9 Trends and challenges

The Belgian fisheries operate currently in a very uncertain climate. The fleet faces a potential huge impact of the Brexit due to a loss of fishing grounds and fishing rights. There is an increasing pressure on bottom trawling due to perceived negative environmental effects, and the fishery operates in an area where there are multiple users of the available space, and the economic interest are the main drivers in the decisions on how to use this space. This uncertainty is seen as a major challenge for the continuation of the Belgian fisheries sector.

Nevertheless, there are also a number of positive trends. Culinary heritage like brown shrimp remains important, for the first time since long, a new round of vessel renewal took place in the Belgian fishery over the last 5 years that led to innovations such as increased digitization of the Belgian fisheries sector. Finally, in the maritime school, there has been an increased interest in fisheries over the last 2 years.

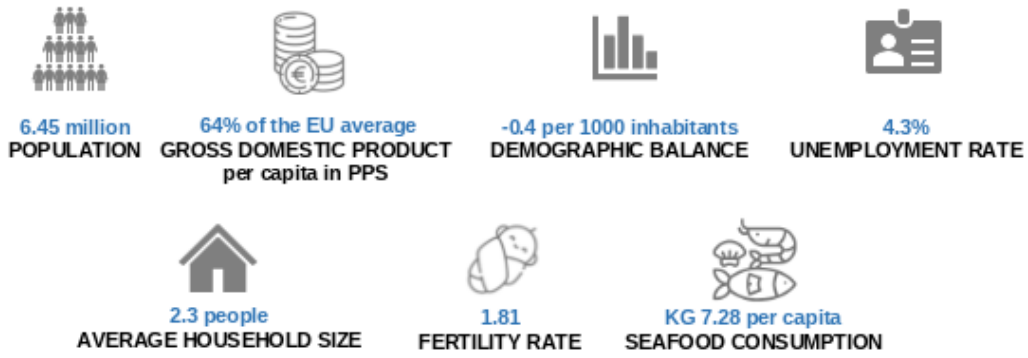
9.2.10 Methodological considerations and data issues

Social data is collected through a survey organized by the Flemish government and a data transfer from the social secretariat BESOX. Socio-economic data collection is carried out in census with full coverage of the fleet. It is reported that BESOX has no information on nationality and education level. There are ongoing actions to collect those variables.

9.3 Bulgaria

9.3.1 Snapshot of Bulgaria

Figure 32. Bulgaria in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Bulgaria is a country in Southeast Europe. It is situated on the eastern portion of the Balkans directly south of the Danube River and west of the Black Sea. Bulgaria is bordered by Greece and Turkey to the south, Serbia and North Macedonia to the west, and Romania to the north. It covers a territory of 110 994 square kilometres and is the tenth largest within the European Union and the sixteenth-largest country in Europe by area. Sofia is the nation's capital and largest city; other major cities include Burgas, Plovdiv, and Varna. The labour force is 3.36 million people, of whom 6.8% are employed in agriculture, 26.6% in industry and 66.6% in the services sector. Extraction of metals and minerals, production of chemicals, machine building, steel, biotechnology, tobacco, food processing and petroleum refining are among the major industrial activities. The main destinations of Bulgarian exports outside the EU are Turkey, China and Serbia, while Russia, Turkey and China are by far the largest import partners. Most of the exports are manufactured goods, machinery, chemicals, fuel products and food. Two-thirds of food and agricultural exports go to OECD countries. According to the government's official 2023 estimate, the population of Bulgaria consists of 6 445 481 people, down from 6 519 789 according to the last official census in 2021. The majority of the population, 72.5%, reside in urban areas. Bulgaria is in a state of demographic crisis. It has had negative population growth since 1989, when the post-Cold War economic collapse caused a long-lasting emigration wave. Some 937 000 to 1 200 000 people, mostly young adults, had left the country by 2005. Bulgaria thus has one of the oldest populations in the world, with an average age of 43 years. Furthermore, a third of all households consist of only one person and 75.5% of

families do not have children under the age of 16. The resulting birth rates are among the lowest in the world while death rates are among the highest.

Bulgaria scores high in gender equality, ranking 18th in the 2018 Global Gender Gap Report. Although women's suffrage was enabled relatively late, in 1937, women today have equal political rights, high workforce participation and legally mandated equal pay.

9.3.2 Short description of the fishing sector

In 2023, the Bulgarian fishing fleet comprised 1 010 SSCF vessels (92% of the total) with an engine power of 21 849 kW, and 92 LSF vessels (8%) with an engine power of 15 126 kW. The fleet size decreased by 5% from 2022 to 2023 and by 7% compared to the 2013-2022 average.

The fleet's physical capital was valued at EUR 19.36 million, with 84% belonging to the active fleet. From 2022 to 2023, inactive vessels rose by 1%, while active vessels fell by 8%. The active SSCF shrank by 9%, and the active LSF by 7%. GT in the active SSCF dropped by 4% and kW by 6%; in the LSF, both GT and kW fell by 5% and 8%, respectively.

Table 22. Bulgaria summary table

	Units	2023			% Δ 2023-2017		
Indicator	**Units**	**Overall**	**SSCF**	**LSF+ L12AG**	**Overall**	**SSCF**	**LSF+ L12AG**
Total employment	**Number**	1620	1397	223	-16.80	-15.84	-22.30
FTE	**Number**	576	396	180	-19.55	-19.18	-20.35
Active vessels	**Number**	1102	1010	92	-14.90	-15.20	-11.54
Landings by weight	**Thousand tonnes**	6.67	0.98	5.69	-10.71	-49.48	2.89
Landings by value	**Million €**	6.2	1.5	4.7	30.25	25.00	32.02
Aging work force: >=65 in workforce	**%**	21.85	23.91	8.97	57.58	52.65	157.40
Gender: women in workforce	**%**	2.16	2.00	3.14	40.22	44.66	28.70
Nationality: nationals in work force	**%**	99.20	99.21	99.10	-0.70	-0.73	-0.55

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call and the 2025 Fleet Economic data call.

In 2023, total employment was estimated at 1 620 jobs or 575 FTEs, averaging 0.52 FTE per active vessel. Employment fell by 6% from 2022 to 2023, and was 5% lower compared to the 2013-2022 average. This decline may be due to

fewer active vessels in the SSCF. The employment figures include unpaid labor, as many fishers reported being unpaid once this option was added to the questionnaire. Notably, 77% of active vessels had between 1 and 10 days at sea, and 10% had 11 to 20 DaS, mostly operated by owners or their family members. (REF from AER 2025).

9.3.3 Social demographics in Fisheries

The Bulgarian fishing fleet operates in the EU waters of the Black Sea only.

9.3.4 Employment in Fisheries

Total Employment

Between 2017 and 2023, total employment in the Bulgarian fishing fleet declined from 1 930 to 1 620 fishers, representing a 16% decrease. The most significant drop occurred between 2017 and 2020, with a slower decline continuing through 2023.

Table 23. Bulgaria: Total employment

	2017	2020	2023	Δ 2023-2017
Total employees	1 947	1 761	1 620	-17%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Full-Time Equivalent

Between 2017 and 2023, full-time equivalent (FTE) employment in the Bulgarian fishing fleet decreased by 20%, from 715.9 to 575.2. This decline reflects both the overall reduction in employment and the highly seasonal nature of fishing activity in the Black Sea. The low FTE levels can be largely attributed to limited operational days: in 2023, 77% of active vessels were at sea for only 1 to 10 days during the year, and an additional 10% operated between 11 and 20 days. These short periods of activity result in low cumulative working hours, despite the number of individuals engaged in the sector.

Table 24. Bulgaria: FTEs by year

	2017	2020	2023	Δ 2023-2017
Total FTEs	715.9	619.5	575.2	-20%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Employment status

The data on whether the vessel owner is one of the employed persons is available for 2023, but not for previous years. This is the reason why the table appears to show a significant decline in both full-time and part-time employees between 2017 and 2023. In reality, this drop is largely due to the reclassification

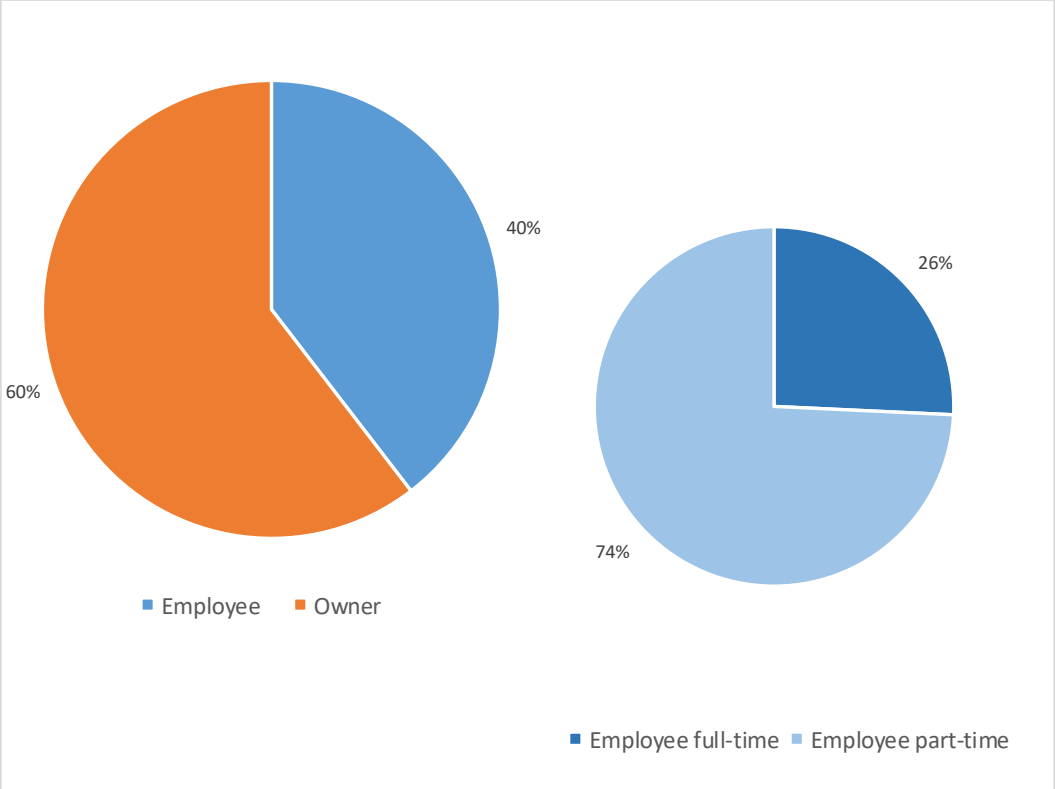
of vessel owners into a separate category in 2023, rather than an actual reduction in employment.

Table 25. Bulgaria: Employment status

	2017	2020	2023	Δ 2023-2017
Employee full	432 (22%)	264 (15%)	165 (10%)	-62%
Employee part	1515 (78%)	1497 (85%)	476 (29%)	-69%
Owner	0 (0%)	0 (0%)	979 (60%)	-

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 33. Bulgaria: Employment by employment status (2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.3.5 Demographics of the Workforce

Age

The age distribution of employed persons in the Bulgarian fishing fleet shows some notable shifts, although a full trend analysis is limited by differences in age group classification across the years. In 2017 and 2020, the 40-54 and 55-64 age groups were not reported separately and were instead combined under a broader 40-64 category. As a result, it is not possible to assess trends for the 40-54 and 55-64 age groups individually. However, by aggregating the 2023 data for these two groups (648+399), a comparable figure of 1 047 for the 40-64

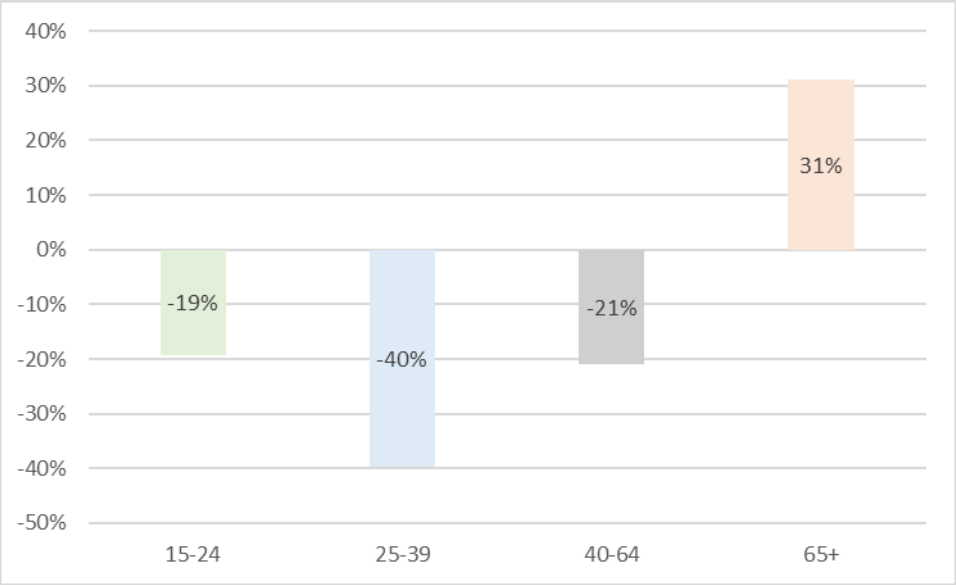
age group can be derived. This indicates a decline from 1 323 in 2017 to 1 047 in 2023. Other trends include a 40% drop in the 25-39 age group and a 31% increase in those aged 65 and over, highlighting an ageing workforce.

Table 26. Bulgaria: Employment by age category

	2017	2020	2023	Δ 2023-2017
≤14	0 (0%)	0 (0%)	0 (0%)	-
15-24	26 (1%)	17 (1%)	21 (1%)	-19%
25-39	328 (17%)	252 (14%)	198 (12%)	-40%
40-54	0 (0%)	0 (0%)	648 (40%)	-
40-64	1323 (68%)	1205 (68%)	0 (0%)	-
55-64	0 (0%)	0 (0%)	399 (25%)	-
65+	270 (14%)	287 (16%)	354 (22%)	31%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 34. Bulgaria: Change in fishers workforce by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.3.6 Workforce education and training

Education

Between 2017 and 2023, the employment distribution by education level shows a clear shift towards higher qualifications. The number of employees with university degree increased by 31%, while those with medium and low education levels declined by 17% and 43%, respectively. This trend indicates an overall upskilling of the workforce in the sector. The rise in employees with higher education may be partly attributed to the growing popularity of the academic programme in Fisheries and Aquaculture at Trakia University, which has helped attract and train more qualified professionals in recent years.

Table 27. Bulgaria: Employment by Education Level

	2017	2020	2023	Δ 2023-2017
High	123 (6%)	137 (8%)	161 (10%)	31%
Medium	1610 (83%)	1468 (83%)	1337 (83%)	-17%
Low	214 (11%)	156 (9%)	122 (8%)	-43%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Training

Training for obtaining a qualification in commercial fishing is organized through courses approved annually by the Executive Director of EAFA. Completion of a training course and passing an exam are required to receive a certificate of qualification, as regulated by Ordinance No. 46 of 3 December 2001. The course covers topics such as fisheries legislation, ichthyology, fishing techniques, and workplace safety. Individuals with higher or secondary education in fisheries or aquaculture specialties are exempt from this requirement.

In addition to vocational training, several educational institutions provide specialized programs in fisheries and aquaculture:

- Sofia University "St. Kliment Ohridski"**,** Faculty of Biology – offers bachelor's, master's, and doctoral programs in *Applied Hydrobiology and Aquaculture*. The department provides comprehensive training in fish stock assessment, aquaculture management, hydrobiological monitoring, and environmental protection, maintaining active cooperation with national and international institutions.
- Trakia University**,** Faculty of Agriculture – provides education and research in aquaculture technologies, ecological assessment, aquafarm management, and marketing in aquaculture. The Department of Biology and Aquaculture offers both theoretical and practical courses on freshwater and marine aquaculture production.
- Vocational High School of Maritime Navigation and Fisheries "St. Nicholas" – established in 1958, it provides secondary vocational education in fishing and aquaculture. The school operates under a certified Quality Management System (ISO 9001:2008). (European Commission: Directorate-General for Maritime Affairs and Fisheries, Nicheva, S. and Zhelev, K., 2025)

Nationality

Employment in the Bulgarian fisheries sector remains largely unattractive to foreign workers, and no major changes are expected in this respect, given the relatively low wages and the specific characteristics of fishing activities in the Black Sea. In 2017, there were no employees from EU or EEA countries, which

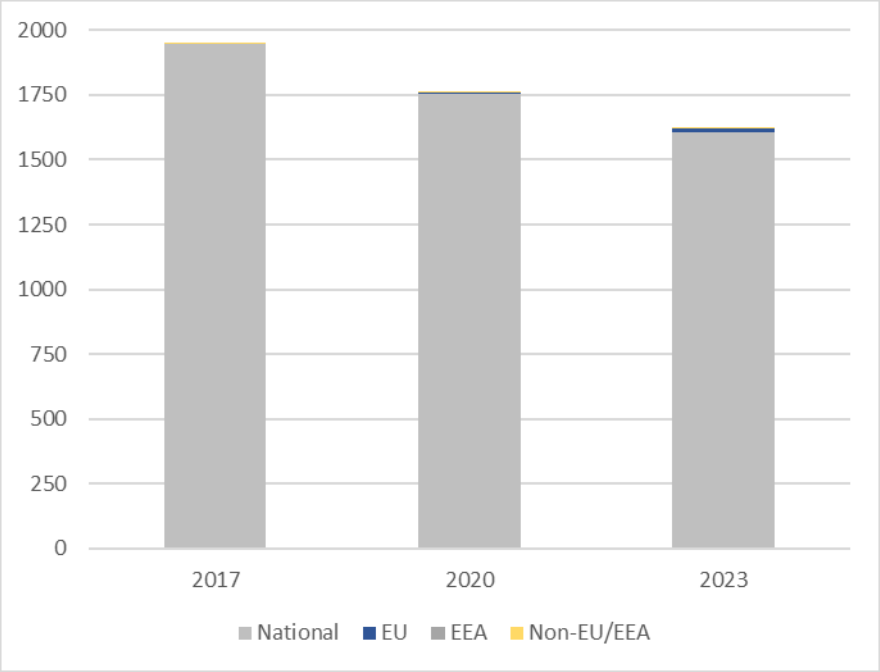
makes it impossible to assess a trend for 2023. The number of employees from non-EU/EEA countries remained unchanged, with two persons reported in both 2017 and 2023, indicating a stable but negligible share of foreign labour in the sector.

Table 28. Bulgaria: Employment by nationality and by year

	2017	2020	2023	Δ 2023-2017
National	1945 (100%)	1754 (100%)	1607 (99%)	-17%
EU	0 (0%)	4 (0%)	11 (1%)	-
EEA	0 (0%)	2 (0%)	0 (0%)	-
Non-EU/EEA	2 (0%)	1 (0%)	2 (0%)	0%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 35. Bulgaria: Employment by nationality and by year



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.3.7 Gender

Between 2017 and 2023, the number of women employed increased from 20 to 35, representing a 75% growth, while the number of men decreased from 1 927 to 1 585, a decline of 18%. Despite this relative increase, women remain a very small share in the fisheries sector. In comparison, women account for 19% of employment in aquaculture and 59% in fish processing. Working conditions differ across sectors, with fisheries often involving physically demanding tasks and seasonal work, whereas aquaculture and fish processing generally offer more structured and regulated environments.

Table 29. Bulgaria: Employment by gender

	2017	2020	2023	Δ 2023-2017
Female	20 (1%)	25 (1%)	35 (2%)	75%
Male	1927 (99%)	1736 (99%)	1585 (98%)	-18%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Unpaid labour by gender

After unpaid employment became a possible choice in the questionnaire, a significant part of the fishers declared that they are unpaid labour. Between 2017 and 2023, unpaid labour increased for both men and women. The number of women engaged in unpaid work grew from 12 to 23 persons (a 92% increase), while the number of men rose from 473 to 1 313 (an increase of 178%). Although men represent the majority of unpaid workers, the relative growth among women is also significant, suggesting a gradual diversification of roles within family-based or small-scale fisheries activities.

Table 30. Bulgaria: Unpaid labour by gender

	2017	2020	2023	Δ 2023-2017
Female	12 (2%)	14 (1%)	23 (2%)	92%
Male	473 (98%)	1408 (99%)	1313 (98%)	178%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Bulgaria has transposed Directive 2010/41/EU of the European Parliament and of the Council of 7 July 2010 on the application of the principle of equal treatment between men and women engaged in an activity in a self-employed capacity, repealing Council Directive 86/613/EEC. The transposition was carried out through the Protection Against Discrimination Act, with the relevant amendments entering into force on 1 August 2012.

Bulgarian legal framework includes also several other acts and regulations that address gender equality and protection against discrimination of women. Key examples include: Law on Gender Equality (State Gazette No. 33, 26 April 2016), which establishes state policy on gender equality; Labour Code, Article 8, Paragraph 3, which prohibits direct or indirect discrimination based on gender in the exercise of labour rights and obligations; Social Security Code; Social Assistance Act; Employment Promotion Act; Strategic documents and plans, such as the National Strategy for Promoting Gender Equality and the National Action Plan for Promoting Gender Equality, which set out objectives and measures to enhance equal treatment of women and men.

Social aspect in Fisheries

9.3.8 Material well-being

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Bulgarian fishing fleet reported an average annual labour cost of EUR 3 170 per FTE in 2023, the second lowest in the EU after Cyprus. This labour cost is also well below the national average labour cost (EUR 19 392), representing just 16%.

Over the period 2013-2023, average labour costs in the Bulgarian fisheries sector showed a continuous decline both in absolute terms and in relative terms compared to the national average. This steady decrease indicates a significant loss of income attractiveness in the sector. The persistent gap reflects the seasonal and small-scale character of fishing activities in the Black Sea, as well as the limited economic capacity of the sector to offer competitive remuneration.

Table 31. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	8 064	6 894	5 208	3 888	2 901	2 494	2 341	2 323	3 053	2 547	3 170
National average				12 979				17 503	18 307	18 616	19 392
Ratio of fishing labour cost to national average				0.30				0.13	0.17	0.14	0.16

Source: Own elaboration from MS data submissions under the 2025 Fleet Economic Data Call and Eurostat's hourly wages and hours worked. All values inflation-adjusted to 2023.

Working conditions

Total Working hours from AER

During the period 2017-2023, a clear downward trend can be observed in the annual working hours per worker in the fishing sector, from 215 hours in 2017 to only 134 hours in 2023, representing a 38% decrease. Although these figures may appear low, they reflect the seasonal nature of fishing activities in the country.

A significant share of fishers spends only between 1 and 10 days at sea per year, which substantially reduces the total number of working hours recorded per person. This is typical for small-scale or part-time fishers who operate irregularly, depending on weather conditions, biological cycles of target species, and market demand. Therefore, despite the low values, the data can be considered realistic given the structure and characteristics of the national fishing fleet.

Table 32. Annual working hours per worker in Bulgaria

	2017	2018	2019	2020	2021	2022	2023	Δ 17-23
Annual working hours per worker	215	266	286	166	211	146	134	-38%

Source: Own elaboration from Member States data submissions under the 2025 Fleet Economics data call

Social security

The workforce in Bulgaria is divided into three categories as per the Bulgarian labor laws and the Social Security Law. These employees are known as first, second, and third category workers. The third category is the most popular work category with favorable working conditions but without any early retirement benefits.

In the Retirement labor classification ordinance adopted by PMS No. 235 of 20.10.1998 are defined all the professions, which are falling into the first and second categories, from them the following could be considered connected with the fisheries or other sea activities:

- Section I First category of work
  - Art. 1. From the first category upon retirement is the work of:
  - divers and working in caissons;
  - 8. (new - SG No. 64 of 2001) crews of ships specialized in the transport of chemical substances, oil products and coal;
  - (new - SG No. 64 of 2001) working in the engine room of vessels from the navy (excluding those in the coastal fleet).
- Section II. Second category of work
  - Art. 2. The work of:
  - 26. (amended - SG No. 64 of 2001) crews of ships from the sea and river fleet, excluding those included in art. 1, items 8 and 9 , and those of the coastal fleet;
  - 28. workers performing work in closed vessels and in the double bottoms of vessels in shipbuilding and ship repair;
    - 29. helingmen and hullers in shipbuilding and ship repair.
- Section III. Third category of work
  - Art. 3. From the third category at retirement is the work of those not included in art. 1 and 2 workers, specialists and employees.

In the questionnaires for the collection of economic and social information from each vessel, none of the owners have declared employment in any of the professions of the first or second categories, so all the employees could be assigned to the third category. Since 1 January 2016, the required retirement age and periods of insurance have been gradually increasing till reaching 65

years of age for both genders and 40 years periods of insurance for men and 37 for women. For retirement in 2023, women need to be 62 years old and to have a period of social insurance of 36 years and 4 months. For men the age is 64 years and 6 months and a period of social insurance of 39 years and 4 months. (European Commission: Directorate-General for Maritime Affairs and Fisheries, Nicheva and Zhelev, 2025).

Foreign flagged vessels

There are no recorded landings from foreign-flagged vessels, either directly in Bulgarian ports or via truck. In addition, there is no available information indicating the existence of foreign-flagged vessels owned by Bulgarian fishers.

9.3.9 Social demographics per fishing activities

Table 33. Social demographics (gender, education, age, employment status and nationality) per fishing activities (SCF and LSF) over the years (2017, 2020 and 2023) in Bulgaria

	SCF			LSF		
	2017	**2020**	**2023**	**2017**	**2020**	**2023**
female	13	17	28	7	8	7
male	1647	1504	1369	280	232	216
low	177	134	104	37	22	18
medium	1372	1265	1150	238	203	187
high	111	122	143	12	15	18
≤14	0	0	0	0	0	0
15-24	12	9	13	14	8	8
25-39	255	197	163	73	55	35
40-54	-	-	526	-	-	122
40-64	1133	1046	-	190	159	-
55-64	-	-	361	-	-	38
65+	260	269	334	10	18	20
employee full	229	108	34	203	156	131
employee part	1431	1413	436	84	84	40
owner	-	-	927	-	-	52
NATIONAL	1659	1515	1386	286	239	221
EEA	0	1	0	0	1	0
EU	0	4	9	0	0	2
NON-EU/EEA	1	1	2	1	0	0

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Small Scale Coastal Fleet

Employment in Bulgaria's small-scale coastal fishing fleet (SSCF) remains the dominant source of jobs within the national fisheries sector. In 2023, the SSCF employed a total of 1 397 persons, of whom 1 369 were men and 28 were

women. The share of female employment increased slightly over the years, indicating a gradual though still limited participation of women in small-scale fishing activities.

In terms of educational and skill levels, the SSCF is largely composed of workers with high school (medium) education, 1 150 in 2023, followed by high-skilled workers with a university degree (143) and those with a low education (104). Compared with 2017 and 2020, the total number of employed persons has slightly declined, reflecting both the ongoing structural changes in the fleet and the seasonal nature of fishing activities.

Regarding age distribution, the SSCF. In 2023, most workers were part-time employees (436), followed by vessel owners (927) and a small number of full-time employees (34). The predominance of part-time and owner-based work indicates the seasonal and often supplementary nature of small-scale fishing in Bulgaria.

Large Scale Fleet + L12AG

The data presented for large-scale fleet includes also the numbers for the large scale fleet under 12 meters with active gear, following the pattern used for data reporting and analysis for the AER. LSF+ L12AG in Bulgaria employed a total of 223 persons in 2023, including 216 men and 7 women. Although smaller in absolute numbers compared to the SSCF, the LSF plays a significant economic role in terms of productivity and catch volume.

The structure by education level in the LSF follows a similar pattern to that in the SSCF, with the majority being workers with high school education (187), followed by low-skilled (18) and those with a university degree (18). Over the observed period, the total number of employed persons has declined, particularly among low-skilled workers, reflecting gradual modernization and reduced fishing activity.

In terms of age, the workforce is concentrated in the 40-54 group (122 persons), with smaller shares among younger workers and those aged 65 and over (20 persons).

With regard to employment type, full-time employees remain the majority (131 in 2023), while the share of part-time workers (40) has decreased. A total of 52 persons were reported as vessel owners, reflecting the mixed ownership and employment structure in the LSF.

Overall, the 2023 data collection is more detailed than in previous years, providing better insight into gender composition, education level, age distribution, and employment types in both the small- and large-scale segments of the Bulgarian fishing fleet.

9.3.10 Trends and challenges

The Bulgarian fishing sector faces a combination of growth opportunities and persistent structural challenges. The country’s coastal and riverine areas hold significant untapped potential for economic development and job creation,

supported by increasing consumer demand for healthy, high-quality fish products. However, the sector continues to struggle with low profitability, limited diversification, and dependence on a few commercial species.

Aging fleets, outdated equipment, and uneven port infrastructure hinder efficiency, energy performance, and product quality. The predominance of micro-enterprises and an aging workforce further contribute to economic instability and low adaptability to new market and environmental conditions.

Key challenges include improving working conditions, modernizing facilities, and adopting low-impact and energy-efficient technologies to align with decarbonization and sustainability goals. Strengthening the value chain through diversification, better traceability, and added value to catches remains a priority.

External pressures, such as climate change, market volatility, cheap imports, and socio-economic crises including the COVID-19 pandemic and the war in Ukraine, have intensified vulnerabilities in the sector. Ensuring resilience requires targeted investment, knowledge enhancement, and simplified access to EMFAF support.

Future efforts should focus on promoting sustainable small-scale coastal fishing, improving competitiveness, and securing stable incomes while preserving local fishing traditions and environmental resources.

9.3.11 Methodological considerations and data issues

Data source used for the DCF Social Data Call

The data used for the DCF Social Data Call for the fishing fleet are collected through a census-based survey, covering all vessels included in the national fleet register during the reference year. This also includes vessels that were not active at the end of the year (i.e. not registered on 31 December) but had at least one day at sea during the reference period.

Each year, the Executive Director of EAFA approves the content and format of the questionnaire, which is developed by data collection experts. The questionnaire is reviewed and updated annually in line with regional recommendations and the specific needs of end-users. It is published on the official EAFA website, while printed copies are distributed to all regional offices. Every inspector of the agency also has a copy to facilitate the data collection process.

The questionnaire may be completed manually by the vessel owner or by their representative (e.g. accountant), either in the presence of a trained EAFA employee familiar with the economic and social indicators, or it can be submitted electronically via email or by post. Once received, the questionnaire is entered into the agency’s electronic record-keeping system, where it is assigned a unique identification number. The verified dataset compiled through this process serves as the official source of social data for the DCF Social Data Call for the fishing fleet.

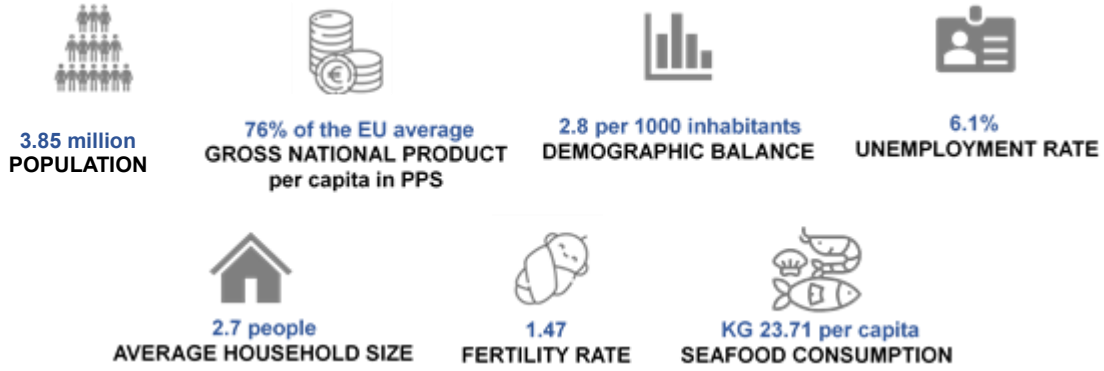
Data quality issues related to your MS

There are no data quality issues related to the information collected for the fishing fleet. All questionnaires undergo two levels of verification by EAFA staff. The first check ensures completeness and identifies unrealistic or missing values, while the second focuses on consistency between key variables such as vessel characteristics, activity, and income. If any inconsistency is found, the vessel owner is contacted to confirm or correct the information. Since each vessel submits one questionnaire per year and scanned copies are stored in the document management system, risks of duplication or upload errors are effectively eliminated. Finally, after data entry, another expert reviews the records to correct possible typos or minor inconsistencies. References relevant to your MS only. Include the reference to the NFPs for your MS.

9.4 Croatia

9.4.1 Snapshot of Croatia

Figure 36. Croatia in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Croatia, with a population of about 3.85 million in 2023, continues to face demographic challenges, including a low fertility rate (1.47) and a slightly negative demographic balance, reflecting population decline and ageing. The economy remains stable, with moderate income levels when adjusted for purchasing power. Unemployment has decreased in recent years, standing at 6.1%. Households are small on average, consistent with broader European trends. Despite its long coastline and strong maritime tradition, per capita seafood consumption remains modest compared to other Mediterranean countries.

9.4.2 Short description of the fishing sector

In 2023, there were 7 595 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 43 242 GT and 346 989 kW. The capacity of the national fleet has decreased since 2013. The estimated total number of inactive vessels in 2023 was 1 548 (STECF AER, 2025).

In 2023, the Croatian fishing fleet of 6 047 active vessels represented approximately 11% of the EU's total active fleet. The sector employed 8 987 individuals (3 201 FTEs), constituting about 7.5% of EU engaged crew and 4.3% of FTEs. Croatian landings of 55 217 tonnes valued at EUR 71 million contributed 1.6% of EU landed weight and 1.2% of landed value. For context, Croatia's population of 3 850 894 represents approximately 0.86% of the EU population.

Croatia's fisheries sector performance diverged from EU trends. While the EU fleet experienced declining performance with GVA decreasing 10.1% and net profit falling 61%, Croatian fleet achieved GVA growth of 14% to EUR 80 million (≈ 0.42% of Croatia’s total GVA) with net profit doubling to EUR 23.8 million. Croatia's fleet net profit margin of 19% exceeded the EU's 0.9%, and its gross profit margin of 34% substantially surpassed the EU's 15.8%.

The Croatian fleet's composition mirrors EU patterns, with small-scale coastal fleet (SSCF) comprising 87% of vessels (5 261 vessels, 6 525 crew, 1 488 FTEs) and large-scale fleet (LSF) representing 13% (786 vessels, 1 589 crew, 1 713 FTEs). A distinctive feature is the exceptionally high proportion of unpaid workers at 51% overall, rising to 71% in SSCF, among the highest rates in the EU fleet.

This is related to the specific structural characteristic of Croatian fleet which includes approximately 3 500 vessels operating under a special legal designation known as "small-scale artisanal coastal fisheries." Historically, this category was referred to as fishing conducted “for personal needs” or as a “secondary economic activity”, meaning that fishing represented neither the primary occupation nor the principal income source for participants.

These vessels were formally integrated into the commercial fleet classification in 2015 as part of the EU accession process—specifically within the small-scale fleet segment and the commercial polyvalent passive gear (PGP). However, this segment is characterised by low fishing activity, as most MOR vessel owners are retired and engage in fishing only occasionally (STECF AER, 2025). Furthermore, as due to legal restrictions, most vessel owners are not permitted to participate in first sales, their operational characteristics more closely resemble subsistence-level fishing rather than commercial operations (European Commission: Directorate-General for Maritime Affairs and Fisheries & Cepić 2025).

Over the past decade (2013-2023), the Croatian fleet has experienced structural transformation. LSF capacity contracted by 27% in vessels, 22% in gross tonnage, and 24% in engine power, while landings declined 30% from 2014 peaks, reflecting both management restrictions and stock decline particularly for small pelagic species (sardine and anchovy). Despite these reductions, key stocks remain overexploited with sardine showing declining biomass despite catch reductions.

Notwithstanding the strong 2023 aggregate performance, according to the AER (2025) fourteen of twenty-three fleet segments (67% of vessels, 55% of employment) reported net losses. The LSF recorded net losses of EUR 11 million despite EUR 11 million in operating subsidies (94% increase from 2022), while profitability concentrated in SSCF segments benefiting from income diversification with 58% of revenue from non-fishing sources (pesca-tourism, maritime transport, aquaculture). Croatian success in 2023 depended substantially on fuel price reductions (19% decline to EUR 0.79/litre), subsidies contributing 12% of total income, and SSCF diversification strategies, raising questions about sustainability without continued support and stock recovery.

Table 34. Croatia summary table

	Units	2023				% Δ 2023-2017			
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**Overall**	**SSCF**	**L12AG**	**LSF**
Total employment	**Number**	8 987	6 525	n/a	1 589	+13.9%	+13.3%	n/a	+15.6%
FTE	**Number**	3 201	1 488	347	1 367	-4%	3%	-7%	-10%
Active vessels	**Number**	6 047	5 261	452	1 367	-2%	-2%	-7%	-6%
Landings by weight	**Thousand tonnes**	55 217	1 657	n/a	53 560	n/a	n/a	n/a	n/a
Landings by value	**Million €**	71.1	14.4	8.8	47.9	-10%	-1%	-10%	-13%
Value per landed kg.	**€/kg**	1.29	8.69	n/a	0.89	n/a	n/a	n/a	n/a
Aging work force: >=65 in workforce	**%**	13%	16.4%	n/a	3.9%	-23.5%	-32.8%	n/a	+95.0%
Gender: women in workforce	**%**	7.7%	7.3%	n/a	8.6%	+22.2%	+12.3%	n/a	+43.3%
Nationality: nationals in work force	**%**	98.6%	98.7%	n/a	98.1%	-1.30%	-1.10%	n/a	-1.80%

Source: Member States data submissions under the 2025 Social Data Call and the 2025 Fleet Economic data call.

Note: when indicated as n/a, the L12AG data is not separately reported and is included within LSF figures.

9.4.3 Social demographics in Fisheries

Croatia's fisheries workforce continues to face demographic challenges, though recent trends suggest gradual renewal. The sector remains dominated by older workers, with an average vessel owner age of 53 years—and over 65 in the *"for personal needs"* segment—while only one in five owners is under 40. This points to persistent generational succession issues.

The apparent aging of the workforce is partly statistical, as the *"for personal needs"* segment includes many retired individuals who fish occasionally and are not commercially active. Within the active fleet, however, the structure is slowly improving, with a modest increase in younger fishers and women entering professional roles, especially in SSCF (for a more detailed elaboration see

below). This rejuvenation is supported by the diversification of SSCF livelihoods, which combine fishing with tourism and other shore-based activities (STECF AER, 2025).

Nonetheless, AER (STECF, 2025) reports that structural barriers continue to discourage youth entry, including non-competitive fish prices, limited access to capital and infrastructure, harsh working conditions, irregular income, and competition for workforce from coastal tourism. These factors contribute to high turnover and difficulties in maintaining stable full-time positions: while the number of engaged crew increased by 14% in 2023, full-time equivalents (FTEs) fell by 4%. Average wages of EUR 11 432 per FTE remain below the EU Mediterranean average, though the actual gap is likely to be smaller due to underreporting and structural features of the Croatian fleet (see following section for a more detailed elaboration).

9.4.4 Employment in Fisheries

Total Employment

Total fleet employment grew from 7 890 in 2017 to 8 987 workers in 2023 (+1 097, +13.9%). Growth was consistent across both segments: SSCF added 765 workers (+13.3%) while LSF added 332 workers (+15.6%). The LSF employment increase occurred despite ongoing vessel reductions, indicating stable or increased crew requirements per vessel. Hence, both segments show parallel growth rates, suggesting balanced sector development despite different fleet dynamics (SSCF expanding vessels, LSF reducing vessels but maintaining crew levels).

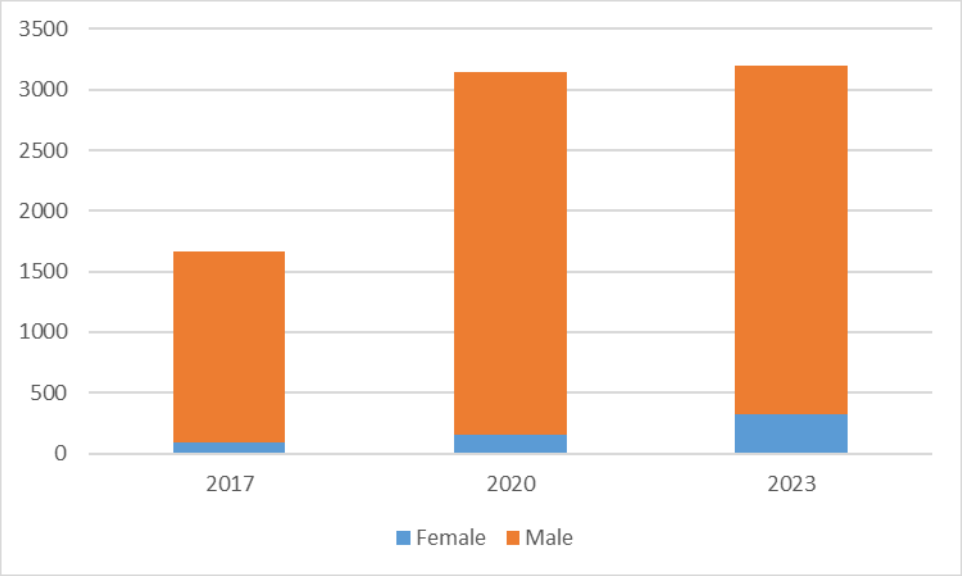
Full-Time Equivalent

In 2023, employment in the sector was estimated at 8 987 individuals, equivalent to 3 201 full-time equivalents (FTEs). The SSCF segment accounted for 73% of engaged crew (46% of FTEs), while the LSF segment represented 27% of engaged crew (54% of FTEs), translating to employment-to-FTE ratios of 2.81:1 overall, 4.38:1 in SSCF, and 1.44:1 in LSF.

The gap between employment and FTE reflects Croatia's specific fleet structure with extensive part-time, multi-activity SSCF. According to AER, income from supplementary sources accounted for 58% of total SSCF revenue (including subsidies) over the past five years, where most fishers were also vessel owners, who do not receive a wage but are instead remunerated from net revenue. Furthermore, the gap particularly concerned “for personal needs” segment which is officially subsumed under commercial/SSCF sector, but in fact is closest to subsistence fishing. While 71% of SSCF fishers (4 630 individuals) were unpaid, the “for personal needs” segment included

approximately 3 668 individuals, 99% of whom are unpaid and collectively represented only 206 FTEs.

Figure 37. Croatia: Full-Time Equivalent



Source: Own elaboration from Member States data submissions under the 2025 Social data call

Table 35. **Croatia:** Full-Time Equivalent by gender

	2017	2020	2023	Δ 2023-2017
Female	85 (5%)	154 (5%)	318 (10%)	▲ 274%
Male	1580 (95%)	2992 (95%)	2883 (90%)	▲ 82%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

As for the trends from previous years, FTE in 2023 represented a 92% increase from the 2017 baseline of 1 665.24 FTE. The strongest growth occurred between 2017 and 2020 (+89%), while employment stabilized in the 2020-2023 period with only modest growth (+1.7%).

Employment status

The employment structure varies significantly between sectors. In the SSCF category, 71% of fishers (4 630 individuals) were unpaid (vessel owners, family members, or retirees), whereas the LSF sector shows the opposite pattern, with 87% of crew members in 2023 being paid workers. While it is typical for SSCF that most fishers were also vessel owners, who do not receive a wage but are instead remunerated from net revenue, a specific problem represents the “for personal needs” segment which is officially subsumed under commercial/SSCF

sector, but in fact is closest to subsistence fishing. While 71% of SSCF fishers (4 630 individuals) were unpaid, the “for personal needs” segment included approximately 3 668 individuals, 99% of whom are unpaid.

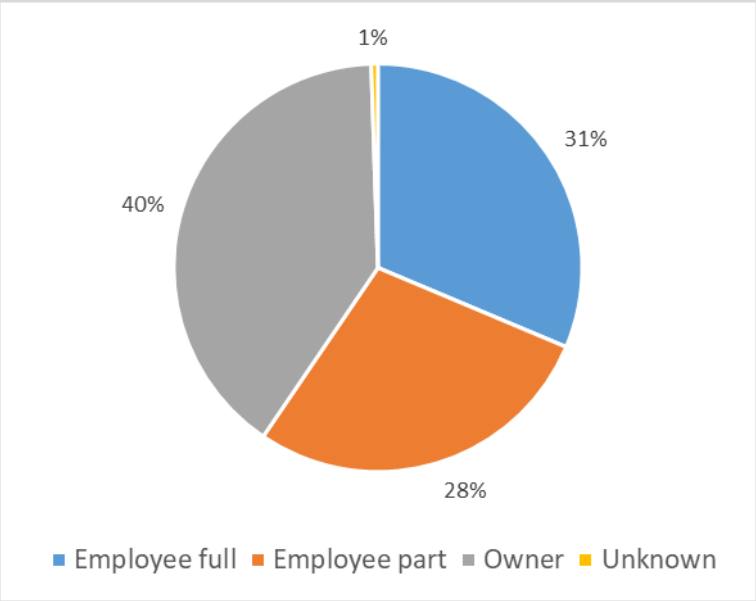
Total employment in the fishing fleet reached 8 987 persons in 2023, an increase of 14% from 7 890 persons in 2017. The employment structure shifted significantly over this period, with part-time employees tripling from 869 to 2 531 persons (+191%) and full-time employees increasing by 25%. Conversely, vessel owners declined by 25% from 4 760 to 3 592 persons.

Table 36. Croatia: Employment structure by year

	2017	2020	2023	Δ 2023-2017
Employee full	2261 (29%)	2083 (26%)	2817 (31%)	25%
Employee part	869 (11%)	866 (11%)	2531 (28%)	191%
Owner	4760 (60%)	5034 (63%)	3592 (40%)	-25%
Unknown	0 (0%)	3 (0%)	47 (1%)	-

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 38. Croatia Employment structure, 2023



Source: Own elaboration from Member States data submissions under the 2025 Social data call

The fact that in historical trends engaged crew increased while FTEs decreased suggests higher crew turnover, difficulty in finding qualified labour, and increased competition from other sectors, as per AER (STECF, 2025). This is reflected in the increase of the recruiting of non-nationals in the fleet (see section 9.4.6 on Nationality).

9.4.5 Demographics of the Workforce

Age

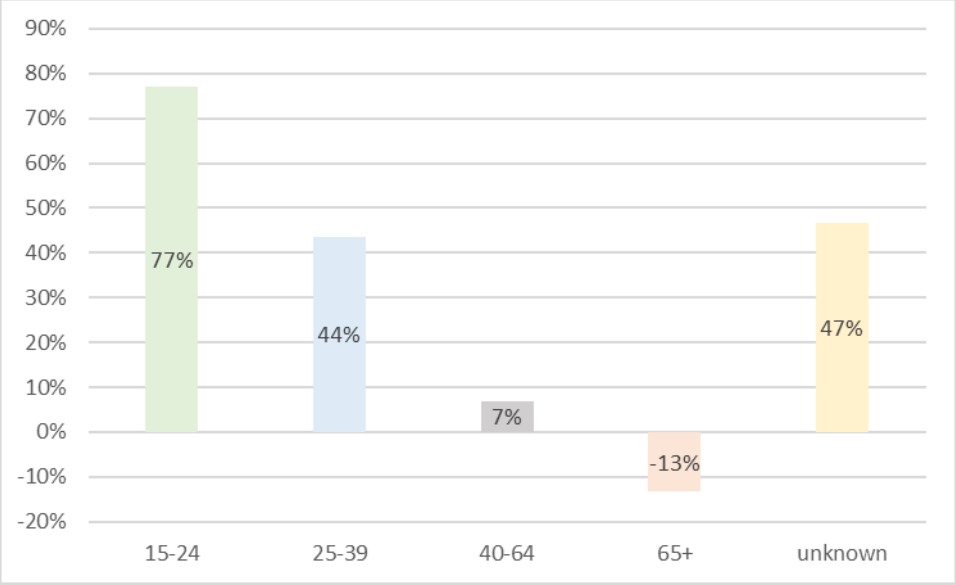
Croatia's workforce shows aging profile with bulge in 40-64 category (54%), an inverted demographic pyramid with only 30.6% under 40 as opposed to 67% over 40, and with high percentage of over-65s of 13%. The latter figure however can be misleading as it mostly pertains to “for personal needs” segment. Although this segment is officially subsumed under commercial/SSCF sector, it should be noted that licenses for this particular fleet segment were granted based on various social criteria including high age and retirement status. Hence, the “for personal needs” segment mostly includes retired individuals who fish occasionally, rather than for commercial purpose, and is therefore not indicative of the trends in the fleet.

Table 37. Croatia: Employment by age group and year

	2017	2020	2023	Δ 2023-2017
15-24	238 (3%)	234 (3%)	422 (5%)	77%
25-39	1620 (21%)	1542 (19%)	2328 (26%)	44%
40-64	4538 (58%)	4704 (59%)	4852 (54%)	7%
65+	1344 (17%)	1368 (17%)	1166 (13%)	-13%
Unknown	150 (2%)	138 (2%)	220 (2%)	47%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 39. Croatia: Change in fishers workforce by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social data call

As per AER (STECF, 2025), multiple factors drive youth rejection, including non-competitive fish prices, insufficient infrastructure, limited investment capacity for new businesses, harsh working conditions, unpredictable or irregular income, uncertainty caused by management measures (such as spatio-temporal closures) plus competition from coastal tourism industry. At the same time, the trends from 2017 to 2023 in fact show a positive age restructuring.

Total fishing fleet employment reached 8 987 persons in 2023, up 14% from 7 890 in 2017. The workforce showed moderate rejuvenation, with workers under 40 increasing from 24% to 31% of employment. Youth aged 15-24 grew by 77% to 422 persons, while young adults (25-39) increased by 44% to 2 328 persons. On the other hand, the proportion of workers aged 65+ declined from 17% to 13%, representing a 13% decrease in absolute numbers. Middle-aged workers (40-64) remain the largest group at 54% of the workforce but their share actually decreased from 58% in 2017, indicating gradual workforce renewal.

Age trends diverged sharply between subsectors. The large-scale fleet (LSF) experienced workforce aging and contraction, losing 138 workers (-5.3%) while its 65+ population increased 81%, and workers under 40 declined 31%. It should be noted, however, that the significant relative increase in the oldest age group stems from a low initial base. Young adults aged 25-39 fell by 34%, creating a workforce now dominated by middle-aged workers (62%).

Conversely, the small-scale coastal fleet (SSCF) underwent dramatic rejuvenation while expanding by 1 235 workers (+23%). Youth employment tripled (+259%) and young adults nearly doubled (+149%), while the 65+ share dropped from 24% to 16%. The SSCF hence seems to successfully attract younger workers, while the LSF (which is shrinking) is retaining more older workers, leading to a higher aging percentage in that segment. By 2023, both sectors converged at 31% workforce under age 40, but the SSCF achieved this through growth and renewal while the LSF reached it through contraction and aging of remaining workers.

This is related to the gender aspect and the entrance of younger women in professional fishing roles. Women entering fishing roles increased across both subsectors, but the age composition differs. In SSCF, both women (+22%) and youth (+160%) grew substantially, consistent with younger workers of both genders entering the small-scale fleet. This may indicate greater attraction to shore-based/multi-activity SSCF model where 58% of revenue comes from non-fishing activities (pesca-tourism, maritime transport and aquaculture). In LSF, women grew by 43% despite overall workforce contraction, but this occurred alongside a 31% decline in workers under 40, suggesting women entering LSF are primarily middle-aged (40-64) rather than youth.

9.4.6 Workforce education and training

Education

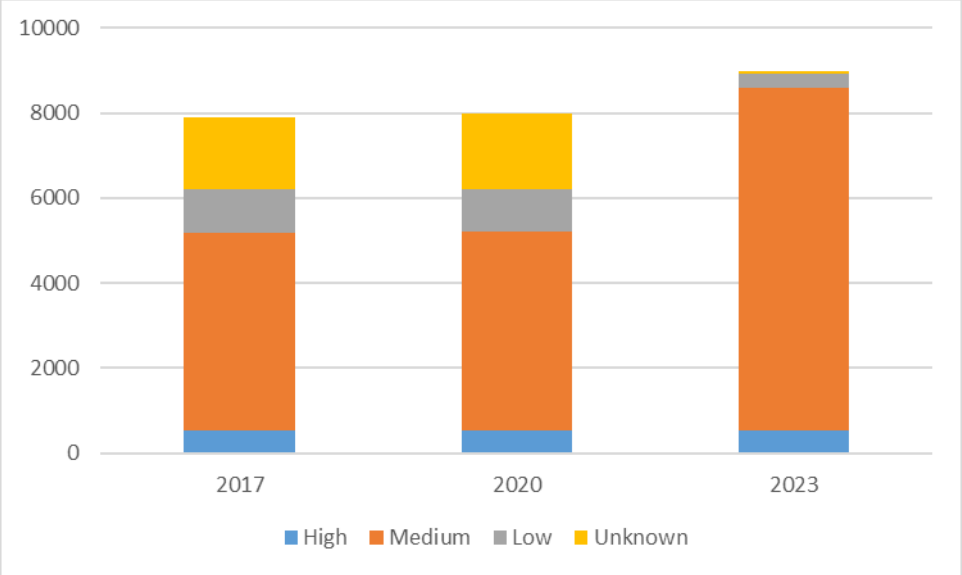
Croatia's fishing workforce shows predominantly medium educational attainment (59% with secondary/vocational education), reflecting the sector's traditional nature where practical skills and intergenerational knowledge transfer prevail over formal maritime credentials. The educational distribution—majority medium education (59%), minority low education, and low high education—reflects a sector where secondary vocational qualifications provide sufficient technical competence while advanced degrees offer limited practical advantage for hands-on fishing operations.

Table 38. Croatia: Employment by education level and year

	2017	2020	2023	Δ 2023-2017
High	532 (7%)	536 (7%)	518 (6%)	-3%
Medium	4665 (59%)	4679 (59%)	8076 (90%)	73%
Low	1025 (13%)	1002 (13%)	346 (4%)	-66%
Unknown	1668 (21%)	1769 (22%)	47 (1%)	-97%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 40. Croatia: Education



Source: Own elaboration from Member States data submissions under the 2025 Social data call

The trends from 2017 confirm this, as the fishing fleet workforce became heavily concentrated in medium education levels between 2017 and 2023. Workers with medium education surged by 73% to 8 076 persons, now comprising 90% of the workforce compared to 59% in 2017. This growth occurred alongside a sharp 66% decline in low-educated workers (from 1 025 to 346 persons,

dropping from 13% to 4% of the workforce—related to the exit of older cohorts of fishers likely having lower educational attainment due to historical standards) and a slight decrease in high-educated workers (from 532 to 518 persons, declining from 7% to 6%).

According to AER (STECF, 2025), the observed shift toward a higher share of workers with medium-level education—without a corresponding rise in those with higher education—points to persistent gaps in vocational training. This trend also reflects competition from the tourism and transport sectors, which attract more educated workers by offering better employment conditions. The report notes that reliance on informal, family-based knowledge transfer is increasingly inadequate to meet contemporary regulatory and technological demands in fisheries.

Training

The Croatian fishing fleet's education profile reflects general educational attainment rather than fisheries-specific training. According to STECF (2018), 60% of Croatian fishers reported their professional education is unrelated to their careers in fisheries.

In the Croatian context, “medium education” represents general secondary or vocational education and is prevalent among current fishers (90%). In some cases, it can include specialized maritime programs from eight high schools offering nautical and maritime engineering. “Low education” represents primary or incomplete secondary education, while “high education” likely refers to university graduates in unrelated fields who entered fishing anyway (European Commission: Directorate-General for Maritime Affairs and Fisheries & Cepić 2025; STECF, 2018).

Regarding mandatory training, the Marine Fisheries Act requires commercial fishing license holders to pass an examination, while the Maritime Code mandates internationally recognized vocational training for skippers across fleet segments, with “fisher” legally recognized as a profession. However, according to earlier STECF report on social dimension, the fisheries sector in Croatia demonstrates a fundamental disconnect between formal credentials and practice. Respondents consistently rank experience as the most critical success factor, with half citing family tradition as their entry route and a quarter entering as newcomers without relevant education (STECF, 2018).

Nationality

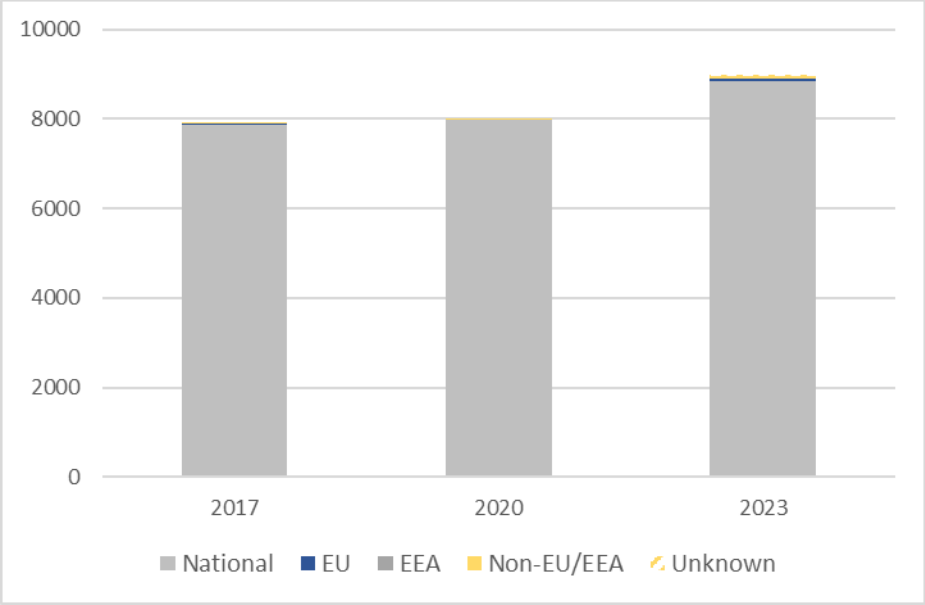
The Croatian fishing fleet remains overwhelmingly national, with Croatian nationals comprising 98.6% of employment (8 857 persons) in 2023. However, even though the total number of Croatian nationals increased by 12% from 7 880 to 8 857 persons between 2017 and 2023, their share of total employment declined slightly from 99.9% to 98.6% as foreign workers grew dramatically from near-negligible levels (10 persons, 0.1%) to 130 persons (1.4%).

Table 39. Croatia: Employment by nationality and year

	2017	2020	2023	Δ 2023-2017
National	7880 (100%)	7976 (100%)	8857 (99%)	12%
EU	8 (0%)	8 (0%)	49 (1%)	507%
EEA	0 (0%)	0 (0%)	1 (0%)	-
Non-EU/EEA	2 (0%)	2 (0%)	58 (1%)	2802%
Unknown	0 (0%)	0 (0%)	22 (0%)	-

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 41. Nationality in fleet for Croatia



Source: Own elaboration from Member States data submissions under the 2025 Social data call

Non-EU/EEA workers showed the strongest growth, increasing from 2 to 58 persons (+2 800%), while EU nationals grew from 8 to 49 persons (+513%). This modest but rapid internationalization likely reflects labour shortages in specific fleet segments, particularly given the fleet's overall 14% employment growth. Nonetheless, the fleet's persistent national character distinguishes it from more internationalized European fleets and reflects Croatia's recent EU accession (2013), limited historical migration, and the dominance of small-scale family operations where Croatian language and local knowledge remain critical assets.

As for the inter-sectorial differences in foreign worker recruitment, both sectors remained nearly 100% Croatian in 2017 (LSF: 99.7%, SSCF: 99.8%), while foreign worker presence increased in both by 2023 (LSF: 98.1%, SSCF:

98.7%). The LSF shows slightly higher foreign worker penetration at 1.9% (47 workers) compared to SSCF's 1.3% (82 workers) in 2023. However, not only that SSCF employs more foreign workers in absolute numbers due to its larger workforce, but the comparable presence of migrant workers in SSCF is surprising also given the profile of the sector. While the LSF's higher foreign worker percentage aligns with its employment structure and its reported labour shortage challenges, particularly for skilled positions, it is interesting that the migrant labour has increased even in SSCF's owner-operated model.

These results confirm the rising importance of migrant work force, which was thus far only anecdotal. For instance, the National Fisheries Profile for Croatia, written in 2024 stated: “While according to the data from 2017, fishers were almost completely Croatian nationals, it is quite certain that the ethnic composition changed in the past 7 years with regard to the rise of the share of the migrant work force” ((European Commission: Directorate-General for Maritime Affairs and Fisheries & Cepić, 2025: 50). Regarding future prospects, it is likely that the need for migrant workers will continue to rise given the competition from tourism and other sectors of coastal economy which are driving wage pressures.

While specific countries of origin are not disaggregated for migrant workers, the structure of Non-EU/EEA workers potentially includes recruitment from Balkan countries, and Asian countries with prominent emigration to Croatia (e.g. the Philippines). Foreign workers in LSF likely receive wages rather than catch shares given the sector's salaried employment model, though data on payment structures by nationality are not explicitly reported.

9.4.7 Gender

Gender representation in Croatian fisheries reveals sectoral divergence. Between 2017 and 2023, the fishing fleet (onboard vessels) remained overwhelmingly male at 92.3% (8 299 men versus 688 women) in 2023, though women's representation increased from 6.3% in 2017 to 7.7% in 2023, with female employment growing 38.4% compared to 12.3% male growth over this period.

Unpaid labour by gender

Following the DCF definition of unpaid labour as engaged crew not receiving wages, salaries, or remuneration in kind—including people working only onshore if their activity has a direct link with fishing operations—Croatia reported 5 142 unpaid workers in the fishing fleet in 2023, comprising 57.2% of the 8 987-person fleet workforce. Gender disaggregation reveals 4 607 male unpaid workers (89.6% of unpaid labour) and 233 female unpaid workers (4.5%), with 302 workers (5.9%) of unknown gender.

In 2017, fleet unpaid workers numbered 4 135 (52.4% of total fleet employment), comprising 3 789 males (91.6%) and 346 females (8.4%). Hence, fleet unpaid labour increased in absolute terms from 4 135 to 5 142 persons

(+24.4% or +1 007 workers) between 2017 and 2023 and rose as a workforce share from 52.4% to 57.2%.

With regard to gender dynamics, female unpaid workers declined by 32.7% (from 346 to 233 persons, a loss of 113 women), while male unpaid workers surged 21.6% (from 3 789 to 4 607, a gain of 818 men). As a proportion of total female fleet employment, unpaid work dropped dramatically from 69.6% in 2017 to 33.9% in 2023, indicating either (1) formalization of women's work relationships through wage employment, (2) exit of unpaid women from fleet-related activities, or (3) exclusion of women's shore-based contributions that were previously counted as having “direct links to fishing operations”. In contrast, male unpaid labour increased from 51.3% to 55.5% of male employment, suggesting growing informalization or expansion of family-based male fishing operations, particularly in the SSCF owner-operator segment.

Croatia has transposed Directive 2010/41/EU into its national law. The legal reference is: Zakon o ravnopravnosti spolova (Act on Gender Equality), Official Gazette Nos. 82/08 and 69/17. The 233 women working unpaid (including shore-based workers with direct fishing links) represent potential beneficiaries of Article 7 (social protection for spouses of self-employed fishers) and Article 8 (maternity benefits).

Social aspects in Fisheries

9.4.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Croatian fishing fleet reported an average annual labour cost of EUR 11 432 per FTE in 2023, well below the EU average (EUR 29 447 per FTE). This represents a 34% increase since 2013, which is a faster increase than the EU as a whole (+22%).

Table 40. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	8 551	9 138	9 620	10 646	10 315	11 034	12 178	11 460	11 483	10 747	11 432
National average				24 990				28 805	28 726	28 124	29 802
Ratio of fishing labour cost to national average				0.43				0.40	0.40	0.38	0.38

Source: Own elaboration from MS data submissions under the 2025 Fleet Economic Data Call and Eurostat’s hourly wages and hours worked. All values inflation-adjusted to 2023.

This wage applies to paid workers, who comprised 3 845 persons (43% of the 8 987 workforce) in 2023, with 87% of large-scale fleet (LSF) crew being paid

employees versus predominantly unpaid owner-operators in small-scale coastal fleet (SSCF).

This fishing labour cost is 36% higher than the national minimum wage (EUR 8 400) but 62% lower than the average labour cost across the national economy (EUR 29 802). This difference contributes to recruitment difficulties and competition from better-paying sectors like tourism.

However, this labour cost likely underestimates actual earnings in fisheries due to underreporting. Moreover, about 57% of workers (5 142 individuals, mainly SSCF owner-operators) are unpaid in formal terms. They do not receive regular wages but instead earn income from net revenues after covering operating costs—typically, again, well above the reported average wage. As a result, direct wage comparisons are difficult for more than half of the workforce.

With regard to gender, as analysed in the section 9.4.7, 5 142 workers (57.2% of fleet) were unpaid in 2023, comprising 4 607 males (89.6%) and 233 females (4.5%), with 302 of unknown gender. Unpaid workers increased 24.4% (2017-2023) in absolute terms and rose from 52.4% to 57.2% of the workforce. However, female unpaid workers declined 32.7% (346→233) while male unpaid surged 21.6% (3 789→4 607). Hence, female unpaid labour dropped from 69.6% to 33.9% of all female employment, signalling formalization of women's work, while male unpaid labour increased from 51.3% to 55.5%.

The growth in unpaid labour contradicts typical development patterns and likely reflects: (1) expansion of SSCF multi-activity fishing (where 58% of revenue comes from non-fishing sources like tourism), (2) aging “for personal needs” segment persistence (99% unpaid retirees), and (3) family business structures resisting wage formalization.

Working conditions

Total Working hours from AER: Working hours in the Croatian fishing fleet can be estimated from the employment-to-FTE ratio of 2.81:1, indicating that the average worker contributes about 35.6% of a full-time schedule. Based on a standard European full-time workload (40 hours per week, accounting for holidays), this suggests that LSF workers operate at roughly 69% of full-time capacity, while SSCF workers average only 23%. However, SSCF figures are strongly affected by the “for personal needs” segment, where 3 668 individuals account for just 206 FTEs (a ratio of 17.8:1). This corresponds to approximately 112 hours of work per person annually-consistent with occasional, subsistence-level fishing by retirees.

The AER reports LSF vessels averaging 122 days at sea in 2023 and L12AG vessels 103 days, while SSCF conducts predominantly one-day coastal trips. These “days at sea” represent variable working hours depending on method, with LSF purse seiners often conducting 12-16 hour overnight shifts while SSCF day-trips may involve only 4-8 hours of actual fishing.

The AER (STECF, 2025) reported that working hours showed deterioration between 2022 and 2023, with employment increasing 14% while FTEs

simultaneously decreased 4%. According to the AER, this indicated declining average hours per worker and growing workforce fragmentation driven by crew turnover, recruitment difficulties, and forced reductions in fishing opportunities due to poor stock status.

LSF fishing effort declined 23% compared to the 2013-2022 average, with a further 10% reduction in 2023, as management measures implementing spatio-temporal closures compressed fishing into shorter seasons and forced fishers to "operate in unfavourable weather conditions" when permitted. However, the gap between fishing hours and national standards partly reflects structural features rather than pure underemployment: 58% of SSCF revenue derives from non-fishing sources (pesca-tourism, maritime transport, aquaculture), making reduced fishing hours a deliberate diversification strategy, while the aging workforce ("for personal needs" retirees averaging 65+ years) fishes occasionally for supplementary income rather than full-time livelihoods.

Social security

Croatian fisheries operate under the general national social security system applicable to all sectors, with no separate special regime for fisheries or agriculture-based coverage. Fishers receive standard health insurance, pension system access, and unemployment benefits, but employed crew working onboard benefit from advantageous early retirement provisions: each year of onboard work experience counts as 1 year and 3 months toward retirement eligibility, allowing retirement approximately 4 years earlier for every 16 years worked at sea. Notably, this provision excludes self-employed vessel owners. Furthermore, while 17% of fishers are over 65 years old, this mostly pertains to "for personal needs" segment (3 668 individuals, average age 65) where retirees fish occasionally for subsistence.

Employment structures differ markedly by segment: LSF is predominantly wage employment (80-87% paid workers) with permanent contracts providing stable access to full social security and early retirement benefits. On the other hand, SSCF is dominated by self-employment and unpaid family labour (84% unpaid, comprising self-employed owners, family workers, or retirees) who are covered by social security but ineligible for early retirement despite similar onboard working conditions.

Foreign workers have increased significantly (from nearly zero in 2017 to documented presence by 2024, with processing showing 5% foreign workers in 2020), but specific data on their social security coverage, payment structures (salary vs. catch-share), pension portability, and benefit equality with nationals are not available in NFP or DCF documentation, representing a critical knowledge gap given workforce internationalization trends.

Accidents on board

EMSA accident data (2016-2024) for Croatian fishing vessels reveals 29 reported incidents, with the most common hazards being: grounding/stranding

(7 incidents), collisions with other vessels (4 incidents), flooding/foundering (4), and capsizing/listing (2), with 59% of incidents involving 15-24m vessels—the core LSF segment.

The incidents resulted in 2 crew fatalities and 1 injury over the nine-year period. Based on these 2 fatalities over 9 years and an estimated workforce of approximately 9 000, the calculated fatality rate is 2.47 deaths per 100 000 workers annually. This rate is notably lower than the EU average for the combined agriculture, forestry, and fishing sector (5.5 per 100 000, Eurostat 2022) and well below high-risk sectors like mining and quarrying (10.2 per 100 000, Eurostat 2022) or construction (6.1 per 100 000, Eurostat 2022). However, Croatia's relatively favourable safety record compared to EU fishing averages likely reflects the protective effect of Croatia's SSCF-dominated structure (71% unpaid owner-operators with lower exposure), and sheltered Adriatic conditions compared to Atlantic/North Sea fishing grounds, rather than superior safety infrastructure.

Foreign flagged vessels

The topic of vessels under foreign flag owned by your national fishers is not applicable for Croatia.

9.4.9 Social demographics per fishing activities

Small Scale Coastal Fleet

The SSCF employed 6 525 engaged crew (1 488 FTEs), representing 73% of total fleet employment but only 46% of FTEs, yielding a 4.38:1 employment-to-FTE ratio that reflects extensive part-time, seasonal participation. The workforce averaged older (16.4% aged 65+) with 7.3% female representation and 98.7% Croatian nationals. 71% of SSCF workers (4 630 persons) were unpaid owner-operators and family members remunerated from net revenue rather than wages, making average wage calculations inapplicable for the majority. The segment generated EUR 14.4 million in landing value in 2023.

SSCF employment grew 13.3% (+765 workers) while FTEs increased only 3%, indicating workforce fragmentation with more individuals working fewer hours each. The segment underwent dramatic rejuvenation: youth employment (15-24) tripled (+259%) and young adults (25-39) nearly doubled (+149%), while the 65+ share dropped from 24% to 16%. Female workers increased 22%, and the workforce under 40 rose from 24% to 31%. Educational upgrading was pronounced, with medium-educated workers surging 73% to dominate 90% of the workforce. Despite stable national composition (98.7% Croatian), foreign workers increased from 14 to 82 persons. The SSCF's ability to attract younger workers contrasts sharply with LSF aging trends, likely due to SSCF's multi-activity model offering livelihood diversification and integration with coastal tourism.

L12AG

The L12AG segment, consisting of 452 vessels under 12 meters using active gears, is reported within LSF figures in social data but separately in economic data. The segment generated EUR 8.8 million in landing value in 2023 with 46 770 fishing days (103 days per vessel average). Social demographics are not separately reported in DCF submissions and are included within overall LSF figures, making precise workforce characterization impossible. However, the AER (STECF, 2025) indicates the segment demonstrated relative economic resilience with EUR 17.8 million GVA and EUR 13.5 million gross profit despite a 10% decline in fishing days compared to 2022, suggesting stable crew employment and reasonable wage levels within the broader LSF context.

L12AG social demographics cannot be separately tracked as this subfleet designation only became distinct in 2025 DCF reporting. Historical data from 2017 aggregated L12AG within general LSF figures. Economic indicators show a 10% decline in landing value (2017-2023) alongside reduced fishing effort, though the segment maintained profitability better than larger LSF vessels. The inability to disaggregate L12AG social data represents a methodological limitation preventing assessment of whether this intermediate segment (smaller than typical LSF but using active gears) exhibits SSCF-like characteristics or LSF patterns.

Large Scale Fleet

The LSF employed 1 589 engaged crew (1 713 FTEs), representing 27% of total fleet employment but 54% of FTEs, yielding a 1.44:1 ratio indicating near-full-time professional fishing. The workforce was younger (3.9% aged 65+) with 8.6% female representation and 98.1% Croatian nationals—the highest foreign worker concentration at 1.9% (47 persons). Employment structure reversed SSCF patterns: 87% of LSF crew were paid workers, with average wages likely exceeding the fleet average of EUR 11 432 per FTE given full-time status, though precise LSF-specific wages are not separately reported. The segment generated EUR 47.9 million in landing value (67% of total fleet value) in 2023 despite comprising only 13% of vessels, reflecting capital-intensive purse seine and trawl operations targeting small pelagic species.

LSF employment grew 15.6% (+332 workers) despite vessel capacity contracting 27%, indicating increased crew requirements per vessel or vessel consolidation. However, FTEs declined 10%, suggesting some shift toward part-time arrangements even in traditionally full-time LSF. The segment experienced workforce aging: the 65+ population increased 81% (from low base), workers under 40 declined 31%, and middle-aged workers (40-64) now dominate 62% of the workforce. Female workers grew 43% despite overall male workforce contraction. Foreign workers increased from 4 to 47 persons, concentrated in this segment due to paid employment opportunities and skilled labour shortages. Landing values declined 13% reflecting small pelagic stock depletion and management restrictions.

Distant Water Fleet

Not applicable to Croatia. The Croatian commercial fleet operates solely in the Northern Adriatic Sea within territorial waters and EEZ.

9.4.10 Trends and challenges

Marine Spatial Planning and Competition for Space. Croatia faces growing competition for marine space amid a Mediterranean "blue Gold Rush," with expanding tourism, shipping, aquaculture, and offshore energy sectors (NFP, p. 71). Although Croatia declared its Exclusive Economic Zone in 2021 and plans to finalize an EEZ spatial plan by 2030 (targeting 10% strict and 30% other protections), the Marine Spatial Planning (MSP) process remains incomplete. Conflicts among fishing segments are already evident: overlapping areas and times create tension between large-scale, small-scale, and recreational fishers, including trawlers damaging passive gears in restricted zones. While MSP frameworks exist under EU Directive 2014/89/EU, Croatia has yet to adopt a comprehensive plan beyond territorial waters (NFP, p. 44). The adaptive capacity of fishing communities depends on their involvement in planning, yet co-management remains limited despite proven benefits.

***Fisheries Restricted Areas and Stock Management*.** The Jabuka/Pomo Pit FRA (est. 2017) is a key case for adaptive capacity. It bans bottom trawling and set gears to protect hake and Norway lobster nurseries. Surveys show strong fisher support—over 60% of LSF and 80% of SSF fishers (NFP, p. 69). Experts report biomass recovery and spillover benefits for demersal and pelagic stocks. The case illustrates that evidence-based closures with visible stock recovery gain acceptance despite short-term costs. However, acceptance of further regulation tools hinges on local benefits and effective communication with fishers.

IUU Fishing and Enforcement Capacity. Illegal, Unreported, and Unregulated (IUU) fishing remains "highly present" in Croatia (NFP, p. 46), undermining management and fair competition. Despite legal frameworks and VMS, enforcement capacity is weak—31 inspectors oversee 31 000 km² of sea and 6 000 km of coast. IUU spans commercial underreporting and illegal sales by recreational fishers, with as little as 60% of SSF catches documented (NFP, p. 14). Monitoring is particularly difficult in small, dispersed SSCF operations.

Landing Obligation and Discard Ban. The EU landing obligation faces resistance among Croatian fishers, who view it as impractical and costly. Landed bycatch cannot be sold and must be destroyed, reducing gear lifespan and catch quality (NFP, p. 48). Calls for circular bioeconomy uses, such as fishmeal production, face infrastructure gaps. The challenge is compounded by multispecies fisheries—45% of vessels are multipurpose—making compliance complex and economically burdensome.

Climate Change and Environmental Pressures. Climate change, rising sea temperatures, and acidification increase vulnerability of Adriatic fisheries, with cumulative pressures from expanding maritime sectors predicted to "decrease

overall resilience” (NFP, p. 71). Nearshore SSCF species are especially overexploited (NFP, p. 15). Adaptation capacity is limited by poor port infrastructure, lack of ice and cold storage, and minimal equipment among vessels under 6 m.

Value Chain Integration and Cooperative Development. Adaptive capacity depends partly on collective organization. Croatia’s 5 Producer Organizations and 23 cooperatives remain underutilized (NFP, p. 5). Successful examples like Omega 3 cooperative show the benefits of vertical integration and own processing facilities, but many SSCF fishers are dependent on traders.

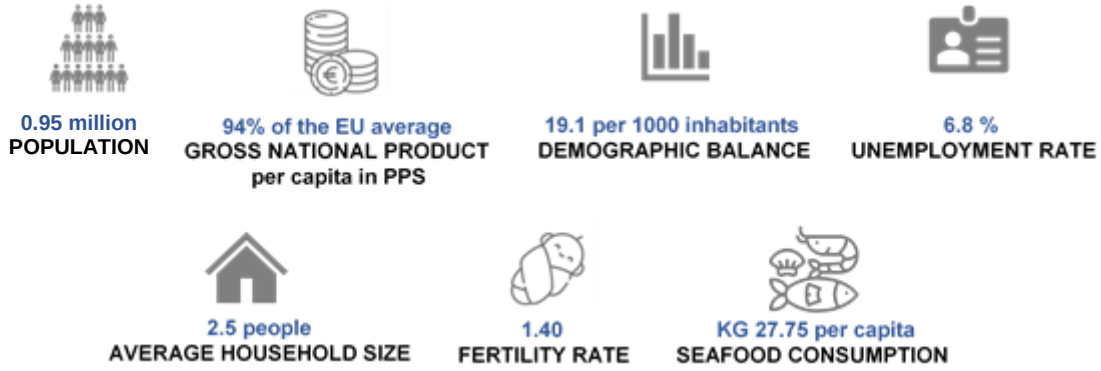
9.4.11 Methodological considerations and data issues

For Croatia, the National Focal Point is Ivana Vukov, national correspondent for data collection at the Ministry of Agriculture, Forestry and Fisheries (Directorate of Fisheries).

9.5 Cyprus

9.5.1 Snapshot of Cyprus

Figure 42. Cyprus in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Cyprus has a population of about 949 084 people (2023). It enjoys a relatively high standard of living, with a per capita gross national product at EUR 94 in purchasing power parity. The demographic balance shows a positive trend (+19.1 thousand), reflecting modest population growth, while the unemployment rate remains relatively high at 6.8%. The average household rate is at 2.5 persons and the fertility rate stands at 1.40 children per woman, indicating demographic challenges and an ageing population. Despite the small size of its fishery sector, Cyprus is among the EU Member States with the highest seafood consumption per capita, measured in live weight per capita per year, reaching 27.75 kg per person per year. Seafood plays a strong cultural and dietary role, reflecting the island's coastal character and dependence on marine resources.

9.5.2 Short description of the fishing

In 2023, there were 774 registered active vessels (excluding those registered in the aquaculture segment), with a total capacity of 3 331GT and 36 203 kW. The capacity of the national fleet has decreased since 2013 due to decommissioning schemes aiming at the reduction of fishing effort. The estimated total number of inactive vessels in 2023 was 73, the majority of which (85%) are in less than 12m-length segments.

The population in Cyprus is only the 0.10% of the EU population. The Cyprus fleet is very small since it represents only the 1.34% of the total EU fishing fleet. Furthermore, the fishery sector contributes minimally to the Gross National Product of Cyprus. Nonetheless, it plays a crucial role in fisheries-dependent regions by providing direct employment opportunities for vessel owners and crew members, as well as auxiliary services such as fishmongers, gear repair,

vessel repair and construction. Additionally, families of fishers assist in netting the catch, and fishery tourism is particularly prominent during the summer season. The sector also significantly supports related activities, including fish taverns and restaurants.

Compared with the EU, Cyprus' fishing fleet represents approximately:

< 0.2% of the total EU fleet (by number of vessels)

< 0.1% of EU fisheries employment

0.2% of EU seafood landings by value

The fishing fleet related with the active vessels can be divided into a LSF consisting of vessels over 12 metres length overall and SSCF consisting of vessels of less than 12 metres length overall. 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 2022 and in 2023 in terms of number of vessels and employment. In addition, it represents 40% of the total weight of landings and accounts for 49% of total value of landings in 2023. (STECF AER, 2025).

The SSCF is mainly operated using bottom set nets and bottom longlines, targeting demersal species. Cyprus Fisheries Law[37] provides for a limited number of licenses for this segment annually and divides it into three subcategories: vessels with fishing license category A' (full-time activity in fisheries), vessels with fishing license category B' (part-time activity in fisheries) and vessels with fishing license category C' (periodic activity in fisheries). The professional fishing license category C' was introduced by a new national law in 2008 and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish only a total of around 100 days each year. Consequently, their income from fisheries activities is too low. Thus, this new professional licence category with the low fishery activity was not grouped in the same category with the professional licences of category A' and B'. The vessels with fishing licence categories A' and B' belong to the fleet segment PG 0-6m and PG 6-12m whereas, the vessels with fishing licence category C' belong to the fleet segment PGO 0-6m and PGO 6-12m.

The LSF is mainly composed of polyvalent vessels with passive gears and few trawlers fishing in international and territorial waters.

Gross Value Added (GVA) increased by +32% to EUR 3.3 million (from EUR 2.5 million in 2022), showing a +15% rise compared to the 2013-2022 period. In 2023, the total number of people employed was estimated at 1 231 persons (1 233 in 2022 and 1 280 in 2020) and the number of FTE decreased to 744, compared to 763 in 2022 and 793 in 2020. (STECF AER, 2025).

The total weight of seafood landed, including production from the bluefin tuna purse-seiner, reached 1 190 tonnes, a decrease of 6% (1 269 tonnes in 2022), with a value of EUR 7.51 million in 2023 (EUR 7.85 million in 2022),

[37] 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.

representing a decrease of 4% compared to 2022. The landed weight per sea day (kg/day) decreased to 22 kg/day in 2023 (nearly 27 kg/day in 2022), continuing its declining trend (34 kg/day in 2017). (STECF AER, 2025).

Socially, the fisheries workforce remains through the years predominantly male by nearly 99%. The participation of women in the fisheries sector is stable during the years 2017-2023. The Cyprus fleet is largely composed by nationals (88%). Notably, in the SSCF both owners and assistants are all Cypriots or EU nationals. The non-EU nationals are employed only in LSF segments and the overwhelming majority are Egyptians. The majority of the fishers (more than 60%) are aged 40-64 years old. Young fishers under 39 years old, employed in fishery are around 21% only whereas, the ones older than the age of 65 are 23%.

Table 41. Cyprus summary table

	Units	**2023**			**% Δ 2023-2017**		
Indicator	**Units**	**Overall**	**SSCF**	**LSF**	**Overall**	**SSCF**	**LSF**
Total employment	Number	1231	1078	153	7.7	10.79	-10
FTE	Number	744	600	144	7.82	15.83	-16.28
Active vessels	Number	774	740	34	1.18	1.65	-8.11
Landings by weight	Thousand tonnes	1.19	0.48	0.71	-31.43	-39.13	-24.89
Landings by value	Million €	7.5	3.7	3.8	-27.24	-40.45	-6.73
Aging work force: >=65 in workforce	%	23	22.18	0.32	56.83	-58.73	63.54
Gender: women in workforce	%	1.22	1.14	0.08	-715	-715	-715
Nationality: nationals in work force	%	89	86.76	2.19	2.29	3.19	-24.03

Source: Own elaboration from Member States data submissions under the 2025 Social data call and the 2025 Fleet Economics data call.

Overall, the personnel costs (wages and salaries) in the fisheries sector are too low, especially the ones related to the unpaid labour of the SSCF. Yet, the data on this fleet segment should be interpreted with caution. The wage is fixed in full employment conditions. Therefore, it depends on the size of the fishing activity. As explained above, the licenses of the SSCF segment are divided into three subcategories: category A' (full-time activity in fisheries), category B' (part-time activity in fisheries) and category C' (periodic activity in fisheries). Especially, the latter is of very limited fishing activity, estimated at average of around 20-25 fishing days per year per vessel. Consequently, the value of unpaid labour is very low. Due to the fact that the unpaid labour share to total labour is 63% (2023) it drives the total wages of the Cyprus fleet segment downwards.

As for the education level, in 2023 the majority of the fishers (48%) are of low and medium education level, whereas the minority, only 10%, has high education level. The information for the rest of the fishers, around 40% is unknown.

9.5.3 Social demographics in Fisheries

The Cypriot fisheries workforce faces demographic and structural challenges. While overall employment levels have remained stable since 2017, the sector shows clear signs of ageing and limited generational renewal. Employment remains male-dominated and largely composed of Cypriot nationals.

9.5.4 Employment in Fisheries

Total Employment

In 2023, total employment in the Cypriot fisheries sector was 1 231 people, equivalent to 774 FTEs. Employment remained stable compared with 2022, though increased by around 7.7% compared to the period 2017–2023 average. The main reason for the increase is the lower number of active vessels in 2017 and also the lower number of assistants in SSF.

The majority of employment is concentrated in the SSCF (95% of jobs), often in family-based operations with mixed full-time and part-time status. Employment in the LSF is seasonal and more formal, with wage-earning crew.

Table 42. Total Employment Trend (2017-2023)

	2017	2020	2021	2022	2023	Δ 2023-2017
Total employment	1143	1280	1227	1233	1231	▲ 8%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Full-Time Equivalent

In 2023, the total jobs corresponded to 744 FTEs, a decrease of 2.5% compared to 2022 (763 FTEs), meaning that there were more part-time employees in 2023 than in 2022. A significant increase of 7.8% is considered over the period 2017-2023.

Table 43. Employment Trend (2017-2023)

	2017	2020	2021	2022	2023	Δ 2023-2017
FTE	690	793	755	763	744	▲ 8%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Employment status

Most Cypriot fishers are self-employed or family workers, especially within the SSCF. Their number is stable between the years 2017-2023 at about 763 persons.

Crew members on larger vessels are often hired on short-term basis, reflecting the small-scale nature of the industry. Actually, the overwhelming majority of the crew comes from third countries (mainly Egypt) for as long as the duration of large pelagic fishery (swordfish, bluefin tuna and albacore) lasts.

The share of full-time equivalent (FTE) workers, who are not owners, is around 10% of total employment, with seasonal peaks during spring and summer.

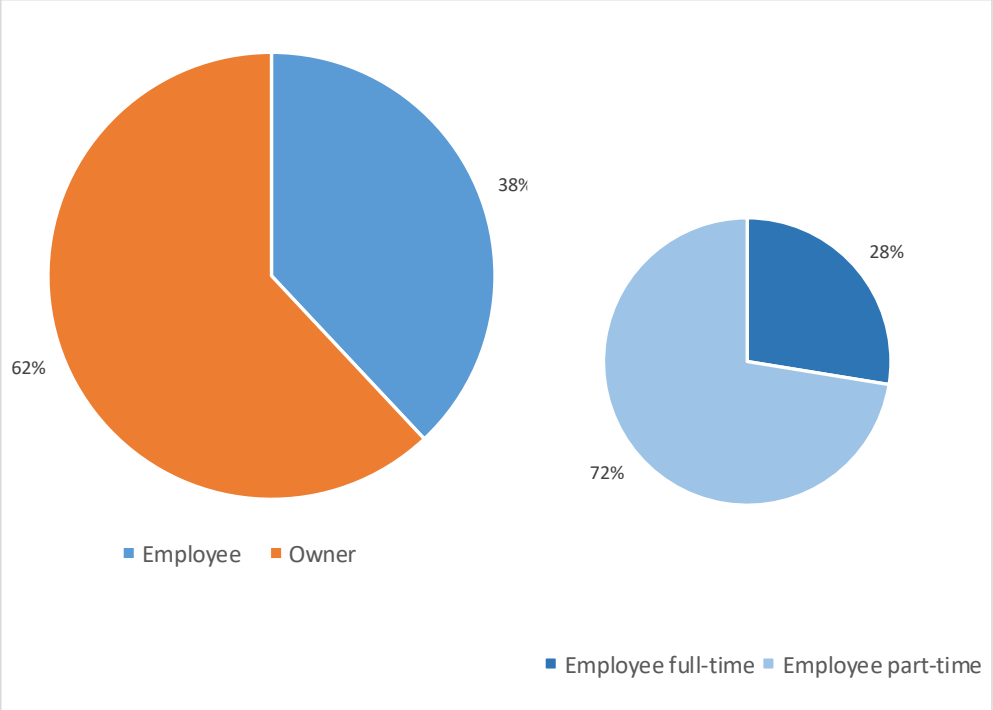
Over the same period 2017-2023, the number of part-timers increased considerably by nearly 45%. The part-timers are usually the assistants of the owners in SSCF. The persistence of part-time and occasional labour in the SSCF highlights both economic vulnerability and the multifunctionality of coastal livelihoods, where fishing often complements other income sources.

Table 44. Employment Status by owners and employees (full-time and part-time)

	2017	2020	2021	2022	2023	Δ 2023-2017
Employee full	143 (13%)	166 (13%)	146 (12%)	160 (13%)	129 (10%)	-10%
Employee part	234 (20%)	341 (27%)	309 (25%)	298 (24%)	339 (28%)	45%
Owner	766 (67%)	773 (60%)	772 (63%)	775 (63%)	763 (62%)	0%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 43: Cyprus: Employment by employment status and year



Source: Own elaboration from Member States data submissions under the 2025 Social data call

9.5.5 Demographics of the Workforce

Age

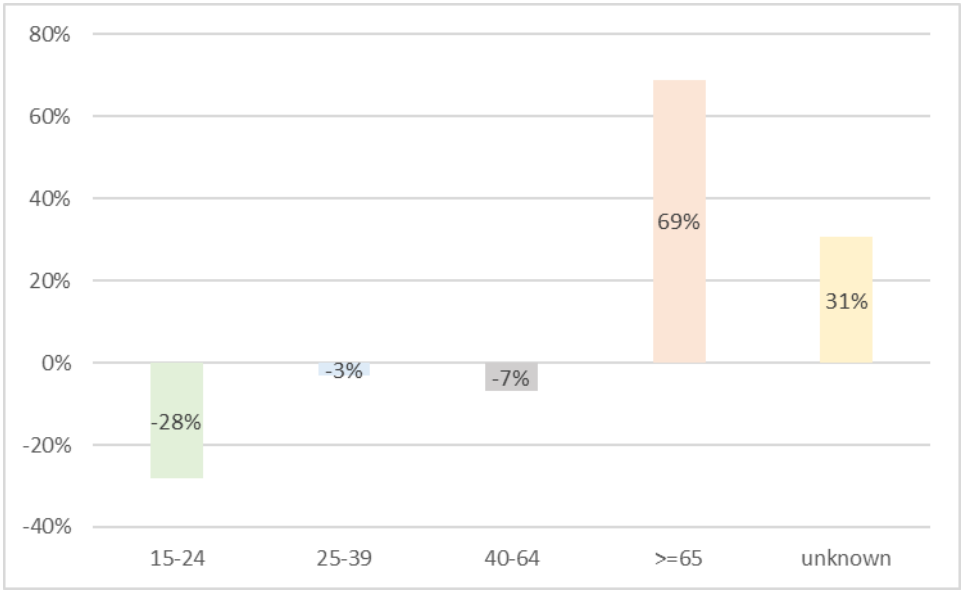
The age structure of Cyprus workforce indicates some interesting results on the table below. The ageing of the workforce is a key concern in Cypriot fisheries. In 2023, a high percentage of workforce remains active beyond the retirement age, since 23% of fishers were aged 65 or above, showing an increasing trend 14% in 2017, 18% in 2020 and 23% in 2023 to total employment. The 40-64 age group remains the largest one, representing 45% of total employment in 2023, while only 21% were the fishers under 39 years old. This pattern shows structural and socioeconomic constraints. Recruitment of young fishers remains very limited, largely due to low economic attractiveness and alternative employment in tourism and services. Most of the young fishers entered this profession through family succession.

Table 45. Cyprus overview by age

	2017	2020	2021	2022	2023	Δ 2023-2017
15-24	32 (3%)	45 (4%)	40 (3%)	51 (4%)	23 (2%)	-28%
25-39	246 (22%)	282 (22%)	224 (18%)	284 (23%)	238 (19%)	-3%
40-64	593 (52%)	606 (47%)	606 (49%)	609 (49%)	552 (45%)	-7%
>=65	164 (14%)	225 (18%)	241 (20%)	161 (13%)	277 (23%)	69%
Unknown	108 (9%)	122 (10%)	116 (9%)	128 (10%)	141 (11%)	31%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 44: Cyprus: Change in fishers workforce by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social data call

The ageing pattern, shown above, interacts with the male dominance of the workforce. This great gender imbalance, the female workforce represents only the 1% of the total workforce, together with the unattractiveness of the fishery profession undermine the renewal of the sector.

9.5.6 Workforce education and training

Education

Table 46. Employment by Education Level

	2017	2020	2021	2022	2023	Δ 2023-2017
High	55 (5%)	80 (6%)	110 (9%)	105 (9%)	126 (10%)	129%
Medium	189 (17%)	224 (18%)	328 (27%)	374 (30%)	300 (24%)	59%
Low	190 (17%)	148 (12%)	263 (21%)	405 (33%)	296 (24%)	56%
unknown	709 (62%)	828 (65%)	526 (43%)	349 (28%)	509 (41%)	-28%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

The above table shows the educational profile of the Cyprus workforce. Basically, the unknown information reduced greatly by more than 28% in 2023, showing not only improved reporting but also providing a clearer picture of the educational level of the Cyprus fishery sector. The part of the decrease of the unknown information was shared between the three levels of education. Thus, no safe conclusions can be taken in regards to the trend.

In 2023, the lowest share (10%) comes from the high level of education, whereas the medium and low educational level enjoy the same share at 24%, indicating that the very-well educated persons do not prefer this very difficult and insecure profession. The fact that this profession is not attracted to well-educated person together with ageing population show the structural problems of the sector.

Training

In Cyprus there are no training requirements for becoming a professional fisher. It is not obligatory to hold any certification or training in order to fulfil the requirements and criteria to apply for such a licence.

Nationality

Employment by nationality

The educational profile of the workforce of the Cyprus fishery sector reveals the dominance of the nationals against the Europeans or the employees from third countries. The Cypriot fishing fleet is primarily composed of national fishers (89%), with a small share of foreign workers, mostly from neighbouring Mediterranean countries, mainly from Egypt. Actually, the employees from third countries make up around 8% of the workforce and almost all of them are the

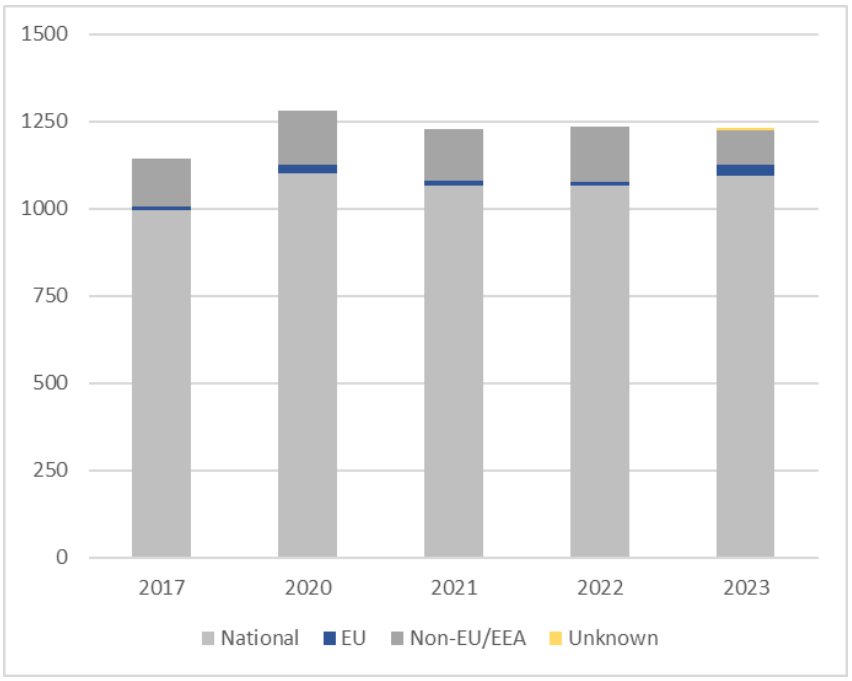
crew of the large-scale vessels. The number of Non-EU/EEA employees is reduced by 3.72% during the period 2017-2023. Employers of large-scale vessels complain that they find it extremely difficult. These foreign workers are on monthly salary contracts instead of catch share as it happens in the case of assistants in SSCF.

Table 47. Relative change in employment per nationality category (nationality, EU, EEA, non-EU/EEA) between 2017 and 2023 (in %)

	2017	2020	2021	2022	2023	Δ 2023-2017
National	994 (87%)	1100 (86%)	1066 (87%)	1064 (86%)	1095 (89%)	10%
EU	13 (1%)	25 (2%)	15 (1%)	12 (1%)	31 (3%)	138%
Non-EU/EEA	136 (12%)	155 (12%)	146 (12%)	157 (13%)	97 (8%)	-29%
Unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	8 (1%)	-

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Figure 45: Cyprus: Employment by nationality and year



Source: Own elaboration from Member States data submissions under the 2025 Social data call

9.5.7 Gender

The composition of the workforce by gender reveals that the fishery sector in Cyprus is highly male-dominated and also that it is strengthen through the years as it can be seen form the 7.8% increase of the male composition during the period 2017-2023. Women represent less than 2% of total employment in capture fisheries. Their participation at sea is rare and their share has no change at all.

The female presence at sea based on the gender distribution is one of the lowest among the EU Member States and certainly much lower than EU average. Women are mostly engaged in shore-based unpaid work such as net mending, administration, gear preparation and fish sorting. Despite that these activities by women are considered important for the day-to day fishing operations especially in small scale- fishery, they are unrecorded and thus, their contribution is underestimated and mostly ignored. This situation persists because Directive 2010/41/EU of the European Parliament and of the Council, which recognizes women's contributions, is not effectively implemented in practice, even where it has been transposed into national law. Consequently, women's contributions to fisheries remain largely invisible and undocumented.

The following section develops unpaid labour, which applies exclusively to owners of small-scale fishing vessels working onboard without any financial compensation. So, wives or partners contribution on-land is not included.

Table 48. Composition of the labour force by gender in Cyprus from 2017 to 2023 and the relative change between 2023 and 2017 (in %)

	2017	2020	2021	2022	2023	Δ 2023-2017
Female	15 (1%)	16 (1%)	17 (1%)	20 (2%)	15 (1%)	▲ 0%
Male	1128 (99%)	1264 (99%)	1210 (99%)	1213 (98%)	1216 (99%)	▲ 8%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Unpaid labour by gender

Unpaid labour is the engaged crew that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind.

Table 49. Unpaid Labour by gender

	2017	2020	2021	2022	2023	Δ 2023-2017
Female	32 (3%)	15 (1%)	15 (1%)	19 (2%)	14 (1%)	▼ -56%
Male	975 (97%)	1085 (99%)	1053 (99%)	1044 (98%)	1084 (99%)	▲ 11%

Source: Own elaboration from Member States data submissions under the 2025 Social data call

Social aspects in Fisheries

9.5.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter. The Cypriot fishing fleet reported an average annual

labour cost of EUR 2 500 per FTE in 2023, the lowest among any EU fishing fleet despite trending upwards over time. This labour cost is also well below both the national minimum wage, national average wage, and just 6% the value of the average labour cost in Cyprus.

Table 50. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	1 217	1 306	1 629	2 020	1 839	1 737	2 648	2 257	2 744	2 425	2 500
National average				37 190				40 615	39 871	40 031	41 392
Ratio of fishing labour cost to national average				0.05				0.06	0.07	0.06	0.06

Source: Own elaboration from Member States data submissions under the 2025 Fleet Economic Data Call and Eurostat's hourly wages and hours worked. All values inflation-adjusted to 2023.

Caution needs to be taken in interpreting this data, as the fisheries wages do consider fishing effort and thus include 'recreational' activity. As explained above in the description of the fishing sector, the SSF is by far the most significant sector in Cyprus in terms of number of vessels and fishers. The SSF consists of three professional fishing license categories with different levels of fishing activity. The professional fishing license category C' was introduced by a new national law in 2008 and based on this law their fishing activity is performed on a periodic basis since they are allowed to fish a maximum of around 100 days each year and real fishing effort is on average around 20-25 fishing days per year, per vessel. Consequently, fishing wages for this category are low and bring the average fishing wage down for the whole fleet.

Working conditions

Total Working hours from AER

Table 51. Average working hours per worker

	2017	2020	2021	2022	2023
Working hours	221.13	167.40	203.93	195.56	219.85

Source: Own elaboration from Member States data submissions under the 2025 Fleet Economic data call.

With the exception of 2020, the working hours are more or less steady.

Social security

Fishing remains a physically demanding and risky occupation. Total working time in large pelagic fishery typically exceeds 40 hours per week during the active season when targeting ALB, SWO and BFT.

Cyprus fishers are covered by the General Social Insurance Scheme (common to all sectors). There is no separate marine fisheries regime. Self-employed owners and crew must contribute individually. Retirement age is 65 years, though many small-scale fishers continue working beyond that age. Foreign

workers in polyvalent vessels and trawlers who all of them are from third countries (Egypt) are employed under wage contracts and have the same medical rights as nationals. On the other hand, the small-scale owners who are considered self-employed and their assistants are mainly, paid through shared payment. In Cyprus, there are no cooperative agreements in fishery sector. The owners on board crew are very few and these are also considered self-employed.

Accidents onboard in terms of number of injured and fatalities are shown on the table above. Over the period 2011-2023 there were very few accidents at sea by vessels flagged to Cyprus and none of them was very serious or serious. Actually, there was one accident which was not serious and two marine incidents.

Foreign flagged vessels

There are no data for vessels under foreign flag owned by Cypriot fishers.

9.5.9 Social demographics per fishing activities

Table 52. Social demographics (gender, education, age, employment status and nationality) per fishing activities (SCF and LSF) over the years (2017, 2020 and 2023) in Cyprus

	LSF			SSF		
	2017	**2020**	**2023**	**2017**	**2020**	**2023**
Gender						
Female	1	1	1	14	15	14
Male	169	196	152	959	1068	1064
Age						
>=65	9	8	4	155	217	273
15-24	11	8	9	21	37	14
25-39	87	112	92	159	170	146
40-64	62	57	43	531	549	509
Unknown	1	12	5	107	110	136
Education						
High	1	11	6	54	69	120
Low	122	71	118	68	77	178

Medium	25	43	20	164	181	280
Unknown	22	72	9	687	756	500
Nationality						
EU	2	5	30	11	20	1
National	33	38	27	961	1062	1068
Non-EU/EEA	135	154	96	1	1	1
Unknown	0	0	0	0	0	8
Employment Status						
Employee full	143	166	129	0	0	0
Employee part	0	0	0	234	341	339
Owner	27	31	24	739	742	739
FTE per Gender						
Female	1	1	1	6	8	7
Male	171	181	143	512	603	593
Unpaid per Gender						
Female	0	0	0	32	15	14
Male	34	17	20	941	1068	1064

Source: Own elaboration from Member States data submissions under the 2025 Social data call

9.5.10 Trends and challenges

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 activities like fish taverns and restaurants. 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.

The challenges facing the Cypriot fisheries sector are deeply rooted in structural and generational dynamics, making targeted policy interventions essential. One of the most pressing issues is the ageing workforce: almost a quarter of all fishers are now over the age of 65, while generational renewal remains limited. At the same time, the level of youth engagement in the sector is low, largely because there are very few vocational training opportunities or incentives capable of attracting young people to this very difficult profession. Economic vulnerability is another defining characteristic, particularly for small-scale fishers whose income fluctuates significantly due to the seasonal nature of fishing activities and the instability of market prices. The sector is also marked by a pronounced gender imbalance, with women's participation remaining minimal and typically confined to roles carried out off the boat. This highlights the need for more inclusive policies that encourage and support women's involvement across the full spectrum of fisheries-related work. Furthermore, important gaps exist in education and training, ranging from maritime safety to digital skills and the adoption of more sustainable practices—areas that are crucial for the transition to a modern, competitive, and environmentally responsible fisheries sector. Finally, Cyprus's fishing communities, although rich in cultural heritage and local identity, remain economically fragile. This underscores the importance of strengthening their resilience through comprehensive development policies that support both their social fabric and long-term sustainability. A critical cross-cutting issue is the limited capacity of both fleets and communities to adapt to the profound changes they face. Shifts in marine ecosystems, evolving market demands, regulatory adjustments, and the growing pressures of climate change all require a level of flexibility and strategic planning that many small-scale operators currently struggle to achieve. Without enhanced support structures—such as adaptive management tools, community-based development initiatives, and mechanisms that facilitate innovation—both fishers and coastal communities will find it increasingly difficult to respond effectively to these emerging realities.

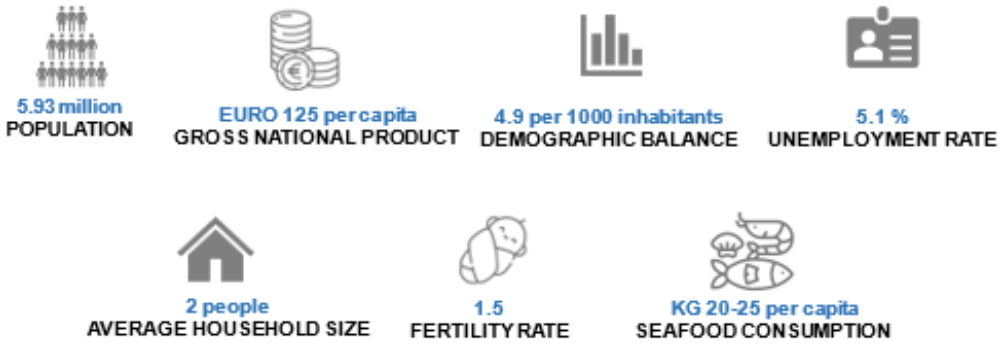
9.5.11 Methodological considerations and data issues

The most important tool that used is the post/face-to face interviews based on predetermined questionnaires. The methodology used for the collection of social data was the same as the one for the collection of economics data. Two main fishing technique categories are used for Census, which are: vessels using polyvalent passive gears only over 12 metres (PGP) and demersal trawlers (DTS). For the rest of fishing technique categories, the sampling scheme was Probability Sample Survey.There are no data quality issues.

9.6 Denmark

9.6.1 Snapshot of Denmark

Figure 46. Denmark in figures in 2023



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Denmark, a relatively high-income country with a well-developed welfare system, shows a stable yet modest demographic and economic profile in this 2023 snapshot. The demographic balance stands at 4.9 inhabitants per thousand, indicating a slight population growth driven by immigration. The fertility rate of 1.5 children per woman remains below the replacement level, aligning with trends in other developed nations. The average household size is small at 2 people, reflecting nuclear family structures. Economically, the GNP is EUR 125 per capita, with seafood consumption ranging from 20–25 kg of LWE per capita, indicating moderate dietary reliance on marine resources. The unemployment rate is 5.1%, suggesting a relatively healthy labour market within the broader context of the Danish economy.

9.6.2 Short description of the fishing sector

In 2023, there were 1 911 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 74 444 GT and 224 500 kW. Due to a new vessel counting methodology, it is impossible to compare the capacity of 2023 with previous years. The estimated total number of inactive vessels in 2023 was 752, the majority of which (75%) are in the less than 12m segments. Vessels between 24-40 metres and those over 40 metres constituted less than 3% of the total number of active vessels in 2023 but represented 70% of the total landings value. The largest landings in terms of value and weight in 2023 were made by pelagic trawlers over 40 metres in length, targeting species for human consumption (Atlantic herring, Atlantic cod, and Atlantic mackerel) and species for fishmeal and fish oil production (sprat, sandeel, and blue whiting) (STECF AER, 2025). Gears utilised among the active fleet included only passive gears (71%) and demersal trawls or seine or both (18%). A small

percentage (5%) employed dredge, pelagic trawl, or beam trawl (STECF AER, 2025).

In 2023, the Danish fleet landed 495 000 tonnes of seafood, with a real landing value of EUR 430 million, making a 4% increase in value compared to 2022. However, relative to 2020, the total landing weight decreased by 40% and the value by 16%. The rise in total landings in 2023 was primarily driven by industrial species, notably sandeel and blue whiting. Landings of key consumption species also rose—cod landings increased by 48%, largely due to an improved biological situation in the North Sea.

The decline in total landings since 2020 also reflects post-Brexit adjustments under the EU–UK Trade and Cooperation Agreement, which reduced Denmark's quota shares and access to certain stocks in UK waters—particularly for pelagic species such as mackerel and herring. Although the Danish fleet has maintained overall performance through efficient quota utilisation and diversification into industrial fisheries, these Brexit-related reallocations have reinforced structural concentration in the large pelagic and demersal segments and further consolidated activity in Northern Jutland, where most high-value landings and processing capacity are located (STECF EWG 25-07 (STECF AER, 2025); Hegland (2023), National Fisheries Profile of Denmark).

Between 2013 and 2023, the Danish fisheries sector experienced notable fluctuations in Gross Value Added (GVA). Overall, the data indicates a period of economic pressure and reduced profitability within Denmark's fishing industry.

Denmark's fisheries sector generated a gross value added (GVA) of EUR 278 million in 2023, based on total fleet revenue of EUR 442 million, resulting in a GVA-to-revenue ratio of approximately 63%. This indicates a relatively high value-added intensity within the fisheries economy itself. However, in macroeconomic terms the sector remains small: compared with Denmark's total national GVA—estimated at around EUR 250–300 billion across all sectors—fisheries account for roughly 0.1% of total national GVA, or about one-tenth of one percent (AER 2025, pp. 315–318).

In fleet terms, Denmark represents a moderate but structurally significant share of the EU fishing fleet. In 2023, the total EU fishing fleet comprised approximately 70 280 vessels, of which Denmark accounted for around 3.3% by number. Denmark's share is considerably higher when measured in capacity terms, representing about 9% of total EU gross tonnage (GT) and approximately 7% of total engine power (kW). This reflects the relatively capital-intensive structure of the Danish fleet, particularly in the large-scale and pelagic segments (AER 2025, Chapter 2.3).

From a demographic perspective, Denmark's population of 5 932 654 corresponds to approximately 1.3% of the total EU population. By contrast, Denmark's share of EU fisheries employment is substantially higher, indicating a degree of national specialisation in fisheries relative to population size. In 2023, total EU fisheries employment amounted to approximately 119 000 persons, or 73 974 full-time equivalents (FTE). Denmark employed an estimated 2 500–2 700 FTE, corresponding to roughly 3.5–3.7% of total EU

fisheries employment. This share is about three times higher than Denmark's population share, underscoring the continued relative importance of fisheries within the Danish labour market compared with the EU average. Employment levels have been stable or slightly declining since 2020, reflecting fleet modernisation and efficiency gains rather than sectoral expansion.

Summary of trends

Employment in Danish fisheries has remained broadly stable or slightly declining since 2020. This pattern reflects fleet modernisation and efficiency gains rather than sectoral expansion.

In summary, Denmark's total landings in 2023 were dominated by the large-scale fleet (LSF), while the SSCF and L12AG contributed smaller but regionally significant volumes — about 2 000 tonnes and 1 000 – 2 000 tonnes, respectively, in the North and Baltic Sea areas.

Table 53. Denmark summary table.

	Units	**2023**				**Δ 2017-2023**			
Indicator	Units	Overall	SSCF	L12AG*	LSF	Overall	SSCF	L12AG	LSF
Total employment	Number	1 645	692	78	875	-21%	24%	-	-43%
FTE	Number	762	60	30	672	-14%	-43%	7%	-11%
Active vessels	Number	1 159	793	74	292	-11%	-14%		-17%
Landings by weight tonnes	Thousand tonnes	495	0.98	31	463	-45%	-88%	-	-48%
Landings by value	Million €	430	12	4.2	414	-14%			
Aging work force	%	21%	33%	-	7%	-5%	-9%	-	-2%
Gender(female)	%	7%	8%	-	5%	2%	4%	.	0%
Nationality: nationals in work force	%	92%	93%	-	92%	0.4%	-1.4%		-1.9%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call and the 2025 Fleet Economic data call.

9.6.3 Social demographics in Fisheries

Based on DCF social data, the social structure of employment in the Danish fisheries sector has remained largely stable over the period 2017–2023, reflecting long-standing structural characteristics of the fleet.

Total employment in capture fisheries is stable to slightly declining, consistent with trends reported in Section 9.6.4 Employment, and reflects continued fleet modernisation, efficiency gains, and structural consolidation rather than expansion of fishing activity. While overall employment levels have remained

relatively stable, the composition of the workforce indicates a mature and highly professionalised sector, with limited entry of new participants.

The workforce is predominantly male, with women accounting for only a marginal share of employment in capture fisheries. This gender structure has remained largely unchanged since 2017 and reflects the persistence of traditional occupational patterns within the sector, which are discussed in more detail in later sections of this report.

The age structure of the fisheries workforce continues to be skewed towards older age groups, with the majority of fishers concentrated in the 40–64 age cohort and relatively few workers below the age of 40. Over time, the data indicate a gradual ageing of the workforce, suggesting persistent constraints on generational renewal, which are explored further in the national profile chapters addressing social and structural dynamics.

With regard to nationality, employment in Danish capture fisheries is overwhelmingly composed of national workers, with a small and stable share of non-national (primarily EU) crew members. No significant changes in this composition have been observed since 2017.

Social demographic characteristics differ across fleet segments. Ageing trends appear more pronounced in small-scale and coastal fleet segments, where entry of younger workers remains limited and succession within fishing operations appears increasingly uncertain. These differences reflect long-term structural patterns rather than recent demographic shifts and are examined further in the context of fleet structure and governance arrangements in subsequent sections.

9.6.4 Employment in Fisheries

Total Employment

Employment in Denmark's fishing sector has declined steadily over the past decade (AER, 2025; trend 2013-2023), in line with reductions in fleet size and effort, and greying fisher population. Employment (in FTE) fell by roughly 30–35% compared with 2013 levels, reflecting consolidation in the fleet and efficiency gains in larger pelagic vessels.

Table 54. Denmark: Total employment (2017-2023)

	2017	2020	2023	Δ 2023-2017
Total employment	2082	1238	1645	-21%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Full-Time Equivalent

In the Danish context, both the number of persons employed and Full-Time Equivalent (FTE) employment are relevant indicators for describing labour in the fishing sector. For socio-economic and policy analyses, FTE employment is an appropriate and commonly used indicator: this reflects national statistical

practice, where Statistics Denmark and other public authorities follow the EU Labour Force Survey framework and use FTE as the legally recognised unit of employment across sectors.

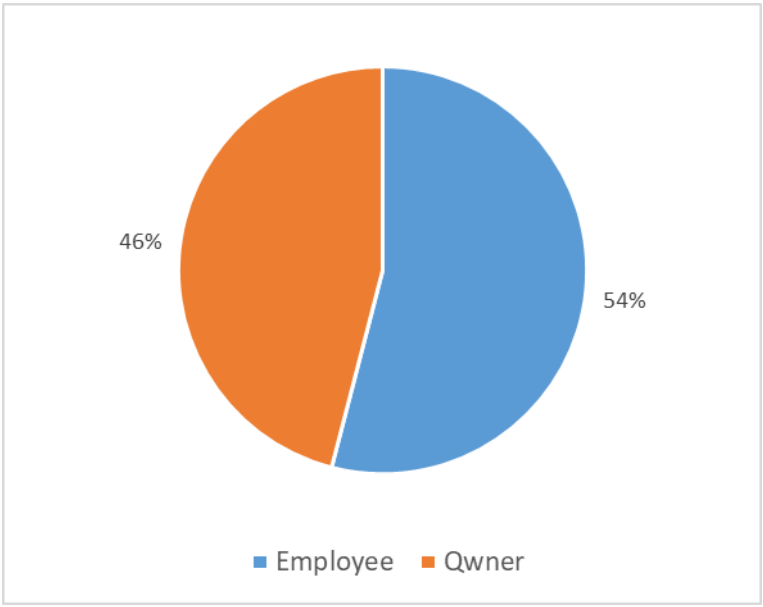
Given that a notable share of fishers in Denmark are engaged on a seasonal or part-time basis, particularly within the small-scale coastal segment, headcount data may overstate the effective labour contribution. Expressing employment in FTE provides a more accurate measure of the sector's real labour input and facilitates comparability with other economic sectors. Consequently, Danish authorities use FTE as the standard indicator for evaluating productivity, employment trends and the socio-economic impacts of fleet restructuring.

Nevertheless, the total number of persons employed remains useful for assessing the social dimension of fisheries—such as gender participation, demographic patterns and community dependence on the fishing industry.

Employment status

Employment levels have been indirectly affected by Brexit through fleet consolidation and reduced quota availability in the pelagic and North Sea demersal segments. While total employment in the Danish fleet remains relatively stable at around 1 300–1 400 FTE in 2023, these adjustments have led to a concentration of jobs in fewer, larger vessels and a gradual decline in opportunities within smaller coastal fleets and communities, particularly in Northern Jutland. Mitigation measures financed through the Brexit Adjustment Reserve, including vessel decommissioning and income compensation schemes, helped cushion immediate employment losses but reinforced longer-term structural adjustment and labour reallocation within the sector (STECF AER, 2025; Hegland, 2023).

Figure 47. Denmark: Employment status (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.6.5 Demographics of the Workforce

Age

The Danish fishing sector faces persistent challenges in ensuring generational renewal. The average age of Danish vessel owners and crew has risen steadily for more than a decade, reaching approximately 59.6 years for owners and 57.7 years for crew in 2022 (Hegland, 2023). The majority of fishers fall within the 40–64-year age group, while recruitment of individuals under 30 remains limited. The overall workforce continues to decline as older fishers retire, with few young entrants replacing them.

Despite a solid vocational and technical training system, including the Fisheries School in Thyborøn (Fiskeriskolen), fisheries-relevant maritime training is also available through broader maritime education institutions, including those located on Ærø, participation in professional fisheries training has decreased. Between 2000 and 2020, only 646 individuals completed formal fisher training, averaging about 30 graduates per year, while approximately 75 persons annually completed the mandatory three-week sea-safety course qualifying them for employment at sea (Hegland, 2023).

Barriers to entry are largely structural. Since the introduction of the Individual Transferable Quota (ITQ) system in 2003–2007, acquiring fishing rights has required substantial capital investment. New entrants must either inherit quota shares or secure financing to purchase them, and younger fishers face difficulty accessing credit compared with established operators. The market-based quota system, coupled with ownership concentration, has led to a shrinking number of active vessel owners and reduced opportunities for small-scale entrants. These trends are most pronounced in the coastal fleet under 17 metres, where local succession is rare and some smaller landing sites have lost active vessels entirely.

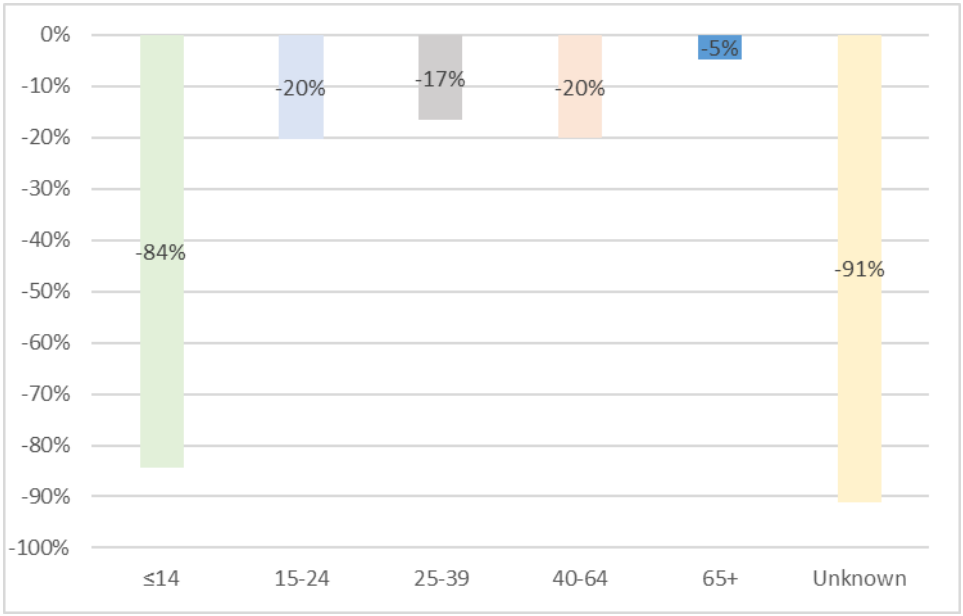
Table 55. Denmark: Total employment by age group (2017-2023)

	2017	2020	2023	Δ 2023-2017
≤14	6 (0%)	0 (0%)	1 (0%)	-84%
15-24	159 (8%)	84 (7%)	127 (8%)	-20%
25-39	380 (18%)	239 (19%)	317 (19%)	-17%
40-54	0 (0%)	0 (0%)	428 (26%)	-
40-64	1060 (51%)	607 (49%)	0 (0%)	-
55-64	0 (0%)	0 (0%)	418 (25%)	-
65+	361 (17%)	233 (19%)	344 (21%)	-5%
Unknown	116 (6%)	76 (6%)	10 (1%)	-91%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

The age group 40-64 for 2023 has been calculated based on two data groups to assess the trend. Providing data in more detailed age groups is critical for assessing aging workforce and addressing generational renewal.

Figure 48. Denmark: Employment evolution by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Generational renewal is further constrained by lifestyle and labour factors identified in national and EU analyses. The AER 2025 notes that ageing crews and recruitment shortages affect most EU Member States, with Denmark experiencing difficulties in attracting young workers due to long absences from home, irregular income, and competition from onshore jobs offering greater stability. In some large-scale segments, this has led to increased reliance on foreign crew members to compensate for labour shortages.

Overall, Denmark's fisheries display a combination of high skill and training capacity but low generational turnover, driven by the capital-intensive nature of quota management and limited accessibility for new entrants. Without targeted support for succession and entry pathways, the ageing trend within the Danish fleet is expected to continue, particularly in the small-scale coastal segment. (STECF EWG 25-07 (STECF AER, 2025); Hegland (2023), National Fisheries Profile of Denmark; Hegland & Eliasen (2022), "Rekruttering til og fastholdelse i dansk fiskeri"; Statistics Denmark; Ministry of Food, Agriculture and Fisheries).

Gender imbalance further constrains generational renewal in Danish fisheries. In 2023, women represented only about 7% of all registered fishers (112 out of 1 634 persons), a share that has remained virtually unchanged for a decade. Female participation is concentrated in shore-based roles such as processing and administration, with very limited representation among vessel crews. What increased female participation in fisheries there is tends to be in administration, producer organisations, and research. Although legal and educational frameworks provide equal access, cultural traditions, limited visibility of female role models, and the capital-intensive entry requirements of the ITQ system deter women from entering the catching sector. The absence of gender-specific recruitment initiatives means that generational renewal continues to rely almost

exclusively on men from established fishing families, narrowing the potential pool of new entrants and perpetuating demographic imbalance. (*STECF AER, 2025; Hegland, 2023).*

9.6.6 Workforce education and training

Education

The trend shows a smaller but increasingly well-educated fishing workforce, as older, less officially-qualified fishers retire and younger entrants possess higher general or maritime education, though recruitment into fisheries-specific training remains low.

DCF data for 2017–2023 indicate a shrinking but increasingly qualified fishing workforce. The share of fishers with medium or high education levels has risen, while those with low education have declined. This reflects generational turnover, as older and less-qualified fishers retire, and younger entrants hold higher general education or maritime qualifications. Although the educational profile of the sector has improved, enrolment in fisheries-specific vocational programmes remains low, and graduate numbers continue to lag behind retirements. The result is a smaller but more skilled workforce, with persistent challenges in recruitment and generational renewal.

Table 56. Denmark: Total employment by education (2017-2023)

	2017	2020	2023	Δ 2023-2017
High	56 (3%)	44 (4%)	71 (4%)	28%
Medium	986 (47%)	623 (50%)	860 (52%)	-13%
Low	871 (42%)	477 (39%)	584 (36%)	-33%
Unknown	169 (8%)	94 (8%)	130 (8%)	-23%

Source: Member States data submissions under the 2025 Social Data Call

The age group 40-64 for 2023 has been calculated based on two data groups to assess the trend. Providing data in more detailed age groups is critical for assessing aging workforce and addressing generational renewal.

Training

Vocational and technical training in Denmark is well established and regarded as robust. The national vocational education and training (VET) system provides structured pathways for those entering or already employed in the fisheries and maritime sectors. Dedicated maritime and technical schools offer comprehensive instruction in navigation, marine engineering, and fisheries operations, ensuring that fishers meet the high safety and competency standards required under Danish and EU legislation. The system supports both initial education for new entrants and continuing professional development for experienced fishers. Training programmes are closely aligned with industry needs and benefit from cooperation between public authorities, educational institutions, and professional organisations. This strong vocational foundation

contributes to maintaining a skilled and safety-conscious workforce in the Danish fishing industry.

The Fisheries School in Thyborøn (Fiskeriskolen) plays a central role in providing vocational and technical education for new entrants and existing fishers. Between 2000 and 2020, 646 individuals completed formal fisher training, averaging around 30 graduates per year, while approximately 75 persons annually completed the mandatory three-week sea-safety course qualifying them for employment at sea. These programmes ensure compliance with the safety and competency requirements of Danish and EU law, but graduate numbers remain lower than retirements, leaving a gap in succession. The number of trainees has also declined over time, reflecting both a shrinking workforce and limited recruitment of new entrants to the catching sector.

Between 2017 and 2023, the educational profile of the Danish fishing workforce improved. DCF data show a relative increase in fishers with medium and high educational attainment, alongside a decline in those with low education levels. The overall workforce contracted between 2017 and 2020 but partially recovered by 2023, reflecting both generational turnover and the structural exit of less-educated fishers. Younger entrants tend to hold higher general education or maritime qualifications than in the past, in line with wider societal trends. However, enrolment in fisheries-specific training programmes has declined, suggesting that upskilling is driven more by general education levels and statutory safety training than by formal fisheries education.

As a result, Denmark's fishing workforce is increasingly skilled in general terms, but recruitment remains limited, and the inflow of trained fishers does not compensate for retirements. Continued investment in vocational education, targeted recruitment measures, and the promotion of fisheries careers to younger generations will be essential to sustain renewal, technical competence, and safety standards across the sector (STECF EWG 25-07 (STECF AER, 2025); Hegland (2023), National Fisheries Profile of Denmark; DCF data 2017–2023; Statistics Denmark; Ministry of Food, Agriculture and Fisheries).

Nationality

The Danish workforce remains dominant (around 92–93 percent of total employment in 2023), but the share of foreign crew—mainly from Poland, Latvia, and Lithuania, with a smaller contingent from the Philippines and Ukraine—has gradually increased since 2017, offsetting retirements among older Danish fishers.

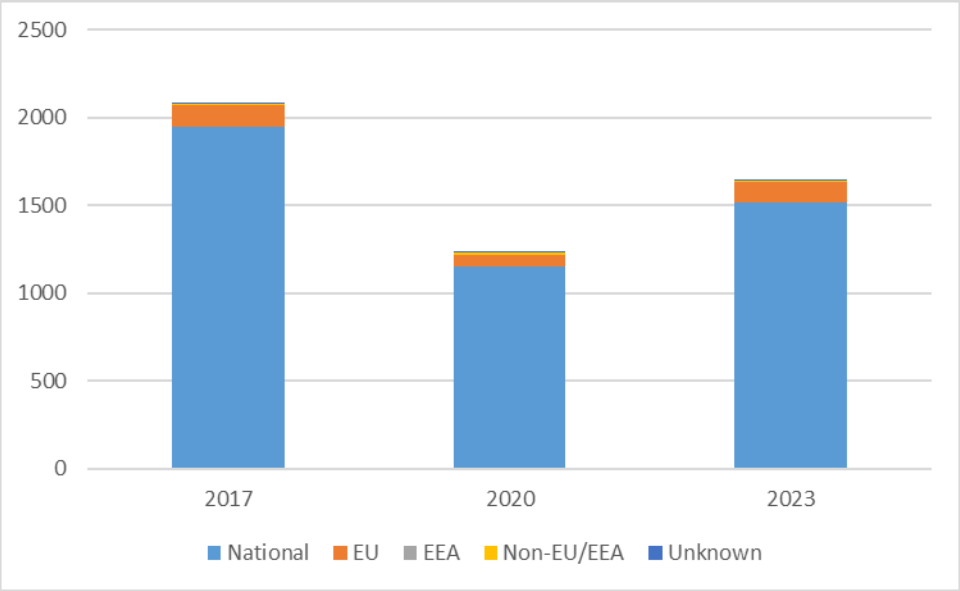
Labour mobility in the Danish fishing sector remains limited among nationals but moderate among foreign crew, who are increasingly employed in large-scale offshore operations. The Denmark NFP (Hegland, 2023) reports that approximately seven percent of all active fishers in 2022 were foreign nationals, primarily from other EU Member States such as Poland, Latvia, and Lithuania, and to a lesser extent from non-EU countries including the Philippines and Ukraine. These workers are most often engaged on pelagic trawlers and offshore demersal vessels operating in the North Sea and North Atlantic.

Table 57. Denmark: Total employment by nationality (2017-2023)

	2017	2020	2023	Δ 2023-2017
National	1946 (93%)	1153 (93%)	1516 (92%)	-22%
EU	123 (6%)	63 (5%)	116 (7%)	-6%
EEA	1 (0%)	4 (0%)	6 (0%)	464%
Non-EU/EEA	8 (0%)	14 (1%)	4 (0%)	-53%
Unknown	4 (0%)	5 (0%)	5 (0%)	18%

Source: Member States data submissions under the 2025 Social Data Call

Figure 49. Denmark: Total employment by nationality (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call

Foreign crew are typically male, aged between 25 and 50, and recruited through either personal networks or manning agencies based in Poland or the Baltic States. Many are employed on rotational or seasonal contracts, working several months at sea followed by return periods in their home countries. Unlike Danish crew—who are usually paid under the traditional crew-share system linked to the value of landings—foreign workers are more often paid fixed monthly salaries, reflecting differences in contract arrangements and social security coverage. This distinction is explicitly noted in both the NFP and in interviews conducted for the Danish Fisheries Commission (2022–2023).

Integration challenges are modest but persistent. Foreign workers are rarely integrated into local fishing communities, as most do not reside permanently in Denmark and have limited interaction beyond the vessel environment. Language barriers limited social contact, and differences in contractual and welfare conditions contribute to a clear separation between national and foreign crew groups. According to the NFP, these workers are “functionally integrated in

production, but socially peripheral," a pattern also observed in other North Sea Member States.

Dependence on migrant labour has increased gradually as the domestic workforce ages and recruitment of Danish youth declines. Vessel owners—particularly in the pelagic and large-scale demersal segments—acknowledge that "without foreign crew, regular operation would be difficult." However, this reliance introduces new management and regulatory challenges concerning labour standards, health insurance, and pension schemes, especially for non-EU crew.

Table 58. Denmark: Employment by nationality and age (2017-2023)

Nationality	Age group	2017	2020	2023	Δ 2017-2023
National	**≤14**	6		1	-83%
	15-24	153	77	119	-22%
	25-39	353	221	259	-27%
	40-54			379	-
	40-64	1027	587	*785*	-24%
	55-64			407	-
	≥65	360	232	343	-5%
	Unknown	47	36	8	-83%
EU	**15-24**	4	4	6	50%
	25-39	23	9	53	130%
	40-54			48	-
	40-64	29	16	*56*	93%
	55-64			8	-
	≥65	1	1	1	0%
	Unknown	66	33		-100%
EEA	**15-24**		1	2	-
	25-39	1	1	3	200%
	55-64			1	-
	Unknown		2		-
Non-EU/EEA	**15-24**	2	2		-100%
	25-39	3	8	2	-33%
	40-54			1	-
	40-64	3	4		-
	55-64			1	-
Unknown	**40-54**			1	-
	40-64	1			-
	55-64			1	-
	unknown	3	5	3	0%

Source: Member States data submissions under the 2025 Social Data Call

There is limited evidence of serious labour-rights violations, but the NFP and national stakeholder interviews point to unequal employment security and limited career advancement opportunities for foreign workers compared with Danish crew. Migrant crew generally occupy operational rather than managerial positions and have little prospect of acquiring quotas or vessel ownership due to legal and financial barriers such as A-status and capital requirements.

Overall, Denmark's fisheries exhibit a dual labour structure: an aging national core of vessel owners and senior crew, and a growing contingent of foreign employees filling essential operational roles on larger vessels. While the sector remains compliant with Danish labour and safety laws, continued reliance on temporary foreign workers underscores both the labour shortage and the social segmentation within the fleet (Hegland, 2023; STECF AER, 2025; Hegland & Eliasen, 2022; Danish Fisheries Commission, 2023).

Additionally, Danish fishers, in general, and especially in the SSFC, have relatively low foreign language literacy and are consequently known to be averse to hiring foreign crew. In previous studies (Delaney, 2009), some boat owners stated they would retire rather than have foreign crew given the difficulties presented from language differences.

For many owner-operators, particularly in coastal fisheries, fishing continues to be understood as a long-term livelihood and a way of organising working life, rather than as a short-term or interchangeable employment option.

Beyond its implications for labour supply, the ageing profile of the fishing workforce also affects the transmission of skills, experiential knowledge and informal learning practices that are central to fishing as an occupation. In smaller ports, continued participation of older owner-operators may reflect limited succession opportunities rather than sustained economic viability.

Entry into fishing is structured not only by economic conditions but also by regulatory and institutional arrangements, including access to vessels, licences and quotas, which together shape the feasibility of generational renewal within different fleet segments.

9.6.7 Gender

DCF social and fleet data show that women constitute a small and stable minority of employment onboard Danish fishing vessels over the period 2017–2023. While total employment declined over the period, reflecting structural adjustment and the retirement of older crew, the gender composition of the onboard workforce changed little.

Full-time equivalent (FTE) data confirm this pattern. In 2020, female employment accounted for 63 FTE, compared with 867 FTE for men and 60 unclassified. By 2023, female employment declined to 52 FTE, male employment to 703 FTE, and unclassified observations to five FTE. The reduction in unclassified observations suggests improvements in reporting and data completeness rather than substantive changes in gender participation.

The Danish catching sector therefore remains overwhelmingly male dominated, with women representing a very limited share of employment onboard vessels. Women are rarely recorded as active crew in capture fisheries, and their participation at sea remains minimal across fleet segments. Overall, despite sectoral modernisation, the gender balance of onboard employment has remained largely unchanged over time.

Table 59. Denmark: Total employment by gender (2017-2023)

	2017	2020	2023	Δ 2023-2017
Female	105 (5%)	79 (6%)	113 (7%)	7%
Male	1861 (89%)	1084 (88%)	1522 (93%)	-18%
Unknown	116 (6%)	76 (6%)	10 (1%)	-91%

Source: Member States data submissions under the 2025 Social Data Call

Unpaid labour by gender

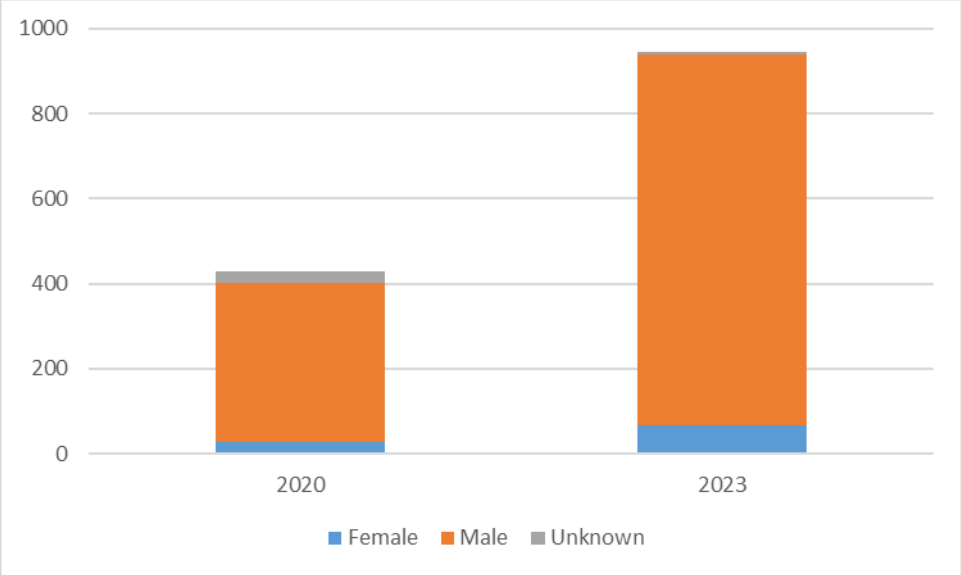
DCF social data indicate an increase in recorded employment for both men and women, alongside a decline in observations classified as “unknown”, over the reference period. This trend likely reflects improvements in reporting and data completeness rather than a substantive change in the gender composition of employment in capture fisheries.

Women remain under-represented in DCF social data for capture fisheries. This may partly reflect limitations in data coverage, as women’s participation in fisheries-related livelihoods in Denmark has historically been more visible in ancillary, shore-based, and family-based activities rather than in employment at sea. In certain coastal contexts, such activities may include shellfish-related work and small-scale harvesting, as well as administrative, logistical, and organisational tasks associated with fishing operations, which are not fully captured within DCF employment statistics.

With respect to unpaid labour, DCF social data do not include variables on unpaid or informal work. Qualitative evidence indicates that such unpaid fisheries-related labour has traditionally been undertaken predominantly by women, particularly within family-based and small-scale fishing operations, where contributions often fall outside formal employment or self-employment categories. As a result, women’s overall contributions to fisheries-related livelihoods may be underestimated in official employment statistics.

Denmark has transposed Directive 2010/41/EU on equal treatment between men and women engaged in self-employed activities, with transposition completed in 2012. Beyond the formal legal transposition, no fisheries-specific measures directly targeting the implementation of the Directive have been identified. Relevant gender equality provisions apply horizontally across sectors, including fisheries, through general labour market and social protection frameworks rather than sector-specific instruments.

Figure 50. Denmark: Unpaid labour by gender (2020-2023)



Source: Member States data submissions under the 2025 Social Data Call

9.6.8 Social aspects in Fisheries

Gender aspects, unpaid labour, and data considerations (value-chain perspective)[38].

While women's participation in employment onboard fishing vessels remains very limited, a broader value-chain perspective indicates that women's involvement in Denmark's fisheries sector extends beyond recorded crew employment. Women's participation is highest in fish processing, followed by capture fisheries, and lowest in aquaculture, reflecting differences in work organisation, skill requirements, and employment structures across sectors.

National labour statistics and fisheries profiles indicate that women constitute a comparatively substantial share of employment in fish processing, where work is predominantly shore-based and characterised by more regular working patterns. In contrast, participation in capture fisheries remains low, as reflected in DCF social and fleet data. In aquaculture, overall employment levels are small and gender-disaggregated data are less comprehensive; however, available sectoral profiles and Blue Economy reporting suggest that female participation remains low relative to both processing and capture fisheries.

Beyond formal employment, qualitative evidence highlights the importance of unpaid and informal labour, particularly within family-based and small-scale fishing operations. Such contributions—often undertaken by women—may include administrative, bookkeeping, logistical, and organisational tasks that support fishing activities but fall outside formal employment or self-employment

[38] Sources: DCF social data (2017–2023); STECF EWG 25-07 (AER 2025); National Fisheries Profile of Denmark (Hegland, 2023); Statistics Denmark; EU Blue Economy reports.

categories. As these forms of labour are not captured in DCF social data, women's overall contributions to fisheries-related livelihoods may be underestimated in official statistics.

DCF social data further show an increase in recorded employment for both men and women over time, alongside a decline in observations classified as "unknown." This pattern likely reflects improvements in reporting and data completeness rather than substantive changes in gender participation.

Denmark has transposed Directive 2010/41/EU on equal treatment between men and women engaged in self-employed activities, with transposition completed in 2012. Beyond formal legal transposition, no fisheries-specific measures directly targeting the implementation of the Directive have been identified. Relevant gender equality provisions apply horizontally across sectors, including fisheries, through general labour market and social protection frameworks rather than sector-specific instruments.

Social aspects in Fisheries

9.6.9 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Danish fishing fleet reported an average annual labour cost of EUR 144 291 per FTE in 2023, the highest level in the EU. Fishing labour costs have steadily increased over time and are now almost twice as high (+84%) as in 2013.

Fishing labour costs in Denmark are well above (+69%) the average labour cost (EUR 85 143) for the national economy.

Table 60. Denmark: Fishing labour costs compared to the national average (2013-2023)

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	78 447	77 818	85 586	89 879	89 683	89 226	89 484	136 995	134 445	132 461	144 291
National average				85 112				89 656	92 581	87 066	85 143
Ratio of fishing labour cost to national average				1.06				1.53	1.45	1.52	1.69

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Working conditions

DCF social data do not include harmonised quantitative indicators on working hours or working time patterns.

Working hours remain long and irregular, with no evidence of structural change over the period covered by the AER.

Working conditions in the Danish fishing sector vary substantially by fleet segment and fishing activity. Large-scale pelagic and offshore demersal vessels typically operate on extended trips, often lasting several days to weeks, resulting in long working hours concentrated into intensive fishing periods. In contrast, small-scale coastal vessels usually operate on shorter trips, often returning to port within one to two days, which allows for more regular rest periods but still involves physically demanding labour and irregular schedules.

According to the Annual Economic Report (STECF AER, 2025), fisheries remain characterised by longer and more irregular working hours compared with most onshore sectors in Denmark. Seasonal peaks, weather dependency and quota-driven fishing strategies contribute to fluctuations in workload over the year. Although mechanisation and modern vessel design have improved safety and efficiency, fishing continues to involve heavy physical work and exposure to harsh marine conditions, particularly in the North Sea and Baltic Sea fisheries.

Social security

Social security arrangements for fishers have remained stable over time, as the fisheries sector is fully integrated into the general Danish social security system, which applies across all economic sectors.

Fishers in Denmark therefore have access to the same core social protection as other workers, including public health care, sickness and disability benefits, unemployment insurance (subject to membership conditions), and old-age pensions. There is no separate fisheries-specific social security regime, and coverage does not differ by fleet segment. Instead, differences arise from the nature of employment and contribution mechanisms.

Employment relations in fisheries are mixed. Vessel owners are generally self-employed and contribute to social security through self-employment schemes, while crew members may be employed either as wage earners or remunerated through crew-share arrangements linked to the value of landings. Owners working onboard combine self-employment with active labour participation. Despite these contractual differences, access to public health care and basic social protection is universal.

The statutory retirement age in Denmark is 67 years, with gradual increases foreseen under national pension legislation. In practice, many fishers—particularly owner-operators in the small-scale coastal fleet—continue to work beyond the formal retirement age, often on a reduced or informal basis. There are no fisheries-specific early retirement schemes, although fishers may access general early retirement or flexible pension arrangements available to other self-employed persons, subject to eligibility conditions.

Foreign crew members employed on Danish-flagged vessels are generally covered by Danish labour and safety regulations. EU and EEA nationals fall

under EU social security coordination rules, while non-EU crew members are typically covered through contractual arrangements and mandatory insurance schemes during their period of employment. Access to public health care and occupational safety protections is broadly equivalent to that of national workers while employed in Denmark, although access to long-term benefits such as pensions may differ depending on residence status and the length and coordination of contribution periods. Remuneration of foreign crew follows the same structures as for nationals, based on either crew-share systems or wage contracts, depending on role and agreement.

The presence of a comprehensive welfare system may influence individual risk-management strategies, particularly among older fishers who combine continued fishing activity with access to pension income or other forms of social protection.

Accidents on board

Fishing remains one of the most hazardous economic activities in the EU. According to data from the European Maritime Safety Agency (EMSA), fishing vessels account for a disproportionately high share of fatal and serious maritime accidents compared with their share of total employment.

While Denmark-specific accident figures are limited in publicly available EMSA datasets, national and EU-level analyses consistently identify risks related to vessel stability, gear handling, fatigue, and adverse weather conditions. Improvements in vessel standards, mandatory safety training, and regulatory oversight have contributed to a gradual reduction in severe accidents over time, but the sector continues to face higher occupational risk than most land-based industries (EMSA; AER 2025).

Foreign flagged vessels

There are no harmonised quantitative data available under the DCF or reported in the AER that allow for the consistent identification of landings in kilograms or value (EUR) by foreign-flagged vessels in Denmark, including landings made directly in Danish ports or indirectly via transhipment and road transport. As a result, no reliable figures can be provided on the share of total landings attributable to foreign-flagged vessels, either overall or by fleet segment.

In qualitative terms, foreign-flagged vessels are particularly relevant in the large-scale pelagic segment. While Danish-flagged vessels dominate national landings, a limited number of foreign-flagged vessels land catches in Danish ports or deliver landings indirectly via logistics chains. In addition, some vessels operating under the Danish flag are owned or co-owned by foreign interests, notably from Sweden, especially within the pelagic fleet. These vessels typically operate from Danish ports and employ a mix of Danish and foreign crew.

Although the number of foreign-flagged or foreign-owned vessels is small relative to the total fleet, their contribution to total landings by value can be disproportionately large, reflecting the high productivity and capital intensity of

the pelagic segment. This pattern has remained stable over time, with no evidence of major recent structural change in the role of foreign-flagged vessels in Danish fisheries.

9.6.10 Social demographics per fishing activities

Social characteristics differ markedly across fleet segments. The small-scale coastal fleet is characterised by older owner-operators, high levels of self-employment, and strong local attachment to coastal communities, but limited recruitment of younger fishers. Employment is often seasonal and family-based, with relatively low entry rates for new entrants.

The large-scale fleet, including pelagic and offshore demersal vessels, employs fewer but more specialised workers, operates with higher capital intensity, and increasingly relies on foreign crew members. Employment in this segment is more stable in FTE terms but geographically concentrated in major ports in Northern Jutland.

Distant water activities linked to Greenlandic fisheries involve a very small number of vessels and crew but operate under different contractual arrangements and longer trip durations, with distinct social and labour characteristics compared to coastal fleets (STECF AER, 2025; National Fisheries Profile of Denmark).

Although DCF social variables (age, gender, nationality, employment status) and economic indicators such as average wage per job are available at aggregate fleet or national level, they are not consistently available or robust at the level of individual fishing activities or sub-fleets for Denmark. Disaggregation by small-scale coastal, large-scale, and distant-water activities results in small sample sizes and confidentiality constraints, limiting the use of quantitative indicators for this section.

Social characteristics across Danish fishing activities have remained structurally stable over time, with persistent differences between fleet segments. Observed changes primarily reflect long-term structural adjustment, fleet consolidation, and gradual demographic ageing rather than short-term fluctuations in social indicators.

Small-scale coastal fleet (including L12AG sub-fleet)

The small-scale coastal fleet is characterised by older owner-operators, high levels of self-employment, and strong local attachment to coastal communities. Employment in this segment is often seasonal and family-based, with limited recruitment of younger fishers and relatively low entry rates for new entrants. These characteristics have remained broadly unchanged over time, reflecting persistent barriers to generational renewal rather than recent structural change.

Quantitative data (DCF social variables + average wage per job): Nr

Trend: Stable ageing profile; continued low entry of younger cohorts

Large Scale Fleet

The large-scale fleet employs fewer but more specialised workers, operates with higher capital intensity, and increasingly relies on foreign crew members. Employment in this segment is more stable in FTE terms compared with the small-scale fleet, but is geographically concentrated in major ports in Northern Jutland. Social characteristics in this segment have remained relatively stable, with gradual increases in specialisation and reliance on non-national labour.

Quantitative data (DCF social variables + average wage per job): Nr

Trend: Stable employment structure with gradual specialisation and increased use of foreign crew

Distant Water Fleet

Distant water activities linked to Greenlandic fisheries involve a very small number of vessels and crew and operate under distinct contractual arrangements and longer trip durations compared with coastal fleets. Due to the limited scale of activity, quantitative social indicators are not available, and trends are best assessed qualitatively. Social and labour characteristics in this segment have remained stable, reflecting the niche and highly specialised nature of distant-water operations.

Quantitative data (DCF social variables + average wage per job): Nr

Trend: Stable, niche activity with distinct contractual and working patterns

Qualitative insight: social differences between SSF and DWF

Social characteristics differ markedly between the small-scale coastal fleet (SSF) and distant water fleet (DWF) in Denmark, reflecting differences in fishing activity, trip duration, ownership structure, and labour organisation. These differences help explain observed contrasts in employment levels, workforce composition, and stability across segments.

The SSF is predominantly composed of owner-operators with strong local attachment to coastal communities. Employment in this segment is often seasonal, closely linked to local stock availability, weather conditions, and short fishing trips. Labour inputs are frequently family-based, with a high prevalence of self-employment and informal or unpaid contributions, particularly in shore-based and administrative tasks. Limited recruitment of younger fishers and succession challenges contribute to an ageing workforce and relatively low entry rates. As a result, employment figures in the SSF tend to fluctuate over time and are sensitive to both biological and economic conditions.

In contrast, the DWF involves a very small number of vessels and crew, operating under longer trip durations and more specialised contractual arrangements. Employment in this segment is less seasonal in terms of trip scheduling but highly concentrated and project-based, reflecting access arrangements to distant fishing grounds, including Greenlandic fisheries. Crews are typically hired for specific campaigns, and employment patterns are shaped

more by regulatory access and quota arrangements than by local seasonal dynamics. Due to the limited scale of activity, employment levels in the DWF are stable in absolute terms but small, with distinct working conditions compared to coastal fisheries.

Overall, differences in employment figures between SSF and DWF are driven primarily by seasonality, scale of operation, ownership structure, and the degree of integration into local communities, rather than short-term changes in labour supply or demand. These structural characteristics have remained largely stable over time, contributing to persistent social differentiation between fleet segments.

While large-scale fleet segments concentrate employment and landings in fewer ports, small-scale fisheries tend to remain more closely embedded in local coastal economies, despite their declining numerical presence.

The increasing reliance on foreign crew in certain fleet segments reflects both labour shortages and the growing professionalisation of offshore fishing activities, contrasting with the predominantly national and family-based composition of the coastal fleet.

Differences in labour costs between fleet segments also translate into divergent levels of income stability and predictability for fishers, particularly between offshore wage-based employment and share-based remuneration in coastal fisheries.

9.6.11 Trends and challenges

The Danish fishing sector is undergoing continued structural adjustment driven by policy, environmental and economic factors. Brexit-related quota reallocations have reduced access to certain stocks, particularly in the pelagic and North Sea demersal fisheries, reinforcing consolidation and efficiency-oriented strategies. At the same time, increasing spatial competition from offshore renewable energy developments and the expansion of marine protected areas are constraining available fishing grounds. Although Denmark’s fisheries demonstrate a high capacity for technological adaptation, the combined pressures of regulatory change, environmental constraints and labour market dynamics continue to shape the social sustainability of the sector (STECF AER, 2025; Hegland, 2023).

From a social perspective, spatial and policy changes affect not only fishing activity but also place-based practices, local knowledge systems, and the organisation of fishing communities. Adaptive capacity differs across fleet segments, with larger fleets relying on capital, technology and mobility, while small-scale coastal fisheries depend more on local networks, family labour and attachment to place. These differences shape how policy and environmental change is experienced socially at community levels. Taken together, these trends suggest increasing differentiation within the fishing sector, with consolidation and capital intensity in offshore segments coexisting alongside ageing, declining participation and limited succession in coastal fisheries.

9.6.12 Methodological considerations and data issues

This assessment is based on data submitted by Denmark under the DCF Social Data Call, as described in the Danish DCF Work Plan 2025–2027. In accordance with the Work Plan, social data for Denmark are derived primarily from secondary administrative sources, including national registers, and are supplemented where relevant by survey-based information. Employment is reported in both headcount and full-time equivalent terms and covers core social variables such as age, gender, nationality, and employment status.

Several data quality and methodological issues should be noted. As highlighted in the Danish DCF Work Plan, disaggregation of social variables by fleet segment or fishing activity is constrained by small sample sizes and confidentiality requirements, particularly for the small-scale coastal fleet and distant water activities. Consequently, quantitative social indicators are generally robust only at aggregate fleet or national level, while segment-specific analysis relies primarily on qualitative interpretation.

The Work Plan further notes that unpaid and informal labour, especially within family-based fishing operations, is not systematically captured in administrative data sources. This may lead to an underestimation of total labour inputs, particularly in the small-scale segment, and limits the ability to fully assess gendered contributions to fisheries-related livelihoods. In addition, the coexistence of different contractual arrangements—including self-employment, wage employment, and crew-share systems—complicates comparisons of working conditions and social security coverage across fleet segments.

Breaks in time series may also occur due to methodological changes in vessel registration, employment classification, and reporting practices, as documented in the Danish DCF Work Plan. Reductions in observations classified as “unknown” over time are therefore likely to reflect improvements in reporting and data completeness, rather than substantive changes in workforce composition. Caution is required when interpreting short-term trends or making cross-country comparisons.

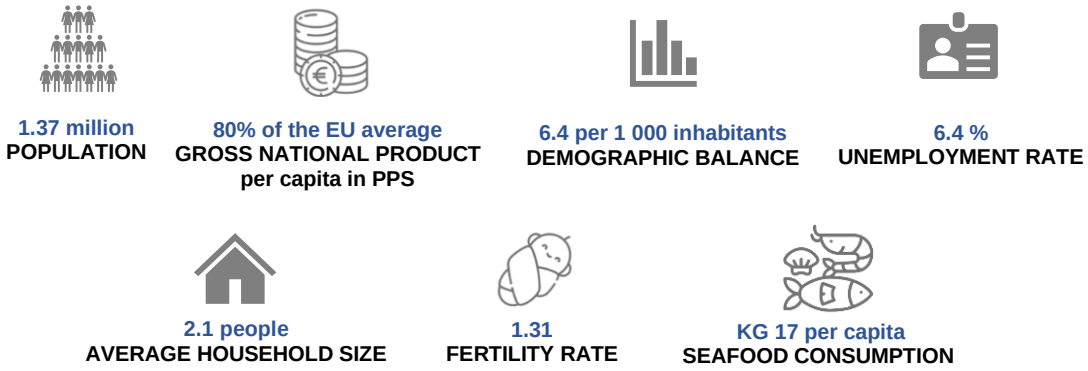
Finally, while foreign crew members employed on Danish-flagged vessels are generally covered by Danish labour and safety regulations, information on their long-term social security entitlements may be incomplete in national administrative registers, as access to benefits depends on residence status and contribution periods across countries.

These methodological considerations should be taken into account when interpreting the results presented in this chapter: Danish DCF Work Plan 2025–2027, STECF EWG 25-07 (AER 2025), and National Fisheries Profile of Denmark (Hegland, 2023).

9.7 Estonia

9.7.1 Snapshot of Estonia

Figure 51. Estonia in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

With a population of approximately 1.37 million people, and covering an area of 45 339 km², Estonia is one of the smallest Member States in the EU. Based on data from Eurostat the change in the size of the population was 6.4 people per thousand inhabitants in 2023, indicating population growth driven mainly by immigration. A low fertility rate (1.31 children per woman) indicates uncertainty in society about having children. The accelerated price growth in recent years has a significant impact on the Estonian economy and society as a whole. Estonian inflation rate has been one of the highest in the euro zone and households and local producers are struggling increasing costs. The average household size in Estonia is 2.1 people. The unemployment rate 6.4% is slightly above the EU average (6.1%). Considering the domestic market an Estonian consumes 17 kg of fish per year, which is less than the EU average (around 24 kg).

9.7.2 Short description of the fishing sector

In 2023, there were 2 044 registered vessels, with a total capacity of 16 230 GT and 49 600 kW. The number of active vessels was 1 235 in 2023. The active fleet was divided in the small-scale coastal fleet (SSCF - 1 210 vessels), the large-scale fleet (LSF - 22 vessels) and the distant water fleet (DWF - three vessels). The number of inactive vessels in 2023 was 809, the majority of which (99%) were in the less than 12 m.

The SSCF operates in Estonian coastal waters up to the 20 metre isobaths. Coastal fishing can be divided into two groups:

0-10 m vessels make up 95% (1 174 vessels) of the total Estonian Baltic Sea fishing fleet engaged in fishing. The total landings in this segment are relatively small considering the number of vessels, making only 6% of the total landings

of Baltic Sea fisheries in 2023. These vessels are used for fishing for different species with various passive gears (e.g. gillnets, fyke nets, stationary uncovered pound nets, longlines). A vessel's crew does not usually exceed two fishers.

10-12 m vessels are mainly used for fishing for Baltic herring (99% of the catch) with stationary uncovered pound nets in a short spring season from April to June. The number of vessels in the segment is relatively small (36 vessels), comprising 3% of the total active fishing fleet, but quantities landed by these vessels made up 14% of the total landings of the Estonian Baltic Sea fisheries and 28% of Baltic herring landings in 2023. A vessel's crew consists of 3-4 fishers.

The LSF operates outside the coastal zone using pelagic trawls. The fleet targets pelagic species such as sprat and herring. The fishing vessels belonging to this segment are old – the average age in 2023 was 37 years. A vessel's crew consists of around 5–6 people.

The DWF were engaged in fishing catching shrimp (northern prawn) as the target species on North East Atlantic (NEAFC) and Svalbard fishing grounds. The fishing vessels belonging to this segment are rather old – the average age in 2023 was 28 years. A vessel's crew consists of up to 20 people.

In 2023, the total EU fishing fleet consisted of about 53 260 active vessels of which the Estonian active fleet accounts only for 2%. The EU fishing fleet employed 119 479 fishers in 2023. The number of people employed in the Estonian fishing fleet accounted for about 1% of the EU total. The EU fleet generated EUR 3.202 billion in Gross Value Added (GVA) of which the Estonian share was less than one percent.

Summary of social demographics in fishing sector in 2023 and trend

Compared to 2020, the decrease in total employment was 31% in 2023. The reduction in the workforce was observed in all segments of the fishing fleet (SSCF, LSF and DWF). The proportion of fishers aged 40-64 has increased over this time period. Only 4% of women are employed in professional fishing in Estonia and they all operate in coastal fisheries. Considering nationality, the Estonian fishing fleet are dominated by Estonians (93%) and this proportion has increased compared to 2020 (86%).

Summary of social aspects in fishing sector

The average labour cost per FTE was 27 246 EUR 2 in 2023. Compared to 2020, labour costs have increased significantly in the trawl fishing sector and have remained more or less at the same level in coastal fishing.

Fishers worked a total of 492 754 hours in 2023 which is 35% less than in 2020 (753 725 hours). The change is due to a decrease in the number of fishers during this time period. The average number of hours worked by a fisher varies

greatly across different fleet segments. The average working hours per fisher in SSCF, LSF and DWF were 301, 1 314 and 1 866 in 2023, respectively.

Summary of social demographics per fleet

Only 5% of women are employed in professional coastal fishing. The age of coastal fishers is rather high, 76% of fishers are aged 40-64 years old and as many as 16% of fishers are at retirement age. 98% of coastal fishers are Estonians. In terms of employment status, the balance between employees and owners is inclined towards the owners.

In the LSF all fishers are men. The majority, 73% of fishers are aged 40-64 years old. Unlike coastal fishing, the age of the fishers did not exceed 64 years. Considering nationality, the fleet are dominated by Estonians (65%). In terms of employment status only employees are directly involved in fishing.

In the DWF all fishers are men. Compared to the Baltic coastal and trawl fisheries the share of younger fishers is here higher. 53% of fishers are under 40 years old, of which 77% are between the ages of 25 and 39. Considering nationality the fleet are dominated by Estonians (69%). In terms of employment status only employees are directly involved in fishing.

Summary of trends

The consumption of fish and fish products is set to increase in Estonia. A EUR 1.3 million campaign promoting the consumption of fish and fish products in Estonia is being organized. The goal of the campaign is to value fish as a healthy and tasty raw material and bring fish and fish products into greater focus: increase fish consumption among existing consumers, introduce different types of fish, and encourage children and young people to eat fish as well.

Support for the development of ice fishing is being paid to professional fishers for the first time. The aim is to ensure the year-round continuity of fishers's competitiveness in coastal areas and inland waters.

Table 61. Estonian summary table.

	Units	**2023**				**% Δ 2023-2020**			
Indicator	**Units**	**Overall**	**SSCF**	**LSF**	**DWF**	**Overall**	**SSCF**	**LSF**	**DWF**
Total employment	**Number**	1013	854	110	49	-31%	-28%	-20%	-70%
FTE	**Number**	263	137	77	49	-35%	-37%	-26%	-42%
Active vessels	**Number**	1235	1210	22	3	-7%	-6%	-19%	-40%
Landings by weight	**Thousand tonnes**	71	12	46	14	1%	11%	1%	-7%

Landings by value	**Million €**	73	8	16	50	37%	38%	51%	24%
Aging work force	**%**	14	16	0	0	-33%	-38%	-100%	-100%
Gender	**%**	4	5	0	0	0%	0%	0%	0%
Nationality: nationals in work force	**%**	93	98	65	69	8%	0	-3%	393%

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.7.3 Employment in Fisheries

Total Employment

Total employment was estimated at 1 013 jobs in 2023. Compared to 2020, the decrease was 31%. The reduction in the workforce was observed in all segments of the Estonian fishing fleet (SSCF, LSF, DWF). One reason for this was the decrease in the number of active fishing trawlers. Vessels operating in the NAFO area did not go fishing in 2023. The number of trawlers in the Baltic Sea also decreased. The reason for the decrease in the number of coastal fishers is the constant increase in the cost of living in Estonia, which forces people to look for permanent and more profitable work instead of seasonal fishing. Fishers are also affected by the deterioration of the state of fish stocks.

Table 62. Total employment in Estonia, 2017-2023

	2017	2020	2023	Δ 2023-2017
Total employees	2100	1478	1013	-52%

Source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent (FTE)

The number of employees converted into full-time workers (FTE) is corresponding to 263 in 2023. The big difference between numbers of total employed and FTE refers to that there are many persons in the sector for whom fishing is not the only source of income. It mainly concerns the SSCF. Compared to 2020, the decrease was 35%.

Table 63. Total number of FTE by gender in Estonia, 2017-2023.

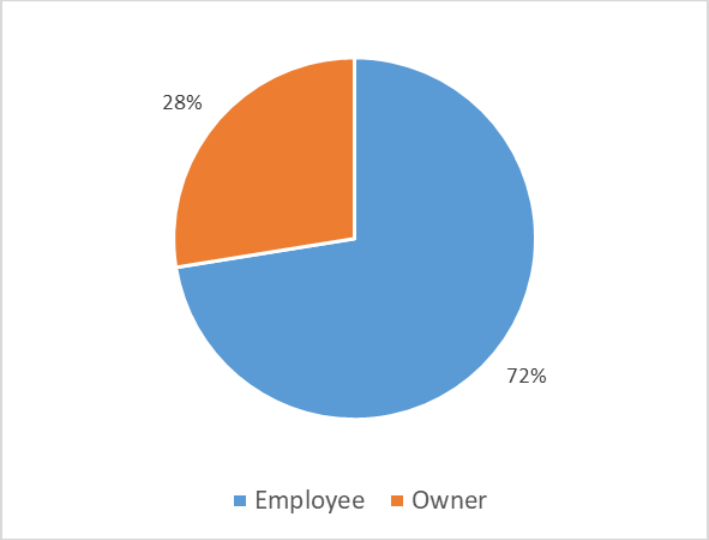
	2017	2020	2023	Δ 2023-2017
Female	9 (2%)	2 (0%)	8 (3%)	-11%
Male	474 (98%)	404 (100%)	255 (97%)	-46%

Source: MS data submissions under the 2025 Social Data Call

Employment status

The proportion between employees and owners is inclined towards the owners in 2023, 43% and 57% respectively. Compared to 2020 the proportion between employees and owners has remained the same (42% and 58% in 2020, respectively).

Figure 52. Total employment by status in Estonia, 2023



Source: MS data submissions under the 2025 Social Data Call

Table 64. Total employment by status in Estonia in 2020 and 2023.

	2017	2020	2023	Δ 2023-2017
Employee	1032 (49%)	616 (42%)	734 (72%)	-29%
Owner	1068 (51%)	862 (58%)	279 (28%)	-74%

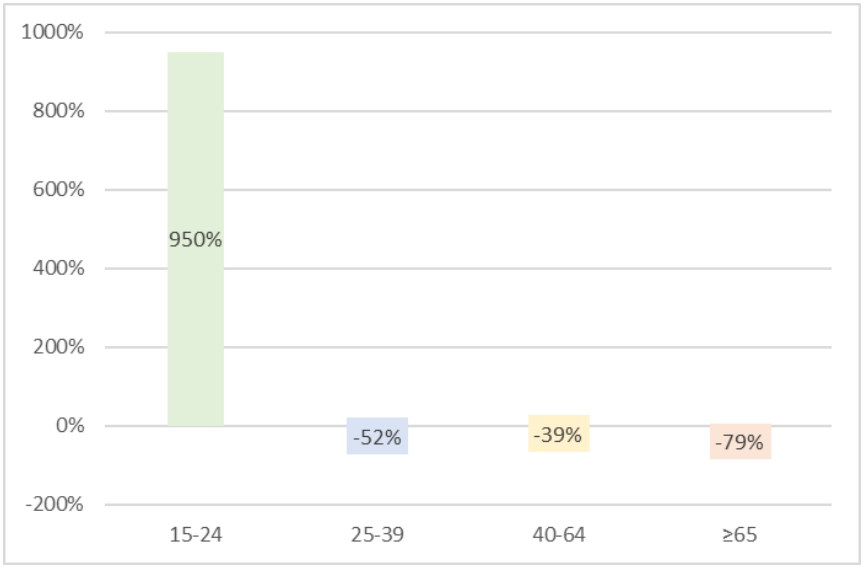
Source: MS data submissions under the 2025 Social Data Call

9.7.4 Demographics of the Workforce

Age

The age of fishers is rather high in 2023, 74% of fishers are aged 40-64 years old and as many as 14% of fishers are at retirement age. The corresponding figures in 2020 were 65% and 21%. This suggests that the proportion of fishers aged 40-64 has increased over this time period.

Figure 53. Evolution of total employment by age in Estonia, 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 65. Total employment by age in Estonia, 2017-2023.

Age	2017	2020	2023	Δ 2023-2017
15-24	2 (0%)	16 (1%)	21 (2%)	950%
25-39	214 (10%)	186 (13%)	103 (10%)	-52%
40-54	0 (0%)	0 (0%)	347 (34%)	-
40-64	1231 (59%)	962 (65%)	0 (0%)	-
55-64	0 (0%)	0 (0%)	403 (40%)	-
≥65	653 (31%)	314 (21%)	139 (14%)	-79%

Source: MS data submissions under the 2025 Social Data Call

9.7.5 Workforce education and training

Education

In 2023, the share of fishers with low, medium and high level of education is 10%, 78% and 12%, respectively. The corresponding figures in 2020 were 23%, 64% and 13%. In three years, the proportion of fishers with medium level of education has increased and the proportion of fishers with lower level of education has decreased.

Table 66. Total employment by education level in Estonia, 2017-2023.

	2017	2020	2023	Δ 2023-2017
High	374 (18%)	189 (13%)	117 (12%)	-69%
Medium	1715 (82%)	946 (64%)	793 (78%)	-54%
Low	11 (1%)	343 (23%)	103 (10%)	836%

Source: MS data submissions under the 2025 Social Data Call

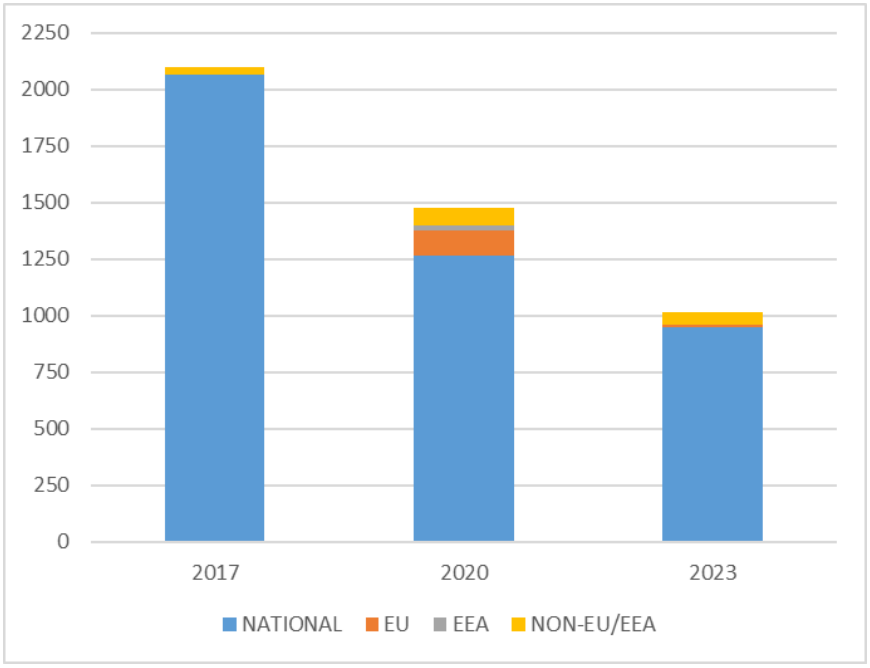
Training

Large scale and distant-water fleet fishers are trained as seafarers. Coastal fishers can undergo professional training to obtain a level 4 professional qualification, which includes skills in navigation, pollution management, biology, policy, and technical skills specific to fishing operations. This training is not mandatory but highly advised in order to obtain the fishing licence ('Certification'), meaning that fishers can find other means to train themselves and pass the certification exam.

Nationality

Considering nationality, the fleet are dominated by Estonians (93%) in 2023, but there is also a small share of non-EU/EAA (5%) and other EU (1%) nationalities. In 2020, the share of Estonians was 86%, the share of citizens of other EU countries was 7%, and citizens of EEA (other than EU) countries were also represented (1%). The decrease in the share of EU and EEA nationalities in 2023 was due to the lack of fishing in the NAFO area.

Figure 54. Total employment by nationality in Estonia, 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 67. Total employment by nationality in Estonia, 2017-2023

Nationality	2017	2020	2023	Δ 2023-2017
National	2064 (98%)	1266 (86%)	946 (93%)	-54%
EU	2 (0%)	110 (7%)	15 (1%)	650%
EEA	0 (0%)	21 (1%)	0 (0%)	-
Non-EU/EEA	34 (2%)	81 (5%)	52 (5%)	53%

Source: MS data submissions under the 2025 Social Data Call

9.7.6 Gender

Because the profession of a fisher is physically demanding, the share of women among professional fishers is small. Only 4% of women are employed in professional fishing in Estonia and they all operate in coastal fisheries. Compared to 2020, the number of fishers decreased, but the share of men and women remained the same in 2023.

Table 68. Total employment by gender in Estonia, 2017-2023

Gender	2017	2020	2023	Δ 2023-2017
Female	47 (2%)	62 (4%)	41 (4%)	-13%
Male	2053 (98%)	1416 (96%)	972 (96%)	-53%

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

Unpaid labour is mainly seen in coastal fishing, where the majority of fishers are self-employed. Unpaid labour accounted for 83% of the total number of coastal fishers in 2023, of which the share of men and women was 96% and 4%, respectively. In 2020, unpaid labour accounted for 90% of the total number of coastal fishers, and the share of men and women was 94% and 6%, respectively. It follows that the share of women in the unpaid labour has decreased in 2023.

Table 69. Unpaid labour by gender in Estonia, 2017-2023

Gender	2017	2020	2023	Δ 2023-2017
Female	26 (2%)	60 (6%)	30 (4%)	15%
Male	1042 (98%)	1001 (94%)	707 (96%)	-32%

Source: MS data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.7.7 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Estonian fishing fleet reported an average annual labour cost of EUR 27 246 per FTE in 2023, just below the EU average. Fishing labour costs have steadily increased over time and are now almost twice as high as in 2013 (+86%).

Table 70. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	14 670	16 184	17 543	17 556	17 399	26 732	24 132	24 973	24 822	26 757	27 246
National average				32 322				38 140	38 631	35 174	35 875
Ratio of fishing labour cost to national average				0.54				0.65	0.64	0.76	0.76

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Average labour costs in Estonia are EUR 35 875 FTE, indicating that fishing labour costs are below (-34%) the national average. This gap has narrowed over time.

Fishing labour costs vary significantly between fleet segments with the lowest level in coastal fisheries and much higher levels in the Baltic Sea trawl fleet and especially the long-distance trawl fleet. Over time, labour costs have increased significantly in the trawl fishing sector and have remained fairly constant in coastal fishing.

Working conditions

Total Working hours: Fishers worked a total of 492 754 hours in 2023 which is 35% less than in 2020 (753 725 hours). The change is due to a decrease in the number of fishers during this time period (the decrease was 31%). The average number of hours worked by a fisher varies greatly across different fleet segments.

The average working hours per coastal fisher was 301 in 2023. The average number of working hours in coastal fishing is low because fishing trips do not last long, the work is seasonal and depends on the fishing opportunities of each fisher. Fishers may spend on the water only few hours a day or sometimes fishing only at weekends.

Fishers worked an average of 1 314 hours on the Baltic Sea trawlers in 2023. Fishing trips are not very long and last 1-3 days. The Baltic Sea trawlers end their fishing season for the summer months.

The average working hours per fisher working on the long-distance trawlers was 1 866 in 2023. Working on long-distance fishing vessels is difficult because fishing trips are long and may last even 2-3 months.

Social security

Fishers are covered by the Estonian social security systems as they would be in any other sector. Eligibility for social security and social assistance rights in Estonia is primarily based on residence. Nationality is not a criterion, so that the sizeable foreign-born proportion of Estonia's population is also covered.

The Estonian social protection system is structured around three contributory social security schemes: pension insurance, health insurance and unemployment insurance. Pension insurance and health insurance are financed from a social tax, while unemployment insurance is funded by unemployment insurance contributions. The other schemes - family benefits, State unemployment allowances, national pension, death grants and social benefits for the disabled - are non-contributory, being financed from general State revenues. (Source: NFP)

9.7.8 Social demographics per fishing activities

Small Scale Coastal Fleet

Employment was estimated at 854 jobs, corresponding to 137 FTEs in 2023. Most of fishers are men. Only 5% of women are employed in professional coastal fishing and the majority (73%) of them belong to the group of unpaid labour. The age of coastal fishers is rather high, 76% of fishers are aged 40-64 years old and as many as 16% of fishers are at retirement age. Younger fishers make up a small percentage of the total with 8%. 98% of coastal fishers are Estonians. The share of fishers with low, medium and high level of education is 11%, 79% and 10%, respectively. In terms of employment status the balance between employees and owners is inclined towards the owners, 33% and 67% respectively. The average wage per fisher in coastal fishing was EUR 2 646 in 2023. In 2020, it was more or less at the same level EUR 2 816. Very low average wage refers to that there are many persons in the sector for whom fishing is not the only source of income.

Large Scale Fleet

Employment was estimated at 110 jobs, corresponding to 77 FTEs in 2023. All fishers are men. The majority, 73% of fishers are aged 40-64 years old. Unlike coastal fishing, the age of the fishers did not exceed 64 years. Considering nationality the fleet are dominated by Estonians (65%), but there is also a large share of non-EU/EAA nationalities (34%). The share of fishers with low, medium

and high level of education is 6%, 84% and 10%, respectively. In terms of employment status only employees are directly involved in fishing. The average wage per fisher in the Baltic Sea trawler fleet was EUR 32 464 in 2023. Compared to 2020 (EUR 18 576), the increase was 75%.

Distant Water Fleet

Employment was estimated at 49 jobs, corresponding to 49 FTEs in 2023. All fishers are men. Compared to the Baltic coastal and trawl fisheries the share of younger fishers is here higher. 53% of fishers are under 40 years old, of which 77% are between the ages of 25 and 39. Considering nationality the fleet are dominated by Estonians (69%). Only fishers with medium and high level of education work in the fleet (53% and 47%, respectively). In terms of employment status only employees are directly involved in fishing. The average wage per fisher in the distant water fleet was EUR 62 155 in 2023. Compared to 2020 (EUR 32 831), the increase was 89%.

9.7.9 Trends and challenges

The biggest challenge in fisheries is the deterioration of fish stocks, which causes large fluctuations in fishing opportunities. This may lead to a continued decline in the number of fishers and the interest of young people in professional fishing. The Baltic Sea herring fishing quota decreased by 43% in 2024, which is the lowest permitted catch of herring in at least the last 15 years. Although the herring quota was restored in 2025, the sprat quota has now decreased by 30%. Due to the deterioration of fish stocks, a reduction in fishing effort in coastal fisheries is also being considered. The blame here is seen in the rapidly increasing number of cormorants.

The consumption of fish and fish products is set to increase in Estonia. A public procurement competition is currently underway to find an advertising company that would carry out a EUR 1.3 million campaign promoting the consumption of fish and fish products in Estonia. The goal of the campaign is to value fish as a healthy and tasty raw material and bring fish and fish products into greater focus: increase fish consumption among existing consumers, introduce different types of fish, and encourage children and young people to eat fish as well.

Support for the development of ice fishing is being paid to professional fishers for the first time. The aim is to ensure the year-round continuity of fishers's competitiveness in coastal areas and inland waters.

9.7.10 Methodological considerations and data issues

Data for 2018 and following years is affected by a change in the data collection which was done to ensure better data availability. It affected mainly 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 socio-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. When collecting data, Statistics Estonia uses the following methodology:

Census sampling scheme applies to all trawlers and those coastal boats that catch at least 100 tonnes per year (based on previous year's catches).

Stratified simple random sample (PSS) sampling scheme applies to those coastal boats that catch less than 100 tonnes per year (based on previous year's catches). The population is divided into two strata: 1) owners of coastal boats who caught less than 10 tonnes (stratum 1) and 2) owners of coastal boats who caught from 10 up to 100 tonnes (stratum 2) in previous year. A simple random sample is drawn from the both stratum and different regions are taken into account in the final sample.

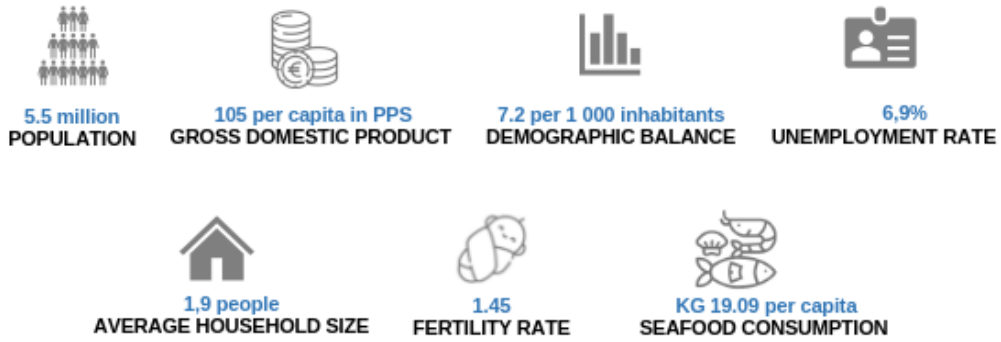
Due to the fact that data (especially regarding coastal fisheries) collected before 2018 is not of good quality, it was decided not to use social data collected for 2017 in the comparison.

9.8 Finland

There was no expert available to write this MS chapter. Therefore, the social data from the DCF and from some secondary sources are presented, without elaborate qualitative interpretation.

9.8.1 Snapshot of Finland

Figure 55. Finland in figures (reference year 2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

9.8.2 Short description of the fishing sector

In 2023, there were 3 240 registered vessels in Finnish fishing fleet, with a total capacity of 9 111 GT and 77 720 kW. The estimated total number of inactive vessels in 2023 was 2 082 and the majority of which (72%) are in the less than 10m/ 12 m segments. In 2023, the Finish fleet generated EUR 36.6 million from landings, a 25% increase from 2022. The fleet achieved EUR 20.5 million in GVA and EUR -3.0 million in net profit (REF from AER 2025).

Table 71. **Finland: summary of the fishing sector**

Indicator	Units	2023			Δ (2023-2017) %		
		Overall	SSCF	L12AG*+LSF	Overall	SSCF	L12AG*+LSF
Total employment	Persons						
FTE	Hours	173	95	78	-7%	-3%	-11%
Active vessels	Vessels	1 158	1 120	38	-0.3%	0%	-7%

Landings by weight	**Thousand tonnes**						
Landings by value	**Million €**						
Aging work force: >=65 in workforce	**%**						
Gender: women in workforce	**%**						
Nationality: nationals in workforce	**%**						

Source: MS data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.8.3 Social demographics in Fisheries

The Finnish fleet operates exclusively in the Baltic Sea, predominantly fishing in the Bothnian Sea. Finnish vessels also fish along the Finnish coastline and in the southern Baltic Sea.

The Finnish fishing fleet is predominantly composed of small-scale vessels, with 1 120 out of 1 158 (97%) active vessels operating within the SSCF. However, the 38 trawlers (LSF+L12AG) constitute the majority (72%) of the total fleet capacity in terms of vessel tonnage.

The Finnish fishing industry has seen a long-term decline in fishers and an increase in their average age, particularly within the SSCF segment. The introduction of the Individual Transferable Quota (ITQ) system in 2017 led to a significant reduction in vessels and employment, similar to other Nordic countries. By 2023, the number of trawlers dropped by nearly 30% (STECF AER, 2025).

9.8.4 Employment in Fisheries

Total Employment and Full-Time Equivalent

The total employment was estimated around 1 117 jobs, corresponding 173 FTEs in 2023. The total employment and the FTE decreased by 18% and 36% respectively from 2017 to 2023.

Table 72. Finland: Number of total employment

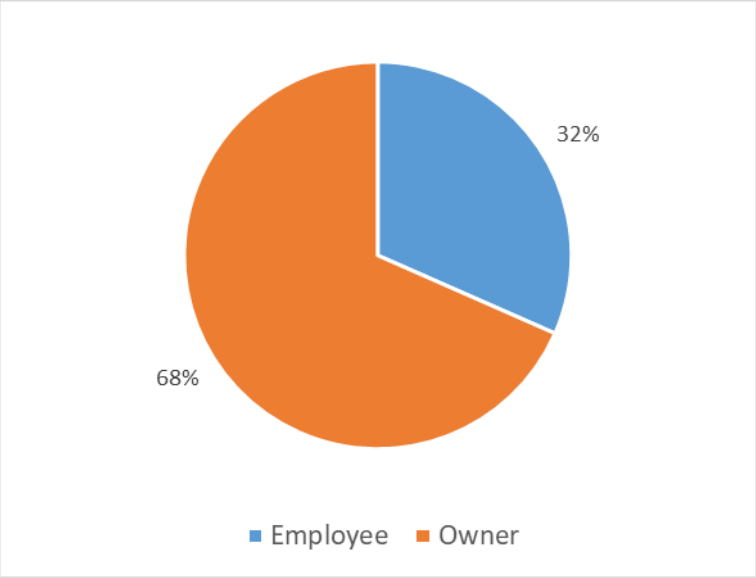
Gender	2017	2018	2019	2020	2022	2023	Δ 2023-2017
Female	129 (9%)	142 (12%)	140 (12%)	183 (15%)	176 (15%)	173 (15%)	34%
Male	1230 (91%)	1055 (88%)	1009 (88%)	1073 (85%)	962 (85%)	944 (85%)	-23%

Source: MS data submissions under the 2025 Social Data Call

Employment status

The employment status in Finnish fishing fleet consists of two groups of people: owner and employee. Around 68% of total employees were owners of the fishing company.

Figure 56. Employment by Employment Status



Source: MS data submissions under the 2025 Social Data Call

Table 73. Finland: Employment by Employment Status

Status	2017	2018	2019	2020	2022	2023	Δ 2023-2017
Employee	431 (32%)	445 (37%)	411 (36%)	393 (31%)	360 (32%)	353 (32%)	-18%
Owner	928 (68%)	752 (63%)	738 (64%)	864 (69%)	778 (68%)	764 (68%)	-18%

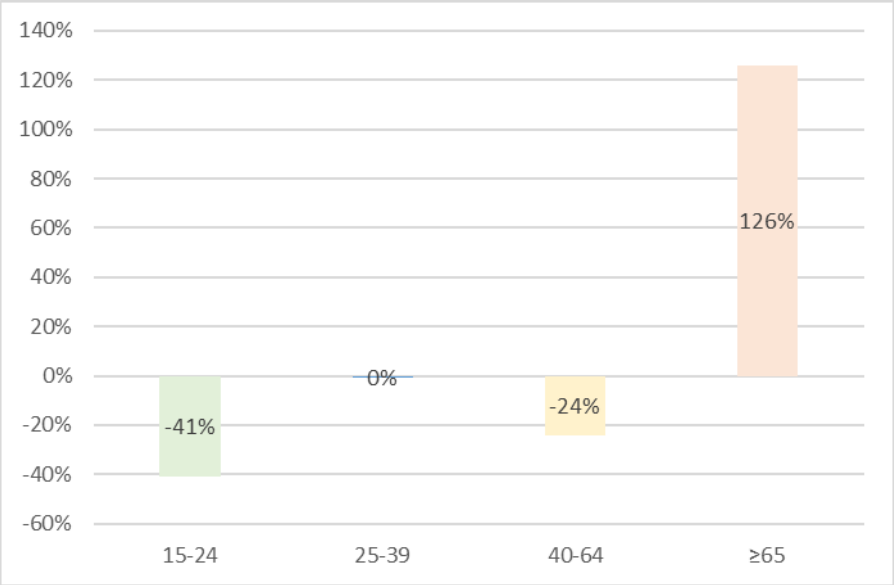
Source: MS data submissions under the 2025 Social Data Call

9.8.5 Demographics of the Workforce

Age

In 2023, around 70% of total employees on board in Finnish fishing fleet belongs to 40-64 age group, 21% to 25-39 age group and only 4% to the youngest employees from 15 to 24 years old. The 76% of employment were over 40 years old in 2023.

Figure 57. Finland: Employment change by Age, 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 74. Finland: Employment by Age

Age group	2017	2018	2019	2020	2022	2023	Δ 2023-2017
15-24	71 (5%)	51 (4%)	40 (3%)	44 (4%)	47 (4%)	42 (4%)	-41%
25-39	231 (17%)	190 (16%)	215 (19%)	227 (18%)	239 (21%)	230 (21%)	0%
40-64	1030 (76%)	916 (77%)	866 (75%)	929 (74%)	806 (71%)	783 (70%)	-24%
≥65	27 (2%)	40 (3%)	28 (2%)	57 (5%)	47 (4%)	61 (5%)	126%

Source: MS data submissions under the 2025 Social Data Call

9.8.6 Workforce education and training

Education

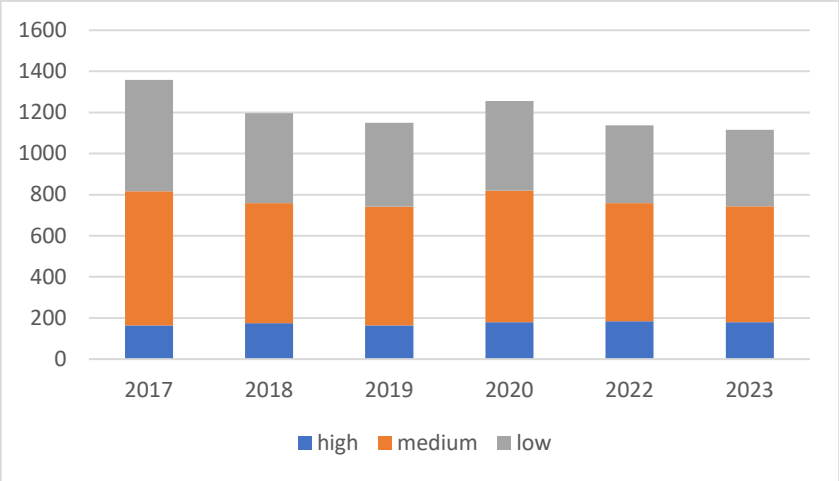
The high education in Finnish fishing fleet was accounted for 16% of the total workforce in 2023, while the medium education was reported for 51% of employment.

Table 75. Finland: Employment by Education level

Education	2017	2018	2019	2020	2022	2023	Δ 2023-2017
High	164 (12%)	175 (15%)	164 (14%)	179 (14%)	184 (16%)	180 (16%)	10%
Medium	653 (48%)	584 (49%)	578 (50%)	641 (51%)	575 (51%)	564 (51%)	-14%
Low	542 (40%)	438 (37%)	407 (35%)	436 (35%)	379 (33%)	372 (33%)	-31%

Source: MS data submissions under the 2025 Social Data Call

Figure 58. Finland: Employment by Education level

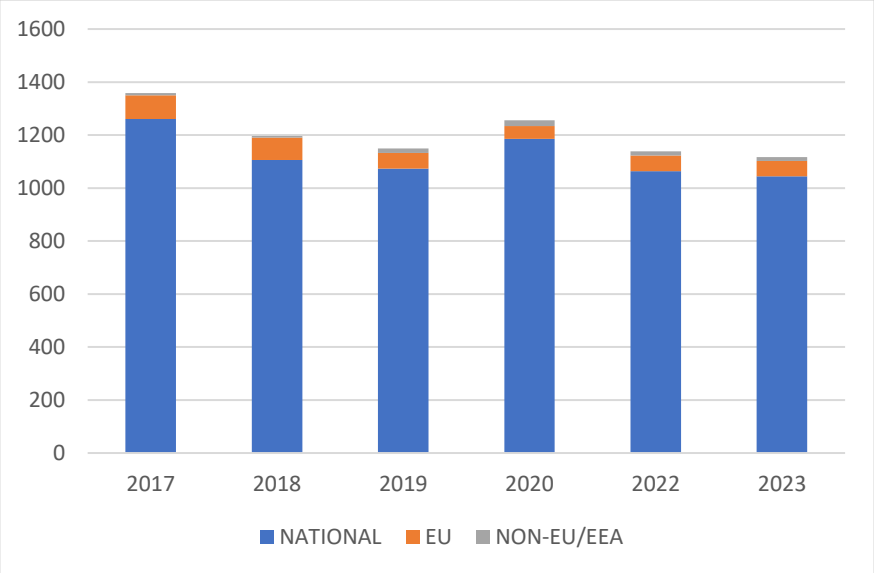


Source: MS data submissions under the 2025 Social Data Call

Nationality

In 2023, employment of Finnish fishing fleet consisted of 94% of national workers.

Figure 59. Finland: Employment by Nationality



Source: MS data submissions under the 2025 Social Data Call

Table 76. Finland: Employment by Nationality

Nationality	2017	2018	2019	2020	2022	2023	Δ 2023-2017
National	1261 (93%)	1106 (92%)	1073 (93%)	1186 (94%)	1064 (93%)	1044 (93%)	-17%
EU	89 (7%)	84 (7%)	60 (5%)	48 (4%)	59 (5%)	58 (5%)	-35%
Non-EU/EEA	9 (1%)	7 (1%)	16 (1%)	22 (2%)	16 (1%)	15 (1%)	67%

Source: MS data submissions under the 2025 Social Data Call

9.8.7 Gender

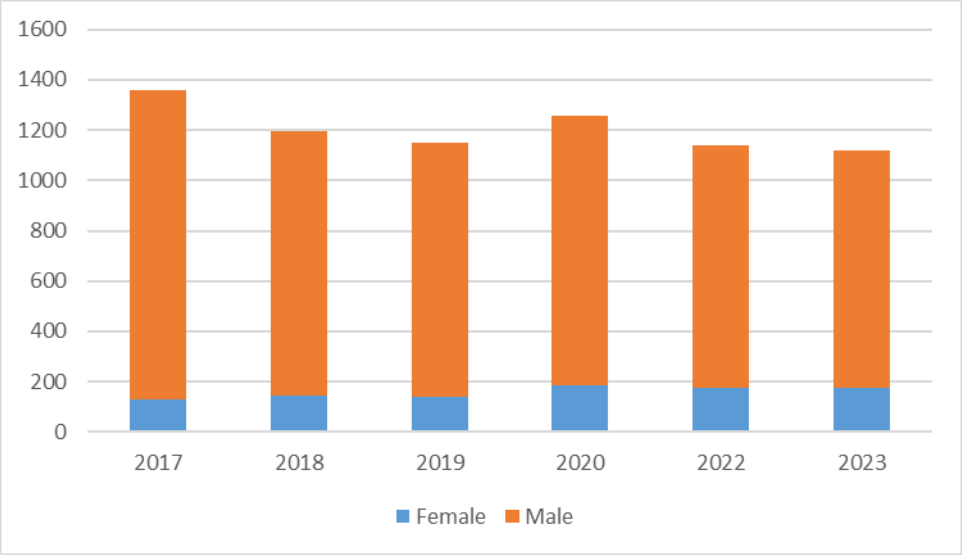
In 2023 around 85% of total number of employees in Finnish fishing fleet were male. Women in fisheries were mostly employed on small scale fleet, on shore positions and in overall employment were accounted for 15%.

Table 77. Employment by Gender

Gender	2017	2018	2019	2020	2022	2023	Δ 2023-2017
Female	129 (9%)	142 (12%)	140 (12%)	183 (15%)	176 (15%)	173 (15%)	▲ 34%
Male	1230 (91%)	1055 (88%)	1009 (88%)	1073 (85%)	962 (85%)	944 (85%)	▼ -23%

Source: MS data submissions under the 2025 Social Data Call

Figure 60. Finland: Employment by Gender



Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

In 2023, 490 persons were identified as unpaid.

Table 78. Finland: Number of unpaid

Gender	2017	2018	2019	2020	2022	2023	Δ 2023-2017
Female	74 (9%)	84 (12%)	99 (12%)	121 (15%)	113 (15%)	76 (16%)	▲ 3%
Male	711 (91%)	622 (88%)	715 (88%)	708 (85%)	618 (85%)	414 (84%)	▼ -42%

Source: MS data submissions under the 2025 Social Data Call

Social aspect in Fisheries

9.8.8 Material well-being

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Finnish fishing fleet reported an average annual labour cost of EUR 70 552 per FTE in 2023, well above the EU average (EUR 29 447 per FTE). Fishing labour costs have increased 153% since 2013, among the highest rate of increase of any EU Member State and well above the EU average (+22%).

Table 79. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	27 891	24 753	23 543	25 234	40 225	41 493	40 716	19 928	49 992	46 013	70 552
National average				76 645				74 456	73 274	69 533	68 872
Ratio of fishing labour cost to national average				0.33				0.27	0.68	0.66	1.02

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Fishing labour costs in Finland are slightly above the national average labour costs (+2%). This significantly contrasts with earlier years, for example in 2020 fishing labour costs were 73% below the national average labour costs.

9.8.9 Methodological considerations and data issues

Data source used for the DCF Social Data Call

Social data collection is based on employment statistics of Statistics Finland that is census data.

Data quality issues related to your MS

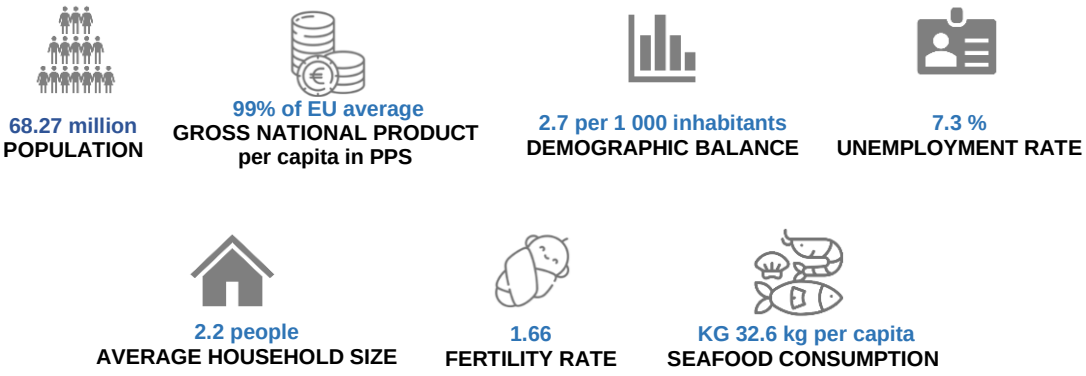
No specific issues detected.

Data is provided by Natural Resources Institute Finland (Luke). Link to Luke: www.luke.fi/en

9.9 France

9.9.1 Snapshot of France

Figure 61. France (Mainland) in figures



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

The figure summarizes the main socioeconomic characteristics of French society in 2023. Data exclude the outermost regions, which account for 2.2 million people. In 2023, France represented 15% of the total population of the European Union. The country's population continues to grow, with an increase of 2.7 people per 1 000 inhabitants - below the EU average of 3.6.

France's demographic balance depends largely on immigration, as the fertility rate remains low at 1.66 children per woman. This trend underscores ongoing challenges in population renewal and highlights the country's reliance on immigration to maintain demographic stability. Economic activity also relies on immigrant labour, particularly in sectors such as hospitality, food service, and agriculture, where many positions have become unattractive to French workers. The unemployment rate stands at 7.3%, while Gross National Product (GNP) per capita, measured in purchasing power standards, is 1% below the EU average. Annual seafood consumption per capita, measured in live weight, reached about 32.6 kilograms, corresponding to an expenditure of approximately EUR 138.

9.9.2 Short description of the fishing sector

In 2023, there were 6 203 registered vessels (excluding those registered in the shellfish segment), with a total capacity of 176 082 GT and 974 498 kW. The capacity of the national fleet has decreased by 13% since 2013. The estimated total number of inactive vessels was 1 025 in 2023 and the majority of them is (93%) less than 12 metres in length.

Fisheries sector within French & EU

For the purpose of this report, it was considered better to compare the economic and social importance of marine living resource sectors (fisheries, aquaculture, and seafood processing) with other sectors of the Blue Economy rather than with other economic sectors. In 2021, French Blue Economy sectors employed 533 000 people and generated EUR 29.5 billion in GVA, representing 1.9% of the workforce and 1.2% of national GVA. The marine living resources sectors accounted for 25% of employment and 19% of GVA, ranking third among Blue Economy activities, with a GVA of approximately EUR 5.6 billion (0.14% of GDP) (Kalaydjian & Bas, 2022).

In fisheries, the French fleet represents 8.8% of the EU fleet and 9.7% of EU fisheries employment, highlighting its key role in European fisheries.

The following table is a summary of the social demographics data and trends by fleet. These indicators will be presented in detail in the following sections.

Table 80. France summary table

Indicator	Units	2023					% Δ 2023 -2020				
		Overall	SSCF	L12AG	LSF	DWF	Overall	SSCF	L12AG	LSF	DWF
Total employment	Number	11 625	5 828	1 237	4 150	410	▼ -6%	▼ -3%	▼ -3%	▼ -9%	▼ -23%
FTE	Number	6 674	2 426	507	3 331	410	▼ -12%	▼ -14%	▼ -8%	▼ -10%	▼ -23%
Active vessels	Number	5 178	3 712	677	769	20	▼ -1%	▼ -1%	▲ 2%	▼ -7%	▼ 0%
Landings by weight	Thousand tonnes	477 052	84 724	43 670	255 272	93 386	▼ -1%	▼ -7%	▲ 4%	▼ -2%	▲ 5%
Landings by value	Million €	1 323 763	303 858	108 765	757 527	153 613	▼ 0%	▼ 0%	▲ 7%	▼ -2%	▲ 6%
Value / landings	euro/kg	2.8	3.6	2.5	3.0	1.6					
Aging workforce: **>=65** in workforce	%	0	0	0	0	0	▲ 18%	▲ 21%	▲ 18%	▲ 3%	▼ -100%
Gender : women in workforce	%	0	0	0	0	0	▲ 7%	▲ 5%	▲ 22%	▼ -3%	▼ -43%
Nationality : nationals in workforce	%	1	1	1	1	1	▼ -1%	▼ 0%	▼ -1%	▼ -2%	▼ 0%

Source: MS data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.9.3 Social demographics in Fisheries

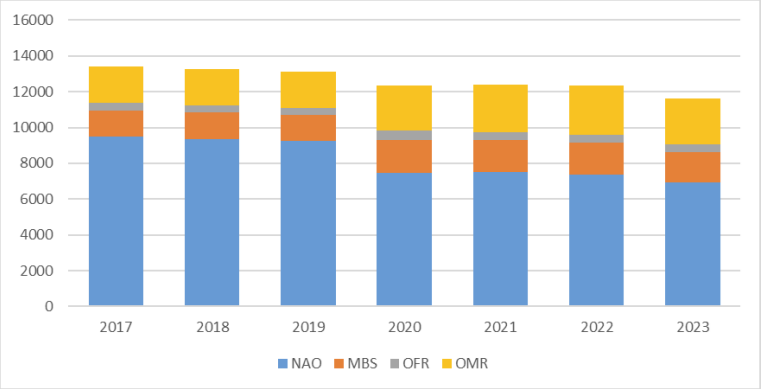
This section presents 2023 social and demographic data, with trends since 2017, the year of the first data collection. Social variables (employment, on-board status, age, gender, etc.) are shown at the national level and by supra-region (NAO, MBS, and OFR). To better highlight fleets in the French

Outermost Regions (OMR)[39], a separate OMR category was added, including vessels previously grouped in OFR with tropical purse-seiners. This allows clearer visibility of fishers and fleets from French Guiana, Guadeloupe, Martinique, and La Réunion (excluding Mayotte).

9.9.4 Employment in Fisheries

Total employment

Figure 62. Total Employment by supra-region from 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 81. Employment by supra-region and by fleet in 2023 and trend

	2023					Δ20-23				
	Overall	**SSCF**	**L12AG**	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
NAO	6 938	2 236	1 157	3 544		▼ -7%	▼ -8%	▼ -1%	▼ -9%	
MBS	1 697	1 206	34	457		▼ -6%	▼ -4%	▲ 3%	▼ -12%	
OFR	410				410	▼ -23%				
OMR	2 580	2 386	4	148		▲ 2%	▲ 3%	▼ -35%	▲ 6%	
Total	**11 625**	**5 828**	**1 237**	**4 150**	**410**	▼ -6%	▼ -3%	▼ -3%	▼ -9%	

Source: MS data submissions under the 2025 Social Data Call

In 2023, the French fishing fleet (including OMR supra-region except Mayotte) employed 11 625 people, including owners and crew members onboard fishing vessels. The overall number of fishers has decreased by 6% compared to 2020. NAO labour force (6 938 fishers, 60%) is larger than in MBS (1 697 fishers, 15%), OFR (410 fishers, 4%) or OMR (2 580 fishers, 22%). In the NAO region, 51% of fishers work on LSF vessels and 49% on vessels that are less than 12

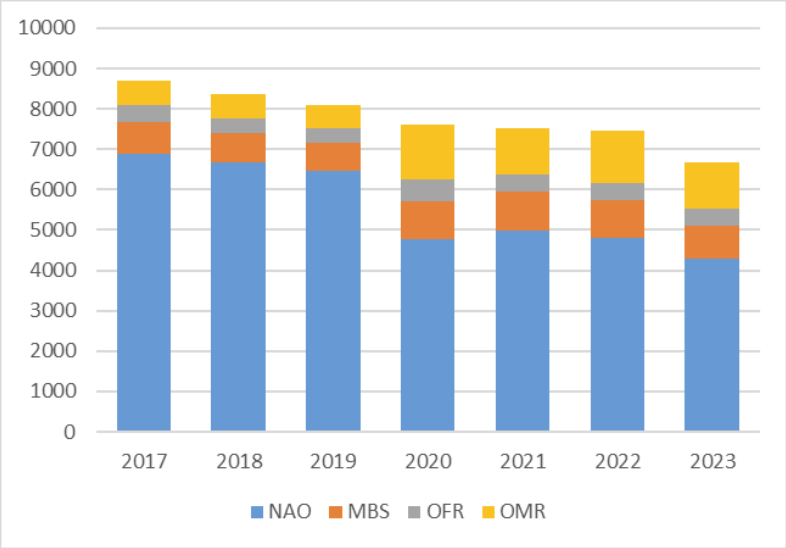
[39] NAO, = Baltic Sea, North Sea, Eastern Arctic, NAFO; Extended North-Western waters (ICES areas V, VI and VII) and Southern Western waters, MBS= Mediterranean Sea and Black Sea and OFR= Other fishing regions, OMR: Outermost Regions.

metres in length (SSCF or L12AG). SSCF vessels employ 71% of fishers in MBS and 92% are found in OMR vessels. In OFR, all persons are employed on DWF vessels.

Overall, the number of engaged crew decreased by 6% between 2020 and 2023. It is observed a decrease of 7% in NAO, 6% in MBS and a light increase of 2% in the OMR. Trends for DWFs are not interpreted due to inconsistencies in the data. The largest decrease is recorded in the LSF (-9%), followed by SSCF (-3%) and L12AG (-3%).

Full-Time Equivalent

Figure 63 : FTE by supra-region from 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 82. Full-Time Equivalent by supra-region and by fleet in 2023 and trend

	2023					Δ20-23				
	Overall	**SSCF**	**L12AG**	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
NAO	4 277	970	476	2 830		▼ -10%	▼ -15%	▼ -3%	▼ -10%	
MBS	830	452	13	365		▼ -12%	▼ -10%	▼ -26%	▼ -14%	
OFR	410				410	▼ -23%				
OMR	1 158	1 004	18	136		▼ -14%	▼ -15%	▼ -50%	▲ 9%	
Total	**6 675**	**2 426**	**507**	**3 331**	**410**	▼ -12%	▼ -14%	▼ -7%	▼ -10%	

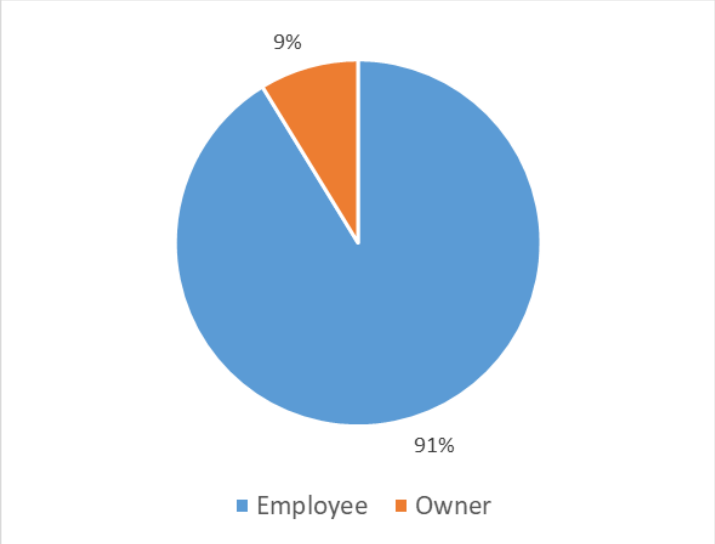
Source: MS data submissions under the 2025 Social Data Call

In 2023, the fisheries workforce amounted to 6 675 Full-Time Equivalent (FTE) jobs. The highest numbers were in NAO (4 277 FTE; 64%), followed by MBS (830 FTE; 12%), OMR (1 158 FTE; 6%), and OFR (410 FTE; 6%). These figures include both men and women.

Between 2020 and 2023, total FTEs decreased by 12%, with regional declines of 10% in NAO, 12% in MBS, and 14% in OMR. Trends for DWFs are not interpreted due to inconsistencies in the data. By fleet, SSCF experienced a 14% decrease, LSF 10%, and L12AG 7%.

Employment status

Figure 64: Employment status from 2018



Source: MS data submissions under the 2025 Social Data Call

Table 83. Employment status in 2023 by supra-region and trends

Status	2023					Δ20-23				
	Overall	NAO	MBS	OFR	OMR	Overall	NAO	MBS	OFR	OMR
owner	4 055	1 510	940	0	1 605	-12%	1%	5%		27%
employee full	7 208	5 354	713	410	731	-42%	-6%	-20%		-28%
employee part	160	73	42	0	46	11%	-72%	93%		
unknown	201	0	2	0	199	-21%				-21%
Total	**11 625**	**6 938**	**1 697**	**410**	**2 580**	-6%	-7%	-6%		2%

Source: MS data submissions under the 2025 Social Data Call

In 2023, of the total 11 625 fishers, 7 369 were employees and 4 055 were vessel owners. Data were not available for 201 fishers. 2% of employees worked part-time, and this percentage varies by region: 1% in NAO, 6% in MBS and 6% in OMR. The OMR has the highest proportion of fishers who are also vessels owners at 62% (1 605). The MBS comes next, with 55% (940) of fishers owning their own vessels. In contrast, in the NAO, only 22% of fishers (1 510) are owners. The OFR (distant water fleet) is comprised exclusively of employees.

The total number of fishers, including owners and crew, has decreased. However, the number of part-time workers has increased in MBS and OMR. Due to limited data quality, the reasons for this trend cannot be determined.

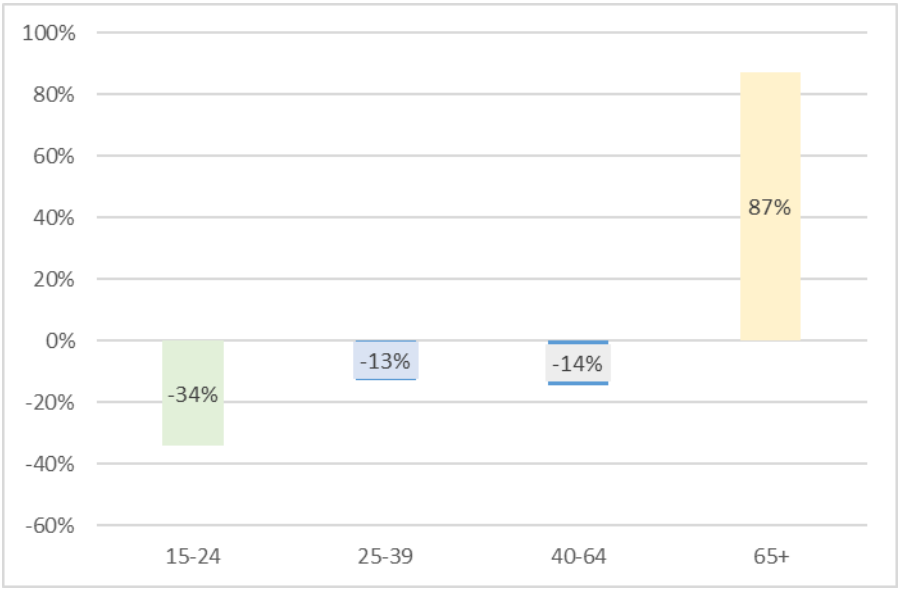
Note: Employment and FTE data exclude shellfish and seaweed harvesters on foot in the various supra-regions. Owners of large fishing enterprises who do not work aboard vessels or their onshore employees are also excluded (Frangoudes et al. 2025).

9.9.5 Demographics of the Workforce

The following tables are presenting the social variables by supra-region.

Age

Figure 65. Changes in the employment by Age from 2017 to 2023



Source: MS data submissions under the 2025 Social Data Call

Table 84. Total employment and Age, by supra-region and trend

Age	2023					Δ20-23				
	Overall	NAO	MBS	OFR	OMR	Overall	NAO	MBS	OFR	OMR
15-24	1 218	951	140	37	90	▼ -9%	▼ -8%	▲ 2%		▼ -24%
25-39	3 590	2 468	450	189	483	▼ -6%	▼ -4%	▼ -4%		▼ -11%
40-64	6 183	3 410	974	184	1 614	▼ -6%	▼ -10%	▼ -7%		▲ 9%
65+	440	109	133	0	199	▲ 11%	▲ 9%	▼ -17%		▲ 47%
Total	**11 431**	**6 938**	**1 697**	**410**	**2 386**	▼ -6%	▼ -7%	▼ -6%		▲ 5%

Source: MS data submissions under the 2025 Social Data Call

In 2023, fishers aged 40–64 represented more than half of the total fishing population (6 183 fishers, or 54%). The second-largest group is aged 25–39,

comprising 3 590 fishers (31%), followed by fishers under 24 years, with 1 218 individuals (10.7%). Overall, 42% of fishers were under 40 years old. The situation varies across the different supra-regions, with 49% of fishers under 40 in NAO, 35% in MBS, 55% in OFR and 24% in OMR.

Between 2020 and 2023, the 65+ age group increased in most supra-regions, except in MBS. This age category is significant in the OMR but is almost absent in the OFR, because the large pelagic purse seine fleet does not employ individuals in this age group. The significant increase in the OMR might be due to incomplete data in 2020 or the recent shift to online social insurance declaration.

In France, the minimum legal age to work on board a fishing vessel—as an owner, crew member, or mechanic—is 18 years. The retirement age is 55 years, provided all eligibility criteria are met.

Recruitment in the fisheries sector has become a significant concern, as the job no longer appeals to younger generations, resulting in limited renewable of workforce. In order, to understand this trend, social scientists, sociologists and psychologists, are conducting studies among students in maritime high schools to identify the key factors of the decreasing attractiveness of fisheries.

Efforts to attract new workers to the fisheries sector are also being pursued within the sector. The National Fisheries Committee, in cooperation with the fisheries administration, has conducted a survey to identify ways to make the profession more appealing, though results remain inconclusive. Most new entrants are older than the typical recruitment age and tend to enter the sector through vocational training programs rather than maritime high schools. Recruiting more women can help renew the fisheries workforce, and this is being promoted in France through the implementation of the ILO Convention C188. However, foreigner labour is the only response for some vessels.

9.9.6 Workforce education and training

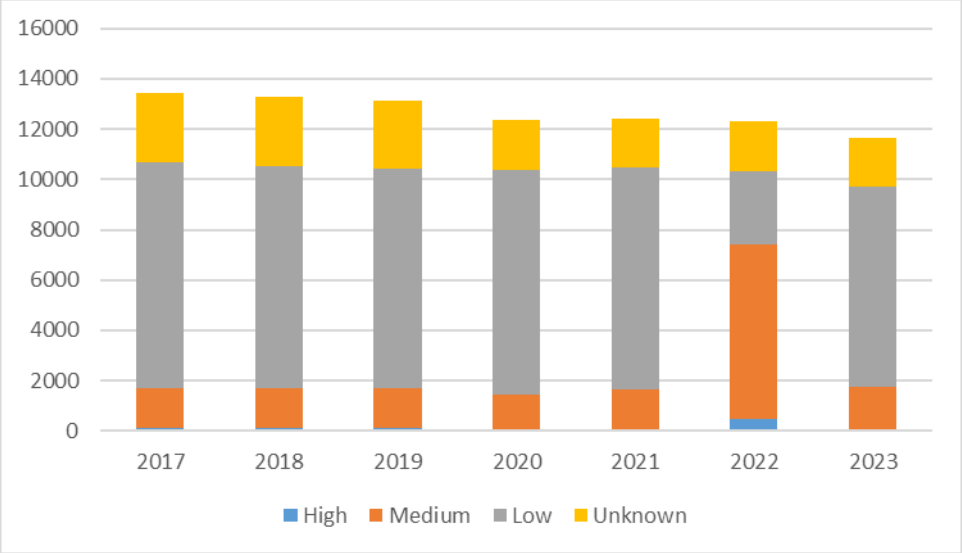
Education

Table 85. Education by level and by supra-region and trend

Status	2023					Δ20-23				
	Overall	NAO	MBS	OFR	OMR	Overall	NAO	MBS	OFR	OMR
low	7 976	4 553	1 299	353	1 770	▼ -10%	▼ -13%	▼ -12%		▲ 3%
medium	1 712	1 081	309	43	279	▲ 20%	▲ 16%	▲ 17%		▲ 53%
high	33	15	5	12		▼ -21%	▲ 39%	▲ 87%		
unknown	1 903	1 288	84	1	531	▼ -5%				▼ -14%
Total	**11 625**	**6 938**	**1 697**	**410**	**2 580**	▼ -6%	▼ -7%	▼ -6%		▲ 2%

Source: MS data submissions under the 2025 Social Data Call

Figure 66. Education by level from 2017-2023



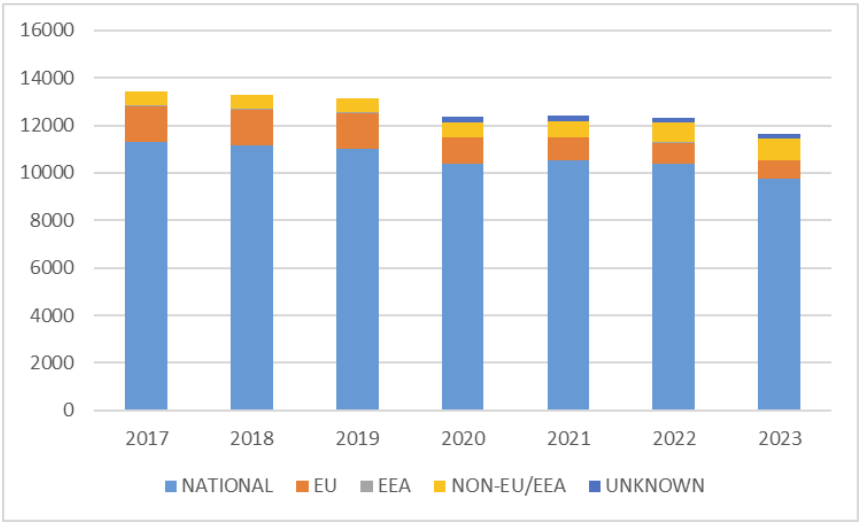
Source: MS data submissions under the 2025 Social Data Call

In France, data about education level of fishers is not available and for this reason, the level of training has been used as equivalent to an education level considering the number of years requested to obtain these diplomas.

Lower education should be equivalent to the *Certificat Aptitude Professionnel* (CAP) of deckhand obtained after the initial training provided from maritime high schools or training centres for adults. The middle level should be the diplomas delivered from maritime high school (BAC Pro or Brevets) delivered from the maritime high schools. The high education should include all diploma up to the high school diploma (BTS, etc.) (Haasnoot, T. et al., 2025; Frangoudes et al., 2025).

Nationality

Figure 67. Total Employment by nationality from 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 86. Nationality by supra-region and trend

Nationality	2023					Δ20-23				
	Overall	NAO	MBS	OFR	OMR	Overall	NAO	MBS	OFR	OMR
NATIONAL	9 730	5 676	1 616	405	2 032	-6%	-9%	-6%		5%
EU	780	745	27	3	5	-28%	-29%	-3%		1%
EEA	2	2				-5%	-5%			
NON-EU/EEA	919	514	55	1	349	48%	124%	-6%		5%
UNKNOWN	194				194	-23%				-23%
Total	**11 625**	**6 938**	**1 697**	**410**	**2 580**	-6%	-7%	-6%		2%

Source: MS data submissions under the 2025 Social Data Call

In 2023, from the 11 625 people working on board of fishing vessels the 9 730 (84%) were national, 780 (7%) EU citizens, 2 (0%) EEA citizens and 919 (8%) of them are originated from Non-EU/EEA. NAO supra region employs the highest number of Non-EU/EEA labour (514 fishers, 56%) followed from the OMR (349 fishers, 38%).

The number of foreign fishers (both EU or non-EU/EEA) remains stable, but their share of the total number of fishers in France increases by 6% between 2020 and 2023. Overall, the total number of non-EU/EEA citizens increased by 48% between 2020 and 2023, particularly in NAO (+124%), while the number of EU fishers decreased by 24%.

The lack of recruitment in France is driving owners to seek crews from non-EU/EEA countries. The significant increase in NAO supra regions can be attributed to the recent recruitment of Indonesian crews for French-Community-owned vessels for example. In the OMR, it should be noted that French Guiana owners employ a significant number of non-EU/EEA crews (e.g. Surinam, Brazil) on-board of small-scale vessels.

Non-EU/EEA crews employed on OFR vessels are not included in the data, as they are not part of the national social security system (ENIM) since they are hired in their countries of origin to respect the conditions of the fisheries agreement signed by European Union with these countries.

In France, persons working on board of fishing vessels are paid on share, under the conditions established from the national convention organising the work and payment in fisheries sector. National and non-nationals as well women and men received the same salary according to the job accomplished on board and benefit same social insurance (ENIM) (Frangoudes et al., 2025).

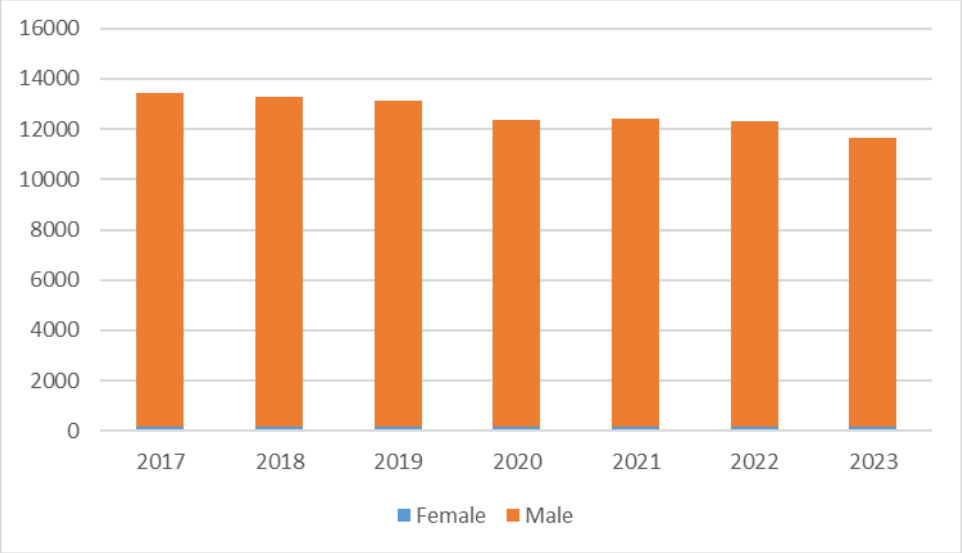
9.9.7 Gender

Women made up 1.5% of the total number of fishers (1.4% in NAO, 2.5% in MBS, 0.3% in OFR and 1.4% in OMR), while men accounted for 98.5%. Of the 180 women on board, 99 (55%) work in NAO, 42 (23%) in MBS, 1 (0.6%) in OFR and 37 (21%) in OMR. The large majority of women (159 women, 88%) are working on vessels under 12 metres of length. Only few women are found in

larger scale or distant fleet fisheries vessels. One woman is working on board of a tropical purse seiner operating in OFR (Indian Ocean/South Atlantic).

Women's participation in the fisheries sector remains considerably lower than in other primary economic sectors. For example, women accounted for 31% of the workforce in aquaculture (2023) and 29% of FTEs in agriculture (2020). In these two sectors women often hold leadership positions, representing for example, 26% of leadership roles in agriculture. While the number of fishers' population has decreased since 2020 (-6%), the number of women has increased slightly (+1%) over the same period.

Figure 68 : Total Employment by gender from 2017-2023



Source: MS data submissions under the 2025 Social Data Call

Table 87. Gender by supra-region and trend

Gender	2023					Δ20-23				
	Overall	NAO	MBS	OFR	OMR	Overall	NAO	MBS	OFR	OMR
female	180	99	42	1	37	▲ 1%	▲ 8%	▲ 12%		▼ -19%
male	11 445	6 838	1 655	409	2 543	▼ -6%	▼ -7%	▼ -7%		▲ 2%
Total	**11 625**	**6 938**	**1 697**	**410**	**2 580**	▼ -6%	▼ -7%	▼ -6%		▲ 2%

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

France did not provide data on unpaid labour. This is likely because all persons working on board fishing vessels (owners, skippers, and crew) are paid through a share system, while those operating alone on SCSF vessels earn income from vessel profits. Individuals without maritime diplomas and security training are not allowed to work on board, for both legal work and safety. For safety reasons, anyone boarding a fishing vessel for purposes other than work must be reported to the local fisheries authorities.

Only spouses or life partners of vessel owners assisting in the family enterprise without remuneration and registered under the **collaborative spouse status** (Directive 2010/41/EU) should be included in this category. This status grants access to retirement, training, and representation rights. Since 2022, the collaborative spouse status, implemented in 1998, has been limited to five years, after which spouses or life partners must choose either employee or associate partner status. The goal of this change is to enhance the visibility of women in the sector, including those engaged in agriculture and other traditional independent activities. However, if these women are not employed by the family enterprise after five years, the invisibility that existed before 1998 will re-emerged. In fisheries, these women are covered by the ENIM social insurance scheme. In 2025, about 250 spouses or life partners of fishers hold the collaborative spouse status and are under the ENIM scheme.

Social aspects in Fisheries

9.9.8 Material wellbeing

This section is composed by the following key issues representing material wellbeing of fishers: wages per FTE, annual working hours, and the number of accidents at sea. Data on wages and annual working hours data are drawn from EUROSTAT and the Annual Economic Report, while information on accidents, injuries and fatalities is provided from EMSA.

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

Table 88. Wage per FTE by fleet and by supra-region and trend 2020-2023

	2023					Δ20-23				
	Overall	**SSCF**	**L12AG**	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
NAO	88 172	90 822	87 446	87 385		▲ 29%	▲ 34%	▲ 12%	▲ 30%	
MBS	84 000	58 178	55 107	116 964		▲ 17%	▲ 11%	▼ -13%	▲ 23%	
OFR	NA				NA	NA				NA
OMR	26 940	26 695	18 072	29 955		▲ 17%	▲ 14%	▲ 33%	▲ 37%	
TOTAL	**78 192**	**58 207**	**84 114**	**88 288**	**NA**	▲ 26%	▲ 26%	▲ 14%	▲ 28%	NA

Source: European Commission, Joint Research Centre, Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2025 Annual Economic Report on the EU Fishing Fleet (STECF 25-03 & 25-07). Values have not been inflation-adjusted.

The French fishing fleet reported an average annual labour cost of EUR 78 192 per FTE in 2023, the third highest in the EU. Fishing labour costs have increased 22% since 2013, in line with the broader EU trend (+22%).

Labour costs vary by supra-region: EUR 88 172 on average in NAO, EUR 84 000 in MBS, and EUR 26 940 in OMR. Overall, labour costs were generally higher in large-scale fisheries (LSF) than in small-scale coastal fisheries (SSCF), although this varied between supra-regions. In NAO, fishers across the three fleets earned similar labour costs, ranging from EUR 87 382 in LSF to EUR 90 822 in SSCF. In MBS, LSF fishers earned significantly higher labour costs (EUR 116 964) than those in SSCF (EUR 58 178). The higher figures for LSF mainly reflect Bluefin tuna seiners operating in the region. In OMR, average labour costs were almost identical for SSCF and LSF, at around EUR 27 000.The distant-water fleet operating in the OFR was excluded due to limited data reliability. Labour costs have increased across nearly all regions and length classes, particularly for the LSF.

As the measurement of FTEs is approximate, this may affect the reliability of this indicator. Labour costs include social insurance contributions.

Table 89. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	64 153	65 367	72 193	73 908	74 613	68 342	70 140	70 732	76 253	77 992	78 192
National average				80 834				86 417	84 615	83 394	82 019
Ratio of fishing labour cost to national average				0.91				0.82	0.90	0.94	0.95

Data source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

The average fishing labour cost in France is well above the national minimum wage (EUR 21 621) and just below that national average labour cost (-5%). Despite this potential factor of attractiveness, the sector faces difficulties in attracting new workers.

Working conditions

Table 90. Average annual hours per worker by fleet and trend

	2023					D20-23				
	Overall	SSCF	L12AG	LSF	DWF	Overall	SSCF	L12AG	LSF	DWF
NAO	617	467	485	755		▼ 0%	▲ 1%	▼ -5%	▲ 1%	
MBS	462	544	404	250		▼ -7%	▼ -7%	▲ 15%	▼ -12%	
OFR	NA				NA	▲ 48%				NA
OMR	262	241	169	639		▼ -13%	▼ -15%	▲ 10%	▼ -4%	
TOTAL	**497**	**390**	**471**	**695**	**NA**	▼ -3%	▼ -7%	▼ -3%	▲ 0%	NA

Source: European Commission, Joint Research Centre, Scientific, Technical and Economic Committee for Fisheries (STECF) – The 2025 Annual Economic Report on the EU Fishing Fleet (STECF 25-03 & 25-07)

This indicator includes only the time spent at sea and excludes activities ashore such as landing and selling fish, repairing fishing gears, and other related tasks. In 2023, fishers spent an average of 497 hours at sea per year. Regional averages were 617 hours in NAO, 462 in MBS, and 262 in OMR. LSF fishers spent more time at sea (695 hours) than those in SSCF (390 hours), though patterns varied by supra-region. In NAO, fishers on vessels under 12 metres worked less than 485 hours, while LSF fishers spent about 755 hours at sea.

In MBS, LSF fishers spent less time at sea due to the seasonal nature of their activity. In OMR, SSCF fishers averaged 241 hours, influenced by weather, other occupations, and time spent selling fish.

The distant-water fleet in OFR was excluded due to limited data quality.

In France, the legal annual working time is 1 607 hours for a full-time employee, based on a 35-hour week. In fisheries, working time is calculated annually rather than weekly and corresponded to 218 days, according to the national fisheries agreement. A more accurate assessment of total working time would require data on hours spent ashore (for landing, maintenance, and sales) and on actual working and rest hours on board, particularly for LSF crews.

Social security / insurances

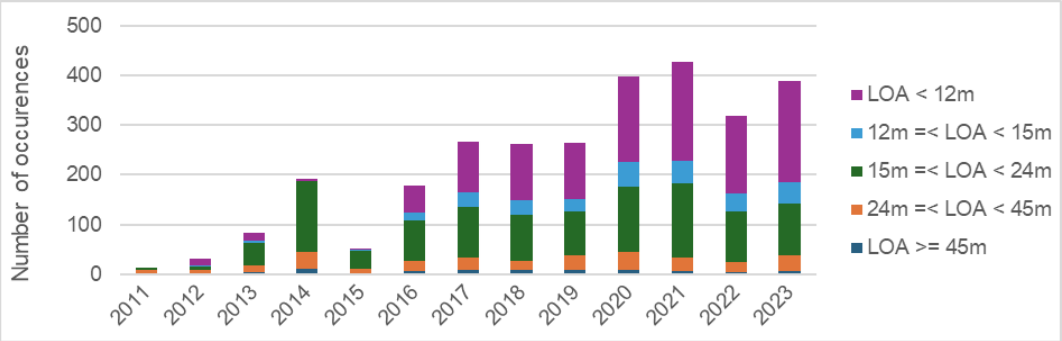
Health and retirement insurance for fishers falls under the responsibility of ENIM (Etablissement National des Invalides de la Marine). All vessel owners, skippers, and crew members—whether French nationals or foreigners—working on fishing vessels in mainland France and the outermost regions are covered by ENIM. Fishers who do not operate vessels, such as shellfish and seaweed harvesters working on foot, are instead covered by the agriculture health and retirement insurance system (MSA) (Frangoudes et al. 2025).

The main difference between the two systems is the retirement age. Beneficiaries under the ENIM system can be retired at 55 years (under certain conditions), while those under the MSA system retire at 64 years, like all employees. Fishing on vessels is classified as a difficult occupation, similar to fire and police personnel, who may retire at 57 years if they meet specific criteria. Assisting partners opted for a legal status of collaborative spouses are also belonging to ENIM or MSA insurance schemes for the retire pension only. All fishers (crew and skipper) belonging to ENIM system are paid under share system.

Accidents on board

The following figures are based on the data gathered from the European Maritime Safety Agency. They are presenting the numbers of accidents on board of fishing vessels by severity, by vessel length, injuries by length and number of people lost at sea.

Figure 69. Accidents on board by vessel length



Source: EMSA

Figure 70. Live lost by vessel length

Source: EMSA

In 2023, 390 accidents were recorded in France. Between 2017 and 2019, approximately 265 accidents were recorded each year, but since 2020, the number has been nearly to 400 accidents (except in 2022, when there were 318 accidents). 77% are classified as serious or very serious accidents. There were 73 reported injuries and 10 lives lost. In recent years, it has been observed that vessels less 12 metres are accounting higher number of live lost at sea compared to the LSF and DWF. The number of accidents on board of less than 12 metres is higher than in the other segments (52% of accidents in 2023). LSF and DWF seem to have less vessels accident the last years.

The EMSA data are difficult to interpret. In the case of France should be compared with figures from the *Institut Maritime de Prévention*, based on ENIM data. While the EMSA identifies vessel sizes most prone to accidents, it does not specify the nature of the activities involved or whether incidents occurred during fishing operations or transit to fishing grounds. More significant input on this issue requires more detail information from national sources.

Foreign flagged vessels

Vessels from other Member States operating near the French coast often land their catches in French harbours, where they may be sold locally or transported to their home countries. French vessels operate similarly near other Member

States' coasts, such as Ireland. French fishers do not own vessels registered under foreign flags. However, French-Community-owned vessels operating from Spanish or Dutch owners are included in the French national fleet, and their landings are recorded in national statistics. Employment data are available when vessel owners contribute to the ENIM insurance scheme. Crew employed through manning agencies are excluded. The presence of other Member State fleets in French waters sometimes creates tensions with the national fishing sector as they compete for the same space and species without using the same fishing gears.

9.9.9 Social demographics per fishing activities

The tables and graphs below summarise the information presented and discussed above. In each region, the economic and social situation of fishers varies between fleets. Differences are also observed among fishers engaged in the same type of activity, depending on whether they operate in the NAO, MBS, or OMR. These variations are presented in the following sections.

Table 91. Summary of social indicators by fleet and supra-region

	Overall						NAO						MBS						OMR					
	SSCF		L12AG		LSF		SSCF		L12AG		LSF		SSCF		L12AG		LSF		SSCF		L12AG		LSF	
	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023
Gender																								
female	134	136	19	22	22	20	60	66	19	21	13	12	31	37		1	7	4	43	34			3	4
male	5 881	5 692	1 254	1 215	4 513	4 130	2 373	2 170	1 150	1 135	3 866	3 533	1 231	1 169	33	33	510	453	2 277	2 352	71	46	137	144
Nationality																								
NATIONAL	5 410	5 258	1 258	1 205	3 205	2 861	2 381	2 183	1 156	1 129	2 669	2 364	1 242	1 191	31	30	452	395	1 786	1 884	71	46	84	102
EU	34	24	5	8	1 036	745	20	14	5	7	1 017	725	12	8		1	16	17	2	2			3	2
EEA					2	2					2	2												
NON-EU/EEA	318	352	10	25	292	541	32	40	8	21	190	453	8	7	2	3	49	45	278	305			53	44
unknown	253	194																	253	194				
Age																								
≤14																								
15-24	536	468	173	173	582	539	336	296	161	168	538	486	96	101	3	2	38	37	103	72	9	3	6	16
25-39	1 660	1 596	449	432	1 478	1 373	860	846	418	419	1 295	1 203	317	311	2	7	150	133	484	440	29	6	32	37
40-64	3 248	3 207	624	602	2 426	2 189	1 182	1 033	564	540	2 026	1 837	719	686	26	24	300	264	1 347	1 488	33	37	99	89
65+	317	362	28	31	49	48	55	61	26	29	19	18	129	108	2	2	28	23	133	193			2	6
unknown	253	194																	253	194				
Education																								
high	1	2		1	15	18		1		1	11	14		1			3	4	1				1	
medium	670	918	173	209	539	541	345	439	168	205	423	437	163	226	5	4	95	79	162	253			21	26
low	4 629	4 261	1 055	970	2 749	2 393	1 991	1 705	965	901	2 268	1 948	1 058	926	27	26	396	347	1 580	1 630	63	43	84	97
unknown	714	647	45	58	1 233	1 197	97	92	36	51	1 177	1 146	40	53	1	4	22	27	577	503	8	3	34	25
Employment status																								
owner	2 990	3 342	446	472	220	241	918	900	392	417	189	194	853	881	12	12	31	47	1 219	1 561	42	43	0	0
employee	2 771	2 286	827	765	4 315	3 908	1 515	1 337	776	740	3 689	3 350	409	324	21	22	486	409	848	625	29	3	140	148
unknown	253	200	0	0	0	1	104	27	55	42	96	4	7	34	0	6	15	2	1	46	0	0	0	0
FTE per Gender																								
female	57	50	7	8	16	15	23	25	7	8	9	9	12	14		0	5	3	22	11			3	4
male	2 750	2 376	543	499	3 694	3 316	1 090	946	494	468	3 150	2 822	498	438	12	12	421	362	1 162	993	37	18	122	132
Average wage per job		58 207		84 114		88 288		90 822		87 446		87 385		58 178		55 107		116 964		26 695		18 072		29 955

Source: MS submissions under the 2025 Social Data Call and Fleet Economic data call.

Small Scale Coastal Fleet

Figure 71. Small Scale Coastal Fleet - social indicators by supra-region

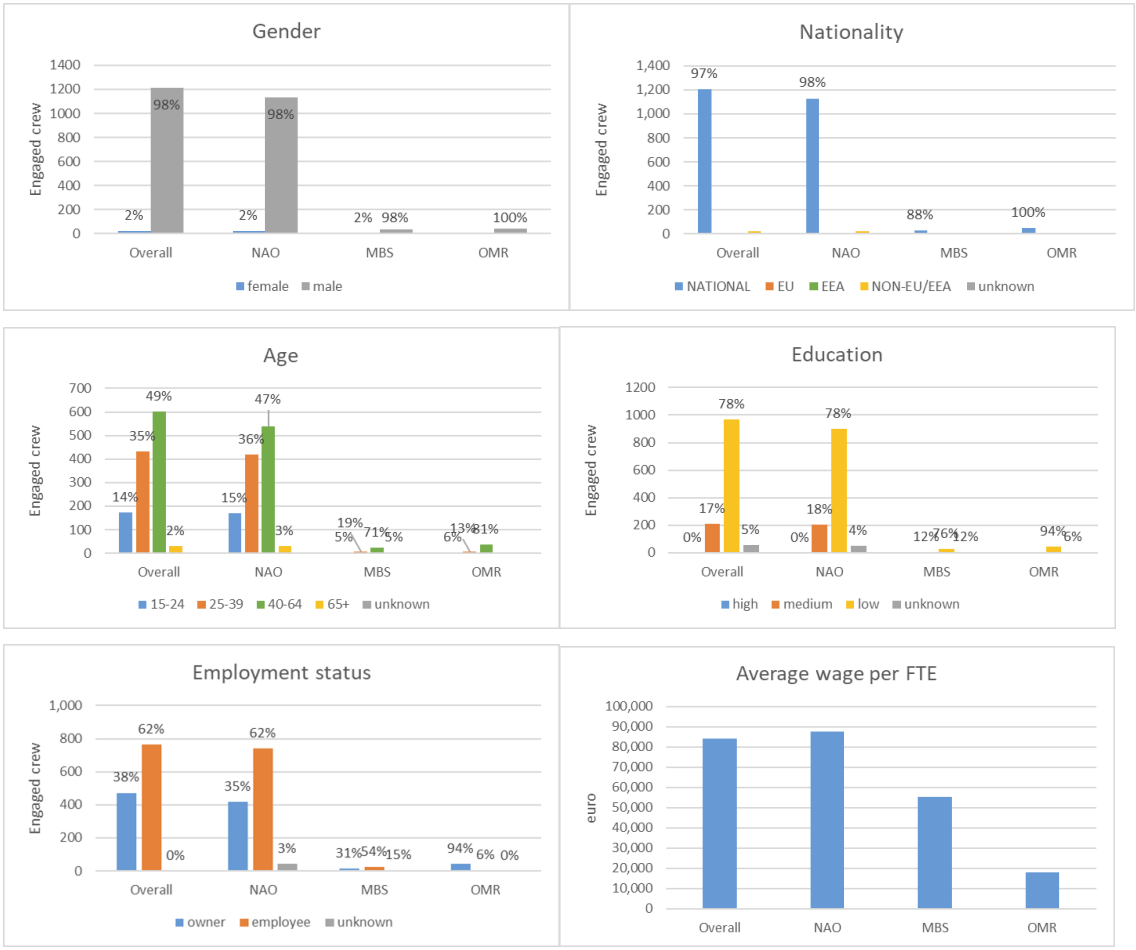
Source: MS submissions under the 2025 Social Data Call and Fleet Economic data call.

Women are few on board SSCFs, particularly in OMR. In this fleet category foreign fishers are few in NAO and MBS (<2%) but exceed 13% in OMR, mainly on French Guiana vessels.

Most SSCF fishers are aged 40–64 (55% on average), with higher shares in OMR (62%) and MBS (57%) than in NAO (46%). Fishers over 65 are more common in MBS (9%) and OMR (8%) than NAO (3%), while those under 39 are most numerous in NAO (51%). Education data are insufficient for analysis. On average, 57% of SSCF owners work on board, with higher rates in MBS and OMR (>70%) and lower rates in NAO (40%). In NAO, the average salary per FTE is higher than in other regions.

L12AG (<12m active gear)

Figure 72. < 12m active gear - social indicators by supra-region



Source: MS submissions under the 2025 Social Data Call and Fleet Economic data call

Category L12AG is mostly composed of NAO fishers (93%), so regional comparisons are not relevant. Women represent 1.8% of fishers, and foreign fishers about 3%.

Among L12AG fishers, 49% are aged 40–64 and 49% are under 39. Education data are insufficient for analysis. On average, 38% of owners work on board.

The average salary per FTE is around EUR 84 000 including the social insurance contribution.

Large Scale Fleet

Figure 73. Large Scale Fleet - social indicators by supra-region

Source: MS submissions under the 2025 Social Data Call and Fleet Economic data call

85% of LSF fishers work in NAO. Women are few (<1%); 12 in NAO, 4 in MBS, 4 in OMR.

In the LSF, 69% of fishers are French citizens, 18% from other European countries, and 13% from non-EU countries. MBS has a higher share of French fishers (86%). In NAO, foreign fishers are working mainly on gillnet (DFN), trawler (DTS), and hook (HOK) fleets. The number of foreign fishers employed on dredgers (DRB) has almost doubled between 2020 and 2023.

In NAO, 52% of LSF fishers are aged 40–64, and 48% under 39. Fishers in MBS and OMR are older, with only 37% and 36% under 39, respectively. Education data are insufficient for analysis and cannot be commented. Most fishers are employees: 5% are owners in NAO, 10% in MBS, and none in OMR.

Average salaries per FTE are highest in MBS.

Distant Water Fleet

The data presented here include only fishers registered with ENIM, excluding those employed through temporary employment agencies, who make up the majority of crew in these fleets. Consequently, the data are not representative of the fleets and should not be interpreted as such.

9.9.10 Trends and challenges

At sea, fisheries face competition from marine renewable energy, conservation areas, raising concerns over space, access, and sustainability. Environmental regulations, pollution, and habitat loss - especially in overseas territories - further threaten activity, while an ageing workforce and limited access to licenses hinder generational renewal. Fleet modernization, improved safety, and cleaner vessels are vital to attract young men and women and reduce emissions. Fairer quota allocation and greater inclusion of youth and women are key to ensuring equity and long-term sustainability of the sector.

9.9.11 Methodological considerations and data issues

Social data is collected exhaustively for all seafarers affiliated with ENIM.

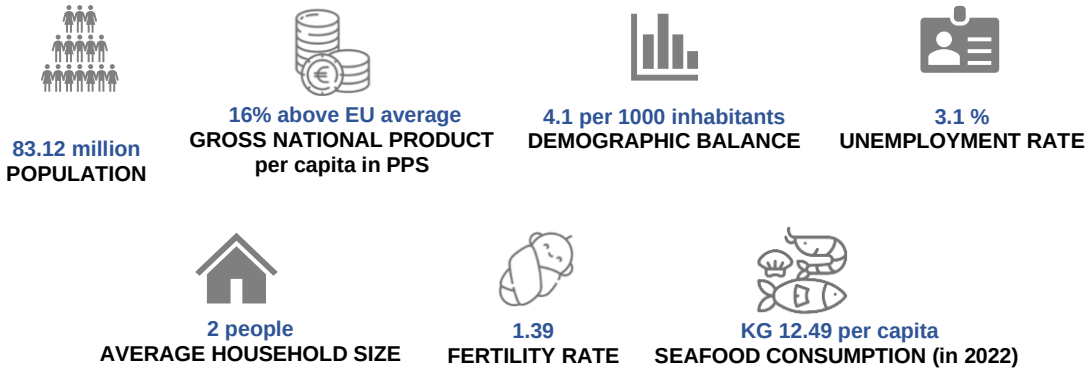
Data quality issues related to your MS

– Education data need to be improved because as they are now are not useful.
– For the age indicators we need to add a new cluster starting from 55 years old as it is the age for retirement pension for fishers in some EU Member States.
– Unpaid labour on board is illegal in France. The revenue of an owner alone on his small scale vessel is representing an income, and included in variable "personnel cost".

9.10 Germany

9.10.1 Snapshot of Germany

Figure 74. Germany in figures (reference year 2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Germany has approximately 83 million inhabitants, and covers an area of 357 588 km². Germany's population is undergoing a process of demographic aging, with a rising number of Germans being over 65 years old, the proportion of elderly individuals is particularly pronounced in structurally weak regions (Barz, Brüning, et al., 2025). In 2023, Germany had a gross national product of PPS 116 per capita (PPS = Eurostat's purchasing power standard, EU-27 in 2020=100), a demographic balance of 4.1 per thousand inhabitants, and a 3.1% unemployment rate. On average two people lived in a household in Germany. The fertility rate was 1.39. Germans consumed 12.49 kg per capita of seafood in 2022. The German fishery fleet plays a significant role in meeting the country's seafood needs, accounting for approximately 18% of domestic demand in 2023. As a key component of the German seafood industry, it is involved in the entire supply chain, from production to processing and retail. Overall, the seafood industry in Germany generates around 30 000 jobs, as reported by Barz, Brüning, et al. (2025).

Germany has a temperate climate and a diverse landscape, from northern coasts to the Alpine regions in the south. Its coastline, including islands, stretches nearly 2 400 km (Statista, 2024). Coastal areas are mostly rural, with low population density, extensive agricultural and forestry land use, and peripheral locations relative to major cities. They also tend to have lower average incomes, less developed infrastructure (e.g., limited access to general practitioners), and weaker municipal finances — especially along the Baltic Sea coast (Thünen Institute, 2024).

Germany is a federal republic made up of 16 states. Before reunification in 1990, it was divided into the German Democratic Republic (GDR) emerging from the Soviet occupation zone, and the Federal Republic of Germany (FRG), emerging from the western occupation zones, each with distinct fisheries policies. After reunification, the former GDR regions adopted the FRG's political and economic system, resulting in a systemic shift for fishers, who transitioned from operating within a centrally planned economy in the GDR to a market-oriented economy in the FRG. The impacts of this transition on fisheries remain poorly documented (Barz, Brüning, et al., 2025).

9.10.2 Short description of the fishing sector

In 2023, there were 1 138 registered vessels (excluding dredgers from mussel industries, which are registered in the aquaculture segment), with a total capacity of 54 132 gross tonnage and 120 742 kW. Based on active vessels, the German fleet represents 1.6% of EU fisheries and accounting for approximately 1% of EU fishers. However, the capacity of the national fleet has decreased since 2013. The estimated total number of inactive vessels in 2023 was 300, the majority of which (93%) are in the less than 12 metre segments. The proportion of inactive vessels declines as vessel length increases. The German LSF comprised 213 active vessels, representing 27% of the active fleet, while the SSCF accounted for 625 active vessels, or 73% of the fleet. The German SSCF operates almost entirely in the Baltic Sea, while cutters over 12 metre and under 500 gross tonnage fish in both the North Sea and the Baltic Sea. German high-seas trawlers (Distant Water Fleet, DWF) primarily operate in the North Atlantic and Eastern Arctic regions, with occasional activity in African waters and, in some years, the Southern Pacific. In 2023, catches totalled 165 500 tonnes, slightly up from 2021 but still well below the 2013–2018 average. The main species were herring, blue whiting, cod, mackerel, common shrimp, and Greenland halibut. By weight, blue whiting dominated, while common shrimp generated the highest revenue. In 2023, the German fleet generated an estimated EUR 179 million in revenue (excluding direct subsidies), up 9% from 2021 but 20% below the 2013–2021 average. Direct income subsidies totalled EUR 14.6 million, down 64% from 2021, yet remained relatively high due to temporary cessation payments in the Baltic Sea (STECF 25-03 & 25-07). In 2023, the GVA of the fisheries sector was estimated at EUR 81.8 million, whereas the German GVA was estimated at EUR 3 853.937 billion in total. This corresponds with a share of the fisheries GVA on the German GVA of 0.0021%. However, the economic (and social) significance of fisheries varies considerably at the local level and remains relevant in certain coastal communities.

In German fisheries, there are multiple stressors affecting the material as well as the non-material well-being of fishers. German fisheries have been declining for years. The bad ecological state of the Baltic Sea, the weak conditions of Baltic fish stocks (most of them are collapsed) as well as human-wildlife conflicts with seals and cormorant are affecting the well-being of fishers. Often the non-material well-being (e.g., conflict with seals) affects directly the material well-being (because seals eat catch out of nets and destroy them).

In the North Sea, high fuel prices as well as competition for space (especially with offshore wind and marine protected areas) are more in the foreground. They are affecting non-material well-being (e.g., when fishers feel excluded in decision processes that affect their fishing grounds and perceive current discourses on energy security and nature protection as more dominant than the use of natural resources like seafood) as well as material well-being (e.g., being excluded from fishing grounds might mean more usage of fuel to get for fishing grounds further away).. At the same time, there is a political will and public funding to promote and preserve fishing.

Fishers as well as their vessels are continuing to age (in 2023, skippers were on average 54.4 years old and the share of fishers above retirement age has increased significantly since 2017) and young fishers as well as investments in vessels are difficult to acquire. Fishing is also still very male-dominated, excluding women from being part of a new generation of fishers. While the small-scale fleet has the biggest share in vessels (about 75%), large scale vessels and distant water fleet cover about 96% of fishing capacity (GT) (Barz, Brüning, et al., 2025).

Table 92. Germany summary table

	Units	**2023**				**% Δ 2023-2017**			
Indicator	**Units**	**Overall**	**SSCF**	**LSF**	**DWF**	**Overall**	**SSCF**	**LSF**	**DWF**
Total employment	Number	1114	451	663	NA*	-33%	-46%	NN	NA*
FTE	Number	702	237	465	NA*	-42%	-56%	NN	NA*
Active vessels	Number	838	625	213	NA*	-17%	-15%	-23%	NA*
Landings by weight	Thousand tonnes	165.5	2	163.5	NA*	-35%	-73%	-33%	NA*
Landings by value	Million €	183.7	4.5	178.9	NA*	-21%	-46%	-20%	NA*
Aging work force	%	14	15	13	1	831	800	820	NA*
Gender	%	1.7	1.4	3.2	0	533	-13	300	0
Nationality: nationals in work force	%	73.25	96.13	83.15	14.9	-38	-40	-33	-54

*not published separately as the number of vessels in DWF segment is <10, DWF has been included into LSF segment for confidentiality purposes.

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call

9.10.3 Social demographics in Fisheries

Over the past decade, the German fisheries sector has undergone rapid structural change, driven by a combination of ecological, economic, political, and socio-demographic factors. Key influences include the decline of herring and cod stocks in the Baltic Sea, rising fuel costs, the loss of fishing quotas

following Brexit, and demographic changes in the fishing workforce, which has an average age of around 54 years. In Germany, SSCF account for approximately three-quarters of all vessels, while LSF and DWF make up about 96% of the country's fishing capacity in terms of gross tonnage. However, the number of vessels has been steadily declining in recent years. As SSCF vessels, which primarily operate in the Baltic Sea, exit the industry, capacity is becoming increasingly concentrated in LSF, which operates mainly in the North Sea, and DWF, which operates in the North Atlantic and Eastern Arctic. Social research studies suggest that different types of German fisheries are closely tied to unique cultural traditions, practices, and ways of life (Lasner et al., 2026, under review). The long-term trend in fisheries employment has been one of decline, from around 7 000 employees and self-employed skippers in 1970 to approximately 1 114 in 2023, largely due to the decline of Germany's DWF between 1975 and 1990, as well as ongoing decommissioning in SSCF and LSF in the 2020s. Despite its small size, the German fisheries sector is diverse and dynamic, with its structure evolving rapidly over the past decade, which is most clearly reflected in the development of employment figures.

9.10.4 Employment in Fisheries

Total Employment

Fishing in Germany is traditionally a male-dominated occupation, typically passed down patrilineal from father to son (Lasner et al., 2026, under review). Consequently, women are generally absent from the potential pool of successors, further exacerbating challenges related to generational renewal within the sector (Barz et al., 2025). Notwithstanding an overall decline in the workforce in fisheries, Women remain significantly underrepresented in German fisheries. Moreover, some of the women registered in official data may not be actively engaged in fishing activities but are instead listed as employees in support of their husbands' registration.

Table 93. Germany: Total employment by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	3 (0%)	19 (2%)	19 (2%)	533%
Male	1665 (100%)	1190 (98%)	1095 (98%)	-34%

Source: Member States data submissions under the 2025 Social Data Call

Full-Time Equivalent

Although the percentages in the trend seem to be obvious, taking into account women's absolute numbers, no conclusive trend emerges from the available data for 2017-2023. According to the general decline of the sector, men´s FTE is decreasing between 2017 and 2023. When analysing employment trends in Germany's fisheries sector, it is commonly recommended to consider both full-time equivalent (FTE) employees and absolute numbers of labour, including employees, owners, and unpaid workers, to gain a comprehensive understanding of the sector's development

Table 94. Germany: Full-Time Equivalent by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	3 (0%)	14 (2%)	17 (2%)	467%
Male	1419 (100%)	726 (98%)	685 (98%)	-52%

Source: Member States data submissions under the 2025 Social Data Call

Employment status

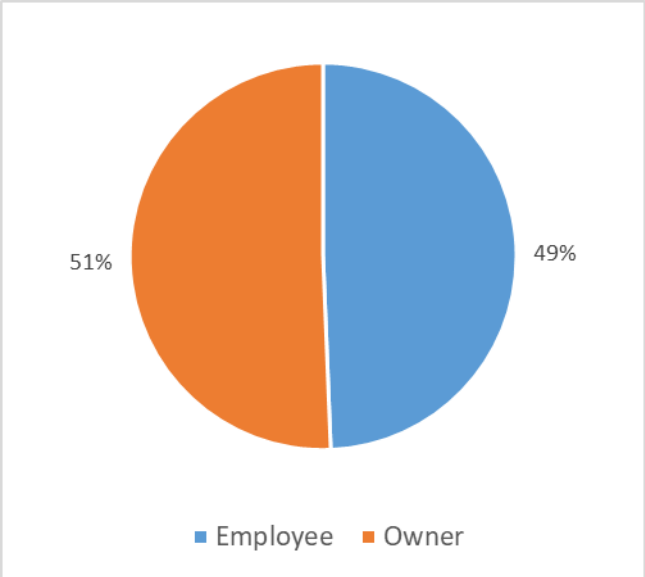
For 550 employees and 564 owners, the breakdown by employment status was reported via the social data call as follows in 2023.

Table 95. Germany: Employment status 2017-2023

Status	2017	2020	2023	Δ 2023-2017
employee	1048 (63%)	625 (52%)	550 (49%)	-48%
owner	620 (37%)	584 (48%)	564 (51%)	-9%

Source: Member States data submissions under the 2025 Social Data Call

Figure 75. Germany: Employment status, 2023



Source: Member States data submissions under the 2025 Social Data Call

The number of both employees and owners in the fisheries sector has declined and is expected to continue decreasing in the future due to an overall decline of the German fleet. Notwithstanding, fleet segments are differently affected by the structural change as pointed out by (Barz et al., 2025). For example, SSCF in the Baltic Sea undergoes a radical economic drop due to the collapse of most important commercial species such as herring and cod. SSCF fishers are usually owners and don´t have further employees, as the businesses and

vessels are small. The majority of employees are hired in the LSF and DWF operating in the North Sea and international waters.

9.10.5 Demographics of the Workforce

Age

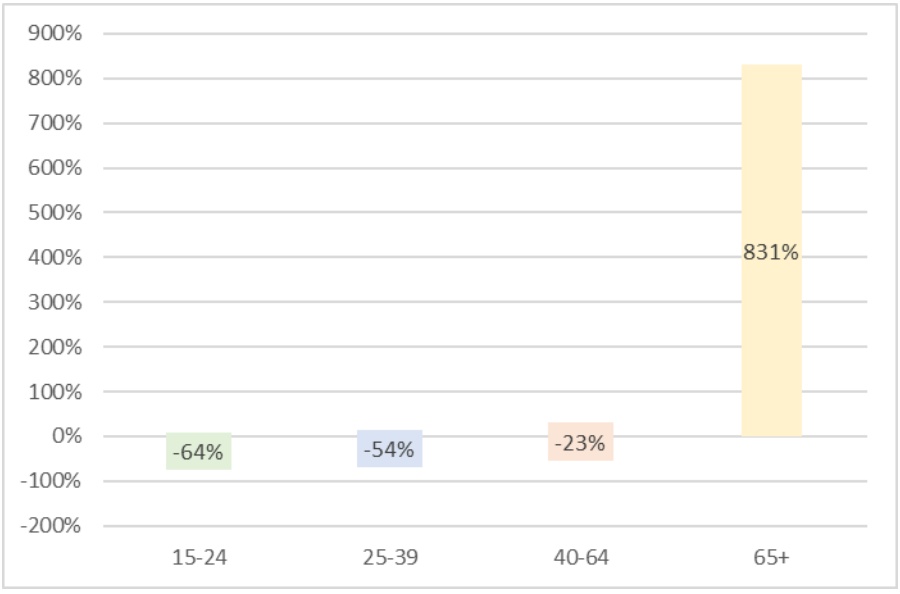
Total Employment by Age DCF

Table 96. Germany: Employment by age

Age group	2017	2020	2023	Δ 2023-2017
15-24	187 (11%)	85 (7%)	67 (6%)	-64%
25-39	650 (39%)	337 (28%)	299 (27%)	-54%
40-64	818 (49%)	656 (54%)	627 (56%)	-23%
65+	13 (1%)	131 (11%)	121 (11%)	831%

Source: Member States data submissions under the 2025 Social Data Call

Figure 76. Germany: Relative change in employment age group between 2017 and 2023



Source: Member States data submissions under the 2025 Social Data Call

The share of the aging workforce (aged over 64 years) is growing – from 1% in 2017 to 11% in 2020, staying consistent with 11% in 2023. This is pronounced in all segments, although in the SSCF the trend goes from 1% in 2017, to 17% in 2020 and then a bit lower to 15% in 2023. The official age of retirement in Germany currently is 67, but most seafarers are covered under Seafarers´ pension, allowing them to retire at age 56. However, there are fishers who continue fishing after both retirement ages, usually as part-time fishers, earning extra money next to their pension.

In all reference years, we see the largest number of employees are above 40 years of age.

In 2023, skippers were on average 54.4 years old. Most self-employed fishers (34%) were between 55 and 64, while younger age groups were underrepresented — partly because the decision to start an independent business often occurs in midlife (Barz et al., 2025).

Furthermore, there are not enough young fishers to secure generational renewal, which jeopardizes the stabilization of the sector even if ecological, economic, and political framework conditions for German fisheries would improve in the future. German fisheries faces a significant challenge in terms of demographic change, which is hindered by both limited economic opportunities and a restricted pool of potential new entrants. A traditional practice that perpetuates the exclusion of women from certain roles, such as offshore activities, also limits the transfer of knowledge and skills between generations. By excluding their daughters from these activities, fishing families may be unnecessarily weakening their social capital and undermining the long-term sustainability of their businesses (Lasner et al., 2026, under review). It is essential for fishers to reflect on their practices and consider why they are excluding women from certain roles, and how this may be impacting the future of their industry.

9.10.6 Workforce education and training

Education

Table 97. Germany: Employment by education level

Education	2017	2020	2023	Δ 2023-2017
high	433 (26%)	292 (24%)	261 (23%)	-40%
medium	595 (36%)	690 (57%)	653 (59%)	10%
low	640 (38%)	174 (14%)	147 (13%)	-77%
unknown	0 (0%)	53 (4%)	53 (5%)	-

Source: Member States data submissions under the 2025 Social Data Call

Between 2017 and 2023, the share of *medium*-level education increased notably and now represents the dominant category within the fleet. In contrast, both *high*- and especially *low*-level education declined substantially, with the *low* category showing the sharpest decrease. 53 workers with a registered *unknown* education in 2023 fall together with 53 Non-EU/EEA workers in the DWF fleet, potentially meaning that the education level of the Non-EU/EAA workers is not classified in the data collection process. This might be due to difficulties in transferring German classifications to non-German education systems. However, not having data on the education of foreign workers can also have implications, such as limiting the assessment of skill levels within the fleet or hindering targeted training or integration measures.

In LSF as well as SSCF medium education has been increasing strongly over the years, while low education levels decrease strongly in all segments. This could be due to a more sophisticated fisheries training system, where more advanced courses are offered or due to a general trend in Germany for higher

education. Medium education is dominant in all segments, which is in line with fisheries being trained in an apprenticeship model, aimed at workers with medium level education.

Table 98. Germany: Employment by education level, differentiated in segments

		2017	2020	2023
DWF	High	17%	11%	15%
	Low	30%	13%	13%
	Medium	53%	53%	52%
	Unknown		23%	21%
LSF	High	28%	26%	28%
	Low	40%	12%	11%
	Medium	32%	62%	61%
SCF	High	28%	28%	25%
	Low	40%	16%	15%
	Medium	32%	55%	60%

Source: Member States data submissions under the 2025 Social Data Call

Training

Individuals can begin training with a low, medium, or high level of prior education. Entry into the German seagoing fishing sector generally starts with the fishery worker (*Fischwirt**I**Fischwirtin*) apprenticeship at a vocational school (Barz et al., 2025; Haasnoot et al., 2025). Germany's vocational fishery training system (*Ausbildungssystem*) distinguishes between coastal fishing (*Küstenfischerei*), small deep-sea fishing (*Kleine Hochseefischerei*), and large deep-sea fishing (*Große Hochseefischerei*), following a dual vocational training system, typically lasting three years, though it can be shortened to two years under certain conditions. It combines practical work at a training company with theoretical instruction at a vocational college and concludes with both written and practical exams. During and after the apprenticeship, fishers are also required to complete mandatory safety training.

In fisheries and aquaculture, the number of trainees has fallen by more than half since 2007 — from 329 in 2007 to 159 in 2018 (including aquaculture). By 2023, only 132 people were completing apprenticeships in these fields, marking a historic low. This decline may be linked to demographic change resulting in smaller age cohorts, a shift from vocational training to academic studies, relatively low training wages, and economic uncertainty in some green professions. Given the aging demographic in Germany's marine fisheries and the longstanding shortage of trainees and qualified skippers, it is uncertain whether the current structure of the sector can be sustained, even under favourable economic and ecological conditions. The industry's difficulty in attracting new entrants appears to be partly structural, reflected in the pronounced gender imbalance in fisheries and aquaculture—suggesting that work on fishing vessels holds limited appeal for women—and in the fact that most fishers come from fishing families, which limits entry opportunities for outsiders (Barz et al., 2025; Lasner et al., 2026, under review).

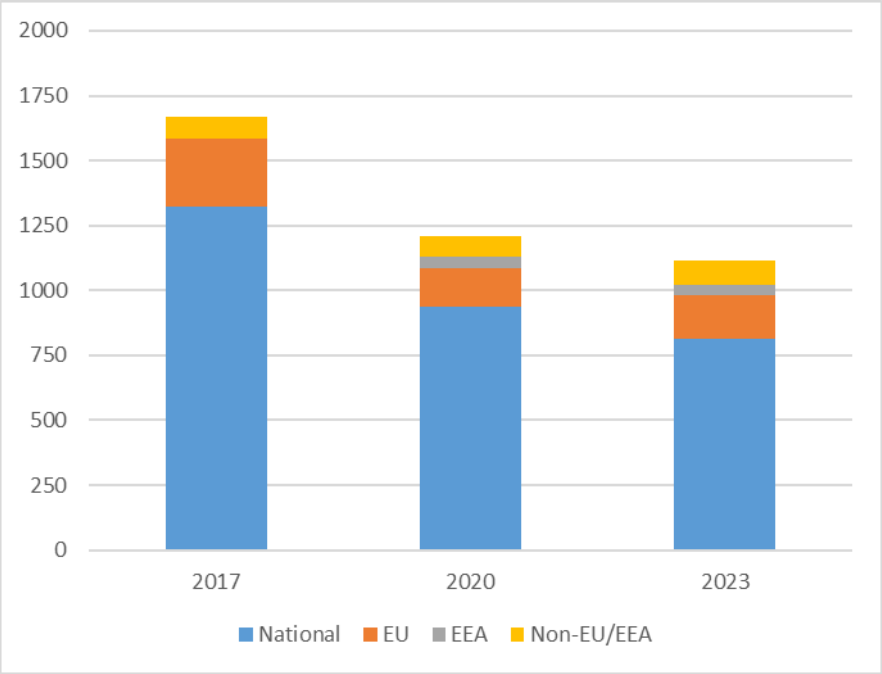
- Sea Ranger Training: The traditional Baltic Sea fishing profession is becoming less economically viable, reflected in low recruitment in Mecklenburg-West Pomerania (MWP), where few new fishers have joined in recent years. To address this, initiatives like the “Sea Ranger” training program in MWP equip fishers with diversified skills. Over six months, participants receive training in fisheries biology, environmental law and monitoring, communication, project management, and marketing, including a four-week internship. The Sea Ranger MV e.V. association facilitates hiring fishers for coastal service projects. However, the program faces challenges: duties and funding remain unclear, with no guaranteed access to public funds or contracts as of late 2024, potentially limiting its impact. While currently confined to MWP, the program may expand to other German coastal state (Barz, Lasner, et al., 2025).

Nationality

While national employment is going down, as the trend shows in other chapters as well, EU-national employees´ numbers are also going down. At the same time however, the Number of EEA workers went up in 2020 (to go down slightly again in 2023), whereas the number of NON-EU/EEA workers is relatively stable.

While there is no reliable data available yet, there are observations that Filipino seafarers are increasingly being hired as deckhands in the North Sea fishery.

Figure 77. Germany: Employment by nationality, 2017-2023



Source: Member States data submissions under the 2025 Social Data Call

Table 99. Germany: Employment by nationality

Nationality	2017	2020	2023	Δ 2023-2017
National	1321 (79%)	939 (78%)	816 (73%)	-38%
EU	262 (16%)	144 (12%)	164 (15%)	-37%
EEA	0 (0%)	47 (4%)	39 (4%)	-
Non-EU/EEA	85 (5%)	79 (7%)	95 (9%)	12%

Source: Member States data submissions under the 2025 Social Data Call

9.10.7 Gender

Fleet

In capture fisheries, women are scarcely represented, whereas in aquaculture, the number of men is almost twice that of women (s. aquaculture section). The most balanced employment ratio between men and women can be observed in the fish processing industry (s. processing section).

In Germany, occupations in fisheries and aquaculture are classified among the so-called *green professions*, which also include farming and forestry. Except for areas such as horse farming and animal husbandry, trainees in these professions are predominantly male, often accounting for up to three-quarters of all apprentices. Notably, some traditionally male-dominated fields, such as farming, have seen the proportion of women double over the past 28 years. In contrast, fisheries and aquaculture remain almost entirely male-dominated, with female trainees virtually absent both historically and today. The sector's traditionally patrilinear succession structures pose an additional social risk, compounding existing challenges related to economic viability and the condition of exploited marine resources (Barz et al., 2025; Lasner et al., 2026, under review)

Table 100. Germany: Composition of the labour force by gender from 2017-2023 and the relative change between 2023 and 2017 (in%)

Gender	2017	2020	2023	Δ 2023-2017
Female	3 (0%)	19 (2%)	19 (2%)	533%
Male	1665 (100%)	1190 (98%)	1095 (98%)	-34%

Source: Member States data submissions under the 2025 Social Data Call

Unpaid labour by gender

Table 101. Germany: Unpaid labour by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	0 (0%)	16 (3%)	16 (3%)	-
Male	620 (100%)	568 (97%)	548 (97%)	-12%

Source: Member States data submissions under the 2025 Social Data Call

The proportion of women in unpaid labour has increased over the years, but on a small scale. Considering the current structural change in fisheries with all its implications and problems, as well as current discourses, there are two possible explanations.

On the one hand - based on a hegemony of heterosexual relationships - it may be that due to difficult economic situations, wives are more involved in the (unpaid) work of fishing, usually carried out by their husbands. At the same time, the reports can also be influenced by current discourses, in which the unpaid labour of women increases in visibility with each passing year.

Additionally, the total numbers of unpaid labour have not decreased in the same sense as (paid) employment has, indicating, that fisheries rely more on unpaid labour over the years.

Germany has *not fully* implemented Directive 2010/41/EU by all its requirements. Some parts are included in the *General Equal Treatment Act (Allgemeines Gleichbehandlungsgesetz, AGG)* (especially regarding non-discrimination for access to self-employment), but key obligations like fully sufficient maternity protection for self-employed women are still subject to debate and appear to have implementation gaps (Knigge, 2017). However, this will only become more relevant, if the number of self-employed women in the sector will pick up.

Social aspects in Fisheries

9.10.8 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The German fishing fleet reported an average annual labour cost of EUR 76 726 per FTE in 2023, the fourth highest level in the EU. Fishing labour costs have fluctuated greatly over time with a general upward trend.

Table 102. Germany: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	46 333	47 781	52 428	54 695	51 304	56 999	55 484	72 082	87 776	91 830	76 726
National average				75 927				80 156	78 939	76 881	75 133
Ratio of fishing labour cost to national average				0.72				0.90	1.11	1.19	1.02

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Average labour costs in Germany are EUR 75 133 per FTE, indicating that fishing labour costs are just slightly above (2%) the national average). Germany has a legally binding minimum wage of 12 EUR/hr in 2023, leading to an annual wage of about EUR 25 000, resulting in fishing labour costs three times the minimum wage in Germany.

Unpaid labour

The general share of unpaid labour in fisheries is 16% in Germany. Women have a small proportion of the unpaid labour, rising from 2017 till 2020, but then rising only marginally.

Working conditions

Total Working hours

In 2023, German fishers worked a total of 1 800 hours (AER), whereas the German average annual hours actually worked per worker is 1 335 hours (OECD, 2025). This shows that fishing is an above average time-consuming profession. A study could also show that the line between work and leisure time is often blurred in fisheries, with no distinct boundaries (Barz, 2022), suggesting that even more hours could be spent on fisheries work than indicated. The average trip lengths of German fishers were 4.2 days in 2023. However, large fluctuations are to be expected, as the SSCF mainly make day trips, while brown shrimp beam trawlers, for example, as part of the LSF in the North Sea, are at sea for several days and the DWFs for even longer periods.

Social security

Fishers in Germany are obliged to be covered by the national social security system, similar to other employees and self-employed workers, including part-time fishers. All gainfully employed seafarers are compulsorily insured, and both employed and self-employed fishers are subject to statutory pension insurance. This applies to coastal seafarers and fishers working as crew or independently, typically with no more than four insured employees. Seafaring employment includes work in German territorial and international waters, but not inland waters. Insurance covers general pension benefits (retirement 65–67) and a Seamen's Pension (`Seemannskasse`) at age 56 as a bridging benefit, accounting for long periods away from home, shift work, health risks, or early exit from seafaring. It also applies during unemployment and can supplement unemployment benefits (KBS, 2024). Fishers are additionally covered by BG Verkehr, the employers' liability insurance association, which supports accident prevention, occupational health, rehabilitation, and compensation. Its Ship Safety Division oversees ship safety, maritime medical services, and compliance with the Ship Equipment Directive (Barz, Brüning, et al., 2025). The age distribution indicates that some fishers continue working beyond the standard retirement age, motivated both by a strong commitment to their profession and the opportunity to supplement their pension income.There is currently no knowledge if foreign workers are insured differently.

Foreign flagged vessels

The data might be available for Germany, however, to the best of our knowledge, they are not published yet and will need to be part of a data call, should they be part of the ASOR in the future.

9.10.9 Social demographics per fishing activities

Table 103. Germany: Social demographics per fishing activities

	DWF			LSF			SCF		
	2017	**2020**	**2023**	**2017**	**2020**	**2023**	**2017**	**2020**	**2023**
Gender									
Female	0	0	0	3	11	12	0	8	7
Male	307	235	255	519	408	356	839	547	484
Nationality									
EEA		41	39		6	0		0	0
National	83	58	38	457	336	306	781	545	472
EU	139	128	125	65	6	20	58	10	19
Non EU/EEA	85	8	53	0	71	42	0	0	0
Age									
≤14	0	0	0	0	0	0	0	0	0
15-24	12	16	23	67	29	22	108	40	22
25-39	111	85	96	207	120	95	332	132	108
40-64	184	131	133	243	238	205	391	287	289
65+	0	3	3	5	32	46	8	96	72
Education									
High	52	27	37	146	108	102	235	157	122
Low	92	31	33	210	52	40	338	91	74
Medium	163	124	132	166	259	226	266	307	295
Unknown		53	53						
Employment status									
Employee	307	235	255	258	150	152	483	240	143
Owner	0	0	0	264	269	216	356	315	348

Source: Member States data submissions under the 2025 Social Data Call

Small Scale Coastal Fleet

SSCF, operating vessels between 4 and 12 meters in length, constitute the largest segment of the German fleet, comprising 625 vessels in 2023. However, their contribution to total landings and economic value remains marginal. These fisheries are concentrated along the Baltic Sea coast, in the federal states of Schleswig-Holstein and Mecklenburg-Western Pomerania. Fishers typically operate single-handedly, employing gillnets within the three-nautical-mile

coastal zone and occasionally using fish traps in lagoons, estuaries, and bays. The vessels are relatively small, averaging 8.35 meters in length overall. Key target species include herring, plaice, cod (now mainly as bycatch), flounder, pike, and other freshwater species from inner coastal waters (Barz et al., 2025). Survey data suggest that around half of the fishers in this segment work part-time, and nearly one-third are over the age of 65 (Lewin et al., 2023). The ongoing decline of herring and cod stocks in the Baltic Sea, beginning in 2007 and 2015 respectively, poses a substantial threat to the long-term sustainability and economic viability of these small-scale, passive-gear fisheries (Barz et al., 2025)

Table 104. Germany: Social demographic trends in SSCF 2017-2023

	Trend 2017-2023
Gender	
Female	-13%
Male	-42%
Nationality	
EEA	
National	-40%
EU	-67%
Non EU/EEA	-
Age	
≤14	-
15-24	-80%
25-39	-67%
40-64	-26%
65+	800%
Education	
High	-48%
Low	-78%
Medium	11%
Employment status	
Employee	-70%
Owner	-2%

*where 2017 data was not available or 0, 2020 was used to calculate the trend (female)

Source: Member States data submissions under the 2025 Social Data Call

Large Scale Fleet

Although the fleet size itself was reduced between 2017 and 2023 (and accordingly almost all indicators are reduced as well), there are some trends worth highlighting: a few more women entered the sector (from 3 in 2017, to 12 in 2023), and apparently a big share of fishers that were still active in 2017 continue to fish after the retirement age of 56 resp. 67, leading to a 820% increase in the age categorie of fishers above 64 years of age.

The Large-Scale fleet can be categorized into the alternative segments of North Sea brown shrimp fishery, sole fishery, demersal trawlers, and large passive gear fisheries (Barz et al., 2025; Sulanke et al., 2025):

- North Sea brown shrimp fishery: In 2022, 163 active beam trawlers specialized in brown shrimp fishing operated in the North Sea. The fishery is largely owner-operated, with most activity occurring within 12 nautical miles from shore and smaller vessels operating even closer, within the 3 nm zone. Average trip duration is around two days. Brown shrimp fisheries are deeply rooted in the coastal communities of East and North Frisia, producing a characteristic Wadden Sea product and providing full-time employment for skippers and deckhands. They represent one of Germany's most valuable coastal fisheries and are often described as the "backbone of the cutter fleet" ((STECF 25-03 & 25-07). Using relatively light beam trawls—typically weighing less than one ton per gear—they exert limited impact on the benthic fauna (Fock et al., 2023). However, the ongoing debate on a potential EU-wide ban on bottom trawling has created uncertainty among fishers and markets. Some have responded by transitioning to pot fisheries targeting brown crab and lobster, with five vessels active in this newer segment in 2022.
- Sole fisheries: Beam trawlers for sole fishery are considerably larger than those used in brown shrimp fisheries (36-42m), though they employ similar techniques. The five vessels in this specialized segment operate exclusively in the North Sea, primarily targeting sole and plaice. Using heavier gear—three to six tons per trawl—they exert greater seabed impact than smaller shrimp trawlers (Sciberras et al., 2018). Rising fuel costs, the ban on pulse trawling, and reduced sole quotas have led some operators to diversify, targeting European squid with Scottish seines and alternative gear. However, given persistently high fuel expenses, the segment faces economic unviability and is expected to disappear by 2025–2026 through vessel decommissioning.
- Demersal trawlers: Vessels range from 14 to 37 meters in length and exhibit considerable operational flexibility. Larger units typically fish in the North Atlantic, while smaller demersal trawlers operate mainly in the North and Baltic Seas. In 2022, this category comprised 37 vessels engaged in North Sea mixed demersal, saithe and cod, and Baltic demersal and forage fish fisheries. Depending on area and gear, target species include saithe, cod, Norway lobster, turbot, plaice, flounder, dab, and sprat. A few vessels have recently diversified into European squid, with their number increasing from one or two to five by 2024, making squid one of the most valuable species in the North Sea mixed demersal fishery.
- Larger passive gear fisheries: Larger passive gear fisheries, using gillnets, pots, and traps, operate with vessels between 12 and 32 meters

in length. In 2022, 11 vessels were active in this segment. Most target up to four species, including cod, sole, plaice, flounder, turbot, anglerfish, blue ling, and red deep-sea crab. Their operations extend across the Baltic Sea, North Sea, British waters, the Celtic Sea, and the Faroes.

Table 105. Germany: Social demographic trends in LSF 2017-2023

	Trend 2017-2023
Gender	
Female	300%
Male	-31%
Nationality	
EEA	-100%
National	-33%
EU	-69%
Non EU/EEA	-41%
Age	
≤14	-
15-24	-67%
25-39	-54%
40-64	-16%
65+	820%
Education	
High	-30%
Low	-81%
Medium	36%
Employment status	
Employee	-41%
Owner	-18%

*where 2017 data was not available or 0, 2020 was used to calculate the trend (EEA, Non-EU/EEA)

Source: Member States data submissions under the 2025 Social Data Call

Distant Water Fleet

Due to the German reunification, which entailed the decommissioning of the large GDR distant water fleet in the 1990s there was a shift of the German fleet. In 2023, only seven distant water vessels are left in the sector, however, they comprise 96% of fishing capacity in terms of gross tonnage (Barz et al., 2025).

Table 106. Germany: Social demographic trends in DWF 2017-2023

	Trend 2017-2023
Gender	
Female	-
Male	-17%
Nationality	
EEA	-5%
National	-54%
EU	-10%
Non EU/EEA	-38%
Age	
≤14	-
15-24	92%
25-39	-14%
40-64	-28%
65+	0%
Education	
High	-29%
Low	-64%
Medium	-19%
Unknown	0%
Employment status	
Employee	-17%
Owner	-

Source: Member States data submissions under the 2025 Social Data Call

German DWF, which can be classified into High Seas demersal fishery, pelagic fisheries and coastal pelagic forage fish fishery, operates mostly in the North Atlantic and Eastern Arctic area, but in some years and only to a limited extent, there are also fishing activities in African and South Pacific waters (Barz et al., 2025; Sulanke et al., 2025):

- High Seas Demersal Fishery: The German high seas demersal fishery comprises a fleet of four large vessels, ranging in length from 80 to 90 meters, which are equipped with powerful engines boasting a capacity of 3 000 to 4 000 kilowatts. These vessels operate in the Northeast Arctic and Greenland waters, with a primary focus on targeting cod and Greenland halibut as their main species of interest.
- Pelagic Fisheries: In contrast, the German pelagic fishery employs midwater trawls and consists of a fleet of five vessels, spanning a length range of 52 to 140 meters, including the largest vessel in the German fleet, which measures 140.8 meters in length. The pelagic fishery operates in the Northeast Atlantic and North Sea, with a primary focus on targeting herring, sprat, mackerel, and blue whiting. Notably, a newly

constructed vessel in 2023 is a polyvalent vessel, capable of catching both pelagic and demersal species. Furthermore, the smallest vessel in this fleet targets sprat and herring in the Baltic Sea during specific periods of the year. Additionally, a subset of smaller vessels (17-25 meters in length) operating in the Baltic Sea, which are classified as demersal trawlers, have been known to catch sprat and herring in the past, following a switch to pelagic gear, thereby demonstrating their polyvalent capabilities.

- Coastal Pelagic Forage Fish Fishery: The coastal pelagic forage fish fishery, which employs midwater trawls, targets Baltic sprat, Norwegian spring-spawning herring, and North Sea sprat, highlighting the diversity of species and fishing practices within the German pelagic fishery.

9.10.10 Trends and challenges

Trends and challenges will be reflected in political aspects, economic aspects, social aspects, technological aspects, legal aspects and environmental aspects (Barz et al., 2025).

Political aspects: Germany demonstrates strong political commitment to preserving its fisheries sector. This is evident through two dedicated national commissions on the future of fisheries, targeted research projects, and funding for training, new vessel and gear development, and the exploration of new species. An agency has also been established to support fisheries transformation. Moreover, proceeds from offshore wind farm auctions (WindSeeG, 2016) finance innovation and transition measures in the sector.

Economic aspects: While parts of DWF and LSF fleets remain profitable and provide competitiveness, SSCF face economic strain. Occasional scrapping premiums and diversification efforts offer limited relief, and recreational fisheries continue to provide local economic benefits. German commercial fisheries cover roughly 18% of national seafood demand (2023), though the actual self-sufficiency rate is lower due to exports. Challenges include inefficiency in small-scale operations, weak bargaining power among brown shrimp fishers dominated by a few retailers, high fuel costs, and low investment rates—driving consolidation among companies, vessels, and ports.

Social aspects: Germany’s fisheries benefit from a highly qualified scientific community and growing recognition of their cultural and community value, including links to coastal tourism. Nonetheless, the sector struggles with an aging workforce, a shortage of new entrants, limited participation by women, and the dissolution of cooperatives. The social and cultural significance of fisheries remains underexplored, and apart from a few direct-marketing initiatives by small-scale fishers, non-market values are rarely translated into tangible economic benefits.

Technological aspects: Germany has the research capacity and funding to develop modern vessels and gear. However, adoption of alternative

technologies remains largely voluntary and inconsistently tracked. Collaboration between science and industry in developing new solutions is uneven, limiting innovation uptake across the fleet.

Legal aspects: Political commitment is also reflected in laws allocating funds from offshore wind revenues and compensation payments for wildlife damage to fisheries support. Yet, the Common Fisheries Policy (CFP) faces limitations: its quota system, based on outdated historical allocations, no longer matches current species distributions altered by climate change and Brexit (Döring, 2023). While quota swapping offers some flexibility, bureaucratic hurdles remain high. Data collection also needs improvement—particularly for small vessels (<12 m), bycatch reporting, and the long-term implementation of tools like the MOFI app. The expansion of offshore wind farms and marine protected areas adds further spatial pressure.

Environmental aspects: German fisheries show progress in the Northeast Atlantic with improved stock status and sustainable exploitation of key species, alongside adaptation to new commercial species like crabs, lobsters, and squid. However, management for these species is still lacking. In contrast, Baltic Sea cod and herring stocks remain depleted due to climate change, despite low fishing pressure. Flatfish stocks are increasing but in poor condition. Seal interactions damage gear and reduce catches, while eutrophication and oxygen depletion continue to threaten the Baltic Sea ecosystem.

9.10.11 Methodological considerations and data issues

The German fishing fleet includes a small number of pelagic vessels, primarily owned by a single company, and are therefore subject to confidentiality constraints. In 2023, the company granted permission to publish data from 2021 onwards. Consequently, data for recent years are comprehensive, but the historical time series remains discontinuous. As most data for the pelagic fleet prior to 2021 were excluded from the dataset, regional analyses for earlier years are affected. The pelagic fleet primarily operates in the North Sea and North Atlantic, targeting species such as herring, mackerel, and blue whiting. Data on pelagic fisheries in the Baltic Sea are largely unaffected, as these operations are seasonal and vessels are assigned to the DTS segment, reflecting their primary activity throughout the year (STECF AER, 2025).

An increasing reluctance to respond to questionnaires has been observed, particularly among small-scale vessels. The data received are highly dispersed. In such cases, estimation and extrapolation procedures rely on a limited number of responses and are therefore subject to reduced robustness (STECF AER, 2025).

The average wage per job per segment could be obtained through the test operational network in Germany, at least for the coastal fisheries sector.

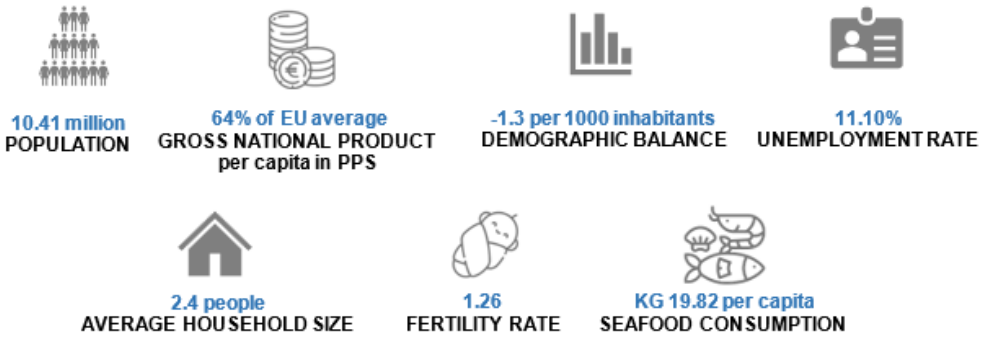
Foreign vessels – the data are available but have neither been requested nor published; they would need to be collected if they are to be included in ASOR in the future.

If FTE (Full-Time Equivalents) per segment and per gender are of analytical interest, these data must be gathered, as well as information on unpaid labour per segment and per gender. At present, such data are not available.

9.11 Greece

9.11.1 Snapshot of Greece

Figure 78. Greece in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Greece, with a population of 10.41 million, faces ongoing demographic and economic challenges that shape its development outlook. The country records a negative demographic balance of -1.3 per thousand and a fertility rate of 1.26, reflecting an ageing population and declining birth rates. The unemployment rate remains high at 11.1%, while the average household size has fallen to 2.4 persons, consistent with wider social changes across Europe. The gross national product per capita, at 64 in purchasing power standards, reveals moderate economic performance much below the EU average. Seafood consumption, estimated at 19.82 kg of live weight per capita, remains below the EU average but increased by around 1% compared with the previous year, indicating a slight recovery in domestic demand for fishery products.

9.11.2 Short description of the fishing sector

In 2023, there were 10 664 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 67 623 GT and 426 268 kW. The capacity of the national fleet has decreased since 2013, continuing a long-term contraction driven mainly by the withdrawal of ageing small-scale vessels. The estimated total number of inactive vessels in 2023 was around 2 000, the majority of which (approximately 85%) were in the less than 12 m segment, reflecting the predominance of small-scale coastal fisheries in Greece and the structural ageing of this fleet segment (STECF, forthcoming).

The Greek fishing sector has undergone a gradual yet steady contraction in recent years, while continuing to play a pivotal social and cultural role in coastal

and island communities. The fleet remains overwhelmingly small-scale, comprising around 12 000 vessels, scattered around the Greek coastline, mostly of limited capacity and advanced age, reflecting Greece's artisanal fishing tradition. Although the sector accounts for only a small share of national GDP and EU fisheries output, it remains a cornerstone of local economies where employment alternatives are scarce and cultural ties to fishing are strong. In macroeconomic terms, the gross value added (GVA) of the Greek fisheries sector represented approximately 0.1% of the total national GVA in 2023, and about 3.6% of the total EU fisheries GVA, confirming its modest yet socially significant contribution to both the national and European fishing economy.

Employment has declined markedly over the past decade, broadly mirroring the reduction in fleet size. Small-scale coastal fisheries (SSCF) continue to provide about 80% of all jobs, underscoring their importance for sustaining household income and social cohesion in coastal areas. Work is often seasonal or part-time, and pluriactivity is widespread as many fishers combine fishing with agriculture or tourism to increase and diversify their income (Liontakis and Vasilopoulou, 2020). This diversification helps mitigate income instability and strengthens community resilience, though it also contributes to the gap between total and full-time equivalent (FTE) employment. At the EU level, Greek fisheries employment accounted for roughly 8% of total EU fisheries employment in 2023, highlighting the country's enduring importance in the small-scale segment despite its overall contraction.

Fishing output has shown a moderate downward trend, with small-scale vessels contributing roughly 60% of the total landing value, mainly from fresh, high-quality fish sold in local markets. Around one-third of the catch is sold through wholesalers and auctions, while a similar share, mostly from SSCF, is marketed directly to consumers, highlighting the prevalence of short supply chains. Greek consumers display a strong preference for fresh, wild, and locally sourced fish, typically purchased from local fish markets (≈68%) rather than supermarkets, a pattern that differentiates them from the EU average and reinforces the localised nature of the sector (AGRERI, 2025).

Socially, the fisheries workforce remains predominantly male (≈95%), ageing, and largely composed of nationals (close to 85%), although non-EU/EEA migrants are increasingly important in larger vessels. Women's formal participation has declined to about 5-6%, yet their unpaid and supportive roles within small-scale enterprises remain vital to coastal livelihoods. Wages are modest, around 60% of the national average, and unpaid labour continues to underpin much of the activity.

Overall, Greek fisheries are shrinking in scale but socially indispensable. The sector's resilience rests on its adaptability, local embeddedness, and ability to sustain viable livelihoods through diversification rather than growth. Future

sustainability depends on targeted renewal, modern skills, improving safety and working conditions, and promoting generational and gender inclusion within the evolving blue economy framework. The national fleet, representing about 9% of the total EU fleet by number of vessels, remains one of the largest and most fragmented in Europe, underscoring the importance of continued support for modernisation and social sustainability measures.

Table 107. Greece summary table.

		2023				% Δ 2023-2017			
Indicator	**Units**	**Overall**	**SSCF**	**L12AG**	**LSF**	**Overall**	**SSCF**	**L12AG**	**LSF**
Total employment	Number	17 181	13 635		3 546	−23.6%	−24.8%		−18.3%
FTE	Number	11 884.94	9 004.5		2 880.44	−38.4%	−39.9%		−33.3%
Active vessels	Number	10 664	10 021		736	−20.6%	−21.1%		20.80%
Landings by weight*	Thousand tonnes	59 049	16 495		42 555	1.12%	4.61%		-0.26%
Landings by value*	Million EUR	278 095	157 120		120 975	-20.1%	0.48%		-36.78%
Ageing work force (>64)	%	14.3%	16.2%		7%	37.50%	35.00%		100.00%
Female	%	5.51%	6.61%		1.24%	−35.2%	−35.9%		34.80%
Nationality: nationals in work force	%	84.8%	97.6%		35.7%	−0.9%	0.90%		−8.5%

*comparisons are made with year 2020, and not 2017, due to incomplete figures for 2017.

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.11.3 Employment in Fisheries

Total employment

Total employment in 2023 is 17 232, reflecting a 23% overall decrease since 2017.

Table 108. Greece: Employment trend (2017-2023).

	2017	2020	2023	Δ 2023-2017
Total Employment	22471	18693	17232	▼ -23%

Data source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent

Table 109. Greece: employment in FTE trend (2017-2023).

	2017	2017	2017	Δ 2023-2017
FTE	20542	14528	11916	▼ -42%

Data source: MS data submissions under the 2025 Social Data Call

In FTE terms, the decline in employment appeared much higher than in employed persons, with a decline of 42%. This is an indication that not only less

people are involved nowadays in fisheries, but also that there is a high degree of underemployment (jobs work less than 1 FTE).

Employment status

The data show clear trends in the employment structure of the Greek fisheries sector between 2017 and 2023, revealing gradual but significant shifts in labour composition and employment patterns.

Between 2017 and 2023, total employment decreased from 22 471 to 17 232 persons (−23%), consistent with the broader contraction of the sector. However, the distribution between employees and vessel owners changed in a way that highlights the sector's structural characteristics.

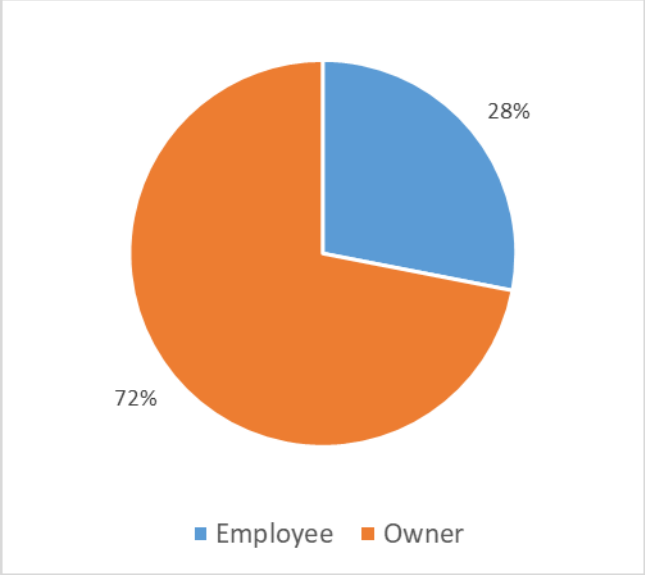
The number of employees declined sharply, from 6 932 in 2017 to 4 837 in 2023 (−30%), while their share of total employment dropped from 31% to 28%. This reduction indicates fewer wage-based jobs, possibly reflecting both declining fleet size and financial constraints in small-scale fisheries. Many small-scale operators work as owner-fishers, which limits opportunities for hired labour. The evidence also reveals the lack of hired labour especially in areas where other economic sectors may offer better living standards and employment opportunities (e.g., tourism in Greek islands).

Table 110. Greece: Employment status by owners and employees

Status	2017	2020	2023	Δ 2023-2017
Employee	6932 (31%)	5996 (32%)	4837 (28%)	-30%
Owner	15539 (69%)	12697 (68%)	12395 (72%)	-20%

Data source: MS data submissions under the 2025 Social Data Call

Figure 79. Greece: Employment status, 2023



Source: Member States data submissions under the 2025 Social Data Call

Conversely, the number of vessel owners fell less steeply, from 15 539 in 2017 to 12 395 in 2023 (−20%), leading to a slight increase in their share of total employment (from 69% to 72%). This suggests a consolidation of fishing activities among self-employed fishers and family-run enterprises. The trend may also indicate that larger vessels are employing fewer crew members, possibly due to cost pressures such as those stemming from the Ukraine crisis.

9.11.4 Demographics of the Workforce

Age

The age structure of Greece's fisheries workforce shows a clear ageing trend and a continuing decline in younger entrants. Between 2017 and 2023, the number of fishers aged 15-24 fell sharply, while the 25-39 age group declined from 4 908 to 2 462 (−50%). In contrast, the share of older fishers increased: the 40-64 group remained the largest cohort, representing 70% of total employment in 2023, and the 65+ group rose from 2 328 to 2 465 fishers (+6%), now accounting for 14% of the workforce. The "unknown" category disappeared entirely by 2023, indicating improved data quality and reporting.

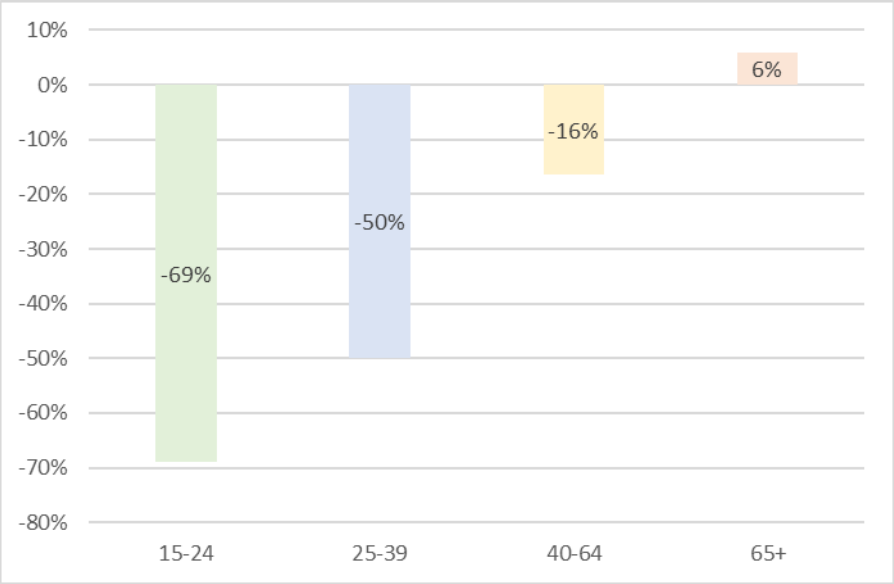
Overall, the data reveal weak generational renewal, with few young people entering the profession and a growing reliance on older fishers who remain active beyond retirement age. This pattern reflects both structural and socioeconomic constraints, including limited access to capital, high entry costs, and the low attractiveness of fishing as a viable long-term occupation. The ageing trend also interacts with the persistent gender imbalance in the sector: women represent only about 6% of the total workforce, mainly in family-based small-scale enterprises and shore-based roles (see also relevant section). The combined effects of ageing, limited youth entry, and male dominance undermine workforce renewal and threaten the long-term sustainability of Greek fishing communities.

Table 111. Greece: total employment by Age.

Age group	2017	2020	2023	Δ 2023-2017
15-24	656 (3%)	278 (1%)	204 (1%)	-69%
25-39	4908 (22%)	3894 (21%)	2462 (14%)	-50%
40-64	14476 (64%)	12327 (66%)	12101 (70%)	-16%
65+	2328 (10%)	2188 (12%)	2465 (14%)	6%
unknown	103 (0%)	6 (0%)	0 (0%)	-100%

Data source: MS data submissions under the 2025 Social Data Call

Figure 80. Greece: Relative change in employment age group between 2017 and 2023



Source: Member States data submissions under the 2025 Social Data Call

9.11.5 Workforce education and training

Education

The above Table illustrates the educational profile of the workforce in Greek fisheries between 2017 and 2023, showing a clear trend toward lower levels of formal education. The data provide valuable insight into the human capital base of the sector and its potential capacity to adapt to technological and regulatory changes.

Between 2017 and 2023, the total number of individuals employed in fisheries declined from 22 471 to 17 232, a reduction of about 23%. Over the same period, the number of fishers with higher education fell from 1 211 to 451 (−63%). Those with medium education also declined substantially, from 7 164 to 4 476 (−38%). In contrast, the number of workers with low educational attainment remained broadly stable, decreasing only slightly from 13 736 to 12 305 (−10%), which led to an overall increase in their relative share of the total workforce. As in the case of age distribution, the category “unknown” disappeared by 2023, suggesting improved reporting.

These results reveal a progressive concentration of employment among individuals with lower education levels. The continued decline in fishers with secondary or higher education reflects both limited attractiveness of fishing to younger, more educated people and an ageing population of fishers, many of whom entered the sector through family succession rather than formal training pathways.

Table 112. Greece: Employment by Education level.

Education	2017	2020	2023	Δ 2023-2017
high	1211 (5%)	733 (4%)	451 (3%)	-63%
medium	7164 (32%)	5508 (29%)	4476 (26%)	-38%
low	13736 (61%)	12124 (65%)	12305 (71%)	-10%
unknown	360 (2%)	328 (2%)	0 (0%)	-

Data source: MS data submissions under the 2025 Social Data Call

Training

While education alone does not determine professional skill, the falling share of more educated fishers raises concerns about the sector's adaptive capacity. Lower levels of education are often associated with reduced uptake of new technologies, digital tools, and sustainable fishing practices. Therefore, this educational pattern may hinder the sector's ability to respond effectively to the challenges posed by the green and blue transition, administrative requirements, and market diversification initiatives such as fishing tourism or product traceability schemes (AGRERI, 2024).

However, the workforce still retains deep experiential knowledge. Overall, the data point to a shrinking and less educated workforce, which sustains traditional fishing livelihoods but may limit Greece's potential for innovation and long-term competitiveness in the evolving EU fisheries landscape. Indeed, SSCF fishers acquire skills informally through family apprenticeship; many hold only compulsory schooling, some upper-secondary or technical diplomas, and a small minority have tertiary education. By contrast, large-scale fleet (LSF) skippers and key crew typically combine experiential learning with mandatory short courses and licensing (Pinello et al., 2016).

Nationality

The nationality mix stayed broadly stable during the 2017-2023 period. Nationals remained the vast majority (representing their dominance in the SSCF) while non-EU/EEA workers kept a steady foothold (representing their dominance in the LSF sector).

This pattern reflects segment-specific realities. In small-scale coastal fisheries (SSCF), employment is overwhelmingly national and family-based, with limited demand, but also supply, for hired crew; in the large-scale fleet (LSF), the need for regular, physically demanding deck work is typically met by non-EU/EEA migrants. NFP and stakeholder accounts consistently point to Egypt, Bangladesh as principal origins, with concentration on trawlers and purse seiners. In these crews, foreign workers are most often on monthly salary contracts rather than catch-share arrangements that prevail in family boats; this stabilises income for migrants and simplifies contributions, but can create a dual pay structure on mixed crews.

Overall, the progressive decline in national labour participation and the persistence of a stable share of foreign workers indicate that Greek fisheries are

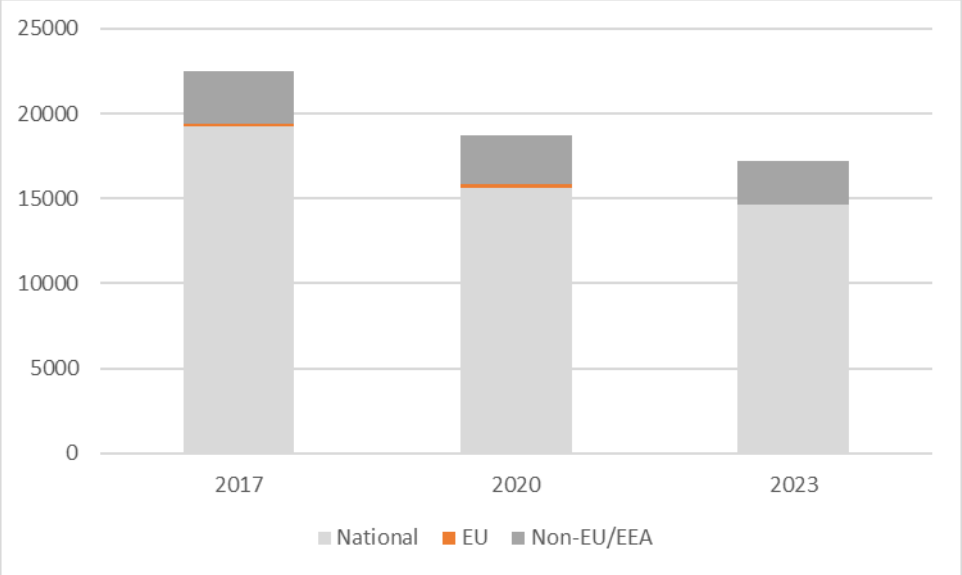
increasingly reliant on non-EU labour to sustain fishing operations, particularly in the more capital-intensive fleet segments. Mobility and integration issues persist. Employers report difficulty recruiting Greek crew, while migrants face administrative burdens (work permits, residence renewals). Where employment is formal, foreign crew are insured under the same insurance schemes as nationals and have access to public healthcare on the same terms; where work is informal, contribution gaps and weaker protection appear.

Table 113. Greece: Employment by nationality (2017-2023; in %)

Nationality	2017	2020	2023	Δ 2023-2017
National	19234 (86%)	15615 (84%)	14618 (85%)	-24%
EU	137 (1%)	198 (1%)	0 (0%)	-100%
Non-EU/EEA	3100 (14%)	2880 (15%)	2614 (15%)	-16%

Data source: MS data submissions under the 2025 Social Data Call

Figure 81: Greece: Employment by nationality and year



Source: Own elaboration from Member States data submissions under the 2025 Social data call

9.11.6 Gender

The gender composition of Greece's fishing fleet over the period 2017-2023 reveals the persistence of a highly male-dominated employment structure. In 2023, women represented only 5% of total employment in the fishing fleet, down from 6% in 2017, indicating a 57% decrease in absolute numbers and a 25% relative decline in share. Male employment also fell by 41%, reflecting the overall contraction of the fleet and employment base, but men's share increased slightly to 95%.

This evolution suggests that as the sector consolidates and overall employment declines, the female workforce is disproportionately affected. The decline may stem from both structural and social dynamics: the ageing of the fishing

population, the disappearance of part-time or informal positions (traditionally filled by women within family enterprises, see also next section).

The observed gender distribution is far below EU averages, where women account for approximately 12-15% of total employment in capture fisheries (STECF, 2024). It is also significantly lower than in the Greek agricultural sector, where women represent around 25-30% of the active workforce (Hellenic Statistical Authority, 2023). Compared with other blue-economy activities, such as aquaculture and fish processing, the imbalance is even more pronounced: women represent 13% of employment in aquaculture and nearly 39% in fish processing. Thus, capture fisheries remain an outlier in gender inclusion, both within the seafood value chain and relative to the broader primary-sector economy.

This pattern reflects a long-standing gendered division of labour within Greek coastal communities. Women's participation in fishing households remains substantial but largely informal and under-recorded, encompassing onshore activities such as net mending, gear preparation, bookkeeping, fish sorting, and direct sales (AGRERI, 2024). These contributions, while essential to the operation of small-scale fisheries, are under-captured by official labour statistics. Consequently, the data underestimate women's true involvement and obscure their economic and social roles within the fleet (Liontakis et al., 2020).

The combination of declining total employment, limited generational renewal, and shrinking female participation raises concerns about the sector's social sustainability and inclusiveness. While policy initiatives, such as EMFAF-funded training, local FLAG programmes, and gender mainstreaming in Blue Economy strategies, acknowledge women's contribution still remains limited. By contrast, the higher and stable female participation in aquaculture and processing suggests that when working conditions are formal and shore-based, gender participation converges with agricultural and EU norms.

Table 114. Greece: Composition of the labour force by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	1912 (9%)	1185 (6%)	949 (6%)	-50%
Male	20559 (91%)	17508 (94%)	16283 (94%)	-21%

Data source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

The data on unpaid labour by gender in the Greek fisheries sector from 2017 to 2023 reveal a pattern of gradual decline in participation, with a persistently strong gender imbalance. Unpaid labour refers to individuals engaged in fishing activities, either on board or onshore, who not receiving any formal monetary or in-kind compensation for their contribution. Such work is often linked to family-based enterprises, which dominate the small-scale coastal fleet in Greece.

In 2017, unpaid labour involved 14 586 persons, of whom 1 425 were women and 13 586 were men. By 2023, total unpaid participants had decreased to 11 291, a drop of about 22%. The number of unpaid female workers fell from 1 425 to 810 (−43%), while unpaid male labour declined from 13 586 to 10 481

(- 23%). These figures show not only a contraction of unpaid involvement overall, consistent with the general reduction in fishing employment, but also a sharper decline in female participation.

Although unpaid female labour represents a small proportion of total workforce numbers, it remains an essential yet under-recognised component of the fishing economy. Women often contribute informally through administrative support, gear preparation, sorting, and marketing of fish, particularly within family-owned coastal fishing enterprises. Greece has transposed Directive 2010/41/EU through Law 4097/2012, which establishes equal treatment for self-employed workers and recognises social protection rights for assisting spouses (Government Gazette, 2012). Public evidence of fisheries-specific implementation beyond this legal step is limited. Studies on Greek small-scale fisheries and regional reviews show that women's work remains largely informal and under-recorded, leaving their contribution mostly invisible in both statistics and policy (Frangoudes et al., 2019). Current actions are indirect, mainly through broader gender-equality measures and occasional projects or events, rather than through dedicated national schemes that recognise unpaid female labour in fisheries (EIGE, 2023; FAO, 2021). Practical priorities identified in EU guidance include securing legal status for assisting spouses, targeted training in safety and digital tools, support for traceability and onshore roles, and stronger representation of women in producer organisations and co-management bodies (Alonso-Población and Siar, 2018; Frangoudes, 2018).

Table 115. Greece: Unpaid labour by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	1425 (9%)	865 (7%)	810 (7%)	-43%
Male	13586 (91%)	11967 (93%)	10481 (93%)	-23%

Data source: MS data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.11.7 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Greek fishing fleet reported an average annual labour cost of EUR 9 958 per FTE in 2023, well below the EU average (61 541 per FTE) but also the national average labour costs per FTE. A possible explanation for this is the predominance of the small-scale segment, which pushes down the fishing labour costs per FTE. However, further investigation is needed to understand the reasons behind this divergence. Fishing labour costs have remained fairly

constant since 2013, rising only 7% compared to 22% for the EU fleet as a whole.

Due to methodological constraints the comparison of the fishing labour cost with the national coverage is not included in the Greek chapter.

This labour cost is just below the national minimum wage benchmark in 2023 (-9%). The pattern suggests that sector earnings remain constrained by small-scale, price- and fuel-cost-sensitive operations, with brief improvements reversed when costs surge or landings decline.

Table 116. Greece: unpaid labour contribution in fisheries

	2017	2020	2023	Δ(2023-2017)
Unpaid labour	15 011	12 832	11 291	-25%
Share of unpaid to total labour	67%	69%	66%	-2%

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour remains a defining feature of Greek fisheries and helps explain how many small family enterprises stay viable as their income, apart from the profits of the enterprise, includes the value of this unpaid labour. The unpaid share is very stable as share of total labour representing about 67% of engaged persons. In headcounts, unpaid participation dropped from 15 011 people in 2017 to 11 291 in 2023 (roughly −25%), mirroring the overall contraction of the fleet and labour force.

Taken together, the figures portray a sector that relies heavily on family labour while delivering wages that are close to the national minimum but well below the national and EU averages. This combination stabilises many small coastal enterprises but also limits the sector’s capacity to attract and retain workers, particularly younger or more educated entrants, and leaves household welfare exposed to fluctuations in costs and landings.

Working conditions

Total working hours in the Greek fisheries sector have followed a downward trend over the 2017-2023 period, reflecting both the structural contraction of the fleet and changes in labour composition. According to the AER data, total annual working hours declined from 1 844 in 2017 to 1 513 in 2023, a decrease of about 18%. The drop was particularly sharp between 2017 and 2020, coinciding with reductions in the number of active vessels and crew. Since 2021, working hours have stabilised at a lower level, suggesting a gradual adjustment to a smaller but more consistent labour force.

Compared with the national labour market, where the average annual working time for full-time employees is considered equal to 1 750 hours, fishers’ total recorded hours appear somewhat lower. This is consistent with the difference between total employment and FTEs, revealing the underemployment of the fishing labour, in less-than-one FTE.5

Table 117. Greece: average working hours per worker

Year	2017	2018	2019	2020	2021	2022	2023
Working hours	1 844	1 654	1 621	1 465	1 525	1 432	1 513

Data source: MS data submissions under the 2025 Social Data Call

Social security

In Greece, most professional fishers are self-employed owner-operators working in small family enterprises, while crews, especially on larger vessels, are include in the fishing enterprise pay-roll. This mix shapes both social-security coverage and retirement patterns. Fisheries are covered by the general social-security institution. In practice this means owners and owners-on-board pay self-employment contributions; crews (SSCF and LSF) are insured as employees with employer-employee contributions. The statutory retirement age in Greece is 67 (with at least 15 years of contributions), or 62 with 40 years of contribution, however even earlier retirement (at 52) is possibe under specific prerequisites for seafarers that are covered by the Greek Seamen's Pension Fund (NAT). Seafarers work on LSF fisheries also face some differences, regarding their minimum wage and unemployment allowance, which is based on special regime under Greek Seamen's Pension Fund (NAT). Maritime work falls under special categories that can qualify for earlier exit depending on days at sea and “heavy/arduous” status, but the exact threshold varies by individual record. In practice, many small-scale owner-fishers continue working after reaching the legal age, usually part-time and alongside family members. Early-retirement tools also exist in the fisheries policy toolbox (e.g., permanent cessation or “scrapping” under EMFAF), but these are management-based decommissioning measures rather than a standing pension scheme.

Labour relations differ by segment. In the SSCF, income is often a household mix of sales revenue and unpaid family help; formal contracts are less common for assisting relatives. However, catch-share arrangements are also frequent, especially for non-family members. In the LSF, crews are typically on salary contracts; traditional foreign workers who are legally employed are insured under the same insurance scheme as nationals and have access to the public health system on equal terms.

Accidents on board

The data on accidents and safety incidents in the Greek fishing fleet (2017–2023) show an overall improvement in safety performance, even if serious and fatal cases persist. Reported incidents include only vessels flying the Greek flag, which corresponds to the entire national fishing fleet. Between 2017 and 2023, the total number of people injured in reported accidents decreased markedly, and the number of lives lost fell from 7 in 2017 to 2 in 2023. Although fluctuations occur from year to year, the overall trend points toward fewer and less severe accidents. Most incidents are classified as “serious” or “very serious”, with very few minor or marine incidents recorded. The reduction in

fatalities suggests a positive evolution in safety awareness and preventive measures, supported in part by modernisation programmes and EU-funded training initiatives.

The small-scale coastal fleet (LOA <12m) remains an exposed segment. Limited investment capacity and the ageing profile of operators increase vulnerability to accidents. Although the situation has improved compared with previous years, safety at sea remains a persistent social issue. In summary, the available evidence indicates a steady but incomplete improvement in the safety conditions of the Greek fishing fleet.

9.11.8 Foreign-flagged vessels

N/A

9.11.9 Social demographics per fishing activities

Employment in both LSF and SSCF in Greece has declined, reflecting the overall contraction of the fleet and the reduction of fishing effort. Between 2017 and 2023, employment in the LSF fell by about 18.5%, while in the SSCF it dropped by roughly 22%. Despite these losses, SSCF still dominates, providing around 80% of total jobs in 2023 and remaining an important contributor for the Greek coastal employment.

Fishing continues to be a male-dominated occupation. In 2023, women accounted for only 1% of jobs in the LSF and 7% in the SSCF. Female participation has been steadily declining, with most women involved in family-based, often unpaid roles that support vessel operation and marketing, especially in small-scale fisheries (more discussion on that in the relevant chapter).

Labour composition shows clear differences between the two segments. SSCF are almost entirely Greek-operated, with nationals representing 97% of their workforce. The LSF, however, depends heavily on migrant labour from non-EU countries, which makes up about two thirds of its total crew. Many of those workers come from Egypt, under a bilateral agreement between the two countries. EU citizens other than Greeks have almost disappeared from both fleets, confirming that intra-EU labour mobility in fisheries remains limited and that the large-scale fleet relies structurally on third-country nationals to fill labour gaps.

The age structure reinforces the pattern of an ageing workforce in both segments. In 2023, about 40% of fishers were aged 40–64 and roughly 15% were over 65. The share of young workers under 25 fell below 1%, compared with around 3-4% in 2017. Younger entrants are scarce, and many older fishers continue working beyond retirement age, particularly in the small-scale fleet, where vessels are family-owned and fishing income remains a vital supplement. This trend shows a clear lack of generational renewal and reflects broader social and economic barriers that discourage youth entry, such as high costs, regulatory constraints, and the low attractiveness of fishing as a profession.

Educational levels remain low and have been declined further. By 2023, about 77% of large-scale and 85% of small-scale fishers had only lower education. The number of fishers with higher education dropped, especially among small-scale operators. This low educational profile is an indication of reduced sector's ability to adopt modern technologies, digital tools, and sustainable practices, limiting competitiveness and compliance with evolving EU standards.

Table 118. Greece: Social variables for LSF and SSCF sector

	LSF			SSCF		
	2017	**2020**	**2023**	**2017**	**2020**	**2023**
Gender						
Female	40	32	44	1 872	1 153	905
Male	4 299	3 932	3 502	16 260	13 576	12 781
Nationality						
National	1 694	1 380	1 266	17 540	14 235	13 352
EU	88	143	0	49	55	0
EEA	0	0	0	0	0	0
Non-EU/EEA	2 557	2 441	2 280	543	439	334
Age						
≤14	0	0	0	0	0	0
15-24	155	102	41	501	176	163
25-39	1 688	1 258	936	3 220	2 636	1 526
40-64	2 281	2 467	2 321	12 195	9 860	9 780
65+	151	131	248	2 177	2 057	2 217
Unknown	64	6	0	39	0	0
Education						
High	94	93	111	1 117	640	340
Medium	546	498	423	6 618	5 010	4 053
Low	3 393	3 045	3 012	10 343	9 079	9 293
Unknown	306	328	0	54	0	0
Employment status						
Employee	3 288	3 084	2 653	3 644	2 912	2 184
Owner	1 051	880	893	14 488	11 817	11 502
FTE per Gender						
Female	11	18	33	1231	790	506
Male	4 318	2 822	2 848	14 983	10 898	8 529
Unpaid per gender						
Female	22	19	27	1403	846	783
Male	867	744	695	12 719	11 223	9 786
Average wage per job (EUR)			8 839			6 379

Data source: MS data submissions under the 2025 Social Data Call

Employment status also differs sharply between the two fleets. The small-scale fleet is dominated by self-employed owner-operators, who make up nearly 80%

of total employment, whereas in the LSF around 45% of jobs are under paid-agreement or contract. Large-scale crews typically work under fixed salaries, while small-scale fishers depend on shared catch revenues and family labour. Unpaid work remains significant in small-scale fisheries, with over ten thousand workers recorded as unpaid in 2023, mainly men assisting family-owned vessels.

Working conditions and income levels remain modest. Full-time equivalent (FTE) employment has declined in both fleets, reaching 9 005 in the small-scale segment and 2 848 in the large-scale segment in 2023. Average annual earnings are low, around EUR 6 379 per job in small-scale and EUR 8 839 in large-scale fisheries, which correspond to roughly 60% of the national average wage. These figures illustrate the fragile economic position of a part of the fishing households, many of which depend on supplementary income sources to remain viable, revealing pluriactivity as a survival strategy for many households in the primary sector (Liontakis et al., 2020; Sintori et al., 2019).

Overall, the Greek fishing fleet is sustained by an ageing, shrinking, and largely low-income workforce. The small-scale fleet remains significant for coastal communities but faces serious challenges linked to income insecurity, informal labour, and limited entry of younger fishers. The large-scale fleet shows a more formal structure but relies heavily on foreign crew members and struggles to attract national labour.

9.11.10 Trends and challenges

Greece's fishing communities operate within a rapidly changing policy scheme shaped by biodiversity commitments, marine spatial planning (MSP), offshore renewable energy, labour reforms, and mounting ecological pressures. These shifts may not directly alter demographics, yet they strongly influence livelihoods, and the social resilience of coastal fleets.

At European level, the Biodiversity Strategy for 2030 mandates that 30% of marine areas should be protected, including 10% under strict protection (European Commission, 2020). In Greece, this means both expanding the network of marine protected areas (MPAs) and ensuring that existing sites move from nominal designation to active management with clear rules and enforcement. Most MPAs currently stem from the Natura 2000 framework, but many historically lacked detailed zoning and control mechanisms[40], and the effort to close this gap will directly affect coastal fisheries (Hogg et al., 2024). Complementing this, Greece has adopted a national MSP framework to coordinate competing maritime uses and prevent conflict among fisheries, energy, aquaculture, tourism, conservation, and shipping, placing emphasis on local consultation (Strategic Energy, 2025). While MSP can provide transparency and negotiated compromises, it can also reallocate areas to non-

[40] See Biodiversity Information System for Europe - BISE. Marine protected areas in Greece. Available at: https://biodiversity.europa.eu/countries/greece?activeTab=32c6ed31-9535-4689-b789-0f4c6932ee85

fishing uses, potentially displacing effort unless participatory mechanisms and fair compensation are ensured (AGRERI, 2025). The cooperative process developed by the fishing association of Amorgos, which codesigned Fisheries Restricted Areas with scientists, NGOs, and authorities, exemplifies how bottom-up initiatives can align conservation and community interests (Blue Marine Foundation, 2024). The expansion of offshore wind is another defining pressure. Greece's offshore wind programme aims for around 2 GW by 2030, largely through floating turbines, with designated priority zones reaching nearly 4.9 GW by 2032 (WindEurope, 2022; Greek News Agenda, 2024). While such projects can provide local benefits through maintenance and port services, they may also impose temporary construction impacts and long-term spatial restrictions, particularly for mobile gears. Ecological change compounds these challenges. Invasive species such as the silver-cheeked pufferfish (*Lagocephalus sceleratus*) degrade marine ecosystems, damaged gear, reduced landings, and caused significant income losses (Christidis et al., 2024). EMFAF priorities addressing invasive species, marine litter, and Natura 2000 management can potentially offer mitigation through compensation and the employment of fishers as environmental stewards (European Commission, 2022; AGRERI, 2025). Ultimately, the resilience of Greek fisheries depends on participation and trust. Inclusive planning under MSP, co-management pilots such as that in Amorgos, and participatory siting for offshore wind are emerging tools for resolving conflicts and building legitimacy. When fishers are actively involved in rule-making, have access to training and safety funding, and can diversify their income, communities adapt more effectively. Without such inclusion, top-down measures risk non-compliance and resistance (Blue Marine Foundation, 2024; Strategic Energy, 2025). Therefore, achieving ecological sustainability and maintaining vibrant coastal livelihoods must advance together through transparent governance and genuine local engagement.

9.11.11 Methodological considerations and data issues

- Data source used for the DCF Social Data Call

Probability sample Survey using primary data

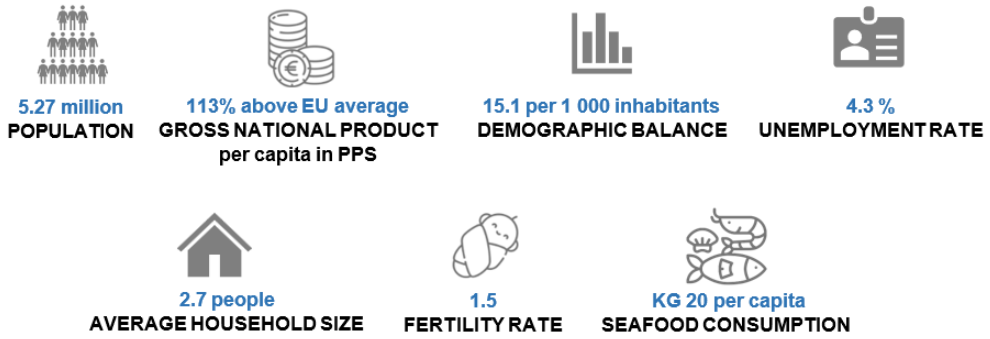
- Data quality issues

No issues

9.12 Ireland

9.12.1 Snapshot of Ireland

Figure 82. Ireland in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

9.12.2 Short description of the fishing sector

In 2023, there were 1 993 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 65 728 GT and 182 975 kW. The capacity of the national fleet has remained relatively stable since 2013. The estimated total number of inactive vessels in 2023 was 600, the majority of which (85%) are in the less than 10m segments (European Commission, 2025).

In 2023, the EU fishing fleet consisted of 70 280 vessels. Ireland's 1993 vessels represented 3% of the total EU fleet. With a population of 5.27 million (1% of the total EU population), direct employment generated by the sector is estimated at 2 681 jobs, 2% of the total EU fleet.

Gross Value Added (GVA) generated by the fleet was EUR 144.5 million. The fishing sector is a sub-sector within the broader "Agriculture, Forestry & Fishing" category in Ireland. The fishing sector contributed marginally to the overall EU 12 billion recorded for the category in 2023, which constitutes 1.2% of Ireland's overall GVA in 2023 EUR 1.005 trillion.

Fisheries are a central part of Ireland's coastal heritage and community identity. Fishing communities such as Killybegs, Castletownbere, Dingle, and Howth play a vital role in maintaining the social and economic fabric of these regions, supporting employment not only in fishing but also in seafood processing, aquaculture, and related ancillary services. The Irish fleet typically operates in the North Western Waters region of the North Atlantic Ocean, including the Irish Sea, the Celtic Sea, off the west coast of Ireland, and in the waters to the west of Scotland (ICES areas Via, Vib and VII, except d, e, and a).

As presented in Ireland's summary table, between 2017 and 2023, the fishing sector experienced a marked contraction in employment and output alongside

structural and demographic shifts. Total employment declined by 12%, and full-time equivalent (FTE) positions fell by 33%, indicating a reduction in stable, year-round jobs. Losses were most pronounced in the large-scale (LSF) and under-12m active gear (L12AG) fleets, while the small-scale coastal fleet (SSCF) showed relative resilience, recording a 13% rise and only a modest decline in FTEs.

Table 119. Ireland summary table.

	Units	2023				% Δ 2023-2017			
Indicator	**Units**	Overall	**SSCF**	**L12AG**	**LSF**	**Overall**	**SSCF**	**L12AG**	**LSF**
Total employment	Number	2681	1242	256	1182	-12%▼	13%▲	-34%▼	-23%▼
FTE	Number	1743	807	167	769	-33%▼	-4%▼	-54%▼	-45%▼
Active vessels	Number	1993	995	169	229	6%▲	27%▲	-40%▼	-8%▼
Landings by weight	Thousand tonnes	186.3	11.2	2.3	173	-26%▼	-6%▼	-56%▼	-27%▼
Landings by value	Million €	286.4	36	8.4	242	-11%▼	23%▲	-40%▼	-13%▼
Ageing work force: >=65 in workforce	%	11%	16%	25%	5%	112%▲	218▲	-	-
Gender: women in the workforce	%	1.5%	1%	1%	2%	-32%▼	50%▲	-	-52%
Nationality: nationals in work workforce	%	82%	96%	94%	64%	-1%▼	16%▲	-	-36%▼

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call. Note: Due to rounding, some of the segment totals do not equal the overall figures.

Fleet composition has shifted toward smaller vessels, compounded by 39 LSF demersal vessels decommissioned in 2023 under the Brexit Adjust Reserve (BAR) Voluntary Permanent Cessation Scheme (Perry et al., 2024). The total number of active vessels increased by 6%, driven by a 27% expansion in the SSCF segment, while both L12AG (-40%) and LSF (-8%) contracted.

Despite a modest increase in vessel numbers, landings have declined. Total landings by weight and value fell by 26% and 11%, respectively. While SSCF landings value rose by 23%, both L12AG and LSF segments recorded substantial declines, pointing to diverging economic trajectories across fleet segments.

The workforce is ageing rapidly, with the proportion of those aged 65 and over more than doubling to 11% nationally and tripling within the SSCF segment. This trend highlights challenges in generational renewal and sectoral

succession. Workforce diversity also remains limited, with women accounting for just 1.5% of the workforce. In addition, the data indicates that their participation has declined overall since 2017. The share of Irish nationals remains high (82%), though there is an increasing reliance on non-nationals in the LSF.

Overall, these trends indicate a sector in transition, characterised by declining employment, ageing demographics, reduced productivity, and a shift toward smaller-scale operations. While the SSCF segment shows relative adaptability, the broader pattern underscores the need for targeted policy interventions to support workforce renewal, productivity growth, and long-term sustainability.

Social demographics in Fisheries

9.12.3 Employment in Fisheries

The Irish fishing sector is facing increasing pressure due to a declining labour supply. This trend is primarily driven by slower population growth and an ageing demographic in peripheral coastal communities that have traditionally provided much of the fleet's workforce. In contrast, urban areas are experiencing a more gradual ageing process and retain a larger share of younger individuals (Jackson and Keatinge, 2024; Perry et al., 2025).

This shift presents a major challenge for a sector still reliant on younger male crew members. The issue is compounded by low wages and relatively high risk, in terms of safety and reliability of income (Perry et al., 2025).

Total Employment

An estimated 2 681 jobs were directly supported by the sector in 2023, down -9% on 2020 (2 944). Total employment has still not recovered to pre-COVID-19 levels, with 3 063 jobs in 2017, representing a 12% decrease from 2017-2023.

Table 120. Ireland: Total employment and Full Time Equivalents (FTEs)

Employment	2017	2020	2023	Δ 2023-2017
Total Employment	3063	2944	2681	-12%
FTEs	2608	2758	1743	-33%

Source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent

The FTE metric reflects employment levels by accounting for both average daily working hours and total annual sea days. A lower FTE relative to total numbers employed indicates that there are large numbers of employees working in a casual or part-time capacity in the fleet.

It is important to note that the methodology to estimate FTE was revised by the Member State from 2020 onwards. Therefore, FTE for these years cannot be

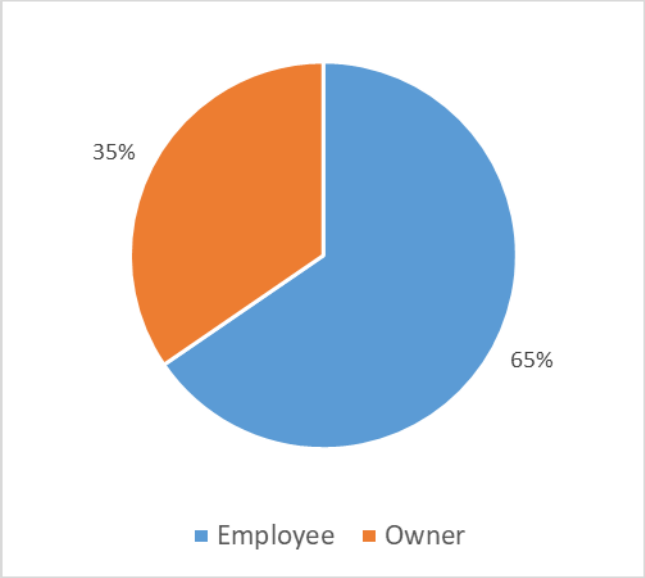
compared to previous years' figures and represent a break in the data timeseries.

For Ireland, total employment is a more appropriate metric due to the fleet structure. 82% of the total active fleet (1 164 vessels) are under 12m, and many of these fish on a seasonal basis. These individuals tend to fall outside the criteria determined to calculate FTEs.

Employment status

Between 2017 and 2023, the number of employees and owners showed a gradual decline. The number of employees fell from 2 072 in 2017 to 1 755 in 2023, representing a 15% decrease overall, with most of the decline occurring between 2017 and 2020. Similarly, the number of owners decreased from 991 to 926, a 7% reduction over the same period. In total, the combined number declined from 3 063 in 2017 to 2 681 in 2023, reflecting an overall reduction of 12%. This indicates a consistent downward trend across both employment categories, with the reduction being more pronounced among employees than owners, mirroring labour shortages and retention issues reported by the fleet.

Figure 83. Ireland: Employment status by owners and employees, 2023



Source: MS data submissions under the 2025 Social Data Call.

Table 121. Ireland: Employment status by owners and employees

Status	2017	2020	2023	Δ 2023-2017
Employee	2072 (68%)	1755 (65%)	1755 (65%)	-15%
Owner	991 (32%)	933 (35%)	926 (35%)	-7%

Source: MS data submissions under the 2025 Social Data Call

9.12.4 Demographics of the Workforce

Analysis of workforce data across the Irish fleets for the years 2017 to 2023 reveals clear demographic shifts. The combined results across the different segments point to an ageing workforce, continued gender imbalance, and an increasing reliance on non-Irish nationals. These patterns reflect ongoing structural challenges in attracting and retaining domestic labour in the fishing industry.

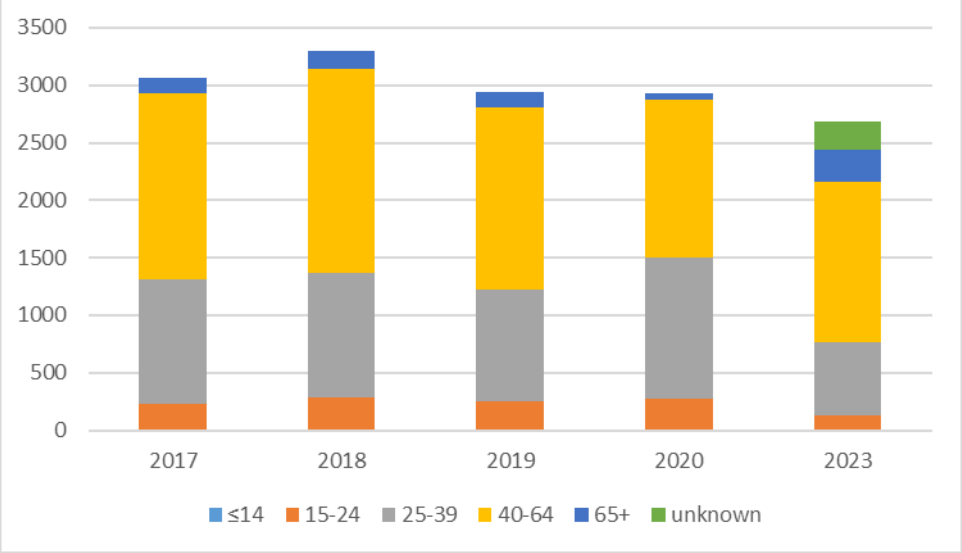
This section presents data on the workforce in terms of age, education and training, nationality, gender, and unpaid labour.

Age

In terms of the age profile of the national fleet, distribution has shifted upward, signalling a gradual but steady ageing trend within the workforce. The share of workers aged 55 and over increased from 18% in 2017 to 26% in 2023, representing a 44% rise in this age group. Conversely, those under 25 years old declined from 11% in 2017 to 6% in 2023, a 45% reduction. The core working-age group (25–54 years) remains dominant, accounting for around 68% of total employment in 2023, though this share has contracted slightly over time.

This indicates that recruitment of younger entrants has not kept pace with retirements, particularly in the SSCF fleet, where the workforce is oldest. Without renewed entry and training pathways, the sector risks further contraction of its skilled labour base over the coming decade

Figure 84. Ireland: Trends in employment by age distribution



Source: MS data submissions under the 2025 Social Data Call.

Table 122. Ireland: Employment by age

Age group	2017	2018	2019	2020	2023	Δ 2023-2017
≤14	0 (0%)	7 (0%)	6 (0%)	9 (0%)	3 (0%)	-
15-24	230 (8%)	276 (8%)	248 (8%)	268 (9%)	122 (5%)	-47%
25-39	1083 (35%)	1087 (33%)	973 (33%)	1228 (42%)	645 (24%)	-40%
40-54	0 (0%)	0 (0%)	0 (0%)	0 (0%)	913 (34%)	-
40-64	1613 (53%)	1768 (54%)	1576 (54%)	1370 (47%)	0 (0%)	-
55-64	0 (0%)	0 (0%)	0 (0%)	0 (0%)	472 (18%)	-
65+	137 (4%)	159 (5%)	142 (5%)	53 (2%)	289 (11%)	111%
unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	237 (9%)	-

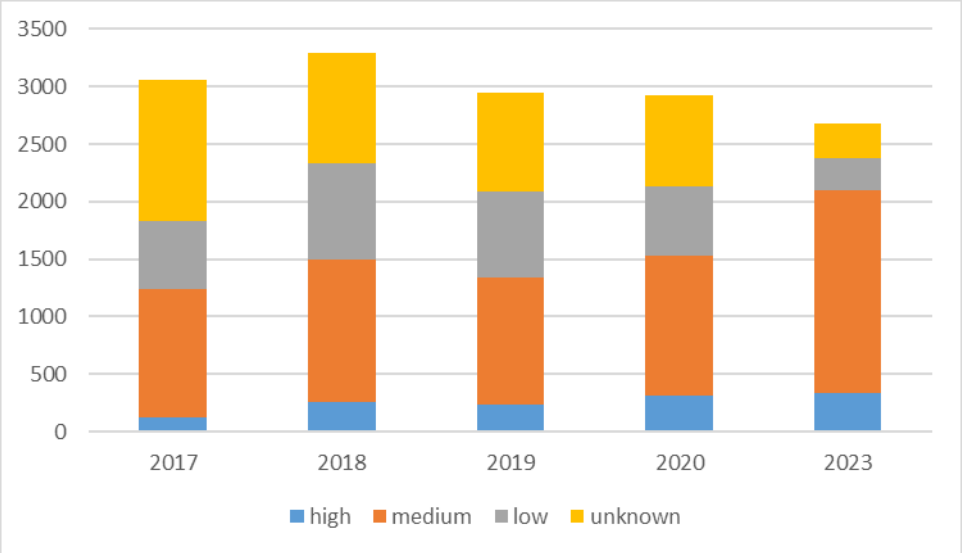
Source: MS data submissions under the 2025 Social Data Call

9.12.5 Workforce education and training

Education

Between 2017 and 2023, the educational composition of the workforce has shifted markedly toward higher attainment levels, indicating a more skilled and sector. While total employment declined by 12.5%, the number of workers with higher education increased by 182%, and those with medium education rose by 58%. These groups combined accounted for 80% of the workforce in 2023, compared with just over 40% in 2017. In contrast, the share of individuals with low education more than halved, and the “unknown” education category fell by 76%, reflecting better reporting and classification.

Figure 85. Ireland: Trends in employment by education level



Source: MS data submissions under the 2025 Social Data Call.

Table 123. Ireland: Employment by education level

Education	2017	2018	2019	2020	2023	Δ 2023-2017
high	119 (4%)	262 (8%)	237 (8%)	313 (11%)	336 (13%)	182%
medium	1123 (37%)	1237 (38%)	1107 (38%)	1213 (41%)	1769 (66%)	57%
low	592 (19%)	830 (25%)	741 (25%)	610 (21%)	279 (10%)	-53%
unknown	1229 (40%)	968 (29%)	861 (29%)	792 (27%)	297 (11%)	-76%

Source: MS data submissions under the 2025 Social Data Call

Training

Ireland implements the principles of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) for its fishers, supported by a structured training and certification framework for professional seagoing personnel. The revised STCW-F standards can be applied in Ireland through transposition via a European Union Directive under the European Communities Act, 1972, allowing implementation without formal ratification of the convention. Nevertheless, Ireland remains committed to the eventual ratification of STCW-F in line with Government policy.

Both EU and non-EU fishers may work on Irish-flagged seagoing vessels, provided they have completed Basic Safety Training, hold a Bord Iascaigh Mhara (BIM, Ireland's Seafood Development Agency) Safety Training Card, and possess a functional level of English.

More stringent training and certification requirements are in place for fishing vessel personnel working on seagoing fishing vessels of 15 metres in length and over (Marine Survey Office, 2024). These vessels need to comply with the national Fishing Vessels (Certification of Deck Officers and Engineer Officers) Regulations 2023. Further information on the various functions, requirements, and official professional qualifications is provided in Ireland's Baseline study on the training and certification requirements for fishers in EU Member States report (Haasnoot et al., 2025). BIM provides essential training and skill development for the Irish seafood industry, at its two National Fisheries College of Ireland, mobile coastal training units, in-person workshops and online programmes provide a wide range of training programmes across various domains, including engineering, processing, retail, radio, safety, and maritime operations. Recognised as a Quality and Qualifications Ireland (QQI) approved training provider, BIM offers programmes leading to awards on the National Framework of Qualifications (NFQ), ensuring high standards and industry relevance.

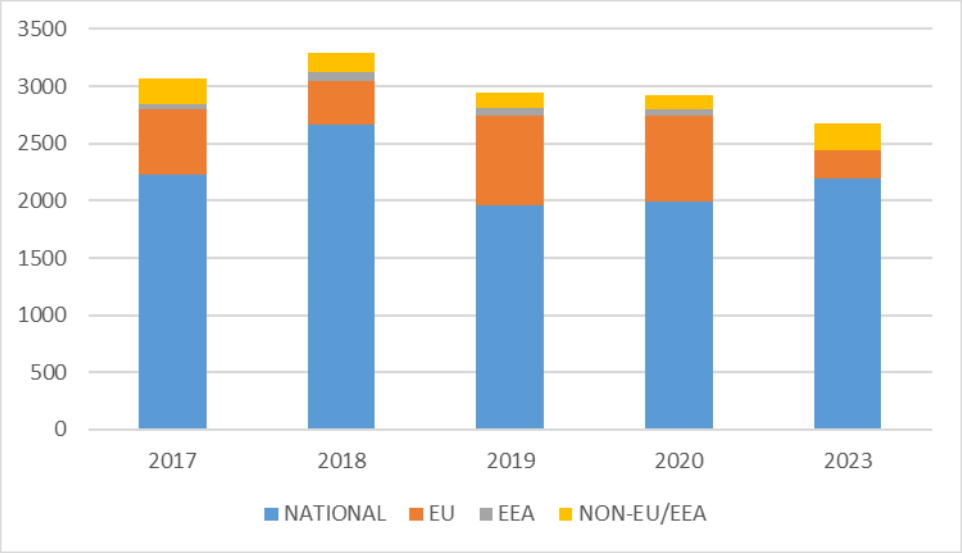
BIM recently launched the Skills Prospectus 2025, a comprehensive training strategy designed to meet the evolving needs of Ireland's seafood industry. The initiative aligns with the Government's EUR 5 million investment under the strategy 'The Next Wave 2023–2028', aiming to develop an agile, professional, and skilled workforce essential for the sector's sustainability and growth (BIM, 2025).

Nationality

The workforce has become increasingly international, reflecting a growing dependence on migrant labour, particularly for larger vessels. The data reveals a decline in EU recruitment, offset by rising non-EU participation. Non-Irish nationals accounted for 32% of the total workforce in 2023, compared with 24% in 2017, a 33% increase over the six years. Growth was strongest in L12AG, where the share of foreign crew rose from 30% to 42%, indicating that larger vessels rely increasingly on overseas recruitment.

By contrast, SSCF remains predominantly Irish, with non-nationals representing less than 10% of its workforce. This diversification highlights the critical role of migrant workers in maintaining fleet operations but also underscores exposure to labour market and immigration policy shifts.

Figure 86. Ireland: Trends in employment by nationality



Source: MS data submissions under the 2025 Social Data Call.

Table 124. Ireland: Employment by nationality

Nationality	2017	2018	2019	2020	2023	Δ 2023-2017
National	2228 (73%)	2669 (81%)	1959 (67%)	1995 (68%)	2198 (82%)	-1%
EU	568 (19%)	378 (11%)	783 (27%)	745 (25%)	248 (9%)	-56%
EEA	49 (2%)	75 (2%)	67 (2%)	63 (2%)	0 (0%)	-100%
Non-EU/EEA	218 (7%)	175 (5%)	134 (5%)	125 (4%)	235 (9%)	8%

Source: MS data submissions under the 2025 Social Data Call

Gender

Between 2017 and 2023, total employment in Ireland's fishing sector declined steadily, falling by approximately 12% from 3 063 to 2 681 individuals. Male employment, which represents most of the workforce, decreased by 15%, from 3 006 in 2017 to 2 550 in 2023, reflecting ongoing challenges linked to quota reductions, rising operational costs, and structural adjustments within the fleet.

Female employment showed greater volatility, increasing by 98% between 2017 and 2020 (from 57 to 113) before dropping sharply by 65% to 39, in 2023. This pattern suggests continuing instability in women's participation and persistent barriers to retention in fishing-related roles.

The introduction of 92 individuals recorded as "unknown" in 2023 points to improved data collection methods. Overall, the data illustrate a gradual contraction of the sector and a narrowing workforce base, highlighting the need for targeted workforce renewal, training initiatives, and stronger gender inclusion measures to support long-term sustainability.

Table 125. Ireland: Total employment by gender

Gender	2017	2018	2019	2020	2023	Δ 2023-2017
Female	57 (2%)	159 (5%)	141 (5%)	113 (4%)	39 (1%)	-32%
Male	3006 (98%)	3139 (95%)	2806 (95%)	2815 (96%)	2550 (95%)	-15%
unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	92 (3%)	-

Source: MS data submissions under the 2025 Social Data Call

Table 126. Ireland: Full Time Equivalents (FTEs) by gender

Gender	2017	2018	2019	2020	2023	Δ 2023-2017
Female	40 (2%)	39 (1%)	95 (3%)	93 (3%)	25 (1%)	-37%
Male	2568 (98%)	2569 (99%)	2658 (97%)	2591 (97%)	1658 (95%)	-35%
unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	60 (3%)	-

Source: MS data submissions under the 2025 Social Data Call

Between 2017 and 2023, the total number of FTEs in Ireland declined sharply by 33%, from 2 608 to 1 743. Both male and female FTEs experienced substantial decreases, with female FTEs falling by 37% (from 40 to 25) and male FTEs dropping by 35% (from 2 568 to 1 658). This indicates that the reduction in workforce affected both genders proportionally, though female FTEs remain a small share of the total workforce throughout the period. However, it is important to reiterate that the methodology to estimate FTE was revised by the Member State from 2020 onwards, and these trends should be interpreted with caution.

Ireland has transposed Directive 2010/41/EU of the European Parliament and of the Council of 7 July 2010 on the application of the principle of equal treatment between men and women engaged in an activity in a self-employed capacity. This was achieved through Section 19 of the Social Welfare and Pensions Act 2014, which came into effect on 1 January 2014. The directive was

implemented in Ireland via Statutory Instrument No. 347/2014, titled the Social Welfare (Consolidated Claims, Payments and Control) (Amendment) (No. 3) (Maternity Benefit) (Self-Employed) (No. 2) Regulations 2014.

Beyond formally transposing the directive, Ireland has introduced additional measures to support its implementation. The Department of Social Protection has issued guidelines and information resources to inform self-employed individuals and their spouses or civil partners of their rights and entitlements. The government has also conducted awareness campaigns promoting gender equality in self-employment and encouraging self-employed women to claim maternity benefits. These actions demonstrate Ireland's commitment to actively advancing the directive's objectives.

Unpaid labour by gender

Between 2017 and 2023, recorded unpaid labour within Ireland's fishing fleet increased more than threefold, from 321 to 1 044 individuals, driven primarily by a sharp rise in reported male participation. While this growth may indicate some increase in informal or family-based contributions, it more strongly reflects enhanced data collection and improved classification of unpaid roles across the sector.

Female participation, though limited, rose modestly over the period, suggesting gradual recognition of women's informal involvement in fleet operations or improvements in data collection. Fishing is often seen as a male-dominated industry, particularly in offshore vessel work. However, women play vital roles across the sector, especially in small-scale and family-run operations. They contribute both on board and through essential shore-based tasks such as gear preparation, fish handling, sales, administration, and logistics. Despite their importance, much of this contribution remains under-recognised and under-recorded (Perry et al., 2025).

Overall, the trend for unpaid labour by gender points to a more accurate and transparent accounting of unpaid labour, highlighting the evolving quality of workforce data in Ireland's fisheries.

Table 127. Ireland: Unpaid labour by gender

Gender	2017	2018	2019	2020	2023	Δ 2023-2017
Female	5 (2%)	12 (5%)	10 (5%)	9 (6%)	11 (1%)	▲ 115%
Male	316 (98%)	218 (95%)	183 (95%)	149 (94%)	1001 (96%)	▲ 217%
unknown	0 (0%)	0 (0%)	0 (0%)	0 (0%)	32 (3%)	-

Source: MS data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.12.6 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Irish fishing fleet recorded an average annual labour cost of EUR 55 238 per FTE in 2023, well above the EU average (EUR 29 447 per FTE). Fishing labour costs have nearly doubled since 2013 (+95%), again well above the EU average (+22%). This level is a substantial decrease from the high of EUR 77 292 per FTE recorded in 2022. The overall trend indicates a period of wage volatility linked to broader economic and structural pressures within the Irish fleet.

Fishing labour costs in Ireland are below the national average labour costs (-26%) but more than twice the national minimum wage on an annual basis (EUR 23 000).

Table 128. Ireland. Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	28 362	40 168	37 648	41 282	44 755	42 093	41 987	45 362	55 121	72 292	55 328
National average				67 427				74 215	74 272	75 443	74 836
Ratio of fishing labour cost to national average				0.61				0.61	0.74	0.96	0.74

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Unpaid labour

Unpaid labour remains a significant but often overlooked contributor to the Irish fishing fleet, especially in the SSCF segment. It supports the viability of smaller enterprises and helps offset labour shortages. In 2023, the estimated value across the fleet was EUR 4.1 million, based on reported hours worked and Ireland's minimum wage (EUR 11.30/hour).

Working conditions

Total Working hours

Data from the 2025 Annual Economic Report (European Commission, 2025) shows substantial fluctuation in total hours worked by the Irish fleet between 2017 and 2023. Hours more than doubled from 3.45 million in 2017 to a peak of 6.77 million in 2018, remaining relatively high through 2019 and 2020. However, there was a sharp decline beginning in 2021, when total hours fell to 2.69 million, less than half the 2020 level. Although there has been some recovery

since then, with hours increasing to 3.51 million by 2023, the fleet's activity has not returned to pre-2021 levels.

Overall, the trend indicates a period of strong activity up to 2020, followed by a significant contraction likely influenced by economic shocks such as COVID-19 and the Russian invasion of Ukraine. This was compounded by regulatory and access changes arising from Brexit which continues to impact quotas. More recently, there has been a modest but steady rebound.

Social security

The Irish fishing sector comprises share fishers, employees (i.e. Pay-As-You-Earn employees, PAYE), vessel-owners, and atypical workers (Jackson and Keatinge, 2024; BIM, 2022). Share fishers, who are paid through a share of the catch tend to be classed as self-employed. They contribute to PRSI Class S and can also choose to make Class P contributions to access certain benefits, such as limited Jobseeker's Benefit, Illness Benefit, and Treatment Benefit. In contrast, PAYE employees fall under the standard PRSI classes (typically Class A), which provide full social insurance entitlements. Vessel-owners are also considered self-employed for tax purposes (Department of Social Protection, 2015).

Non-EEA workers may work temporarily under the Atypical Working Scheme (AWS). The AWS was developed by agreement between the Department of Justice to Department of Justice Home Affairs and Migration, and the Department of Enterprise, Trade and Employment DETE, to facilitate specialised, highly skilled employment of a short-term nature (generally less than 90 days) that is not supported by current Employment Permit legislation.

Overall, the sector is fully integrated into Ireland's social security system, but the diversity of employment types necessitates a distinct sub-regime for share fishers to reflect their unique work and remuneration arrangements.

Accidents on board

According to the European Maritime Safety Agency (EMSA, 2025), between 2017 and 2023, the total number of recorded fishing vessel accidents in Ireland increased overall, though with some fluctuations. The number of incidents rose from three in 2017 and 2018 to a peak of 28 in 2021, before decreasing again to 15-16 per year in 2022 and 2023. This indicates a general upward trend in reported accidents over the period, followed by a modest decline in the most recent years.

In terms of casualties, fatalities remained low, with two deaths recorded in 2019 and none in any other year. This suggests that while accidents became more frequent, the severity in terms of loss of life did not increase.

The number of people injured varied more than fatalities but also remained relatively low. There was a gradual rise from one injury in 2017 to six each year in 2020 and 2021, aligning with the years of higher accident frequency, followed

by a decline to one injury annually in 2022 and 2023. Overall, the data suggest that while 2020-2021 were peak years for fishing accidents, safety outcomes in terms of deaths and injuries have remained stable or improved since then.

Fishing is among the highest-risk occupations in Ireland. According to Ireland's Health and Safety Authority (HSA), averaged over recent years, the fatality rate in fishing is much higher than in agriculture and construction. For example, the HSA reports that the fishing sector is four times more dangerous than agriculture, 13 times more dangerous than construction and 36 times more dangerous than the general working population. While fatalities in fishing are low in absolute numbers (for some years), the rate per person at risk is remarkably high. This means fishing accidents, while fewer, are disproportionately more dangerous compared to many other sectors.

Foreign flagged vessels

Ireland's strategic location as a western European outpost with rich marine ecosystems with highly productive waters is a key driver for why many foreign fishing vessels land in its ports. In addition to frequent landings from other Member States (e.g. France, Spain, Belgium, The Netherlands) into multiple ports, Ireland has two fully designated ports for third-country landings (e.g. United Kingdom, Iceland, Norway, Faroes), Killybegs and Castletownbere, which allows for this activity to occur under strict regulations.

According to data reported by Ireland's Sea Fisheries Protection Authority (SFPA), from 2017 to 2023, landings by non-Irish vessels into Irish ports showed a pattern of relative stability followed by a notable decline in 2023. Foreign vessels consistently contributed a substantial share of the total landings, averaging around one-third of national gross landings. In 2017, they landed approximately 100 000 tonnes valued at EUR 118 million (BIM, 2018), and this level remained steady through to 2022, when landings peaked at around 110 000 tonnes valued at EUR 171 million (BIM, 2023). However, in 2023, the figure fell sharply to about 88 000 tonnes valued at EUR 157 million (BIM, 2024), representing a 20% decline year-on-year.

Although non-Irish vessels account for a smaller number of individual landings (around 2 000 per year compared with over 40 000 Irish landings), their catches are far larger on average, at around 43 tonnes per landing, compared with under four tonnes for Irish vessels. This makes foreign vessels a disproportionately important contributor to total landed tonnage and the economic value of the catch.

The recent decline in non-Irish landings reflects broader structural changes in the sector, including quota reductions, market pressures, and post-Brexit adjustments to fleet operations and access rights. Despite this reduction, foreign vessels continue to represent a key segment of Ireland's port activity and seafood supply chain, underlining the country's role as a regional hub for both domestic and international fishing fleets in the North Western Waters.

9.12.7 Social demographics per fishing activities

The main types of fishing activities for the Irish fleet are: Small-Scale Coastal Fleet (SSCF), Large-Scale Fleet (LSF), vessels under 12 metres using active gears (L12AG).

Small Scale Coastal Fleet

Table 129. Ireland: Social demographics of the SSCF

SSCF	2017	2020	2023	% Δ 2023 to 2017
Gender				
Female	8	96	12	50%▲
Male	1 079	1 084	1 193	11%▲
Unknown			37	
Nationality				
National	1 033	1 078	1 198	16%▲
EU	45	102	33	-27%▼
EEA	0	0	0	33%▲
Non-EU/EEA	9	0	12	
Age				
≤14	0	6	3	
15-24	104	160	72	-31%▼
25-39	322	467	267	-17%▼
40-64	600	529	667	11%▲
65+	61	18	194	218%▲
Unknown	0	0	39	
Education				
High	0	214	163	
Medium	288	522	801	178%▲
Low	26	135	152	484%▲
Unknown	773	310	126	-83%▼
Employment status				
Employee	518	854	533	3%▲
Owner	569	621	709	25%▲
FTE per gender				
Female	8	78	8	0%
Male	836	982	775	-7%▼
Unknown			24	
Average wage per job (EUR)	10 542	6 725	12 466	18%▲

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

There were an estimated 995 active vessels registered in the SSCF in 2023. Between 2017 and 2023, employment within the Irish SSCF showed mixed trends across demographic, educational, and employment categories.

Between 2017 and 2023, the total SSCF workforce increased modestly. Male employment rose from 1 079 to 1 193, while female employment remained low, increasing slightly from eight to 12. Employment classified as ‘unknown’ emerged, reflecting improved data collection.

Nationality data show the majority of the SSCF remain Irish nationals, rising slightly from 1 033 to 1 198, while EU nationals decreased, and non-EU/EEA workers remained a small proportion.

Age distribution highlights significant shifts, with younger fishers aged 15-24 declining from 104 to 72, while older workers, particularly those aged 65+, increased substantially from 61 to 194. This indicates an ageing workforce and potential challenges in generational renewal.

Educational attainment shows a notable increase in medium-level qualifications (288 to 801), suggesting improved workforce skill levels, while low and unknown education levels decreased.

Employment status trends indicate a shift towards owner-operated vessels, with owner numbers rising from 569 to 709, while employees decreased from 518 to 533, reflecting a gradual restructuring towards more self-employment.

The average wage per job showed a fluctuating trend over the period, decreasing from EUR 10 542 in 2017 to EUR 6 725 in 2020, before rising sharply to EUR 12 466 in 2023. Overall, this represents an average increase of about 18% from 2017 to 2023, indicating a wage recovery following the mid-period decline.

Collectively, these trends suggest a small-scale fleet that is ageing, slowly diversifying in skill levels, and increasingly reliant on vessel owners rather than wage employees. The combination of declining young entrants and growth in older crew highlights an urgent need for workforce renewal initiatives and targeted training to ensure long-term sustainability of the SSCF.

L12AG

The operational definition of SSCF used in this report excludes a large part of the Irish fleet in vessel numbers, as they are below 12 metres in length and use active gears. This therefore excludes important social data for the small-scale inshore fishery, which instead is added to the large-scale fishery.

2025 is the first year that social (and economic data) for these vessels in L12AG has been differentiated, with no comparable aggregated data available prior to this year. This development represents a positive deviation from previous years and allows for a more comprehensive analysis of the national fleet, reflecting the nuances of the type of gear used by vessels of different lengths. In 2023, there were an estimated 169 Irish vessels under 12 metres using active gears (L12AG fleet), including dredgers, pelagic trawlers, and demersal trawlers.

Table 130. Ireland: Social demographics of L12AG

L12AG	2023
Gender	
Female	3
Male	246
Unknown	8
Nationality	
National	240
EU	11
EEA	
Non-EU/EEA	6
Age	
≤14	0
15-24	7
25-39	72
40-64	135
65+	32
Unknown	10
Education	
High	25
Medium	152
Low	39
Unknown	40
Employment status	
Employee	145
Owner	111
FTE per gender	
Female	2
Male	160
Unknown	5
Average wage per job (EUR)	11 066

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

The 2023 social demographic profile of Ireland's L12AG fleet presents a workforce that is predominantly male, nationally based, and middle-aged, with moderate levels of education and employment stability.

Gender distribution shows a significant imbalance, with 246 males compared to only three females, and eight individuals whose gender was not reported. This pattern indicates that the fleet remains a highly male-dominated sector,

consistent with broader trends in traditional and physically intensive maritime and agricultural industries.

In terms of nationality, the fleet is overwhelmingly Irish national (40 out of 257 individuals), while only a small number are from other EU (11) or non-EU/EEA countries. This suggests a limited international workforce, with the sector relying primarily on domestic labour rather than migrant or seasonal workers.

The age distribution highlights a mature workforce: over half (135) are aged 40-64, and another 72 are between 25-39. Only seven workers fall within the 15–24 age bracket, and there are no workers under 14. The presence of 32 workers aged 65 or older also indicates a notably ageing workforce, with potential implications for succession planning and recruitment of younger entrants into the fleet.

Educational attainment is concentrated at the medium level (152 individuals), with 25 holding higher-level qualifications and 39 classified as low education. However, 40 cases were unknown, limiting full interpretation. The predominance of medium education levels suggests a workforce with practical, vocational, or secondary-level qualifications, which aligns with the hands-on nature of fleet operations.

Employment status data show a relatively balanced structure between employees (145) and owners (111), highlighting a mix of independent operators and contracted workers. The FTE figures also mirror the gender divide, with males accounting for 160 FTEs, compared to just two female FTEs, further emphasising the lack of gender diversity in full-time roles across the wider fleet.

The average wage per job was reported at EUR 11 066, indicating a sector characterised by modest income levels, reflecting seasonal work patterns, part-time opportunities typical of small fleet employment.

Overall, the L12AG fleet in 2023 can be described as predominantly male, Irish, and middle-aged, with moderate educational backgrounds, a balance between ownership and employment, and relatively low earnings. These trends suggest potential challenges in attracting younger and more diverse talent while maintaining competitiveness and sustainability within the sector.

Large Scale Fleet

Table 131. Ireland: Social demographics of the LSF

LSF	2017	2020	2023	% Δ 2023 to 2017
Gender				
Female	49	17	24	-52%▼
				-42%▼
Male	1927	1731	1111	
Unknown			47	
Nationality				
National	1 195	917	761	-36%▼

EU	523	643	204	-61%▼
EEA	49	63	0	-100%▼
Non-EU/EEA	209	125	218	4%▲
Age				
≤14	0	3	0	
15-24	126	108	43	-66%▼
25-39	761	761	306	-60%▼
40-54	1 013	841	583	-42%▼
55-64	76	35	63	-17%▼
65+	0	0	188	
Education				
High	119	99	148	24%▲
Medium	835	691	815	-2%▼
Low	566	475	88	-84%▼
Unknown	456	482	131	-71%▼
Employment status				
Employee	1 554	901	1 076	-31%▼
Owner	422	312	106	-75%▼
FTE per gender				
Female	32	15	15	-52%▼
Male	1 732	1 609	722	-58%▼
Unknown			31	
Average wage per job (EUR)	50 735	66 160	59 525	17%▲

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

There were an estimated 229 active vessels registered in the LSF in 2023. Between 2017 and 2023, the LSF experienced a notable contraction in workforce size and composition, accompanied by a moderate increase in average wages.

In terms of gender, both male and female participation declined significantly, with males decreasing by 42% and females by 52%, indicating a broad reduction in the active workforce. Nationality trends show that the number of national and EU workers fell sharply, by 36% and 61% respectively, while representation from the EEA disappeared completely. In contrast, Non-EU/EEA workers increased slightly by 4%, suggesting a modest shift toward non-European labour sources.

The age distribution of the workforce changed markedly. There were substantial declines in the younger and mid-career categories, with the 15-24 and 25-39 age groups falling by between 60% and 66%. At the same time, the number of

workers aged 65 and over increased, pointing to an ageing workforce within the sector.

Educational attainment among workers shifted upward during this period. The number of workers with high education levels rose by 24%, while those with low education levels fell sharply by 84%. This pattern indicates a move toward a more highly skilled and qualified workforce. Employment structures also changed, with the number of employees decreasing by 31% and the number of owners declining even more steeply, by 75%. These reductions may reflect consolidation within the industry or the exit of smaller operators. FTE figures followed a similar downward trend, with male FTEs declining by 58% and female FTEs by 52%. As noted previously, a change in methodology for calculating FTEs by the Member States is a contributory factor to these values. Despite these workforce reductions, the average wage per job increased by 17% over the period, rising from EUR 50 735 in 2017 to a peak of EUR 66 610 in 2020, followed by a drop to EUR 59 525 in 2023. This suggests that although the workforce has contracted, it has become more skilled and better compensated, potentially reflecting productivity improvements or a shift in the type of labour retained. Overall, the data indicate that the LSF has undergone a period of structural change, resulting in a smaller, older, and more skilled workforce with higher average earnings.

9.12.8 Trends and challenges

The Irish fleet is experiencing significant social, economic, and environmental pressures, which are reshaping both its workforce and coastal communities. Demographic change is a major challenge: the sector faces an ageing workforce and a shrinking pool of young entrants, particularly in rural and coastal areas that traditionally supplied labour (Perry et al., 2025). Lower earnings compared to other sectors, the precarious nature of employment, and perceptions of industry decline further reduce the attractiveness of fishing as a career. These trends threaten the sustainability of community-based fisheries and the social fabric of fishing-dependent towns all around the coast, where economic activity, culture, and identity are closely intertwined with the sector (Jackson and Keatinge, 2024).

Political and economic developments compound these social pressures. Post-Brexit quota losses, particularly for key species including mackerel, *Nephrops*, and blue whiting, have disrupted fleet operations and affected the post-harvest supply chain (Perry et al., 2025). Operating costs, including energy prices that account for a significant share of vessel expenses, and inflation have strained profitability in recent years. Although EU and national subsidies have provided temporary relief, revenue and gross profits remain volatile.

Technological and regulatory pressures intersect with social factors. The uptake of energy-efficient gear, digital logbooks, and monitoring systems is uneven, particularly among smaller vessels, limiting operational efficiency and compliance (Jackson and Keatinge, 2024). Furthermore, complex regulatory frameworks, Marine Spatial Planning, and plans for the expansion of offshore

renewable energy and Marine Protected Areas create uncertainty over future access to fishing grounds (Perry et al., 2023).

Addressing these challenges requires a strong social focus. Policies to attract and retain younger workers, such as school engagement, formal marine-sector qualifications, and a shift from traditional share-fishing to PAYE contracts, are essential to support workforce renewal. Ensuring coastal community resilience, integrating local ecological knowledge, and fostering equitable coexistence with emerging marine uses will be critical to sustaining the sector's social, economic, and environmental viability.

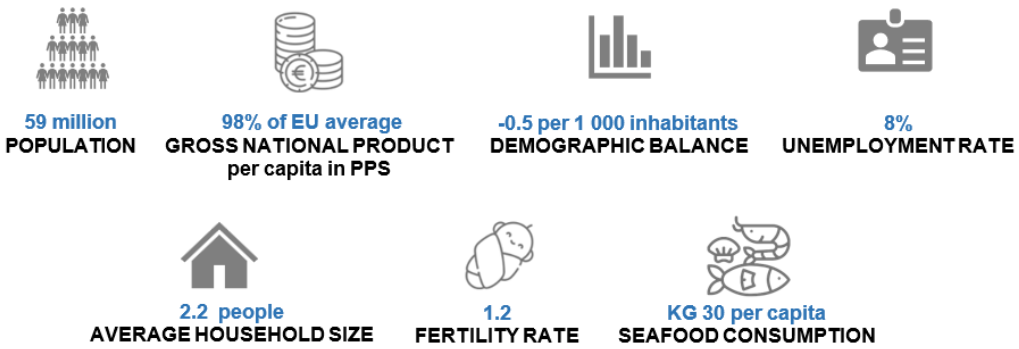
9.12.9 Methodological considerations and data issues

The annual data source used to collect social and economic data from the Irish fleet segments is a non-probability sample survey. Each year, vessel owners who were active in the previous year are targeted in Ireland's National Seafood Survey, coordinated by BIM. The latest survey collected primary data for 2023, which closed in January 2025, achieved record engagement from the industry. A total of 1 027 vessel owners completed the survey. This represents over 80% of the active fleet in 2023, more than double the response rate from the previous year. Notably, participation from the inshore fleet increased significantly. These developments have significantly improved the precision of many of the variables and indicators. FTE data from 2020 onward is not directly comparable to earlier years due to revisions in methodology. Total employment is a more appropriate metric for seasonal or part-time fleets. Data for the fisheries sector in Ireland is published once a year in autumn by BIM and disseminated as a report and online dashboard. Further details on methodological considerations can be accessed in Ireland's Work Plan for data collection in the fisheries and aquaculture sectors (Marine Institute, 2024).

9.13 Italy

9.13.1 Snapshot of Italy

Figure 87. Italy in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

With a population of about 59 million, Italy is among the most populous countries in the European Union and exhibits a mature demographic and economic profile. Nonetheless, the population is declining, driven by one of Europe's lowest fertility rates (1.21 children per woman) and pronounced ageing, with a median age above 48 years. Average household size is 2.2 persons, consistent with broader European trends towards smaller families. Italy's gross national income per capita is approximately EUR 32 000 (PPS) and the unemployment rate is 7.7%, although substantial regional disparities persist between the more industrialised North and the less developed South. Seafood plays a pivotal role in the Italian diet and agri-food economy, with per capita consumption of 30.2 kg (live weight), among the highest in Europe. In 2023, Italy remained a net importer, but the trade deficit improved to EUR 2.25 billion (-7%) due to lower imports. According to EUMOFA (2024), household expenditure on fish products increased by EUR 783 million (+6%), driven by persistent inflation and robust consumer demand.

9.13.2 Short description of the fishing sector

In 2023, the Italian fishing fleet comprised 11 689 registered vessels, with a total capacity of 141 364 GT and 915 926 kW, of which 83% were active. The fleet was dominated by small-scale coastal vessels (66%), representing only 9% of total tonnage, followed by a large-scale fleet (32%) mainly composed of demersal trawlers. A minor share (2%) included vessels below 12 metres using active gears and three distant-water vessels operating in the Eastern Central Atlantic and Indian Ocean. Between 2013 and 2023, the overall capacity

declined by 12%, reflecting EU and national policies aimed at balancing fishing capacity with available resources. The fleet spent around 1.0 million days-at-sea, a 22% reduction over the decade, largely due to effort control measures. The economic performance weakened in 2023 due to lower landings and prices. The gross value of landings reached EUR 649 million (-17%), while GVA fell to EUR 382 million (-19%). Gross profit dropped to EUR 145 million (-38%), resulting in a net loss of EUR 8 million, only partially offset by EUR 23 million in subsidies. Despite this decline, the sector remains strategically important for coastal employment and food security. Italy accounts for about 15% of the EU fishing fleet, but a smaller share of EU employment and GVA, reflecting its high fragmentation and predominantly small-scale structure.

9.13.3 Social demographics in Fisheries

In 2023, the Italian fishing fleet employed approximately 20 745 people, corresponding to 13 367 full-time equivalents. The sector was largely composed of small-scale coastal fisheries (SSCF), which accounted for around 47% of total employment, while the large-scale fleet represented about 52%. Only a marginal share of employment was linked to distant-water operations. Employment distribution varied across regions, with the Southern regions and islands (notably Sicily and Apulia) concentrating the largest share of fishers.

Table 132. Italy summary table.

	Units	2023					% Δ 2023-2017				
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
Total employment	**Number**	20 745	9 687	448	10 610		-19	-19	41	-19	
FTE	**Number**	13 367	5 602	183	7 582		-34	-35	-30	-33	
Active vessels	**Number**	9 645	6 404	294	2 944	3	-14	-13	-7	-18	-63
Landings by weight	**Thousand tonnes**	120 728	19 498	3 569	93 284	4 377	-37	-18	78	-41	-39
Landings by value	**Million €**	649	158	6	485		-43	-33	-36	-44	
Ageing work force: >=65 in workforce	**%**	9.78	12.69		7.00		35.12	94.81		-11.72	
Gender: women in workforce	**%**	0.87	1.18		0.57		-54.18	-63.87		-2.48	
Nationality: nationals in work force	**%**	94.79	98.83		90.94		-17.65	-10.77		-23.75	

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

The average age of fishers was estimated at 47 years, confirming the sector's ageing workforce and limited generational renewal. Labour costs varied among

fleet segments, reflecting operational scale and fishing grounds. In 2023, the average annual labour cost per FTE was estimated at EUR 15 700, with the large-scale fleet showing higher wages compared to small-scale vessels. Despite a moderate 3% increase in total labour costs from 2022, real wages declined due to inflationary pressures and reduced profitability. Over the 2013–2023 period, total employment fell by 15% and FTEs by 27%, mainly due to fleet reduction and declining economic attractiveness of fishing as a profession. The social structure of the Italian fisheries sector thus remains characterized by ageing crews, regional dependence, and low generational turnover, despite its continued social relevance in coastal communities.

9.13.4 Employment in Fisheries

Total Employment

Italian fisheries remain overwhelmingly male-dominated, with men accounting for more than 99% of the total workforce in 2023. Although the number of male workers decreased by about 18% between 2017 and 2023, men continue to represent the structural backbone of the sector.

Female employment, while numerically limited, experienced a much stronger contraction, over 50% fewer women compared to 2017. The sharpest decline occurred between 2017 and 2020, likely reflecting the impact of the COVID-19 pandemic and related restrictions, which disproportionately affected small-scale and family-based activities. In the small-scale coastal fleet (SCF), women play a more visible though still marginal role, often linked to family support, logistics, marketing, and administrative tasks. In recent years, some signs of resilience and reactivation are emerging, especially in initiatives connected to direct sales, diversification of income (e.g. *pescaturismo*, *ittiturismo*), and digital or circular-economy-based projects supporting local value chains. Thus, the Italian fishing sector is facing a progressive contraction of total employment (-18%), combined with a slow but significant transformation of roles, where women are beginning to find new opportunities in non-traditional and complementary segments of the blue economy.

Table 133. Italy: Total employment by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	392 (2%)	166 (1%)	180 (1%)	-54%
Male	25107 (98%)	21201 (99%)	20566 (99%)	-18%

Source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent

In Italy, the FTE indicator is particularly relevant as it offers a realistic measure of effective labour input, capturing the fragmented and seasonal nature of employment in fisheries better than headcount data. It aligns with the EU DCF and supports analyses of labour productivity and economic sustainability (e.g. GVA/FTE). The indicator is not established by national legislation, but rather

represents a statistical construct derived from surveys and administrative sources.

In 2023, the total workforce corresponded to 13 367 FTEs, equal to 0.64 FTE per worker, indicating the strong seasonality and discontinuity of employment, often characterized by part-time or intermittent contracts. Between 2017 and 2023, FTE employment in the Italian fishing fleet declined by about 35%, confirming a continued contraction in workforce intensity. The reduction was most evident in large-scale fleet segments, while small-scale fisheries showed relatively stable levels of employment. The share of female workers remained below 1%, reflecting the persistent gender imbalance in seagoing activities.

Table 134. Italy: Full-Time Equivalent by gender

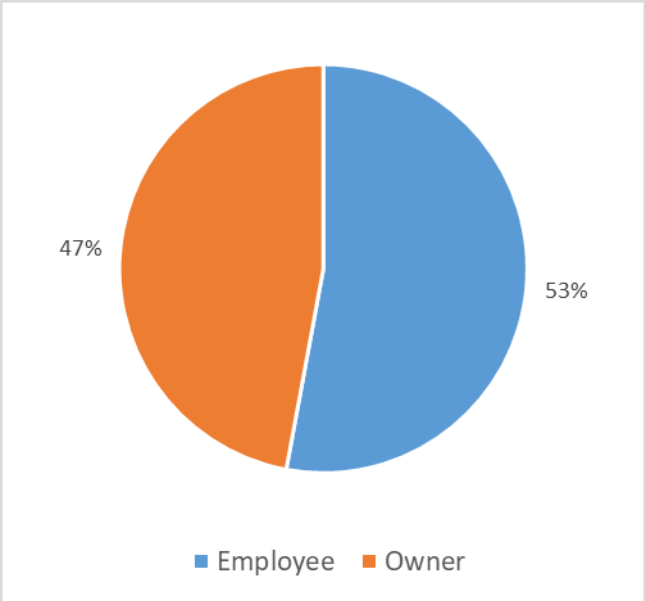
Gender	2017	2020	2023	Δ 2023-2017
Female	290 (1%)	81 (1%)	114 (1%)	-61%
Male	19979 (99%)	13112 (99%)	13253 (99%)	-34%

Source: Italy data submissions under the 2025 Social Data Call and Fleet Economic Data Call (AER 2025).

Employment status

Employment in Italian fisheries shows a progressive reduction (-18%) between 2017 and 2023. The decrease mainly affects employees (-25%), while the number of owners decreases more moderately (-9%). This change slightly increases the relative share of owners, reflecting the structural downsizing and ageing of the sector, where smaller, family-based units remain active despite the decline in crew members. A persistent shortage of qualified crew has led to a growing dependence on non-national workers, especially from North Africa, Eastern Europe, and Southeast Asia, in medium- and large-scale fleets.

Figure 88. Italy: Employment status by owners and employees, 2023



Source: Italy data submissions under the 2025 Social Data Call

Women's contribution remains largely underrepresented in official DCF social data, particularly in shellfish fisheries, seaweed harvesting, and shore-based activities, where unpaid or informal family work is common. The Italian fishing sector is experiencing a gradual reorganisation of labour relations, with fewer employees, a relatively stable share of owners, and a trend towards more flexible and cooperative employment forms (co-ownership, self-employment, or mixed contracts). This evolution highlights the need to address generational renewal, gender inclusion, and labour attractiveness to ensure the long-term sustainability of the workforce.

Table 135. Italy: employment status (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Employee	14710 (58%)	10782 (50%)	10978 (53%)	-25%
Owner	10704 (42%)	10585 (50%)	9767 (47%)	-9%

Source: Italy data submissions under the 2025 Social Data Call

9.13.5 Demographics of the Workforce

Age

The age structure of Italian fisheries confirms a critical lack of generational renewal. The steep decline in younger cohorts (15-39 years) indicates limited attractiveness of the sector for new entrants, often linked to low-income stability, physical demands, and limited social recognition of fishing as a profession. The increase in the ≥65 group reflects a delayed retirement trend among vessel owners and long-time fishers who continue to work due to the lack of replacement or family succession. This is particularly visible in the small-scale coastal fleet, where ageing fishers remain active to maintain household income and transmit know-how, but without sufficient youth inflow.

Available evidence suggests a strong gender-age interaction:

- Women are mostly concentrated in older or supporting roles, often outside onboard activities, such as processing, marketing, or administrative work.
- The few younger women entering the sector are usually linked to innovative business models (short value chains, tourism, and diversification).

The persistent imbalance among age groups and the absence of young entrants underscore the urgency of targeted support measures (training, incentives, social protection, and modernization programmes) to secure generational continuity and preserve traditional knowledge.

While the following chart shows the percentage change in total employment within each age group between 2017 and 2023. Young workers (15-24) recorded the sharpest contraction (-68%), followed by the 25-39 group (-44%), while the main working age group (40-64) experienced a moderate decrease (-

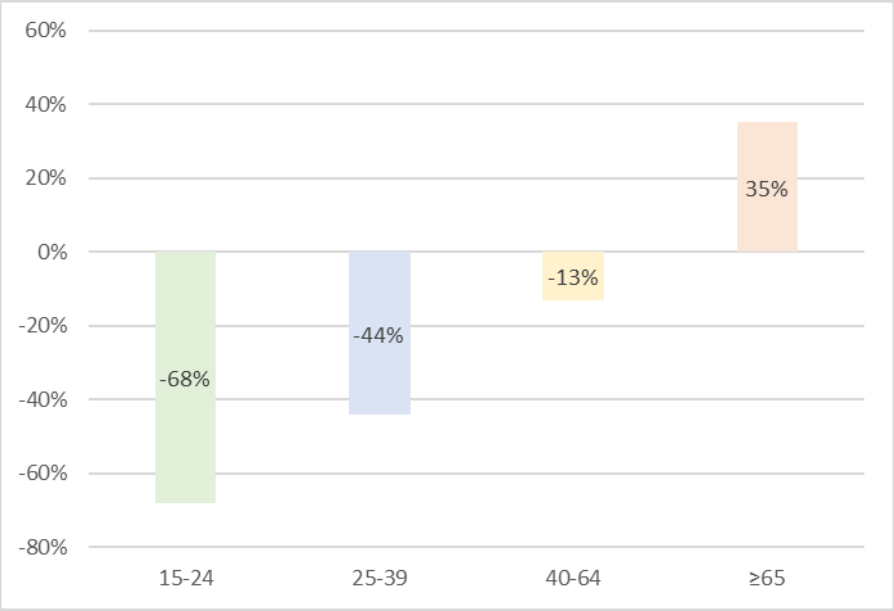
13%). In contrast, the share of fishers aged 65 and over increased by 35%, reflecting the progressive ageing of the fishing workforce.

Table 136. Italy: total employment by age group

Age group	2017	2020	2023	Δ 2023-2017
15-24	844 (3%)	490 (2%)	270 (1%)	-68%
25-39	5289 (21%)	4397 (21%)	2951 (14%)	-44%
40-64	17780 (70%)	14592 (68%)	15460 (75%)	-13%
≥65	1502 (6%)	1829 (9%)	2029 (10%)	35%
Unknown	0 (0%)	0 (0%)	35 (0%)	-

Source: Italy data submissions under the 2025 Social Data Call

Figure 89. Italy: trends in total employment by age group (2017-2023)



Source: Italy data submissions under the 2025 Social Data Call

9.13.6 Workforce education and training

Education

The Italian fishing workforce remains predominantly low-skilled, with most fishers holding only basic or vocational education (primary or lower secondary school). This pattern reflects the traditional recruitment structure of the sector, where skills are transmitted informally through family and community experience rather than through formal education or training systems.

Medium education levels correspond mostly to fishers who completed secondary school or vocational training related to navigation, mechanics, or maritime safety, while high education refers to graduates involved in management, marketing, or cooperative administration, typically off-board roles. Formal training requirements are limited to mandatory safety and navigation courses, as established by Italian maritime authorities, while vocational and

lifelong learning programmes remain underdeveloped. Recent EU-funded projects (e.g. EMFF and EMFAF training actions) have started to promote environmental awareness, digital literacy, and circular economy skills, but participation is still low and mainly concentrated among younger or more dynamic fishers. Women involved in fisheries-related value chains often possess higher education levels than men, particularly in administrative, communication, or diversification activities. However, their roles remain largely invisible in DCF statistics, as many are not formally registered as fishers. To address these structural weaknesses, the sector would benefit from:

- Expanding targeted vocational training in sustainability, product valorisation, and digital marketing;
- Strengthening intergenerational knowledge transfer;
- Integrating formal certification pathways for traditional skills.

Table 137. Italy: Employment by education level

Age group	2017	2020	2023	Δ 2023-2017
high	419 (2%)	138 (1%)	90 (0%)	-79%
medium	4020 (16%)	2928 (14%)	3315 (16%)	-18%
low	20976 (83%)	18131 (85%)	17300 (83%)	-18%
Unknown	0 (0%)	111 (1%)	40 (0%)	-

Source: Italy data submissions under the 2025 Social Data Call

Training

In Italy, there is no formal or mandatory training requirement to become a professional fisher. Entry into the occupation is traditionally achieved “on the job”, through family-based knowledge transfer and practical experience. Nevertheless, an evolving ecosystem of qualifying and refresher courses, covering safety, navigation, technical certification, and vocational education (IeFP), has developed in recent years, supported by EMFF/EMFAF funding and local Fisheries Local Action Groups (FLAGs) initiatives (EUAgenda, 2025[41]; EU, 2025[42]). Access to the profession is regulated through registration with the Harbour Master’s Office and inclusion in maritime registers. Professional titles such as Coastal Fisher, Engine Operator, or Able Seafarer are obtained through examinations and courses delivered by accredited training centres and nautical institutes (EU, 2025). Examples of vocational pathways include the “Sea and Inland Waters Operator” three-year programme (2 970 hours) coordinated by the Campania Region[43], which grants a regional qualification and combines classroom instruction with onboard training.

[41] EUAgenda. (2025). Baseline study on the training and certification requirements for fishers in EU Member States.

[42] Publications Office of the European Union. (2025). Baseline study on the training and certification requirements for fishers in EU Member States – Annex B: Italy.

[43] Regione Campania. (2019). Dual system course “Operatore del mare e delle acque interne (IeFP)”. https://www.regione.campania.it/cittadini/it/tematiche/magazine-

At secondary education level, the “Commercial Fishing and Fishery Products” track is active in several professional institutes, providing a dedicated profile for fishing, product processing, and logistics[44]. The national training landscape also includes centres, accredited for STCW-compliant courses in safety, navigation, and coastal fishing, and others offering certified programmes for deck and engine crew within the fishing sector.

Regional and local FLAGs have become important promoters of professional development. Initiatives such as FLAG Pescando[45] (Sardinia) have implemented “Green & Blue Economy” courses on seafood processing, marketing, and tourism diversification, while the FLAG Lazio Nord[46] developed training activities on traceability, sustainability, and circular economy practices. At the policy level, the Lazio Region’s Blue Economy framework law fosters integration between education and labour systems in the maritime sectors[47] (FAOLEX, 2022). In this context, “low”, “medium”, and “high” education levels reflect different degrees of training and formalisation. Low corresponds to basic schooling and informal skills acquired within family enterprises, occasionally complemented by minimum safety training. Medium covers vocational and technical pathways such as IeFP courses, the “Commercial Fishing and Fishery Products” track, and STCW-certified courses for local traffic and machinery operations. High refers to tertiary or advanced education in fisheries management, aquaculture, or sustainable resource use, including specialised university programmes.

Training participation remains relatively low, particularly among older or small-scale operators. Nonetheless, FLAGs and regional institutions have become effective vehicles for lifelong learning, promoting sustainability, digitalisation, and diversification within fishing communities. These efforts are essential to

formazione/sistema-duale-corso-per-operatore-del-mare-delle-acque-interne (Verified Oct.2025)

Intelliform S.p.A. (n.d.). Sea and Inland Waters Operator – Programme and modules. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.intelliform.it/sites/default/files/2019-12/Modulo%20di%20adesione%20-%20Operatore%20del%20mare.pdf (Verified Oct.2025)

[44] Ministero dell’Istruzione e del Merito. (n.d.). Professional track: Commercial Fishing and Fishery Products.

Indirizzo Professionale Pesca commerciale e produzioni ittiche. I percorsi di Istruzione professionale prevedono un biennio unitario e un triennio finalizzato ad approfondire la formazione dello studente https://www.nauticomessina.edu.it/new/indirizzo-di-studio/indirizzo-professionale-pesca-commerciale-e-produzioni-ittiche/ (Verified Oct.2025)

[45]FLAG Pescando. (n.d.). Green & Blue Economy training pathways. https://www.flagpescando.it/progetti/percorsi-formativi-green-blue-economy (Verified Oct.2025)

[46] FLAG GAC Lazio Nord. (n.d.). Local Action Plan and training initiatives on sustainability and product traceability. https://www.gaclazionord.it/ (Verified Oct.2025)

[47] FAOLEX. (2022). *Lazio Regional Law No. 2/2022* – Provisions for the promotion of training, employment, and development in Blue Economy sectors. https://www.inapp.gov.it/strumenti-normativa/norme-regionali/lazio-legge-regionale-24-febbraio-2022-n-2/ (Verified Oct.2025)

ensure skills renewal, support the generational transition, and strengthen the professionalisation of Italy's fishing workforce.

Nationality

Between 2017 and 2023, the composition of the Italian fishing workforce remained largely national, with Italian citizens representing around 90-95% of total employment across both large-scale (LSF) and small-scale (SCF) fleets. The number of national workers decreased by around 21% over the period, reflecting the general contraction of the fishing sector due to fleet reduction, ageing, and the difficulties in attracting younger generations.

In contrast, the share of foreign workers, though limited in absolute terms, shows a structural and stabilising presence. Their participation varies across regions and fleet segments, particularly in central and southern Italy, where migrant labour often compensates for local crew shortages. The non-EU/EEA component (notably workers from Tunisia, Egypt, Senegal, and Albania) is slightly increasing, while the presence of EU citizens (mainly from Romania, Bulgaria, and Croatia) has declined over time.

Foreign workers are concentrated among employees and crew members, while vessel ownership and management remain almost exclusively Italian. Migrant crew members are typically engaged in operational roles, particularly in the most labour-intensive fishing methods, such as:

- DTS – demersal trawls and seines, where labour demand is continuous and physically demanding;
- Medium and large vessels (length classes VL1218–VL2440 and VL40XX), which operate year-round and require larger crews;
- To a lesser extent, PS – purse seine and HOK – hooks and lines (longline) fisheries with extended fishing campaigns;
- More occasionally, TBB – beam trawl and TM – offshore pelagic fleets, especially in ports facing crew shortages.

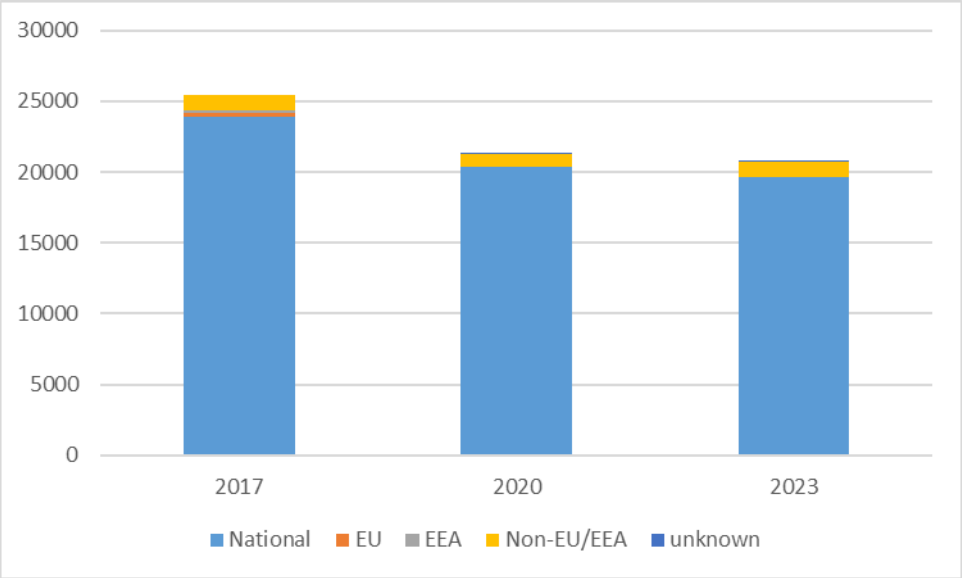
In small-scale coastal fisheries (VL0612), the share of foreign workers remains marginal, appearing mainly where seasonality or rotation of métiers limit the availability of local labour. Conversely, fisheries such as DRB – dredges (bivalves) remain dominated by Italian crews, often deeply embedded in their local communities. Based on those evidences, Italy's fishing sector remains nationally driven in ownership and governance, while the foreign workforce provides essential operational support in the segments where labour demand is most intensive.

Table 138. Italy: total employment by nationality (2017-2023)

Nationality	2017	2020	2023	Δ 2023-2017
National	23880 (94%)	20327 (95%)	19665 (95%)	-18%
EU	306 (1%)	84 (0%)	25 (0%)	-92%
EEA	140 (1%)	0 (0%)	0 (0%)	-100%
Non-EU/EEA	1090 (4%)	882 (4%)	1051 (5%)	-4%
Unknown	0 (0%)	15 (0%)	4 (0%)	-

Source: Italy data submissions under the 2025 Social Data Call

Figure 90. Italy: employment by nationality



Source: Italy data submissions under the 2025 Social Data Call

9.13.7 Gender

Employment in Italy's marine capture fisheries remains strongly male-dominated, with men representing more than 99% of the workforce onboard vessels. Between 2017 and 2023, total employment in the fleet declined by nearly 19%, largely reflecting fleet reduction and ageing trends. The female share, already minimal, more than halved (-54%), as women are mainly employed in administrative or auxiliary roles rather than onboard.

While female participation in fisheries remains among the lowest across EU maritime sectors, Italian processing and aquaculture maintain comparatively stronger inclusion rates, consistent with broader trends observed in the agriculture sector and Blue Economy diversification initiatives (e.g., FLAG actions promoting women's entrepreneurship in seafood marketing and short value chains).

Table 139. Italy: total employment by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	392 (2%)	166 (1%)	180 (1%)	-54%
Male	25107 (98%)	21201 (99%)	20566 (99%)	-18%

Source: Italy data submissions under the 2025 Social Data Call.

Unpaid labour by gender

In Italy, unpaid labour in the fisheries is primarily linked to traditional family-based activities. It typically involves self-employed fishers who own or co-own their vessels, or family members who assist in fishing or shore-based tasks

without formal remuneration. These arrangements remain most common in small-scale coastal fisheries and shellfish harvesting, where fishing continues to have a strong household dimension.

The legal framework governing these forms of work ensures equal rights and social protection. Italy has transposed Directive 2010/41/EU on equal treatment for self-employed women and men through Legislative Decree No. 61/2011, which amended the Code of Equal Opportunities (Legislative Decree No. 198/2006). This framework guarantees equal access to social protection and maternity benefits and is complemented by INPS-managed allowances and incentives promoting female entrepreneurship in fisheries and aquaculture.

From a statistical perspective, unpaid labour has become more accurately identified thanks to improvements in the national data collection system. Since 2018, the survey has included specific questions on the type of remuneration received by vessel owners, allowing a clearer distinction between paid and unpaid workers in line with the European System of Accounts (ESA) definitions. These refinements were developed in response to recommendations from the PGECON and STECF working groups on social data and are reflected in the 2025 AER.

Between 2017 and 2023, unpaid labour in the Italian fishing fleet decreased significantly (-64%), with an even sharper decline among women (-94%). This reduction mirrors the ongoing modernisation of the fleet, the progressive formalisation of employment relations, and the gradual decline of family-based enterprises. Women's unpaid contributions, while increasingly marginal, persist in shore-based roles such as bookkeeping, logistics, and small-scale processing- areas that remain only partially captured by DCF social data. Overall, the Italian case shows a clear transition toward more formal, transparent, and gender-balanced employment structures within the maritime economy.

Table 140. Italy: Unpaid labour by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	227 (3%)	22 (1%)	13 (0%)	-94%
Male	8035 (97%)	2300 (99%)	2914 (100%)	-64%

Source: Italy data submissions under the 2025 Social Data Call.

Social aspects in Fisheries

9.13.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

In Italy, the fishing fleet recorded an average labour cost of EUR 17 724 per FTE in 2023, well below the EU average (EUR 29 447 per FTE). Since 2013 (EUR 14 610), labour costs have increased by about 21%, broadly in line with the EU trend (+22%). The time series peaks in 2020 (EUR 18 838), drops in 2021 (EUR 16 212), and stabilises in 2022-2023 (EUR 17 749 and 17 724).

Compared with the national average (available for 2016 and 2020-2023), labour costs in fishing remain structurally lower: in 2023, the national average is EUR 58 150, and the fishing-to-national ratio is 0.30 (around 25-30% over 2020-2023).

Table 141. Italy: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	14 610	13 727	15 671	16 513	16 558	16 465	17 679	18 838	16 212	17 749	17 724
National average				64 265				65 944	64 319	60 164	58 150
Ratio of fishing labour cost to national average				0.26				0.29	0.25	0.30	0.30

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Fishing labour costs in Italy are significantly below the national average labour costs (-70%). This reflects the seasonal nature of fishing, fluctuating fuel costs, and, especially in small-scale coastal fisheries, the continued prevalence of share-of-catch remuneration schemes. Conversely, where employment is more formalised and crews are larger, such as on medium-to-large vessels (VL1218–VL2440 and VL40XX) and in labour-intensive *métiers* like demersal trawls (DTS) and purse seines (PS), incomes tend to be more stable. In contrast, small-scale coastal fisheries (VL0612) and certain hook-and-line (HOK) segments experience greater variability, as earnings depend directly on catch volume and short fishing seasons.

Unpaid labour in the Italian fleet has significantly declined over the same period. Between 2017 and 2023, the number of unpaid men dropped by about two-thirds, and unpaid women almost disappeared from the category. This reduction points to increased formalisation of labour relations and the gradual disappearance of micro family-based enterprises along the coast. In Italian practice, “unpaid” work mainly concerns the self-employed context, owner-operators and family members working onboard their own vessels without receiving a formal wage. Women’s presence in this category is now minimal; however, they continue to play an important role in shore-based activities such as administration, logistics, and small-scale processing, tasks that are often underrepresented in DCF social reporting.

The distribution between employees and owners mirrors the structure of the fleet. Waged employees are concentrated on medium-to-large vessels and in well-organised, year-round *métiers* such as DTS and, to a lesser extent, PS and offshore HOK, where contractual arrangements are more common. Owners and self-employed fishers, on the other hand, dominate small-scale coastal segments (VL0612) and locally embedded *métiers* such as HOK and DRB (dredges), where family participation and share-of-catch practices persist.

A key difference in remuneration systems also relates to nationality: non-national crew are more often hired with a fixed monthly wage, while many Italian nationals, especially in small-scale fisheries, continue to be paid through catch-sharing arrangements. This duality reflects both company practices and the need to ensure income stability for workers outside traditional family enterprises.

Regarding reporting, in Italy the DCF category of unpaid labour effectively includes self-employed fishers and family members onboard who do not receive formal payment. However, unpaid shore-based contributions, often performed by women, are likely underrepresented in the data.

Working conditions

Total Working hours

According to Italy's 2025 submission to the Annual Economic Report, total working hours in marine capture fisheries have shown a steady decline between 2017 and 2023, in line with the overall reduction in fleet size and employment. In 2023, the total labour input amounted to approximately 23.5 million hours, down from 32.8 million hours in 2017, representing a 28% decrease. This decline reflects both lower fishing effort (with around 1.02 million days at sea) and the demographic ageing of the workforce.

During 2023, by fleet segment, the demersal trawl (DTS) and small-scale polyvalent vessels using passive gears (PGP) continue to account for the largest share of total labour, together representing about 65% of total hours worked in 2023. Both segments, however, registered decreases compared with 2017 (-18% and -22%, respectively). In contrast, pelagic trawls (TM) and purse seines (PS) remained relatively stable, highlighting the higher intensity and continuity of these operations.

The average annual working time per Full-Time Equivalent (FTE) remained broadly unchanged over the period, suggesting that the contraction in total hours results primarily from a smaller active workforce rather than shorter working schedules. On average, Italian fishers worked around 1 700-1 800 hours per year, a level that remains above the national average for full-time employment.

Differences across fleet segments and regions are also evident. The small-scale coastal fleet, which dominates in regions such as Sicily, Campania, and Apulia, operates with lower annual activity levels due to its seasonal nature. Conversely, trawl and purse seine fleets based in major fishing ports such as Mazara del Vallo, Chioggia, and Ancona show higher and more regular operational intensity.

Overall, the decline in total working hours reflects both structural adjustments, related to fleet reduction and management measures, and demographic changes, with fewer young entrants replacing retiring fishers. Despite this contraction, the sector remains labour-intensive compared to other primary industries in Italy.

Social security

In Italy, fishers are covered under the general national social security system managed by INPS[48] and INAIL[49], with dedicated provisions for maritime and fishing workers. Health insurance is provided through the National Health Service (SSN[50]), while accidents at work are covered by INAIL, which inherited the functions of the former IPSEMA[51]. There is no specific unemployment scheme for fishers; however, temporary or permanent cessation measures financed through EMFF/EMFAF serve as partial substitutes for income protection during biological rests or regulatory closures. For retirement, employed fishers fall under the general INPS pension system, while small-scale and self-employed fishers are enrolled in a special maritime scheme established by Law 250/1958, providing a dedicated contribution and pension framework. Industrial fleet crews are regulated by Law 413/1984 for maritime workers. The legal retirement age is generally 67 and 65 years (respectively for men and women), though many fishers continue working beyond this age, especially in small-scale or family-based enterprises, due to income instability and limited labour replacement. As regard the remuneration in the sector does not follow a statutory national minimum wage but is defined through collective bargaining agreements (CBAs) for industrial fleets or share-payment systems (*riparto del pescato*) common in small-scale fisheries. CBAs also regulate working time, safety, and pay structures. Partners or co-owners working on vessels of up to 10 GT may join the same special regime when operating autonomously and without subordination.

Employment patterns remain mixed: self-employment and cooperative membership dominate in small-scale fisheries, while industrial fleets rely on contracted employees. Foreign workers are covered by the same INPS/INAIL systems as nationals, provided they hold legal employment status. Overall, Italy's system combines general and special regimes that ensure accident and pension coverage but still offer limited unemployment protection, making EMFAF instruments and collective agreements essential for maintaining the sector's social resilience.

Accidents on board

In 2023, vessels flagged to Italy recorded 29 accidents at sea and 9 injuries, confirming a decreasing trend compared with earlier years. The frequency of both accidents and injuries has halved since 2017, reflecting improved safety measures and stricter operational controls.

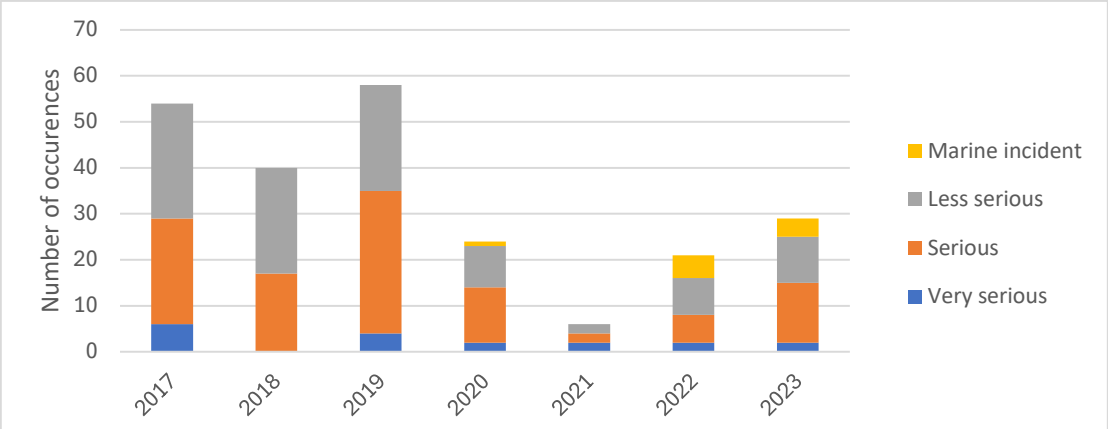
[48] Public body that manages social security and mandatory insurance (pensions, benefits, and contributions) for workers in Italy.

[49] Institution that insures workers against occupational accidents and work-related diseases.

[50] Public healthcare system that provides medical assistance to all citizens and residents in Italy.

[51] Former institution managing social security for maritime and fisheries workers; its functions were transferred to INAIL in 2010.

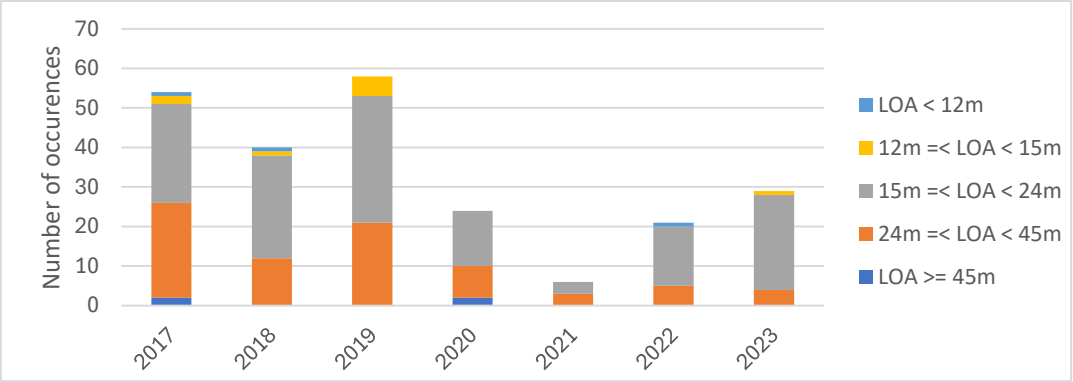
Figure 91. Italy: Number of Incident Occurrences by Severity Level (2017–2023)



Source: EMSA database of Marine Casualties and Incidents

Most incidents involved medium-sized vessels (15-24 m LOA), representing over 80% of all accidents, while larger vessels (24-45 m LOA) accounted for a smaller portion and no events were reported for vessels over 45 m. The persistence of accidents within the 15-24 m segment, which forms the core of Italy's demersal fleet, highlights the need to strengthen safety practices, training, and preventive measures, particularly for fleets operating intensively in coastal and trawl fisheries.

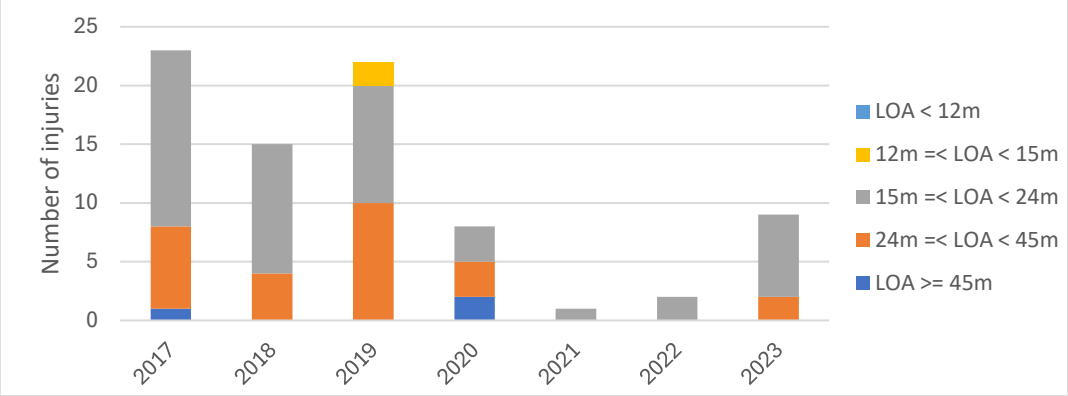
Figure 92. Italy: Incident Occurrences by Vessel Length Overall (LOA) Class, 2017–2023



Source: EMSA database of Marine Casualties and Incidents

As with accidents, most injuries occurred on medium-sized vessels (15-24 m LOA), which accounted for nearly 80% of total cases, followed by vessels between 24 and 45 m LOA. No injuries were reported for vessels below 12 m or above 45 m. This pattern confirms that crew exposure and operational risks remain concentrated in the core demersal fleet, where high activity levels and mechanical gear use increase the likelihood of onboard incidents.

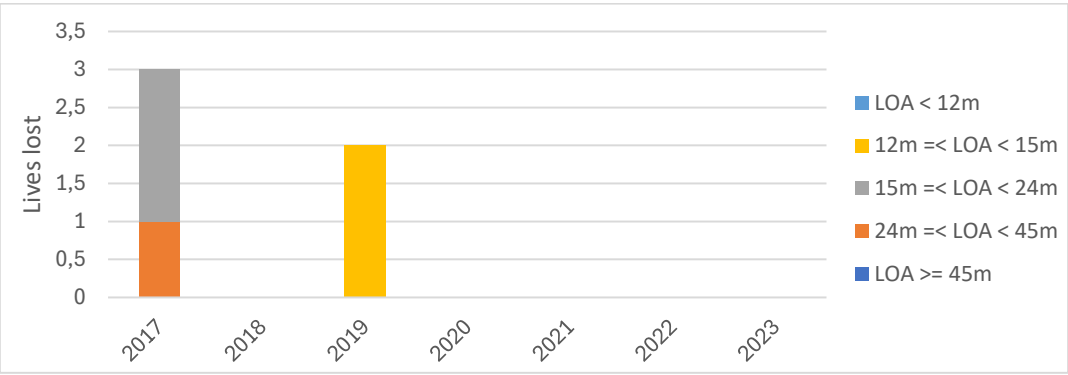
Figure 93. Italy: Injuries by LOA Class (Vessel Length Overall), 2017–2023



Source: EMSA database of Marine Casualties and Incidents

No fatalities were reported after 2019, marking a positive shift compared with previous years. This steady improvement highlights the effectiveness of regulatory measures and fleet renewal programmes, although continued attention is required for medium-sized trawlers.

Figure 94. Italy: Lives Lost by Vessel Length Category (LOA), 2017–2023



Source: EMSA database of Marine Casualties and Incidents

This evolution confirms a positive safety trajectory, consistent with the decline in both total accidents and fatalities. Indeed, evidence emerging from the period 2017–2023 points to: a) a reduction in accident frequency and severity, b) a lower incidence of injuries per event, and c) a stabilisation of safety performance, likely linked to improved risk management, stricter enforcement of safety regulations, and gradual modernisation of the fleet.

Foreign flagged vessels

Landings by foreign-flagged vessels in Italian ports appear limited and are largely linked to neighbouring EU fleets (notably Spain, France and Croatia) operating on shared Mediterranean stocks or under bilateral arrangements. National submissions under the 2025 Fleet Economic and Social Data Call indicate that foreign-flagged landings accounted for less than 3% of total landings (by weight and value) in 2023, with no marked change compared with

2020, and are concentrated mainly in southern and Adriatic ports (e.g., Sicily and Apulia). In addition to this modest port-related activity, evidence based on ownership suggests that some Italian interests operate vessels under non-Italian flags in distant-water contexts: an EqualSea/Oceana analysis identified 18 large-scale fishing vessels (>24 m) flagged to non-EU countries as ultimately owned by Italian companies (March 2024), highlighting that a share of Italian fishing activity may be organised through foreign registries even if foreign-flag landings in Italian ports remain marginal.

9.13.9 Social demographics per fishing activities

For Italy, social demographic data are reported for two main fleet segments: the Large-Scale Fleet (LSF) and the Small-scale Coastal Fleet (SCF). This classification follows the structure of the available DCF and AER datasets. Since the L12AG sub-fleet (<12 m active gears) was introduced only in 2025, vessels below 12 meters have been aggregated under the SCF category to ensure consistency and comparability of social indicators over the 2017-2023 period. This harmonised approach provides a coherent overview of the main social and employment trends characterising the Italian fishing fleet. Data for the Outermost Fishing Regions (OFR) are available only by gender, and have been expressed as percentages; as a result, total figures for nationality and age may differ slightly from the AER reference values.

Table 142. Italy: Social demographics per fishing activities

	LSF			SCF		
	2017	**2020**	**2023**	**2017**	**2020**	**2023**
Gender						
Female	62	53	60	330	113	119
Male	13 357	11 382	10 550	11 666	9 759	10 016
Nationality						
National	12 654	10 589	9 649	11 225	9 738	10 016
EU	86	60	10	220	24	15
EEA	29			110		
Non-EU/EEA	649	771	947	440	110	104
Unknown		15	4			
Age						
≤14						
15-24	514	311	209	330	179	61
25-39	3 088	2 445	1 785	2 201	1 952	1 166
40-64	8 976	8 035	7 849	8 804	6 557	7 611
65+	841	644	743	660	1 185	1 286
Unknown			25			10
Education						
High	88	43	47	330	95	42
Low	10 741	9 646	8 703	10 235	8 485	8 598
Medium	2 589	1 711	1 836	1 431	1 217	1 479
Unknown		37	24		75	16

Employment status						
Employee	10 528	7 639	7 248	4 182	3 083	3 730
Owner	2 890	3 796	3 362	7 814	6 789	6 405
FTE per Gender						
Female	53	31	49	237	50	65
Male	11 532	8 439	7 533	8 362	4 613	5 719
Unpaid per Gender						
Female	6	4	4	222	19	9
Male	206	514	883	7 829	1 786	2 031
Average wage per job	17 647	15 243	14 456	2 410	5 240	5 448

Source: Italy data submissions under the 2025 Social Data Call

Small Scale Coastal Fleet [<12m, passive]

The indicators below summarise the main demographic and socio-economic developments observed in Italy's Small-scale Coastal Fleet (SCF) over the 2017-2023 period, highlighting shifts in workforce composition, education, and labour conditions within this traditional and community-based segment. Overall headcount remains broadly stable, although a marked dip is observed in 2020, with male employment declining from 11 666 to 10 016, while female participation stays around 120. Owners consistently represent the majority of the workforce, decreasing from 7 814 to 6 405, yet remaining well above employees, who fall from 4 182 to 3 730.

Gender composition changes little across the period: women account for roughly 1% of the workforce and are primarily involved in administrative tasks or family-based roles. The workforce is predominantly national, and the number of non-EU/EEA workers is both limited and declining, from 440 to 104. Demographic ageing is pronounced: the share of older workers increases substantially, with the 65+ group almost doubling from 660 to 1 286, while the youngest cohort (15-24) contracts sharply from 330 to 61.

Educational attainment remains low overall. Workers with low education dominate, though their number declines from 10 235 to 8 598; medium education increases slightly from 1 431 to 1 479, whereas high education decreases markedly from 330 to 42. In terms of labour input, male FTE drops in 2020 and then partially recovers (8 363 to 5 720). Unpaid male work falls sharply from 7 829 to 2 031, indicating a reduced reliance on family labour and a gradual shift towards more formalised employment arrangements. Average wage per job increases in nominal terms from 2 410 to 5 448, reflecting fewer jobs combined with higher per-job values and market price effects; nevertheless, it remains well below levels observed in the large-scale fleet (LSF).

Taken together, the SCF exhibits a broadly stable workforce with a deepening age imbalance and a persistent predominance of owners over employees. The evidence suggests slow but ongoing formalisation, while economic returns remain constrained despite modest improvements in average income.

Large Scale Fleet

The following indicators summarise the main demographic and socio-economic dynamics observed in Italy's Large-Scale Fleet (LSF) between 2017 and 2023, focusing on workforce composition, employment structure, education, and income. Overall crew numbers declined markedly, with male employment falling from 13 357 to 10 550 and female participation remaining very limited (around 60). The workforce is predominantly composed of employees, although their numbers decreased from 10 528 to 7 248, while owners appear broadly stable with a slight increase from 2 890 to 3 362.

Women continue to represent less than 1% of the workforce, with no meaningful structural change over the period. In terms of nationality, the number of non-EU/EEA workers increased from 649 to 947, while nationals and EU workers declined, indicating a growing reliance on third-country crews. The age profile confirms a clear ageing pattern: the 40-64 group remains the largest cohort (8 976 to 7 849), the 65+ group stays relatively high despite the overall contraction (841 to 743), and the youngest class (15-24) more than halves (514 to 209).

Education levels remain largely low, with the low-education group decreasing from 10 741 to 8 703, medium education broadly stable, and higher education marginal.

Labour input also weakened, as male FTE fell sharply from 11 532 to 7 533. At the same time, reported unpaid male work increased from 206 to 883, which may reflect greater informal or family contributions, or changes in reporting practices. Average wage per job declined in nominal terms from 17 646 to 14 456, implying an even stronger reduction in real terms once inflation is considered.

Overall, the LSF experienced a sustained contraction in workforce and labour intensity alongside progressive ageing and a stronger dependence on non-EU crews. These trends point to ongoing structural adjustment and economic pressures that have likely eroded average earnings and affected employment conditions.

9.13.10 Trends and challenges

Between 2017 and 2023, the Italian fisheries sector underwent huge transformations driven by environmental, regulatory and socio-economic

changes that affected its sustainability and labour practices. Although demographic decline and an ageing workforce remain pressing issues, new factors such as climate change, market volatility and governance reforms are reshaping the sector's social and adaptive capacity.

A central challenge lies in the economic and energy vulnerability of the fleet. Increasing fuel costs and fluctuating market conditions have reduced profitability and forced a reduction in fishing activity, particularly among small-scale and artisanal operators. The socio-cultural pillars of coastal communities, these fleets struggle to maintain viable activity levels and invest in modernisation or digitalisation. Meanwhile, changes in governance and spatial competition are redefining access to traditional fishing grounds. The implementation of the EU Biodiversity Strategy, which aims to establish 30% of Marine Protected Areas (MPAs) by 2030, creates both conservation opportunities and social tensions. The Blue Economy transition provides opportunities for diversification and resilience. New opportunities are arising from short value chains, eco-labelling, circular practices and the integration of coastal tourism and aquaculture. Innovative projects and cooperative initiatives demonstrate that improved governance, product valorisation, and social dialogue mechanisms can align sustainability and employment. However, many small enterprises lack access to investment capital and training, which limits the scaling up of such innovations. At the same time, climate change continues to alter the ecological baseline. Shifts in species distribution and productivity, as observed in Mediterranean demersal and pelagic stocks, require dynamic management systems and participatory science to bridge the gap between research and local knowledge. Strengthening co-management frameworks will be essential to ensure adaptive capacity across fleets and regions. In conclusion, the capability of Italian fisheries to demonstrate resilience will be contingent on their capacity to strike a balance between ecological objectives and social sustainability. They will also need to adapt to regulatory transitions while maintaining viable livelihoods. Strong local governance, targeted financial instruments and empowering fishers as active agents in the blue transition will be critical to safeguarding employment, heritage and equity in the years ahead.

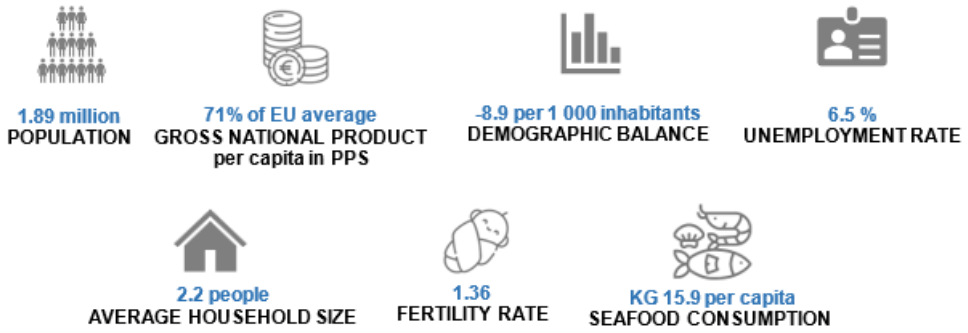
9.13.11 Methodological considerations and data issues

The collection of social data follows the methodology set out in the Italian Work Plan 2022–2024 under the Data Collection Framework (DCF). Primary data are obtained through ad hoc electronic questionnaires administered to selected fishing enterprises, while secondary data derive from official administrative sources and national registers. A Probability Sample Survey (PSS) is used to estimate the main social indicators, including days at sea (LOA <10 m), employment by age, gender, education, and nationality, full-time equivalents (total and by gender), total hours worked, paid and unpaid labour, labour costs, and crew composition. The data also provide information on on-board and shore-based employment and the economic value of unpaid work.

9.14 Latvia

9.14.1 Snapshot of Latvia

Figure 95. Latvia in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

Latvia's economic output per person is moderate, corresponding to a GDP per capita around 30% below the EU average. The total population is around 1.9 million, and the unemployment rate is 6.5%, indicating a relatively stable labour market.

Latvian households are generally small, with an average size of 2.2 people per household. With a fertility rate of 1.36 children per woman, the population growth rate is below the replacement level.

In terms of consumption patterns, the annual per capita fish consumption is estimated at around 16 kilograms, highlighting the importance of seafood in Latvian diets and household spending.

9.14.2 Short description of the fishing sector

In 2023, there were 267 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 20 298 GT and 34 899 kW. The capacity of the national fleet has decreased since 2013. The estimated total number of inactive vessels in 2023 was 66, the majority of which (91%) are in the less than 12m segments and varies from year to year due to the weather conditions or in recent years the high activity of seals (REF from AER 2025).

In Latvia, the fisheries sector plays a relatively small yet stable role in both the national and European economies. In 2023, the GVA of the fisheries sector accounted for just 0.2% of Latvia's total GVA, highlighting its modest contribution to the wider economy. Nevertheless, Latvia accounts for 0.4% of the total EU fishing fleet capacity, in line with its share of the EU population.

Similarly, 0.4% of total EU fisheries employment is in Latvia, reflecting a proportionate contribution relative to the country's size within the EU.

Between 2017 and 2023, the fisheries sector underwent major demographic changes. Overall employment fell by nearly 30%, from 661 to 474 individuals, largely due to vessel decommissioning and workers leaving the industry.

Despite the decline, female participation nearly doubled (from 93 to 185), reflecting greater gender inclusivity, likely influenced by the inclusion of office employees in enterprise-based reporting.

The workforce remained predominantly national (over 90%), though EU and EEA nationals became more represented by 2023. Non-EU/EEA workers disappeared, replaced partly by individuals of unknown nationality.

The age profile is shifting toward younger workers, with small increases in the ≤24 and 25–39 groups and steady declines among older workers (especially 40–54 and 65+). This indicates a gradual rejuvenation of the sector.

Employment patterns showed a return to full-time work after a temporary rise in part-time positions in 2020.

Educational trends revealed growth in both high and low education levels, while medium-level education declined. This suggests a diversifying workforce, combining experienced professionals with new, less experienced entrants.

Table 143. Latvia summary table

Indicator	Units	2023				% Δ 2023-2017			
		Overall	SSCF	LSF	DWF*	Overall	SSCF	LSF	DWF*
Total employment	Number	440	213	227	-	▼ -34%	▼ -29%	▼ -37%	-
FTE	Number	190	56	134	-	▼ -42%	▼ -54%	▼ -35%	-
Active vessels	Number	196	161	35	-	▼ -20%	▼ -18%	▼ -31%	-
Landings by weight	Thousand tonnes	61.45	2.54	58.91	-	▼ -8%	▼ -26%	▼ -7%	-
Landings by value	Million €	24.65	1.32	23.33	-	▼ -10%	▼ -14%	▼ -10%	-
Ageing work force	%	7%	-	-	-	▼ -35%	-	-	-
Gender	%	39%	-	-	-	▲ 177%	-	-	-
Nationality: nationals in work force	%	91%	-	-	-	▼ -8%	-	-	-

** Data for the DWF has been collected but not submitted to maintain data confidentiality*

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.14.3 Social demographics in Fisheries

Social demographic data relating to fisheries is collected via surveys. Since companies may be involved in all types of fisheries and all vessel length

segments (SSF and LSF), enterprises are used as the primary sampling unit to avoid double-counting employees. Data for the DWF has been collected but not submitted to maintain data confidentiality. Further demographic data analysis relates to Baltic Sea fisheries only.

9.14.4 Employment in Fisheries

Total Employment

Between 2017 and 2023, the number of fishers decreased by one-third (33%), falling from 661 to 440. This indicates a consistent, long-term reduction in the size of the workforce (**Error! Reference source not found.**). This suggests an o ngoing structural contraction in the fisheries sector, linked to the decommissioning of vessels.

Full-Time Equivalent

Between 2017 and 2023, the size of the fisheries workforce decreased, with the proportion of full-time employees falling by around 6%. The number of FTEs fell from 326 in 2017 to 190 in 2023. The proportion of FTEs in the total crew fell from 49% to 43%, indicating that fewer people were employed full-time. This suggests an increase in part-time or seasonal employment, reflecting reduced fishing effort, downsizing of the fleet and greater employment flexibility within the sector.

Table 144. Latvia: total employment and FTEs (2017-2023)

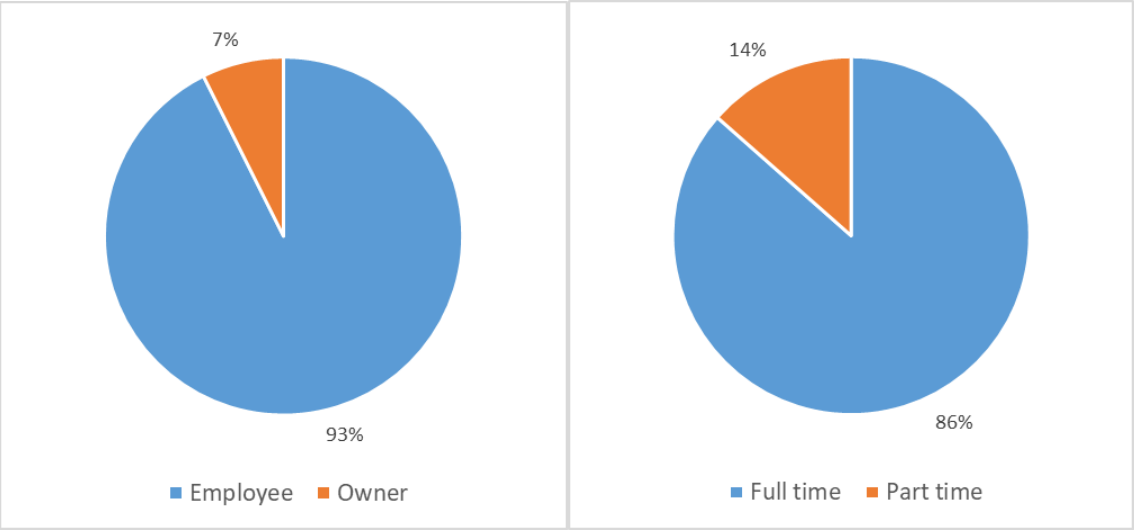
	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Total employment	661	631	612	541	586	474	440	-33%
FTE	326	288	262	247	267	184	190	-42%

Source: Member States data submissions under the Fleet Economic data call.

Employment status

The employment structure in the fisheries sector changed significantly between 2017 and 2023. In 2017, the workforce was largely full-time, with only a small proportion working part-time. However, by 2020, the proportion of part-time employees had increased significantly, suggesting a temporary shift towards more flexible or seasonal work. By 2023, however, this trend had reversed, with most workers returning to full-time positions and the proportion of part-time employment falling back to a relatively minor level.

Figure 96. Lstvia: Employment status by owners and employees, and share of part- and full-time, 2023



Source: MS data submissions under the 2025 Social Data Call

Table 145. Latvia: employment status (2017-2023).

Status	2017	2020	2023	Δ 2023-2017
Employee	635 (96%)	474 (88%)	439 (93%)	-31%
Employee full	553 (87%)			-
Employee part	82 (13%)			-
Owner	26 (4%)	67 (12%)	35 (7%)	35%
Total full		389 (72%)	410 (86%)	-
Total part		152 (28%)	64 (14%)	-

Source: Member States data submissions under the 2025 Social Data Call.

9.14.5 Demographics of the Workforce

Age

The workforce is gradually becoming more youthful, with a steady increase in the number of young entrants and a corresponding decrease in older workers. The number of individuals in the 25–39 age group has remained stable, rising slightly from 86 to 97. In contrast, the number of individuals in the 40–54 age group declined sharply, falling from 274 in 2020 to 192 in 2023. The number of individuals in the 55–64 age group remained steady at around 130. The number of individuals in the 65+ age group has decreased continuously, from 66 in 2017 to 31 in 2023, suggesting a decline in the number of older workers. A small number of younger fishers (aged ≤24) entered the sector during this period, increasing from seven to 21 individuals.

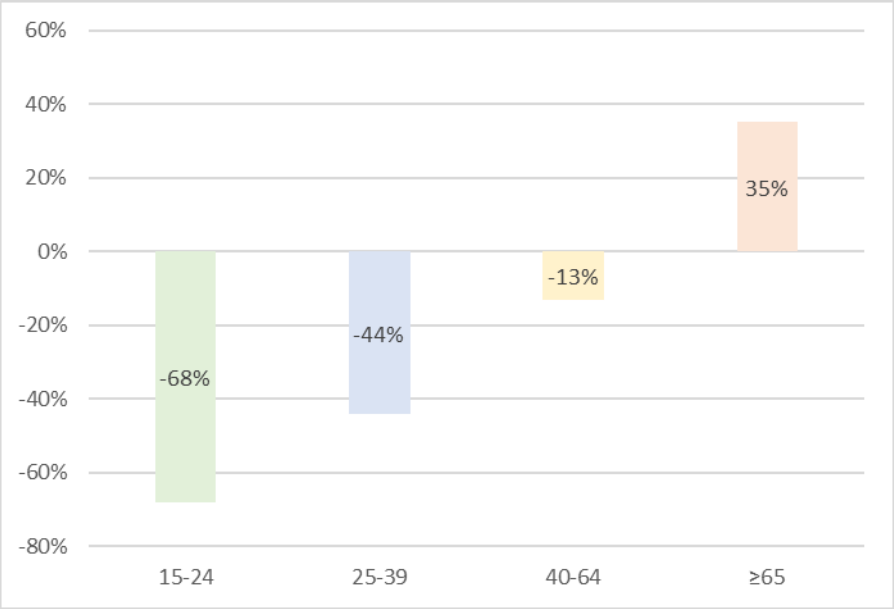
The age structure shows a consistent decline in older fishers and a modest yet significant increase in younger entrants, suggesting generational renewal despite the sector's overall contraction.

Table 146. Latvia: total employment by age group (2017-2023)

Age group	2017	2020	2023	Δ 2023-2017
≤14	0 (0%)	0 (0%)	2 (0%)	-
15-24	7 (1%)	5 (1%)	19 (4%)	171%
25-39	86 (13%)	91 (17%)	97 (20%)	13%
40-54	0 (0%)	274 (51%)	192 (41%)	-
40-64	502 (76%)	0 (0%)	0 (0%)	-100%
55-64	0 (0%)	126 (23%)	133 (28%)	-
65+	66 (10%)	45 (8%)	31 (7%)	-53%

Source: Member States data submissions under the 2025 Social Data Call.

Figure 97. Latvia: trends in total employment by age group (2017-2023)



Source: MS data submissions under the 2025 Social Data Call

9.14.6 Workforce education and training

Education

The number of highly educated workers increased from 99 in 2017 to 106 in 2023. Meanwhile, medium-level education declined notably from 357 to 231, while the number of workers with low education rose from 55 in 2020 to 137 in 2023, possibly reflecting the entry of younger, less experienced fishers into the workforce. By 2023, the proportion of workers with unknown levels of education had disappeared.

Table 147. Latvia: total employment by education level (2017-2023)

Education	2017	2020	2023	Δ 2023-2017
high	99 (15%)	78 (14%)	106 (22%)	7%
medium	357 (54%)	346 (64%)	231 (49%)	-35%
low	205 (31%)	55 (10%)	137 (29%)	-33%
Unknown	0 (0%)	62 (11%)	0 (0%)	-

Source: Member States data submissions under the 2025 Social Data Call.

Training

In Latvia, people working as coastal fishers are not required to undergo formal training. Many learn through family traditions or on the job. However, those working on larger vessels, such as trawlers, must undergo training.

In accordance with the STCW convention, drivers and mechanics of fishing vessels must undergo seafarer training if they perform the duties of a master, deck officer or engineer on a fishing vessel.

Each qualification requires specific education, sea experience, radio communication qualifications, and passing a competency exam. This training does not include fishing-specific instruction, but focus on navigation, safety, and general maritime skills. Fishing vessel personnel must also complete a basic safety course or training certified by the Ministry of Transport.

Currently, no training programmes focusing specifically on fishing are being implemented at any training centres or educational institutions.

Nationality

Although most of the fisheries workforce is still national (over 90%), there has been some diversification, with an increased presence of EU and EEA nationals. Employment of EU nationals increased modestly from zero to 22, while EEA workers appeared for the first time in 2023, with five individuals. By 2023, non-EU/EEA workers had disappeared from the workforce, having been replaced by individuals of unknown nationality.

Although most workers are still nationals, there has been a modest increase in EU and EEA nationals, indicating gradual diversification.

Table 148. Latvia: total employment by nationality (2017-2023).

Nationality	2017	2020	2023	Δ 2023-2017
National	654 (99%)	510 (94%)	433 (91%)	-34%
EU	0 (0%)	18 (3%)	22 (5%)	-
EEA	0 (0%)	0 (0%)	5 (1%)	-
Non-EU/EEA	7 (1%)	13 (2%)	0 (0%)	-100%
Unknown	0 (0%)	0 (0%)	14 (3%)	-

Source: Member States data submissions under the 2025 Social Data Call.

9.14.7 Gender

A significant demographic shift was observed in the fisheries sector between 2017 and 2023. While overall employment fell by almost 30%, the proportion of women in the sector almost doubled. Total employment declined steadily from 661 individuals in 2017 to 474 in 2023. However, female participation increased notably, rising from 93 individuals in 2017 to 185 in 2023 - almost doubling over the period. As the survey unit is the enterprise, all office employees are counted, which may explain the increase in female representation.

In Latvia the company owner is usually the fisherman's wife, who is responsible for all legal matters, while her husband does the actual work at sea (mostly coastal fishery). Current figures seem likely related to data issues more than actual female workers in the fishery.

Male employment declined substantially, falling from 568 to 289 over the same period. This may be directly linked to the decommissioning of vessels and subsequent crew member movement out of the industry after applying for compensation.

The proportion of women employed in aquaculture and fish processing has remained relatively stable over time, standing at approximately 20% and 30%, respectively.

Table 149. Latvia: total employment by gender (2017-2023).

Gender	2017	2020	2023	Δ 2023-2017
Female	93 (14%)	130 (24%)	185 (39%)	99%
Male	568 (86%)	411 (76%)	289 (61%)	-49%

Source: Member States data submissions under the 2025 Social Data Call.

Unpaid labour by gender

Latvia upholds the principle of equal treatment between men and women through several legal instruments. Article 91 of the Constitution (Satversme) guarantees that all individuals are equal before the law and prohibits discrimination of any kind (satv.tiesa.gov.lv). The Labour Law further reinforces this principle by prohibiting discrimination in hiring, pay and working conditions based on sex or other characteristics (vdi.gov.lv). Latvia has also ratified international instruments such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) to promote gender equality (mfa.gov.lv).

Social aspects in Fisheries

9.14.8 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Latvian fishing fleet reported an average annual labour cost of EUR 38 337 per FTE in 2023, which is above the EU average (EUR 29 447 per FTE). Fishing labour costs have increased 160% since 2013, among the highest rate of increase of any EU Member State and well above the EU average (+22%). These sharp increases may be partly explained by the decommissioning of vessels and related compensation payments to employees. When vessels are decommissioned, workers often receive one to three months' salary as compensation, depending on their length of service, as well as payments for unused holiday time. This can temporarily inflate average wage levels in the sector.

Table 150. Latvia Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	14 722	12 284	15 782	13 403	17 341	25 954	24 318	26 542	22 861	29 310	38 337
National average				22 310				28 497	29 150	26 983	27 308
Ratio of fishing labour cost to national average				0.60				0.93	0.78	1.09	1.40

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Due to the significant increase, fishing labour costs in Latvia are now 40% above national average labour costs (EUR 27 308) and over five times that national minimum wage (EUR 7 440). This may be explained by the decommissioning of vessels and subsequent movement of fishers out of the industry, resulting in a shortage of competent crew. Companies are therefore willing to pay more to retain experienced fishers.

Fishers must report the amount of unpaid labour on the compulsory '1-Fishery' statistical questionnaire. If the value remains consistent for a specific fleet segment, the number of individuals involved is calculated and provided instead. The value of unpaid labour can fluctuate depending on changes in fishers's behaviour. As in recent years, SSF fishers hold fishing gear for a shorter period due to the high abundance of seals, which destroy catches and fishing gear. Consequently, there is no need for additional help as catches are lower.

Working conditions

Total Working hours

Between 2017 and 2023, the total number of hours worked in Latvia's fishing sector decreased by 42%, falling from 586 905 hours to approximately 341 155. This indicates a contraction in total labour input, reflecting both fleet restructuring and changes in fishing activity.

Over this period, the average number of working hours per fisher decreased moderately, from around 888 hours in 2017 to approximately 777 hours in 2023.

The dynamics also differ between LSF and SSF. In the SSF, activity is highly seasonal, often concentrated during specific months when weather and species availability are favourable. Meanwhile, the LSF operates in line with quota allocations for sprat and herring, as well as catch limits assigned to each vessel, which determine the intensity and duration of fishing operations. In recent years, LSF fishing trips have not exceeded one day, with fishing taking place mainly close to the main fishing harbours. Consequently, total labour effort and the average number of working hours per fisher are strongly influenced by regulatory limits, resource availability, and seasonal fishing patterns.

Social security

Latvia's social security system provides financial support to all citizens, regardless of their sector of employment. It covers situations such as retirement, disability, unemployment, and family-related needs. The system aims to protect against economic hardship and ensure a basic standard of living by providing social insurance and social assistance programmes.

The social insurance system includes a three-level pension scheme (mandatory, state-funded and voluntary private), as well as unemployment and parental benefits and compensation for illness. The social assistance system provides financial support for low-income individuals and families, aids those raising children, helps to cover housing costs and supports people with disabilities, thereby promoting inclusion and well-being.

Accidents on board

Available data shows that, between 2017 and 2023, a total of four marine accidents involving fishing vessels were registered, with two occurring in 2017, one in 2021, and one in 2022. Two people lost their lives in these accidents: one in 2017 and one in 2022. The 2017 accident occurred on a vessel that was not in operation and was not related to fishing. In 2022, a crew member fell overboard from a Latvian fishing trawler and drowned. Overall, the data suggest a low incidence of serious accidents involving fishing vessels during this period, although risks to crew safety remain present, particularly during active fishing operations.

9.14.9 Social demographics per fishing activities

Social demographic data relating to fisheries is collected via surveys, with enterprises acting as the primary sampling unit. This avoids double-counting employees, since companies may be involved in all types of fisheries and all vessel length segments (SSF and LSF).

From 2017 to 2023, there was a clear shift towards greater gender balance in the workforce. During this period, the proportion of women in the workforce doubled, while the proportion of men steadily declined. The nationality profile became slightly more diverse, with modest increases in the number of EU and EEA nationals. Age trends revealed an ageing workforce, with the largest decline occurring in the 40–54 age group. Meanwhile, the younger age brackets, particularly the emerging ≤14 age group, suggested new entrants to the workforce.

Table 151. Latvia: Overall social variables for fisheries sector

	Overall		
	2017	**2020**	**2023**
Gender			
Female	93	130	185
Male	568	411	289
Nationality			
National	654	510	433
EU	0	18	22
EEA	0	0	5
Non-EU/EEA	7	13	0
Unknown	0	0	14
Age			
≤14	0	0	2
15-24	7	5	19
25-39	86	91	97
40-54	502	274	192
55-64		126	133
65+	66	45	31
Education			
High	99	78	106
Medium	357	346	231
Low	205	55	137
Unknown	0	62	0
Employment status			
Full time	553	389	410
Part time	82	152	64
Average wage per job (€)			15 044

Source: Member States data submissions under the 2025 Social Data Call.

Education levels and employment patterns highlight the evolving characteristics of the workforce. High education levels recovered by 2023, while medium education levels decreased and low education levels partially rebounded after a sharp drop in 2020. Full-time employment declined but remained dominant, while part-time work peaked midway through the period before declining. Despite these shifts, the average wage remained stable at EUR 15 044, reflecting resilience in earnings amid demographic and employment changes.

Overall, these trends indicate a younger, more gender-balanced and slightly more diverse workforce with stable wages and gradual changes in education and employment levels.

The significant difference in average wages between the SSF and the LSF can be attributed to the seasonal nature of the coastal fishery and the availability of the herring quota in the Gulf of Riga. Meanwhile, LSF is experiencing a shortage of competent crew members, enabling it to offer above-average salaries. The average wage in the LSF is affected by the decommissioning of vessels, as workers often receive one to three months' salary as compensation, depending on their length of service, as well as payments for unused holiday time. This can temporarily inflate average wage levels in the segment.

Table 152. Latvia Average wage per job for SSF and LSF in Latvia between 2017 and 2023

	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
SSF, Average wage per job (€)	1230	2099	898	1478	158	542	330	-73%
LSF, Average wage per job (€)	9967	13345	13447	16807	18845	20915	31105	212%

9.14.10 Trends and challenges

Latvia’s fishing industry benefits from strong political and legal support through national legislation and EU frameworks, including the CFP and the EMFAF. Although EU quotas for sprat and herring and evolving trade relations can limit catches and affect market stability, there are opportunities to strengthen quota negotiations and improve sector governance.

The sector has a long-standing economic and social heritage, as well as a history of strong seafood exports, and it contributes to employment and national GDP. However, rising operational costs and an ageing workforce present challenges. Nevertheless, growing consumer demand for protein-rich seafood, alongside sustainable fisheries and aquaculture initiatives, provides opportunities for growth. Technological progress in fleet modernisation and sustainable practices further supports industry development; howev, the slow adoption of innovations that reduce bycatch and digital reporting systems poses a risk.

9.14.11 Methodological considerations and data issues

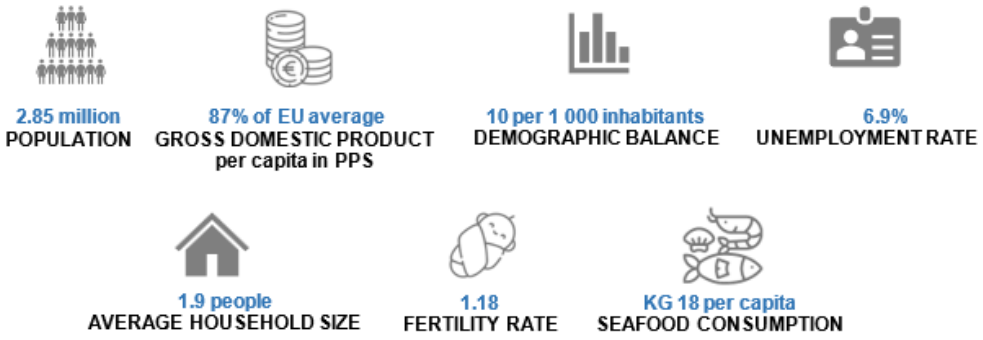
Social data on fleet and aquaculture was collected through a non-probability sample survey as part of the DCF. No specific quality issues have been identified.

9.15 Lithuania

There was no expert available to write this MS chapter. Therefore, the social data from the DCF and from some secondary sources are presented, without elaborate qualitative interpretation.

9.15.1 Snapshot of Lithuania

Figure 98. Lithuania in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

9.15.2 Short description of the fishing sector

In 2023, there were 127 registered vessels, with a total capacity of 35 031 GT and 40 329 kW. The capacity of the national fleet has decreased by 15% since 2017. The estimated total number of inactive vessels in 2023 was 62, the majority of which (79%) are in the less than 10m/ 12 m segments. In 2023, the Lithuanian fleet generated EUR 90.6 million from landings, a -20% decrease from 2022. The fleet achieved EUR 29.2 million in GVA and EUR 13.1 million in net profit (STECF AER, 2025).

Table 153. Lithuania Summary table

Lithuania		2023					%Δ 2023-2022				
Indicator	Units	Overall	SSCF	L12AG	LSF	DWF	Overall	SSCF	L12AG	LSF	DWF
Active vessels	Number	65	53	-	7	5	-13%	-5%	-	-46%	-17%
FTE	Number	381	28	-	28	324	5%	-18%	-	-29%	13%
Gross Value of landings	Million €	90.63	0.58	-	5.21	84.84	-20%	10%	-	25%	-22%
GVA	Million €	29.22	0.32	-	2.20	26.69	22%	20%	-	93%	19%
Gross profit	Million €	19.90	0.03	-	1.18	18.69	50%	212%	-	12462%	40%
Net profit	Million €	13.12	-0.02	-	0.75	12.40	458%	79%	-	183%	269%

Source: AER, 2025. MS data submissions under the 2025 Fleet Economic Data Call

9.15.3 Social demographics in Fisheries

In 2023, Lithuanian fishing fleet consisted of 127 vessels, 65 (51%) vessels were active during 2023.

Lithuanian fishing fleet includes SSCF segments in the Baltic Sea's coastal area, LSF segments in the Baltic Sea, and LDF segments in CECAF, SPRFMO, North Sea, and East Arctic regions.

The average labour cost in the Lithuanian fishing fleet depends on the operating region and significantly varies from coastal fleets to long-distance vessels. Different trends in labour costs were observed among the main fishing segments during the 2013-2023 period. During this period, the highest labour costs were paid to the long-distance fleet. In 2023, the average annual labour costs for long-distance fisheries were EUR 24 700 per FTE. However, due to significantly increased working hours for long-distance fleet fishers in 2023, crew costs declined by 23% and were 31% lower compared to the LSF Baltic fleet (STECF AER, 2025).

9.15.4 Employment in Fisheries

Total Employment and FTE

The total employment was estimated around 390 jobs, corresponding 381 FTEs in 2023. The total employment and the FTE decreased by 8% and increased by 14% respectively from 2017 to 2023.

Table 154. Lithuania: Total employment and FTE by gender (2017-2023)

Employment	2017	2020	2023	Δ 2023-2017
Total employment	426	474	390	-8%
FTE	333	407	381	14%

Data source: MS data submissions under the 2025 Social Data Call

Table 155. Lithuania: Employment in FTE by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	13 (4%)	12 (3%)	10 (3%)	-22%
Male	321 (96%)	395 (97%)	371 (97%)	16%

Data source: MS data submissions under the 2025 Social Data Call

Employment status

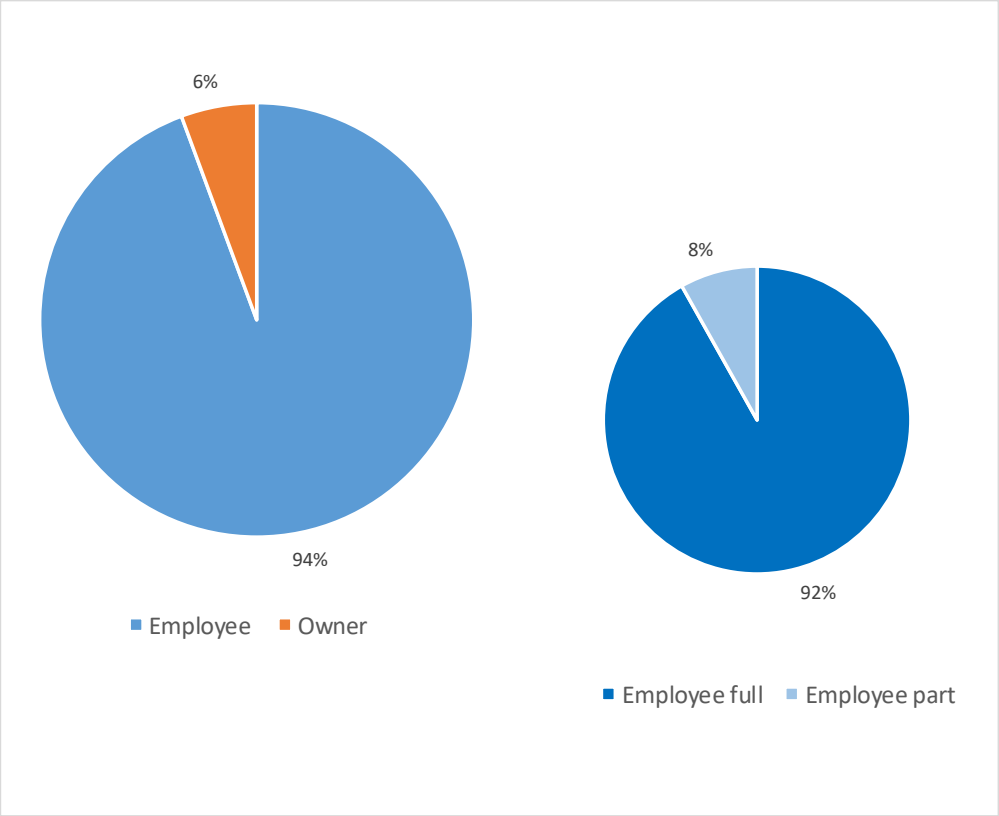
The employment status in Lithuanian fleet consists of the four groups of people: owner, employee, full-time and part-time employment. Around 6% of total employees were owners of the fishing company and 87% of employees worked full-time.

Table 156. Lithuania: employment status (2017-2023)

Status	2017	2020	2023	Δ 2023-2017
Employee	389 (91%)	445 (94%)	368 (94%)	-5%
Employee full		410 (86%)	338 (87%)	-
Employee part		35 (7%)	30 (8%)	-
Owner	37 (9%)	29 (6%)	22 (6%)	-41%

Source: MS data submissions under the 2025 Social Data Call

Figure 99. Lithuania: employment status (2017-2023)



Data source: MS data submissions under the 2025 Social Data Call

9.15.5 Demographics of the Workforce

Age

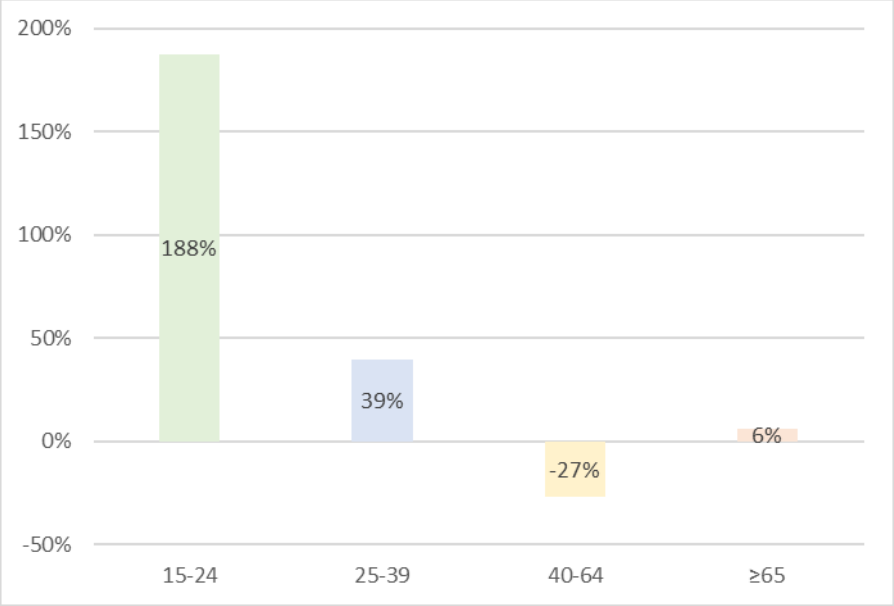
In 2023 around 58% of total employees on board belongs to 40-64 age group, 27% to 25-39 age group and only 6% to the youngest employees from 15 to 24 years old. The 67% of employment were over 40 years old in 2023.

Table 157. Lithuania: total employment by age group (2017-2023)

Age group	2017	2020	2023	Δ 2023-2017
15-24	8 (2%)	25 (5%)	23 (6%)	▲ 188%
25-39	76 (18%)	137 (29%)	106 (27%)	▲ 39%
40-54	0 (0%)	146 (31%)	116 (30%)	-
40-64	310 (73%)	0 (0%)	0 (0%)	-
55-64	0 (0%)	144 (30%)	111 (28%)	-
≥65	32 (8%)	22 (5%)	34 (9%)	▲ 6%

Data source: MS data submissions under the 2025 Social Data Call

Figure 100. Lithuania: total employment by age group



Source: MS data submissions under the 2025 Social Data Call

9.15.6 Workforce education and training

Education

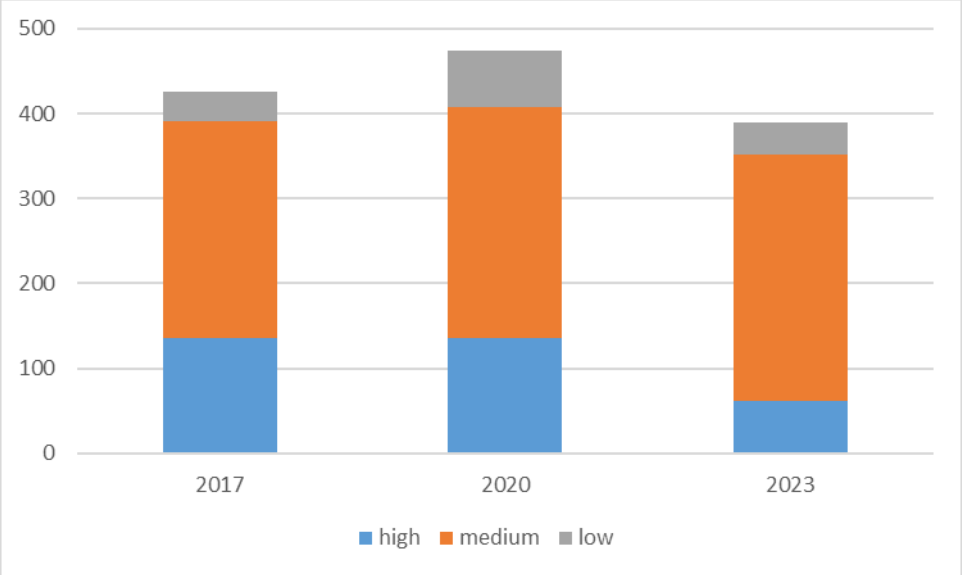
The high education in Lithuanian fishing sector was accounted for 16% of the total workforce in 2023, while the medium education was reported for 75% of employment.

Table 158. Lithuania: total employment by education level (2017-2023)

Education	2017	2020	2023	Δ 2023-2017
high	135 (32%)	136 (29%)	61 (16%)	▼ -55%
medium	256 (60%)	271 (57%)	291 (75%)	▲ 14%
low	35 (8%)	67 (14%)	38 (10%)	▲ 9%

Source: MS data submissions under the 2025 Social Data Call

Figure 101. Lithuania: total employment by education level (2017-2023)



Source: MS data submissions under the 2025 Social Data Call

Training

Fishers working on large scale fleet in Baltic Sea and long-distance fleet must complete appropriate special training courses in accordance with the Code of Training, Certification and Watchkeeping for Mariner, adopted in 1995 resolution 2. The requirements for small-scale fishers are much simpler, and a document issued by a training institution confirming that they have completed the training of skipper, is sufficient (STECF 19-03, 2019).

Nationality

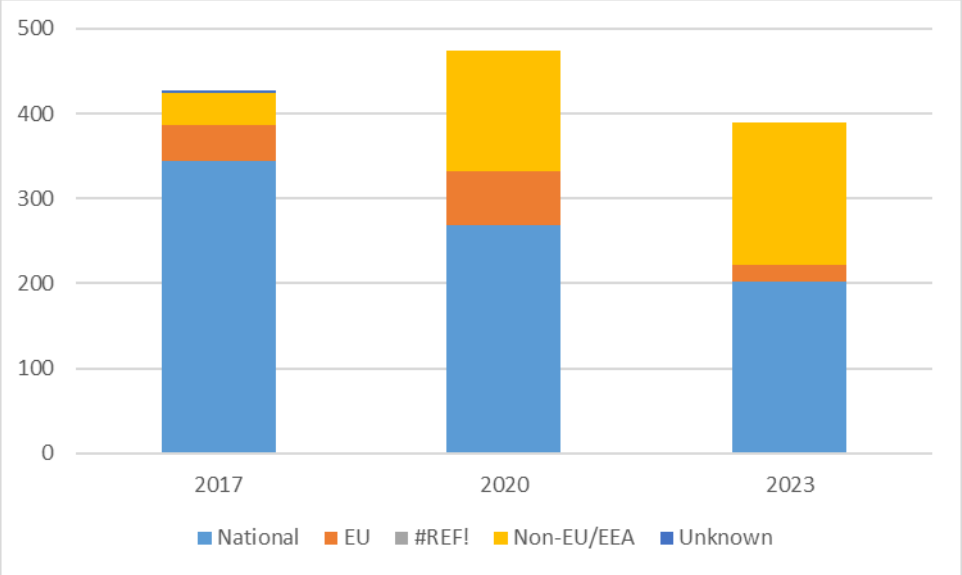
In 2023, employment of Lithuanian fishing fleet consisted of 52% of national workers, 43% of employees had non-EU/EEA nationality and only around 5% are from other EU countries.

Table 159. Lithuania: total employment by nationality (2017-2023).

Nationality	2017	2020	2023	Δ 2023-2017
National	344 (81%)	269 (57%)	202 (52%)	-41%
EU	42 (10%)	63 (13%)	19 (5%)	-55%
Non-EU/EEA	37 (9%)	142 (30%)	169 (43%)	357%
Unknown	3 (1%)	0 (0%)	0 (0%)	-100%

Source: MS data submissions under the 2025 Social Data Call

Figure 102. Lithuania: total employment by nationality (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

9.15.7 Gender

In 2023 around 94% of total number of employees in Lithuanian fishing fleet were male. Women in fisheries were mostly employed on small scale fleet, on shore positions and in overall employment were accounted for 6%.

Table 160. Lithuania: Total employment by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	19 (4%)	22 (5%)	22 (6%)	16%
Male	407 (96%)	452 (95%)	368 (94%)	-10%

Data source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

Unpaid labour in Lithuanian fishing fleet was reported only in small scale fisheries were individual enterprises and family business. In 2023 only four persons were identified for unpaid labour.

Social aspects in Fisheries

9.15.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions.

Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Lithuanian fishing fleet reported an average annual labour cost of EUR 24 477 per FTE in 2023, which is below the EU average (EUR 29 447 per FTE). Fishing labour costs have increased 14% since 2013, again below the EU average (+22%).

Fishing labour costs in Lithuania are slightly below the national average labour costs (-18%) but over twice the minimum wage on an annual basis (EUR 10 080 per FTE). In some earlier years (e.g. 2016, 2020), fishing labour costs exceeded national average labour costs.

Table 161. Lithuania: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	21 421	29 362	26 082	39 633	38 899	32 628	26 622	29 341	29 137	29 344	24 477
National average				22 059				28 304	30 466	29 023	29 888
Ratio of fishing labour cost to national average				1.80				1.04	0.96	1.01	0.82

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

9.15.9 Methodological considerations and data issues

Social data in fleet and fish processing in the frame of DCF collected through a census survey.

Social, economic and environmental data on aquaculture are not collected by Lithuania. According to Commission Implementing Decision (EU) 2021/1168 aquaculture data collection is not mandatory for Member States if total aquaculture production is less than 1% of total Union aquaculture production by both weight and value.

No specific data issues detected.

Data is provided by Agricultural Information and Rural Business Centre

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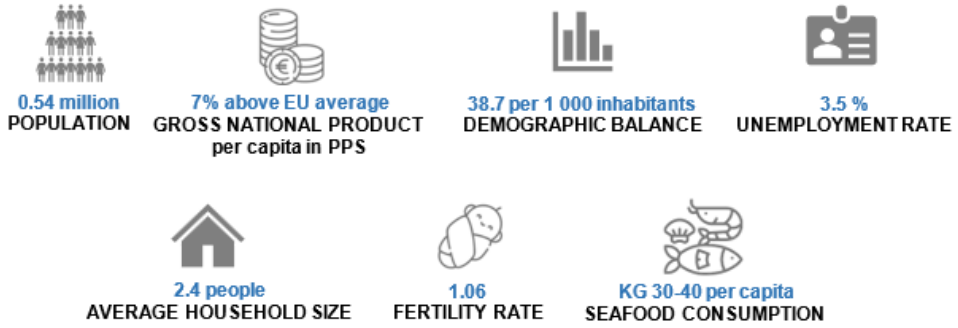
9.16 Malta

9.16.1 Snapshot of Malta

Figure 103. Malta in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

In 2023, Malta is a small, high-income EU Member State (0.542 million people; GNP per capita at 107 in PPS) with a tight labour market (3.5% unemployment). Population change appears to be driven mainly by migration: the demographic balance was +38.7 per 1 000 inhabitants, largely explained by net migration (+37.9 per 1 000), while natural change was modest (birth rate 8.1 per 1 000 vs death rate 7.3 per 1 000). At the same time, very low fertility (1.06) suggests longer-term ageing pressures and potential labour supply constraints. Relatively high seafood consumption estimates (30–40 kg per capita) indicates that fish remains an important part of diets and market demand, providing context for the social and economic relevance of fisheries in the member state.

9.16.2 Short description of the fishing sector

The Maltese fishing sector is small and remains dominated by Mediterranean artisanal, small-scale operations. It is best characterised as a multi-species, multi-gear fishery, with fishers typically switching gears seasonally in response to resource availability and market conditions. In 2023, the fleet comprised 828 registered vessels, representing a 14% decline since 2013 and continuing a long-term contraction from over 1 300 vessels in 2008. Of these, 641 vessels were active (around 77% of the register), a share broadly consistent with recent years and suggesting a persistent proportion of inactivity concentrated mainly among vessels under 12 metres. Fleet capacity indicators show a similar pattern: total registered engine power stood at 70 772 kW, of which 55 305 kW was associated with active vessels, implying that roughly 22% of registered power was held by inactive vessels. Total gross tonnage reached 6 805 GT, with 5 421 GT active indicating around 20% of capacity was idle. Since 2013, capacity has continued to decline, with engine power down 7% and gross

tonnage down 13%. The estimated number of inactive vessels in 2023 was 187, with the vast majority (92.5%) falling within the <12m segments.

In EU comparative terms, Malta's fisheries sector remains structurally small, ranking 15th (fleet size), 18th (gross value of landings), 20th (gross weight of landings), and 17th (employment) among 22 EU coastal Member States (as at 2023). This limited scale is also evident nationally: even when combined with agriculture under NACE A, the primary sector contributes less than 1% of Malta's GDP and GVA. Nevertheless, the sector retains socio-economic importance that is not captured fully by aggregate economic weight, including its role in sustaining coastal livelihoods, supporting local food systems, and preserving maritime cultural identity features that are particularly relevant in a small island context where fishing is often seasonal and highly adaptable.

In 2023, Malta's fleet recorded 22 182 days at sea and 19 876 fishing days, both 5% lower than 2022, mirroring the decline in vessel numbers and indicating an overall contraction in fishing effort, with activity still dominated by the SSCF while the LSF experienced proportionally sharper reductions. Average fishing intensity remained relatively stable for SSCF vessels (around 29 days, –0.3%), while the L12AG segment contracted markedly (around 23 days, –37%); LSF vessels remained the most active per vessel, averaging 59 fishing days (+3%). Landings also fell substantially, with total live weight decreasing to 2 266 tonnes (–19%) and landed value to EUR 14.7 million (–18%), with the downturn driven mainly by the LSF (–22% weight; –20% value) and especially L12AG (–73% weight; –67% value), while the SSCF was more resilient (–7% weight; –10% value), potentially reflecting some price resilience or a focus on higher-value catches. The main species by volume remained Atlantic bluefin tuna, swordfish, and common dolphinfish, complemented by lower-volume but high-value demersal such as giant red shrimp, red porgy, and red scorpionfish, highlighting a mix of bulk pelagic fisheries and more selective, value-driven activity.

Revenue wise, the Maltese fleet generated an estimated EUR 17.4 million a 15% decline from 2022, consistent with lower landings (–19% volume; –18% value), although landed value remained around 5% above the 2013–2022 average, suggesting relatively stable prices. Economic performance deteriorated sharply: GVA fell to EUR 8.1 million (–44%), gross profit dropped –84%, and net profit turned to –EUR 9 million (from near break-even in 2022). Despite this downturn, GVA per FTE (EUR 380 931) remained 10% above the longer-term average, implying comparatively higher value generation among those remaining active. The reversal appears to have been driven mainly by cost escalation. Overall, rising inputs outpaced any efficiency or price gains, affecting all segments, with the LSF more capital-intensive hit hardest (net profit down 92%), while the SSCF appeared more resilient but still pressured, resulting in the weakest financial outcome since 2020.

9.16.3 Social demographics in Fisheries

Overall employment in 2023 is reported at 919 people, with the sector remaining strongly SSCF-led in headcount (706; ~77% of employment) and

especially in vessel numbers (584 of 641 active vessels; ~91%). Since 2017, total employment fell by 12% (SSCF –13%), while FTE increased by 43% (SSCF +65%), which may indicate a shift toward more intensive or more consistently recorded work patterns (i.e., fewer people accounting for more full-time-equivalent effort). By contrast, the LSF shows stable employment (0%) but higher FTE (+16%) and more active vessels (+10%), suggesting modest consolidation and continued operational intensity. The L12AG segment shows the sharpest contraction across indicators (employment –53%, active vessels –50%, landings by weight –64%, value –63%), consistent with a shrinking and less active segment.

From a social-demographic perspective, the workforce shows signs of ageing, with 13.74% aged ≥65 in 2023 (12.87% in SSCF), although the overall share is shown as 7% lower than 2017; the LSF remains comparatively "younger" by this measure (1% ≥65), but the large percentage increase since 2017 (from a low base) suggests ageing may be emerging even in larger-scale activities. Female participation is extremely limited (0.88% overall in 2023, and lower than 2017), indicating that employment remains overwhelmingly male across fleet segments. The data also highlights a declining share of nationals in the workforce: 56.92% overall (54% in SSCF), with the proportion of nationals falling by around 30% since 2017 (SSCF –31%), which is consistent with greater reliance on non-national labour to sustain operations particularly in the LSF, where the share of nationals is reported as very low. Taken together, data suggests a sector that is small and SSCF-dominated, experiencing lower headcount but higher FTE intensity, persistent gender imbalance, and a structural shift in workforce composition away from nationals, alongside the marked contraction of the L12AG segment.

Table 162. Malta summary table

	Units	2023					% Δ 2023-2017				
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
Total employment	Number	9**19**	706	17	196	0	-12%	-13%	-53%	0%	0%
FTE	Number	7**28**	515	17	196	0	43%	65%	-41%	16%	0%
Active vessels	Number	6**41**	584	6	51	0	-2%	-2%	-50%	10%	0%
Landings by weight	Thousand tonnes	2 094	822	30	1 414	0	-5%	1%	-64%	-5%	0%
Landings by value	Million €	14.6	6.0	0.2	8.5	0	1%	7%	-63%	1%	0%
Ageing work force: >=65 in workforce	%	13.74%	12.87%	NA	1%	0%	-7%	-1%	NA	125%	0%
Gender: women in workforce	%	0.88%	100%	NA	0%	0%	-29%	0%	NA	0%	0%
Nationality: nationals in work force	%	56.92%	54%	NA	3%	0%	-30%	-31%	NA	-66%	0%

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.16.4 Employment in Fisheries

Before delving into Employment data it is important to clarify that “employment” and “FTE” figures from the DCF social data are not always directly comparable with employment variables reported in the fleet economic datasets. The social data typically aims to capture the number of persons engaged in the sector and their characteristics, whereas the economic data may apply different coverage rules and counting conventions aligned to financial and activity reporting. As a result, differences can arise due to the inclusion or exclusion of casual, seasonal, or occasional labour, the treatment of part-time engagement, and the way owner-operators versus employees are recorded. These definitional and reporting differences may lead to divergent absolute values between social employment counts, social FTE estimates, and economic dataset employment measures, and should therefore be considered when interpreting trends and cross-dataset comparisons.

Total Employment

Total employment in Malta’s fisheries sector shows a moderate downward trend over 2017–2023, falling from 1 134 persons in 2017 to 919 in 2023 (a net reduction of 215 persons, around –19% over the period). Employment peaked slightly in 2018 (1 144) before declining through 2019–2020 (down to 984), then rebounded in 2021 (1 069), followed by a marked drop in 2022 (906). In 2023, employment increased marginally to 919, equivalent to a +1% change relative to 2022, suggesting relative stabilisation after the 2022 decline. However, compared with 2017, total employment in 2023 remained 19% lower, indicating that the sector is operating at a structurally reduced level of employment relative to the earlier part of the series.

Table 163. Malta: total employment (2017-2023)

	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2022	Δ 2023-2017
Total employment	1134	1144	1039	984	1069	906	919	▲ 1%	▼ -19%

Source: MS data submissions under the 2025 Fleet Economic data call

Gender composition in Malta’s fisheries employment remains overwhelmingly male, with very limited female participation throughout the period shown. Female employment declined from 18 in 2017 to 11 in 2021, and then to 9 in both 2022 and 2023, indicating a reduction in absolute numbers and a persistently small presence in the sector. Male employment also fell in absolute terms, from 1 116 in 2017 to 938 in 2023, despite a temporary rebound in 2022 (1 061) relative to 2021 (962). A key feature of 2023 is the appearance of a sizeable “unknown” gender category (79 persons), which was not present in earlier years; this suggests a data completeness or reporting issue that may affect direct year-on-year comparisons, particularly when interpreting the apparent drop in recorded male employment between 2022 and 2023. Overall, the data indicates that employment contraction has occurred primarily within male employment counts, while female participation remains low and broadly

unchanged in recent years, with 2023 requiring cautious interpretation due to the increased share of unclassified records.

Table 164. Malta: total employment by gender (2017-2023)

Gender	2017	2021	2022	2023	Δ 2023-2017
Female	18 (2%)	11 (1%)	9 (1%)	9 (1%)	-50%
Male	1116 (98%)	962 (99%)	1061 (99%)	938 (91%)	-16%
unknown	0 (0%)	0 (0%)	0 (0%)	79 (8%)	-

Source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent

FTE in Malta's fisheries sector shows a markedly different pattern from headcount employment, indicating substantial variability in work intensity and/or reporting over time. FTE declined steadily from 719 in 2017 to 309 in 2022, with the sharpest drop occurring between 2020 (524) and 2021 (346), and remaining low in 2022. In 2023, FTE increased sharply to 728, representing a 136% rise compared with 2022 and placing FTE slightly above the 2017 level. Relative to the 2017–2022 average, the 2023 figure is 43% higher, suggesting a strong rebound in full-time-equivalent labour input despite the sector operating with a lower overall headcount. This divergence implies that, in 2023, the active workforce may have been engaged more intensively (more full-time work and/or fewer casual/occasional workers being captured as separate persons), or that there were changes in data capture and classification affecting how labour effort was converted into FTE.

The aggregate FTE pattern (steady decline to 2022, then a sharp rebound in 2023) is clearly reflected in the male FTE series, which falls from 785 (2017) to 245 (2021), remains relatively low in 2022 (362), and then rises strongly in 2023 (666). This indicates that the 2023 rebound in total FTE is primarily male-driven, i.e., a rise in recorded labour intensity/effort among male fishers (and/or improved capture of their work effort in FTE terms). Female FTE remains small and relatively stable at low levels in recent years (9 → 8 from 2022 to 2023), so it does not explain the rebound. Finally, the appearance of a sizeable "unknown" category in 2023 (57 FTE) mirrors what we saw in headcount and suggest a change in reporting completeness/classification, meaning small discrepancies between the gender-summed totals and aggregate FTE can occur and year-on-year comparisons should be treated cautiously.

Table 165. Malta: employment in FTE (2017-2023)

	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2022	Δ 2023-2017
FTE	719	594	564	524	346	309	728	136%	1%

Source: MS data submissions under the 2025 Fleet Economic data call

Table 166. Malta: FTE by gender (2017-2023)

Gender	2017	2021	2022	2023	Δ 2023-2017
Female	25 (3%)	4 (2%)	53 (13%)	8 (1%)	-68%
Male	785 (97%)	245 (98%)	362 (87%)	666 (91%)	-15%
unknown	0 (0%)	0 (0%)	0 (0%)	57 (8%)	-

Source: MS data submissions under the 2025 Social Data Call

Employment status

The employment-status profile indicates a clear compositional shift in 2023 toward full-time employees, alongside a decline in both part-time employees and owners. Full-time employee numbers rise sharply to 423 in 2023 (+78.5% vs 2022 and +60.4% vs the available 2017–2022 average), while part-time employee numbers fall to 111 (−32.7% vs 2022 and −37.1% vs average). Over the same period, the combined "owner" category drops to 400 in 2023 (−40.1% vs 2022), after increasing in 2022 (668) relative to 2021 (554), suggesting a reversal in the balance between self-employment and employee arrangements.

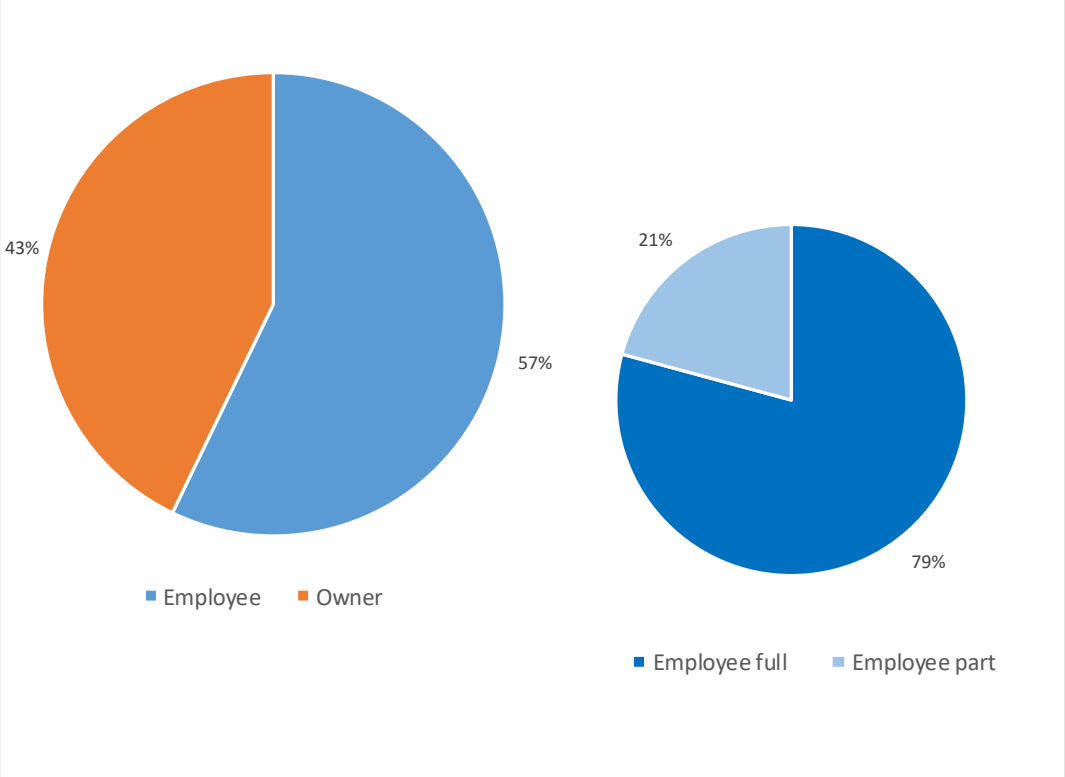
Two cautions are important for interpretation. First, the break in reporting structure (owners split into full-/part-time in 2017, but combined thereafter) means that longer-run "owner" trends should be treated as indicative rather than strictly continuous though it is still notable that the combined owner count declines strongly in 2023 relative to 2021–2022. Second, the re-emergence of an "unknown" category in 2023 (79 persons, after 0 in 2022) suggests that data completeness/classification changed, which may partially affect year-on-year comparisons (including the apparent shift between categories). Overall, the pattern for 2023 is consistent with a sector where recorded employment is being captured more in employee full-time roles, while part-time and owner categories contract, potentially reflecting consolidation, changing labour arrangements, or reporting differences affecting how roles are classified.

Table 167. Malta: employment status (2017-2023)

Status	2017	2021	2022	2023	Δ 2023-2017
Employee	512 (45%)	406 (42%)	402 (38%)	534 (52%)	4%
Employee full	283 (25%)	271 (28%)	237 (22%)	423 (41%)	49%
Employee part	229 (20%)	135 (14%)	165 (15%)	111 (11%)	-52%
Owner	622 (55%)	554 (57%)	668 (62%)	400 (39%)	-36%
Owner full	276 (24%)				-
Owner part	346 (31%)				-
unknown	0 (0%)	13 (1%)	0 (0%)	79 (8%)	-

Source: MS data submissions under the 2025 Fleet Economic data call

Figure 104. Malta: employment status (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

9.16.5 Demographics of the Workforce

Age

The age profile continues to be concentrated in prime working ages, but with signals of both limited entry of younger cohorts and data completeness issues in 2023. The 15–24 group declines to 16 in 2023 (–20% vs 2022 and around –51% vs the available 2017–2022 average), which suggests that new entrant representation remains weak. The 25–39 cohort rises slightly in 2023 (+5% vs 2022) but remains below its earlier levels (around –18% vs the available average), indicating some stabilisation rather than a full recovery. The 40–64 cohort is unchanged between 2022 and 2023 (412 both years) yet sits below earlier years (–13% vs the average), consistent with the overall contraction in employment.

For older ages, the ≥65 group falls from 196 in 2022 to 141 in 2023 (–28%), but is broadly close to its longer-run average (–4%), implying that 2022 may have been unusually high for this category. Importantly, 2023 shows a large increase in the “unknown” age category (146, after 0 in 2022), which means that part of the apparent changes especially declines in specific age bands may reflect classification/reporting shifts rather than purely demographic change. Overall, the pattern is consistent with a sector where the workforce remains centred on

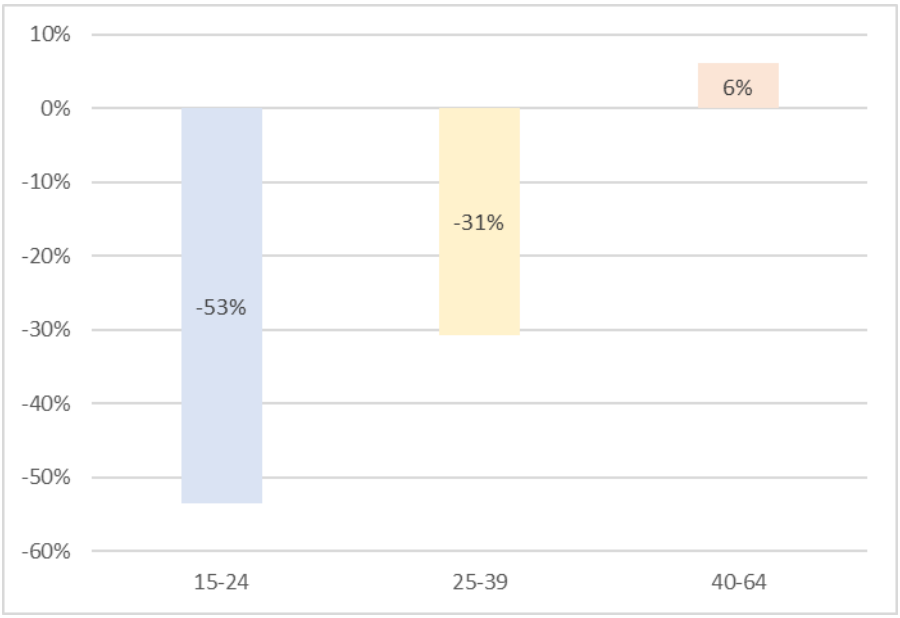
middle ages, younger participation appears limited, and interpretation of 2023 age dynamics should be cautious due to the sizeable “unknown” category.

Table 168. Malta: total employment by age group (2017-2023)

Age	2017	2021	2022	2023	Δ 2023-2017
15-24	43 (4%)	29 (3%)	20 (2%)	16 (2%)	-63%
25-39	427 (38%)	341 (35%)	296 (28%)	311 (30%)	-27%
40-64	526 (46%)	430 (44%)	558 (52%)	412 (40%)	-22%
≥65	138 (12%)	119 (12%)	196 (18%)	141 (14%)	2%
unknown	0 (0%)	53 (5%)	0 (0%)	146 (14%)	-

Source: MS data submissions under the 2025 Social Data Call

Figure 105. Malta: change in fishers’ workforce by age group (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

The largest age bracket is 40–64 (around 46% of fishers), reflecting that many active fishers are in mid-career or approaching retirement. Very few young people are entering the sector, which raises concerns about succession. Indeed, interviews with veteran Maltese fishers reveal that “working on the land was not for me” – many lifelong fishers feel strongly attached to their métier. Yet, younger family members often seek alternative employment, leading to an inadequate generational turnover. In some cases, it is the fishers themselves who actively discourage their children from entering the sector, urging them instead to pursue more stable and better-paying careers that offer greater safety and clearer long-term prospects. This self-reinforcing dynamic contributes to the sector’s declining attractiveness among youth. An ageing cohort continuing at sea, sometimes even past retirement age, highlights the lack of new entrants and the low labour mobility out of fisheries – older fishers

face barriers transitioning to other work (e.g. limited formal education or language skills for tourism jobs) and thus remain in fishing by necessity or passion.

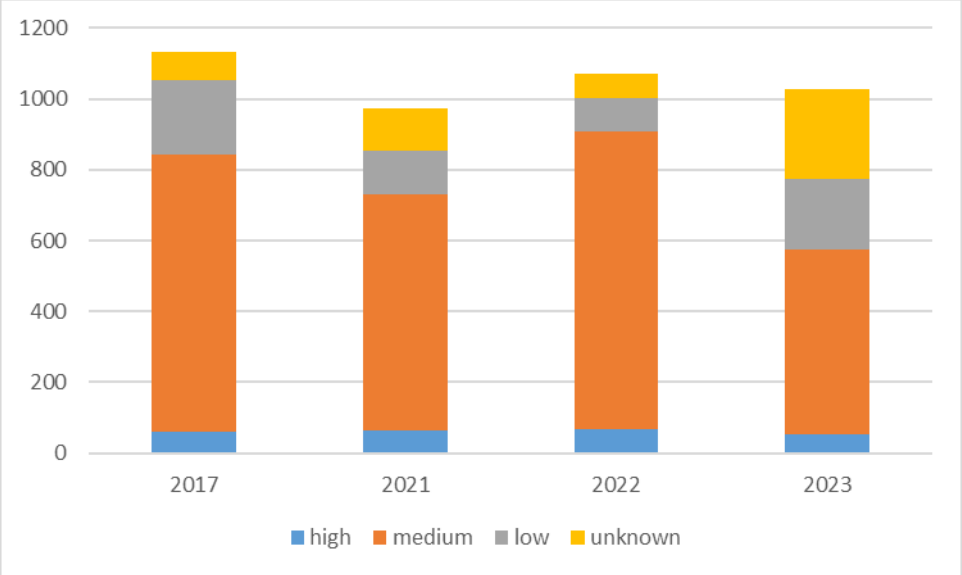
9.16.6 Workforce education and training

Education

Educational attainment in 2023 shows a sharp redistribution away from “medium” and toward both “low” and “unknown”, which suggests that changes in data completeness and/or classification are materially influencing the profile. The medium category remains the largest in absolute terms (524), but it declines substantially compared with 2022 (−37.7%) and is also well below the 2017–2022 average (−30.4%). At the same time, the low education category rises strongly to 199 (+112% vs 2022; +34% vs average), returning close to its 2017 level after being notably lower in 2021–2022. The high category declines to 52 (−22% vs 2022; −16% vs average), suggesting that the share of highly educated workers remains limited and may have weakened slightly in 2023.

Crucially, the “unknown” education category increases markedly to 251 (+269% vs 2022; +136% vs average). This implies that part of the 2023 shifts especially the fall in “medium” and the apparent rise in “low” may reflect incomplete reporting or recoding rather than a genuine change in the underlying educational profile of the workforce. Overall, while the data continues to indicate that the fisheries workforce is mainly concentrated at medium education levels, 2023 should be interpreted cautiously because a sizeable and rising “unknown” category reduces comparability with earlier years and may distort the apparent distribution.

Figure 106. Malta: total employment by education level (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

Table 169. Malta: total employment by education level (2017-2023)

Education	2017	2021	2022	2023	Δ 2023-2017
high	60 (5%)	62 (6%)	67 (6%)	52 (5%)	-13%
medium	783 (69%)	667 (69%)	841 (79%)	524 (51%)	-33%
low	209 (18%)	124 (13%)	94 (9%)	199 (19%)	-5%
unknown	82 (7%)	120 (12%)	68 (6%)	251 (24%)	206%

Source: MS data submissions under the 2025 Social Data Call

Traditionally, most Maltese fishers have learned the trade through family-based apprenticeship and on-the-job experience, rather than formal education. Malta's public employment service notes that there are no specific educational requirements to work as an inland or coastal fishery worker, as core skills are typically developed through practical training at sea. In practice, younger entrants often join relatives from an early age, gradually acquiring seamanship, gear handling, and local ecological knowledge. While this informal transfer of know-how has sustained the sector across generations, it has also meant that structured vocational pathways for fishing have historically been limited, with no dedicated trade-school style programme until recent initiatives. The work's identity-based, vocation-driven nature reinforces this model many fishers express a strong attachment to fishing as a way of life yet there is growing recognition of the value of targeted training to strengthen safety standards, upgrade technical skills, and support income diversification within the wider maritime economy.

Training

Awareness has grown that modernising Malta's fisheries sector requires greater investment in human capital. Under the EMFF 2014–2020, Malta introduced targeted training initiatives for the first time, with the DFA delivering specialised short courses for fishers and, in some cases, their spouses. Supported by around EUR 450 000 in EMFF funding, the courses focused on food safety and hygiene, occupational health and safety at sea, and the effective use of navigation and electronic equipment. Participation reached 363 fishers, suggesting strong uptake when training is free or subsidised. Including spouses is also notable, reflecting their role in family-run enterprises (e.g. bookkeeping, marketing, gear preparation), where improved skills can strengthen overall business professionalism.

Malta's EMFF Operational Programme explicitly prioritised "investing in human capital", linking fisheries-specific training to EMFF support, with broader skills development (such as business or digital skills) potentially complemented through the ESF. This approach was intended to support both improved fishing practices and stronger business capability, including diversification activities such as pesca-tourism and direct marketing.

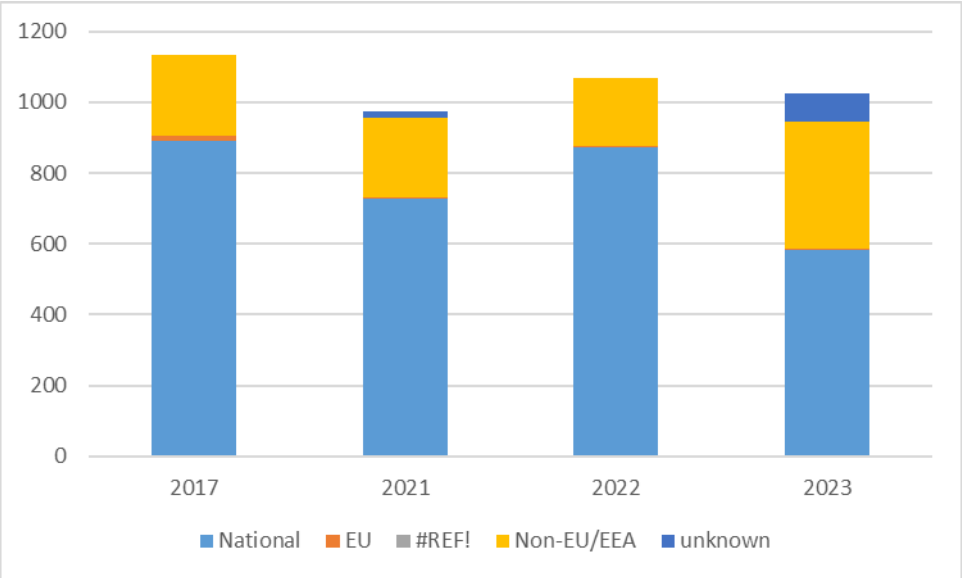
More broadly, fisheries-specific lifelong learning opportunities have been limited but appear to be expanding. MCAST has historically offered programmes

mainly oriented toward aquaculture and fisheries science, which are not always accessible or directly relevant for working fishers. To address the gap especially for new entrants government announced a Young Fishers' Scheme in late 2023, launched in 2024 as an 8-month apprenticeship-style programme combining hands-on training at sea with MCAST-accredited classroom learning (e.g. navigation, engine maintenance, regulations, sustainability). A persistent constraint remains recruitment, given the sector's limited attractiveness to youth, and Malta is also considering exchange opportunities under EMFAF to broaden training pathways.

Nationality

The nationality profile indicates a marked compositional shift in 2023, characterised by a sharp decline in nationals alongside a strong increase in non-EU/EEA workers. Nationals fall from 872 (2022) to 584 (2023) (−33%), and remain around 30% below the 2017–2022 average, suggesting that the contraction is not only year-on-year but also relative to the earlier period. In contrast, non-EU/EEA employment rises to 361 (+86% vs 2022; +67% vs average), indicating a growing reliance on third-country labour within the fishing workforce. The EU category remains very small throughout and continues to decline in absolute terms. Finally, the appearance of a sizeable "unknown" category in 2023 (79) implies changes in reporting completeness/classification, meaning that the precise magnitude of the shift across nationality groups should be interpreted cautiously; nonetheless, the direction of change clearly points toward increasing dependence on non-EU/EEA labour to sustain sector activity.

Figure 107. Malta: Employment per nationality (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

Table 170. Malta: total employment by nationality (2017-2023).

Nationality	2017	2021	2022	2023	Δ 2023-2017
National	892 (79%)	728 (75%)	872 (81%)	584 (57%)	-35%
EU	14 (1%)	4 (0%)	4 (0%)	2 (0%)	-86%
Non-EU/EEA	228 (20%)	226 (23%)	194 (18%)	361 (35%)	58%
unknown	0 (0%)	15 (2%)	0 (0%)	79 (8%)	-

Source: MS data submissions under the 2025 Social Data Call

Labour recruitment challenges are apparent. With traditional fishing livelihoods less attractive to the younger generation, Malta has seen an increasing reliance on foreign crew members to fill deckhand positions on the larger vessels. As evident from the data non-EU/EEA nationals are becoming more prevalent onboard, indicating the use of migrant labour to meet crew needs. These foreign crew are typically found on larger commercial vessels where local labour is scarce. The introduction of migrant crew is a relatively 'recent' trend aimed at addressing skill and labour shortages, but it also underscores how difficult it has become to recruit locally for what is often seen as a tough and low-paying occupation.

A key point to mention is that in Malta, remuneration arrangements for crew particularly non-EU/EEA workers, who make up a substantial share of foreign labour in the sector may often follow a share-based system rather than a fixed wage. Under this model, crew are paid a percentage of the proceeds generated by the fishing operation (typically after agreed deductions such as fuel, ice, gear, harbour fees, and other trip-related costs), meaning that earnings can fluctuate materially with catch volumes, prices, seasonality, and weather-related downtime. While profit-sharing can align incentives and is consistent with long-standing fisheries practices, it can also create income volatility and make individual earnings less predictable, particularly for migrant workers who may have fewer alternative income sources or higher fixed living costs.

The available social data and sector evidence suggest that labour mobility has become an increasingly important feature of Malta's fishing workforce, partly reflecting limited domestic labour supply and weak generational renewal. While the sector remains rooted in small-scale, family-based operations, the nationality profile indicates a notable compositional shift in 2023, with a sharp reduction in nationals alongside a strong increase in non-EU/EEA workers. This pattern is consistent with a context where retirements and drop-outs may not be fully replaced by younger Maltese entrants, and vessel operators therefore appear more reliant on experienced migrant deckhands to sustain crewing needs particularly where work is physically demanding, seasonal, and perceived as offering less predictable income than alternative jobs in construction, tourism, or retail. At the same time, year-on-year interpretation should remain cautious where "unknown" classifications increase, as this may signal changes in reporting completeness rather than purely structural change.

This growing reliance on migrant labour interacts directly with the sector's professionalisation agenda. Malta's licensing framework (commercial licences,

nautical licences, and certificates of competency for larger/offshore operations) and the transposition of the ILO Work in Fishing Convention (C188) have strengthened the formal requirements around contracts, medical fitness, rest, and minimum working conditions. In principle, this can support improved labour standards and clearer employment relationships, especially for non-family crew. In practice, however, implementation can be challenging in a fleet dominated by small vessels and informal working arrangements, where administrative capacity is limited and working patterns are seasonal. The presence of migrant crew may increase the importance of clear written contracts and enforceable conditions, but it may also introduce practical barriers (e.g., language, familiarity with rights and obligations, and dependency on the skipper/owner for accommodation and continuity of work), which can heighten vulnerability if compliance is uneven.

Working-condition challenges are therefore likely to be most visible at the intersection of small-scale operations and a more mobile workforce. Requirements relating to medical certification, rest provisions, and accommodation standards may be harder to meet consistently on smaller vessels, and cost pressures may constrain the pace of upgrades even where the legal framework exists. This is where EMFF/EMFAF-supported training and outreach become particularly relevant: safety certification aligned to maritime standards, and the use of incentives linked to licensing, may help close compliance gaps while improving the sector's attractiveness and professionalism. Nonetheless, sustaining progress may depend not only on certification uptake, but also on broader factors that shape recruitment and retention most notably income stability, insurance and pension coverage, and perceived job quality as these influence whether Malta can reduce dependence on external labour over time and strengthen longer-term continuity in skills and coastal fishing culture.

9.16.7 Gender

Across Malta's fisheries-related activities, employment remains strongly male-dominated, but the degree of gender imbalance varies by segment. In 2023, female participation is lowest in the fishing fleet, where women account for 9 workers (unchanged from 2022) and remain well below the available 2017–2022 average (–29%), highlighting a persistently limited female presence in capture fisheries. Male employment in the fleet falls from 1 061 (2022) to 938 (2023) (–11.6%), but interpretation should be cautious because 2023 introduces a sizeable "unknown" category (79), suggesting a change in reporting completeness that may partially explain the apparent year-on-year shift in recorded male employment. Overall, the fleet's gender profile appears structurally stable in its imbalance, with no clear indication of improving gender diversity over time.

By contrast, aquaculture and processing show comparatively higher though still modest female participation and clearer signs of employment growth, particularly for men.

Table 171. Malta: total employment by gender (2017-2023).

Gender	2017	2021	2022	2023	Δ 2023-2017
Female	18 (2%)	11 (1%)	9 (1%)	9 (1%)	-50%
Male	1116 (98%)	962 (99%)	1061 (99%)	938 (91%)	-16%
unknown	0 (0%)	0 (0%)	0 (0%)	79 (8%)	-

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

Unpaid labour remains a large component of recorded fisheries employment, but its structure has shifted over time. In 2023, unpaid labour totals 624 people out of 1 026 total employed (≈60.8%), slightly higher than 2022 (≈57.8%). The unpaid component is still overwhelmingly male in absolute terms (537 men), but it has declined steadily relative to earlier years (male unpaid: 757 → 671 → 613 → 537), with 2023 around 21% below the available 2017–2022 average. For women, unpaid labour remains the dominant form of recorded participation: in 2023, 8 of 9 women in total employment are recorded as unpaid (≈88.9%), indicating that female engagement continues to be captured primarily through family-based labour rather than formal paid roles.

Looking at the *share* of each gender that is unpaid also helps: among men, unpaid represents about 57.2% of male employment in 2023 (537 of 938), broadly in line with 2022 (~57.8%) but lower than 2017–2021 (around ~68–70%). This suggests a longer-run movement away from unpaid male labour (or changes in classification toward paid categories), even while unpaid labour remains central. Finally, the emergence of a sizeable “unknown” category in 2023 (79 in both total employment and unpaid labour) signals data completeness/classification issues, so the 2022–2023 changes should be interpreted cautiously particularly when comparing subtle shifts between categories.

Women’s contributions to Maltese fisheries can be significant, yet they are often informal and under-recorded. Official data show a very small female presence among those formally captured as working in fisheries, for example, around 0.9% in 2020 (AER) reflecting that few women are officially engaged as crew or registered workers. This aligns with longstanding cultural patterns in Malta, where offshore fishing has traditionally been male-dominated. However, women are not absent from the sector; rather, they frequently support fishing activity through roles that are essential to the viability of family enterprises but rarely reflected in administrative statistics.

Historically, women in fishing households carried out shore-based support tasks, such as mending nets and repairing gear, with skills learned informally and passed down through practice. This role appears to have diminished in recent years as some of these tasks are increasingly undertaken by foreign crew. Women also often contribute to the administration and commercial side of small-scale operations keeping accounts, managing finances, and selling fish particularly where fishers focus on the physical aspects of the job and may have

limited time or formal training for business management. In settings such as the Marsaxlokk market, women may be visible as sellers negotiating prices and maintaining customer relationships, reinforcing an informal division of labour in which men catch and women market the product. Beyond this, women commonly provide the logistical and emotional support that underpins day-to-day operations, from preparing supplies at unusual hours to monitoring weather and communications.

Much of this work remains unpaid and under-recorded, and when it is recorded often falls under “unpaid family workers”, covering spouses and relatives who contribute labour without a formal wage. In principle, Malta has transposed the EU framework on equal treatment for self-employed workers (Directive 2010/41/EU), including provisions relevant to assisting spouses/partners, through Legal Notice 260 of 2012. However, when women’s contributions remain informal or outside recognised employment status, these protections may not consistently translate into clear labour-market recognition, access to support measures, or representation in sector structures.

At the same time, the family-based model can strengthen household resilience, allowing fishing families to absorb poor seasons without fixed payroll costs effectively making the household a safety net. Yet, limited formal recognition of women’s work can constrain professionalisation and gender equity: informal roles rarely translate into clearer labour status, participation in representative structures, or eligibility for schemes typically linked to licence-holding “fishers.” While EU-level initiatives increasingly highlight women’s roles in fisheries, the discussion in Malta remains relatively limited, and cultural norms may lead women to view their contribution as an extension of family responsibilities rather than a profession. Looking ahead, generational change may create opportunities for greater formalisation particularly among younger, more educated women who can support modernisation and administrative requirements although the traditional family-business model does not always make this transition straightforward.

Table 172. Malta: unpaid labour (2017-2023).

Gender	2017	2021	2022	2023	Δ 2023-2017
Female	17 (2%)	11 (2%)	5 (1%)	8 (1%)	-53%
Male	757 (98%)	671 (98%)	613 (99%)	537 (86%)	-29%
unknown	0 (0%)	0 (0%)	0 (0%)	79 (13%)	-

Source: MS data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.16.8 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions.

Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Maltese fishing fleet reported an average annual labour cost of EUR 8 836 per FTE in 2023, which is significantly below the EU average (EUR 29 447 per FTE). This is despite fishing labour costs in Malta more than doubling (+107%) since 2013, a far greater rate than the EU average (+22%).

Earnings in capture fisheries are both structurally lower than economy-wide wages and highly volatile.

The average labour cost per fisher is lower than the labour cost per FTE and has followed a different trajectory. This divergence is consistent with the idea that headcount and work intensity do not move in lockstep (e.g., part-time/casual engagement and share-based work patterns), so wages expressed "per fisher" can move differently from wages "per FTE." As the number of FTEs can swing sharply year-to-year, which will mechanically affect FTE-based wage estimates and can amplify apparent volatility.

Despite the significant increase over time, fishing labour costs in Malta are still well below the national average labour cost (-76%) but close to the national minimum wage on an annual basis (EUR 10 023).

The relative position of the fishing sector as a source of labour income therefore is weak and unstable throughout the 2013-2023 period.This pattern suggests that fishers' earnings may be strongly influenced by good/bad seasons, price conditions, and cost shocks, and that "good years" do not necessarily translate into sustained convergence with economy-wide wages. This has clear social implications for job attractiveness, labour retention, and reliance on family and migrant labour. Combined with the sector's known features (seasonality, physical risk, irregular hours, and in some cases share-based remuneration), these wage dynamics help explain persistent challenges around recruitment and generational renewal, continued dependence on unpaid family inputs, and growing reliance on migrant labour to fill crewing needs when local labour supply is limited.

Table 173. Malta: fishing labour cost compared to national average.

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	4 268	6 565	5 195	6 851	6 374	11 827	8 831	7 265	11 148	14 132	8 836
National average				34 076				36 426	36 861	37 249	36 910
Ratio of fishing labour cost to national average				0.20				0.20	0.30	0.38	0.24

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Unpaid labour

The imputed value of unpaid labour covering the contribution of unpaid family workers and, importantly, self-employed owner-operators shows substantial volatility over time and a marked increase in 2023. In nominal terms, the series declines from EUR 2.0 million (2017) to EUR 1.36 million (2022), before rising sharply to EUR 3.07 million in 2023, equivalent to a +125% increase relative to

2022 and +53% compared with the 2017. This suggests that the economic significance of labour captured under “unpaid” status intensified in 2023, either through higher imputed returns, changes in the composition of activity, or differences in how labour inputs were recorded and valued.

Table 174. Malta: unpaid labor and value of unpaid labour in EUR thousand (2017-2023)

	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2022	Δ 2023-2017
Unpaid labour	774	835	727	984	617	491	526	▲ 7%	▼ -32%
Value of unpaid labour	1999	3338	2237	1832	1446	1363	3066	▲ 125%	▲ 53%

Source: Malta data submissions under the 2025 Fleet Economic Data Call

It is essential to interpret this indicator carefully because it includes self-employed owners within the “unpaid” category. For owner-operators, remuneration is not typically paid out as a conventional wage; rather, their income is derived from the residual profit of the fishing operation after costs are covered (often under share-based arrangements). As a result, movements in the imputed value of “unpaid labour” may reflect not only changes in unpaid family contributions, but also shifts in the profitability and residual returns accruing to owners, making this measure a useful though conceptually distinct proxy for the distribution of economic benefits within family-based and self-employed fishing enterprises.

Family-run enterprises remain the backbone of Maltese fisheries. Over 60% of fishers are self-employed owner-operators, and these operations typically rely heavily on family labour. The data indicate that the imputed value of unpaid labour is often sizeable averaging more than EUR 2 million per year illustrating the scale of “hidden” contributions that underpin the sector. Socially, this suggests that a significant share of viability depends on households absorbing opportunity costs, with family members contributing time and effort that could otherwise be spent in alternative employment or leisure, often without direct pay. While this can keep businesses functioning, it may also limit scaling and professionalisation, as many enterprises remain small and internally managed, and may be less likely to draw on external skills (e.g. accounting, marketing) or partnerships when facing a more competitive environment, including imports.

At the same time, the model can strengthen resilience. Families can adjust effort flexibly without formal overtime costs, and trust within the household reduces risks that can arise when relying on external labour. In weaker years, households may also buffer income by temporarily taking up other work for example, a spouse finding part-time employment to sustain the fishing activity until conditions improve. Beyond economics, the family-centred structure supports community cohesion and cultural continuity: children are often exposed early to fishing knowledge and routines, and women frequently play a central role in maintaining the social and logistical networks that hold fishing communities together.

Working conditions

Total Working hours

Working-time indicators point to high volatility in recorded labour intensity, with 2022 appearing as an outlier and 2023 showing a strong rebound across several measures. Total working hours declined from 1.58 million (2017) to 0.62 million (2022), before rising sharply to 1.96 million in 2023. This is reflected in average annual hours per worker, which fell to 680 hours in 2022 and then increased to 2 130 hours in 2023, suggesting that the typical recorded workload expanded considerably. Effort-intensity indicators per FTE show a parallel swing: days at sea per FTE rose from 31 (2017) to 76 (2022) before dropping to 31 (2023), while fishing days per FTE increased from 27 to 68 and then returned to 27. Average trip length is comparatively stable, edging up from 1.25 days (2017) to 1.35 days (2023), implying that shifts are driven less by longer trips and more by changes in the number of trips/days recorded and/or the distribution of effort across workers and FTE.

From a social perspective, this volatility matters because it points to a sector where working patterns may be highly irregular and seasonally concentrated, which can affect income stability, fatigue and safety risks, and work–life balance especially under share-based remuneration where there may be incentives to maximise effort during favourable periods. At the same time, the fact that 2022 combines very low total hours with very high days-per-FTE, and 2023 shows the reverse (high total hours but low days-per-FTE), suggests these indicators are also sensitive to how FTE and labour inputs are estimated and recorded. This reinforces the need to interpret working-hours metrics cautiously as proxies for working conditions, and where possible to triangulate them with qualitative evidence on peak-season workloads, rest compliance, and contractual arrangements, particularly for small-scale vessels and migrant crew where working-time practices may be less consistently documented.

Table 175. Malta: working hours, days at sea, fishing days, average trip length and annual hours per worker.

	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2022	Δ 2023-2017
Workings hours (000 hrs)	1585	1370	1279	1172	693	617	1957	▲ 217%	▲ 23%
Days at Sea per FTE	31	38	33	38	45	76	30	▼ -61%	▼ -3%
Fishing Days per FTE	27	32	30	34	41	68	27	▼ -60%	▲ 0%
Average trip length	1	1	1	1	1	1	1	▲ 0%	▲ 0%
Average annual hours per worker	1397	1198	1231	1191	1185	680	2130	▲ 213%	▲ 52%

Source: Malta data submissions under the 2025 Fleet Economic Data Call

Social security

In Malta, fisheries are covered by the general social security system (Social Security Act, Cap. 318) in the same way as other sectors: persons in insurable employment are liable to pay social security contributions, while self-occupied/self-employed persons pay Class 2 contributions. On this basis, Malta does not operate a standalone “marine fisheries” social security regime;

instead, coverage depends primarily on the employment form. Owner-operators (including owners on board) are typically treated as self-occupied/self-employed for contribution purposes, whereas crew may fall under employee arrangements where an employer remits contributions, or under more traditional share-based arrangements where income is linked to the residual proceeds of the trip rather than a fixed wage an important distinction when interpreting “wages” and the imputed value of unpaid labour. In parallel, labour standards relevant to social protection and working conditions have strengthened through the implementation of the Work in Fishing Convention Regulations, 2020 (L.N. 182 of 2020), which require written work agreements and set obligations linked to welfare, medical fitness, rest and safety, with implications for formalising crew status and ensuring minimum protections.

Regarding foreign workers, the framework is broadly the same in principle, but the practical outcome depends on registration and applicable exemptions. Third-country national employees may request an exemption from registering under Malta’s Social Security Act where they can demonstrate that state contributions are paid in their home country; an exemption certificate may then be issued by the Department of Social Security. Where such exemptions apply, social security coverage (including pensions and related entitlements) may remain linked to the home system rather than Malta’s; where they do not apply and the worker is registered in Malta, contribution and access pathways align more closely with domestic rules. Finally, while cooperative organisation can play a role in sector support and representation, specific cooperative agreements linked to social security are not consistently documented in the data you provided; historically, there have been schemes reported publicly offering refunds of social security contributions to cooperative members (including fishers), but current applicability and figures would need to be confirmed from official scheme documentation.

Accidents on board

The available information suggests that incidents on board are most often recorded as lower-severity events, although a meaningful share is still classified as serious or very serious, indicating that higher-risk situations do occur even when they do not result in harm. Notably, the records provided do not indicate any loss of life or crew injuries across the years covered. This may point to effective avoidance, mitigation, or emergency response practices, but it also highlights that severity categories can reflect the potential consequences of an event (e.g., damage, loss of control, near-miss conditions) rather than only the final human outcome.

Incidents appear to be concentrated in the largest vessel length class, with smaller vessels also featuring but mid-sized vessels less so. This pattern may reflect differences in exposure and operational profile larger vessels often spend more time at sea, operate in more complex conditions, and may have more structured reporting procedures while smaller vessels may face different risks linked to limited onboard space and resources. The presence of a greater number of casualty reports than recorded occurrences suggests that reporting does not map neatly onto a single “one incident, one report” logic, and may

involve multiple reports per event or a broader scope of what is captured. Overall, the evidence points to the importance of continued attention to prevention and reporting quality, including safety training, near-miss reporting, and compliance with minimum rest and working-condition requirements, particularly in segments where exposure and operational complexity are higher.

9.16.9 Social demographics per fishing activities

Small Scale Coastal Fleet [<12m, passive]

The SCF remains the social core of Malta's capture fisheries, accounting for the vast majority of employment and continuing to anchor livelihoods in coastal communities. At the same time, the SCF profile suggests a gradual transition in labour structure. Headcount employment in 2023 is lower than earlier years for both men and women, with female participation remaining very limited and below earlier averages, reinforcing the sector's persistent gender imbalance. However, labour input measured in FTE rises sharply in 2023 relative to the earlier period, which is consistent with an increase in recorded work intensity among those remaining active and/or shifts in how labour effort is captured. The SCF also continues to exhibit a substantial unpaid labour component reflecting the family-based model but the longer-run decline in unpaid male labour relative to earlier years may indicate incremental movement away from unpaid arrangements or changes in classification toward paid roles. In parallel, SCF nationality patterns show a clear decline in nationals and a strong rise in non-EU/EEA workers, suggesting increasing reliance on migrant labour to address labour constraints and sustain operations.

From a working-conditions and welfare perspective, SCF employment status data point to an important rebalancing: full-time employee roles expand strongly in 2023 while part-time and owner categories contract relative to earlier years. This may signal greater formalisation in parts of the segment, consolidation of activity, or reporting shifts, but it is consistent with the wider trend toward more structured employment arrangements. The age profile indicates limited renewal, with fewer younger workers compared with earlier years and a workforce concentrated in prime and older age groups. Educational attainment remains centred on medium levels in earlier years, but 2023 shows pronounced shifts toward "unknown" and "low", suggesting that interpretation should be cautious and that data completeness has become a larger issue. Earnings per FTE in the SCF remain structurally lower than in the LSF and fall below earlier averages in 2023, reinforcing concerns about pay competitiveness and the attractiveness of fishing as a long-term occupation, especially for younger entrants.

Large Scale Fleet

The LSF presents a smaller but more wage-intensive labour profile, with employment levels broadly stable but slightly below the earlier period and a workforce that is effectively all male in the reported data. FTE in the LSF remains close to its earlier average, suggesting relative stability in labour intensity compared with the more volatile patterns observed in the SCF. The

unpaid labour component is comparatively limited and continues to decline, consistent with a segment that relies more on contractual or employee-based arrangements than on family labour. A defining feature of the LSF is labour mobility: the nationality composition indicates a marked shift away from Maltese and EU nationals and toward non-EU/EEA workers, consistent with the need to secure experienced crew for more capital-intensive and operationally demanding activity. In 2023, the presence of “unknown” categories also increases, implying that reporting quality remains relevant even in a more formalised segment.

The LSF employment-status profile suggests a sector that is becoming more concentrated in full-time employee roles, with owner counts falling relative to earlier years, potentially indicating consolidation or reclassification toward employee arrangements. The age structure reflects a limited inflow of younger workers and a concentration in prime working ages, with some indications of an older cohort but from a relatively small base. Educational attainment displays a notable reshuffling in 2023, with “medium” declining and “low” and “unknown” increasing, which may reflect both migrant labour composition and reporting completeness. In welfare terms, the LSF maintains a higher average wage per FTE than the SCF across the series, even though 2023 is slightly below its earlier-period average. This supports the view that LSF roles may offer relatively higher earnings potential, albeit likely accompanied by higher exposure to cost volatility and operational risks.

Comparing the two segments highlights distinct social realities alongside converging pressures. The SCF dominates employment and cultural significance, remains closely tied to household labour and unpaid contributions, and exhibits stronger signs of strain around income competitiveness and generational renewal. The LSF, while smaller, tends to be more wage-intensive per FTE and more reliant on employee-based labour arrangements, with a smaller unpaid component. Both segments show increasing dependence on non-EU/EEA workers, but the shift is particularly pronounced in the LSF and increasingly visible in the SCF as well, pointing to shared labour supply constraints and widening labour mobility dynamics across the fleet. In 2023, both segments also record higher “unknown” entries across key variables, signalling that improved social-data capture is increasingly important for monitoring gender inclusion, age structure, education profiles, and the evolving balance between family labour, employees, and owner-operators.

In terms of working conditions, the SCF’s rising FTE and expanding full-time employee category suggest either intensified work patterns among remaining participants or a move toward more formal employment recording, whereas the LSF shows comparatively stable FTE and a stronger employee profile. The combined picture suggests a sector where small-scale fishing remains the social backbone but is gradually being shaped by the same structural forces affecting larger operations labour shortages, migrant labour reliance, and formalisation requirements while continuing to face more acute challenges linked to lower pay levels, ageing, and the persistence of informal or unpaid work that is central to household resilience but can constrain longer-term professionalisation.

9.16.10 Trends and challenges

Malta's fisheries sector has continued a long-term consolidation and "rightsizing" trend, with fleet capacity declining markedly since the late 2000s and the active fleet now dominated by small-scale, family-run vessels, complemented by a much smaller large-scale segment. Fishing activity remains highly seasonal and adaptive, with fishers shifting gears and target species across the year. While local landings are modest in absolute terms, Malta's fisheries system is shaped by a broader value-chain reality: the country plays an internationally visible role through Atlantic bluefin tuna-related activity and high-value exports, while domestic seafood demand is met to a large extent through imports. In macroeconomic terms, fisheries contribute a very small share of national output, yet their social and regional importance is disproportionate especially in coastal localities where fisheries are closely linked to cultural identity, local food traditions, and tourism-facing harbour economies.

At the same time, the sector's social profile highlights persistent vulnerabilities. The prevailing owner-operator household model often relies on unpaid family labour, which can strengthen resilience but also obscures fragility and slows professionalisation. The workforce shows clear ageing and contraction pressures, with limited inflow of young entrants and continued reliance on experience-based, family transmission of skills. Where labour gaps emerge, operators increasingly depend on migrant crew, which helps sustain operations but does not resolve the longer-term challenge of replacing local knowledge and maintaining community continuity. These demographic realities interact with earnings volatility: even when profitability improves in strong years, many small-scale operators remain exposed to cost inflation and seasonal income swings, which can weaken job attractiveness and limit long-term planning.

Key challenges are therefore interlocking. First, generational renewal remains a central constraint: fewer young Maltese appear willing to enter a physically demanding and uncertain occupation when alternative jobs offer steadier hours, clearer career pathways, and more predictable earnings. Second, income stability and cost exposure continue to shape wellbeing. Many operators have historically absorbed shocks through "self-exploitation" (unpaid labour, self-maintenance, informal coping strategies), but this approach may be increasingly strained when fuel, gear, bait, and maintenance costs rise faster than sale prices or when market conditions are unfavourable. Third, environmental pressures are intensifying. While management measures and regional controls have supported improvements in some high-profile stocks, Malta's fisheries remain vulnerable to climate-driven shifts (changes in seasonality and species distribution, invasive species pressures, and more frequent extreme weather), which can reduce safe fishing opportunities and increase operational risk. Fourth, spatial competition is growing in a crowded maritime space. Expansion of aquaculture, tourism, port development, conservation measures, and potential offshore energy uses can constrain access to traditional grounds, raising adjustment costs for small-scale operators and increasing the need for fair, participatory marine spatial planning approaches consistent with "blue justice" principles. Finally, the sector faces an ongoing regulatory and

administrative burden under the CFP: reporting requirements, gear rules, control measures, and compliance systems can feel disproportionate for micro-enterprises with limited capacity, especially when enforcement is perceived as inconsistent.

Despite these constraints, there are credible pathways to strengthen resilience and social sustainability. Opportunities centre on value addition and diversification (direct sales, branding of local fish, niche processing, and circular-economy uses of by-products), responsible integration with tourism (e.g., regulated Pesca tourism and heritage-based experiences), targeted training and safer working practices, and more inclusive co-management approaches in MPAs and local fisheries governance. Progress is likely to depend on balancing sustainability rules with proportionate support for small-scale operators, improving job quality and social protection in practice, and ensuring that coastal communities remain active partners in shaping Malta's evolving blue economy.

9.16.11 Methodological considerations and data issues

Social data are collected in line with the methodology defined in Malta's DCF Work Plan. Primary information is gathered through targeted electronic questionnaires issued on an ad hoc basis to selected fishing enterprises, while secondary inputs are drawn from official administrative sources and national registers. A census-based approach is used to compile the core social indicators, including employment by age, gender, education and nationality; full-time equivalents (overall and by gender); total hours worked; paid and unpaid labour; labour costs; and crew composition. Where available, the dataset also distinguishes between on-board and shore-based employment and supports the imputation of the economic value of unpaid work.

Data quality issues related to your MS

Across the Maltese social datasets reviewed, several data-quality limitations should be noted as they influence the robustness and comparability of results over time and across indicators.

Elevated and increasing "unknown" classifications. Several core variables gender, age, education, nationality, and employment status show sizeable "unknown" values in 2023, in some cases appearing after being negligible in earlier years. This reduces year-on-year comparability and can mechanically shift apparent trends (e.g., declines in a category may partly reflect reallocation into "unknown" rather than a genuine compositional change).

Incomplete time series and structural breaks. Many indicators are available only for selected years (commonly 2017, 2021, 2022, and 2023), limiting the capacity to identify smooth trends and increasing sensitivity of period averages to missing years. In addition, some breakdowns change structure over time (e.g., owner full-time/part-time splits are available only in 2017), creating structural breaks that constrain longitudinal analysis.

Non-alignment between social and economic datasets. Employment and FTE figures derived from the social module may differ from those in fleet economic datasets due to differences in definitions and coverage particularly the treatment of casual, occasional, or seasonal work and the underlying reporting units. As a result, totals and derived ratios may not reconcile fully across modules even for the same reference year.

High sensitivity of FTE-based indicators to estimation and reporting. Large inter-annual variation in FTE and in derived intensity measures (e.g., days at sea per FTE, fishing days per FTE, and annual hours per worker) suggests that these indicators may be particularly sensitive to changes in estimation procedures, response patterns, or coverage. This can amplify volatility in per-FTE wages and effort-intensity indicators and warrants cautious interpretation.

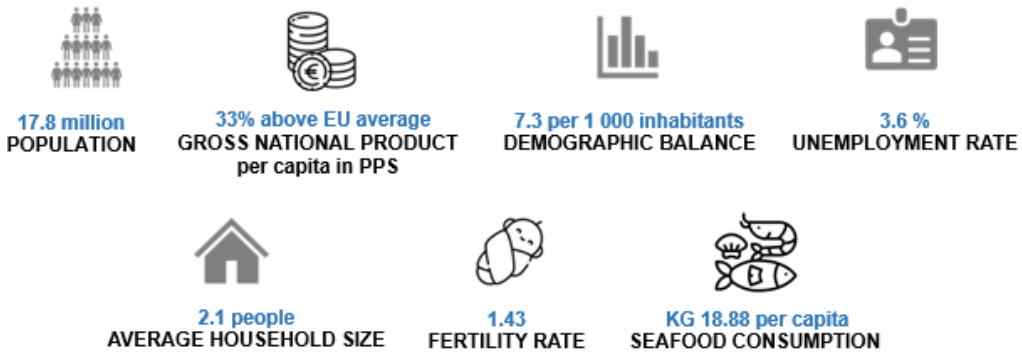
Conceptual complexity in “unpaid labour” measures. The “unpaid labour” category includes both unpaid family contributions and self-employed owner-operators. Since owner remuneration is typically derived from residual profits rather than a wage, movements in unpaid-labour headcounts and imputed euro values may reflect changes in profitability and classification practices as well as changes in unpaid family participation.

Safety data reporting units not directly comparable. The discrepancy between the number of recorded occurrences and the number of casualty reports suggests that reporting units may not be one-to-one (e.g., multiple reports per event or broader capture of incidents). This complicates trend interpretation and the derivation of comparable incident rates.

9.17 Netherlands

9.17.1 Snapshot of Netherlands

Figure 108. Netherlands in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

In 2023, The Netherlands had a population of almost 18 million people. As death rate exceeds the birth rate, the population growth of 7.3 thousand is a result of migration from other countries and is expected to increase. This is visible in the fertility rate, which in 2023 was at 1.43. Gross National Product per capita in purchasing power decreased to EUR 133 per capita since 2017, putting the Netherlands in fourth place within the European Union. This is evident from figures released by Statistics Netherlands (CBS) and Eurostat. The unemployment rate is at 3.6%, having fallen since 2020. The average household size of 2.1 people are low and the housing sector suffers structural deficiencies as supply does not meet demand in volume nor kind. The Dutch fish consumption is low for EU standards with around 19 kg live weight per capita.

9.17.2 Short description of the fishing sector

In 2023, the Netherlands had 680 registered fishing vessels (excluding those registered under the aquaculture segment), with a combined capacity of 87 693 GT and 206 965 kW. The capacity of the national fleet has declined since 2013, when 735 vessels were recorded. The estimated number of inactive vessels in 2023 was 212, the majority (77%) belonging to the segment of vessels under 12 metres (STECF, 2025).

The Dutch fishing fleet is characterized by three main components (STECF, 2025; European Commission, NFP NL, 2023). First, the demersal trawlers, mainly targeting demersal fish and shrimps in the North Sea. The vessels land their catches throughout the Netherlands. Second, the pelagic freezer trawlers, operating in the North East Atlantic, North Sea and globally for pelagic species such as herring, mackerel, horse mackerel and blue whiting. These vessels

have their home-port in Scheveningen and IJmuiden, whereas quite some (Dutch) crew come from the fishing community Katwijk. Finally, the small coastal fisheries, including small-scale fisheries. These fishers target a large variety of fish, crustaceans and molluscs and the shellfish fisheries for species such as razor clam, spisula and ensis. Their activities are concentrated in the Wadden Sea and Zeeland estuaries (NFP NL, 2023).

The Netherlands has 44 fishing communities with an active fleet, spread across 34 municipalities, from Terschelling to Breskens, with each community associated with specific métiers (Kraan et al., 2023; STECF, 2025). The capacity reduction observed in 2023 is linked to the Brexit Adjustment Reserve (BAR) decommissioning scheme, under which more than fifty large beam trawlers were scrapped (LNV, 2023; STECF, 2025). This measure followed years of structural adjustments prompted by the EU ban on pulse trawling, the loss of access to UK waters after Brexit and rising fuel prices as a result of the war in Ukraine (Hamon et al., 2023).

While employment in the demersal cutter segment continues to decline, the pelagic fleet remains relatively stable due to international quota allocations and high-value export markets. Overall, the Dutch fleet shows incremental improvements in fuel efficiency mainly through upgrades to engines and propulsion systems while investment in new vessels remains limited. Fleet renewal is inhibited by policy uncertainty and regulatory pressures, which make long-term investments difficult (Kraan et al., 2023; STECF, 2025).

In 2023, the Netherlands accounted for ~1.4% of EU fishers, 1.7% of EU FTEs, and 0.9% of EU active vessels, but 7.7% of EU landings by weight and 4.9% by value. Within the national fleet, the LSF segment dominates employment (~83%), FTE (~97%), landings (~99 -100%), and value (~99%). Between 2017 and 2023, the Dutch fleet contracted in employment (-22%), FTE (-29%), vessels (-11%), and landings/value (about -31/-32% in LSF), while SSCF+L12AG remained small but relatively stable in volume and slightly higher in value from a very low base.

Workforce indicators point to an ageing labour force and a higher recorded share of women in 2023. Part of this pattern reflects real structural features of the sector, such as few younger entrants and delayed retirement, particularly in the small-scale and demersal trawl segments. However, the sharp increase in the share of older workers and women in 2023 is unlikely to represent a sudden demographic shift. Instead, it mainly reflects improved coverage and reporting in the 2025 Social Data Call. Women’s contributions to Dutch fisheries, especially within family businesses, have historically been underreported because much of their work is hidden or informal (Kraan et al., 2023). Year-on-year differences in these indicators should therefore be interpreted with caution, as they may partly capture changes in reporting practices rather than actual changes in participation. A slight decline in the share of Dutch nationals in the workforce was also observed (EU comparison and group definitions per AER 2025; NL figures per MS 2025 Social & Fleet Economic data call).

Table 176. Netherlands summary table.

	Units	2023			% Δ 2023-2017		
Indicator	**Units**	**Overall**	**SSCF + L12AG**	**LSF**	**Overall**	**SSCF + L12AG**	**LSF**
Total employment	Number	1680	286	1394	▼ -22	▼ -5	▼ -25
FTE	Number	1226	39	1187	▼ -29	▼ -47	▼ -39
Active vessels	Number	468	182	286	▼ -11	▼ -12	▼ -11
Landings by weight	Thousand tonnes	261.0	0.5	260.5	▼ -31	0	▼ -31
Landings by value	Million €	297.0	2.9	294.1	▼ -32	▲ +4	▼ -32
Ageing workforce: >=65 in workforce	%	8.2	29.4	3.9	▲ +2667	▲ +29	▲ +875
Gender: Women in workforce	%	2.7	6.4	2	▲ +1250	▲ +6	▲ +567
Nationality: nationals in work force	%	85.2	90.6	84.1	▼ -3	▲ +6	▼ -3

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.17.3 Employment in Fisheries

The Dutch fishing sector is undergoing a long-term social and structural transition marked by declining labour participation, ageing fleet and shifting coastal identities. Historically rooted in family-based enterprises and strong fishing traditions in places such as Urk, Scheveningen and Stellendam, the sector now faces persistent challenges in attracting and retaining new entrants.

Studies highlight that young people increasingly regard fishing as an uncertain and unattractive career because of fluctuating incomes and an unstable policy environment including the threat of losing fishing grounds due to offshore renewable energy developments, expanding marine protected areas, and restrictions or bans on bottom-trawling, in addition to competition from alternative maritime and offshore industries (Hamon et al., 2023; Kraan et al., 2023). At the same time, the remaining workforce is ageing, with owner-operators postponing retirement amid limited succession opportunities. Women mainly occupy supportive or shore-based roles, which are often unrecorded in official statistics, while the recruitment of international crew members has increased in the cutter sector, but remains largely confined to the pelagic segment. Together, these dynamics reflect a gradual consolidation of the Dutch fleet, fewer but larger and more professionalised operations, and underscore the growing need to safeguard the social and cultural fabric of coastal fishing communities (Hamon et al., 2023; Kraan et al., 2023).

While most year-to-year changes in employment and demographics reflect genuine developments within the Dutch fishing population, they should be interpreted with some caution because these results depend on the consistency and completeness of data submissions and the representativeness of annual survey responses. In addition, variations in data coverage between years,

differences in sampling intensity across fleet segments, and the timing of decommissioning or registration updates can also influence the apparent magnitude of change. For the small coastal fisheries in particular, survey coverage has been low (<15%), resulting in higher uncertainty in the estimates.

Some indicators, however, require separate interpretation. The higher share of women reported in 2023 is most likely a data-collection effect rather than a real increase, as women's roles in family-based fishing enterprises are known to be structurally underreported in earlier datasets.

Total Employment

In 2023, employment for the whole Dutch fleet rated at 1680 people on board of 486 vessels, including LSF and SSF vessels, and both passive and active gear. The labor force on vessels over 12 metres (1394) comprises 83% of total employment, having decreased sharply since 2017 with almost 25%, against nearly 5% for vessels under 12 metres. The downward trend in overall employment in the fisheries sector is visible above (Table 177).

The 22% employment decline between 2017 and 2023 reflects a long-term structural adjustment rather than a temporary fluctuation. According to the National Fisheries Profile of the Netherlands, 2023), employment in key fishing communities such as Urk and Stellendam has fallen as vessels left the fleet. The decline corresponds with a decade of fleet reduction and consolidation, confirmed by the Fleet Report of the Netherlands for the year 2022 (LNV, 2023) which documents extensive decommissioning under the Brexit Adjustment Reserve (BAR) and persistent economic pressure from high fuel prices and restricted fishing opportunities. These developments have particularly affected the demersal cutter fleet, while employment in the pelagic segment operated by large, vertically integrated companies remained relatively stable. The overall contraction indicates a smaller but more capital-intensive and internationally oriented fleet structure, consistent with the trends reported in the AER (STECF, 2025).

Table 177. Netherlands: Employment by gender, 2017-2023

Gender	2017	2020	2023	Δ 2023-2017
Female	5 (0%)	8 (0%)	46 (3%)	875%
Male	2144 (100%)	1876 (99%)	1604 (95%)	-25%
Unknown	0 (0%)	8 (0%)	30 (2%)	-

Source: MS data submissions under the 2025 Social Data Call

Full-Time Equivalent

The total number of FTE working on Dutch fisheries vessels (1 226) is lower than the number of people (1 680), indicating part-time employment, mostly in the segment of vessels under 12 metres (38 FTE), representing 4% of total FTE. employed. There was a decreasing trend in employment since 2017 as well as in FTE, due to the decreasing number of vessels (Table 171).

Table 178. Netherlands Relative change in FTE between 2017 and 2023

	2017	2020	2023	Δ 2023-2017
FTE	1723	1512	1226	-29%

Source: MS data submissions under the 2025 Fleet Economic data call

Employment status

Overall, between 2017 and 2023, the total number of people engaged in Dutch fishing fell 22%, and this contraction is mirrored across both employees (-20%) and owner-operators (-36%). The larger fall among owners could reflect the decommissioning of family-owned cutters, which historically dominated the demersal (beam-trawl) segment. However, this change might also be due to data limitations. Particularly the low survey coverage in small coastal fleets (<15%), which can introduce year-to-year noise in the number of recorded owners." (Table 179).

By segment, the cutter fleet, employees made up 68% in 2017, rising to 79% in 2020 and 73% in 2023, with owners around 27% in 2023 and very little "unknown" indicating that cutters are predominantly employees alongside a smaller owner-operator core. However, the term employees does not fit the operational reality of Dutch cutters, where the vast majority of the crew members are not hired by the vessel owners, but are self employed and contracted through the so called maatschapscontract, earning a fixed percentage of the net revenue of the trip rather than receiving wages (NFP NL, 2023). This has important implications for the legal status of these fishers. The current data collection frameworks do not capture this aspect of the Dutch fisheries system and it is advised to adjust the system to allow for this difference. This is not unique to the Netherlands as STECF reports large differences in labour structures across Member States, indicating that current EU-MAP employment categories do not fully capture operational realities in several fleets (STECF, 2025).

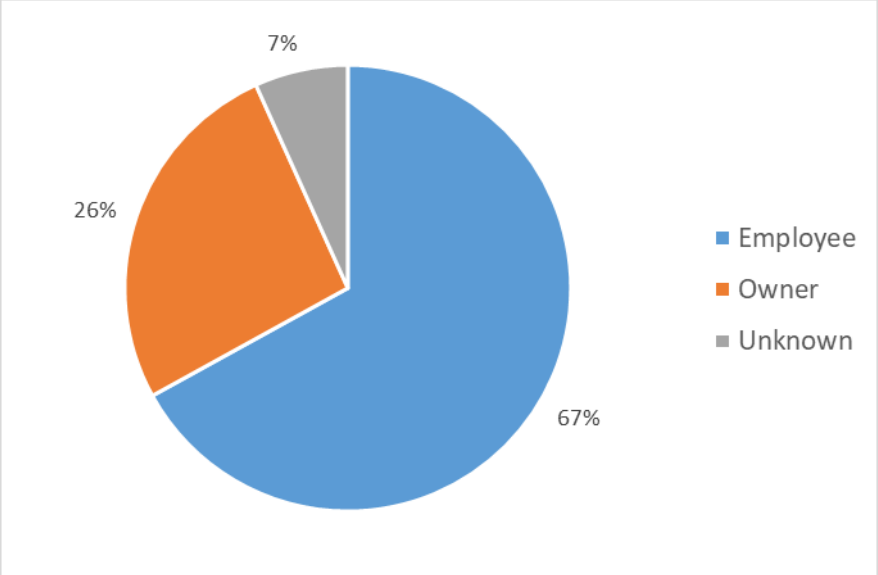
Small coastal fisheries shifted from owner-dominated (68%) in 2017 toward a more mixed structure in 2020 (54% employees / 46% owners); in 2023, a spike in "unknown" (22%) reflects non-reported status for some respondents rather than a structural change. As the response rate in this part of the fleet was low, this change might also be due to random variation in responses. Pelagic trawlers remain 100% employees in all three years, matching the pelagic freezer-trawler model of company vessels with contracted multinational crews.

Table 179. Netherlands Relative change in employment status between 2017 and 2023

Status	2017	2020	2023	Δ 2023-2017
Employee	1409 (66%)	1435 (76%)	1125 (67%)	-20%
Owner	686 (32%)	442 (23%)	441 (26%)	-36%
Unknown	53 (2%)	16 (1%)	114 (7%)	115%

Source: MS data submissions under the 2025 Social Data Call

Figure 109. Netherlands: employment status (2017-2023).



Source: MS data submissions under the 2025 Social Data Call

9.17.4 Demographics of the Workforce

The demographic profile of the Dutch fishing workforce between 2017 and 2023 reflects an ageing population, limited recruitment of young entrants, and persistent gender imbalance within a predominantly national labour force. Nationals continue to make up the vast majority of crew, although pelagic freezer-trawlers employ proportionally more EU national workers than other fleet segments. Most fishers have vocational maritime training, reflecting the practical skill base of the sector, while higher-education representation remains limited. The workforce is overwhelmingly male, with women mainly involved in shore-based or administrative roles within family enterprises, many of which remain under-reported in official data. Ageing is particularly evident in small coastal fisheries, where older owner-operators have delayed retirement amid fleet restructuring and uncertain prospects for succession although these trends are also uncertain due to low response rates. These trends illustrate a long-term structural adjustment driven by regulatory change, fleet consolidation, and shifting coastal labour markets toward a smaller but more capital-intensive fleet, accompanied by declining generational renewal and increasing social vulnerability in traditional fishing communities. In contrast to several coastal regions facing acute succession challenges, Urk appears to experience less difficulty with generational renewal. Kraan et al. (2023) note the strong local rootedness of Urker fishing families, with many skipper-owners reporting children already active in the sector and 70% of crew originating from the same community, reflecting a more stable intergenerational transfer compared with other fishing regions.

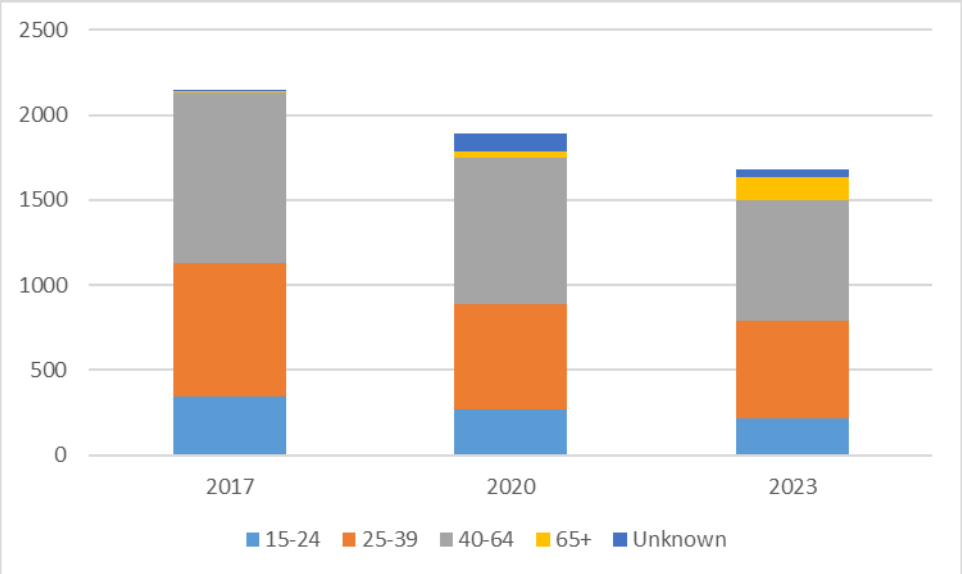
Age

Between 2017 and 2023, the number of younger fishers aged 15-24 declined by 37%, those aged 25-39 by 27%, and the core working group aged 40-64 by 29%, while the 65+ group increased almost twentyfold (+1 886%). This decrease is a result of general reduction in total number of fishers. However, the apparent rise in the oldest age group likely reflects delayed retirement among small-vessel owners in addition to changes in survey coverage and response representation of this segment over time.

As with overall employment data, year-to-year variation in survey completeness can influence the apparent age distribution, meaning these figures should be viewed as indicative trends rather than precise demographic changes (Table 180 and Figure 110).

By fleet segment, based on the data collected and analysed, the small coastal fisheries exhibit the most pronounced ageing, with the share of fishers aged ≥65 rising from 0% in 2017 to 24% in 2023, while cutters remain dominated by those aged 25–64 (with the ≥65 group stable at around 2%). The pelagic trawler segment maintains a mature but stable workforce, with fishers aged 40–64 accounting for over half (55%) of all crew. The data therefore confirm a demographic contraction and ageing process, characterised by fewer young entrants and an increasing reliance on experienced older fishers to sustain operations. However, due to year-to-year variation in survey response and completeness, these results should not be interpreted as precise demographic changes.

Figure 110. Netherlands: Employment per age category, 2017–2023



Source: MS data submissions under the 2025 Social Data Call

Table 180. Netherlands Relative change in employment per age category (2017–2023)

Age group	2017	2020	2023	Δ 2023-2017
15-24	345 (16%)	266 (14%)	217 (13%)	-37%
25-39	783 (36%)	624 (33%)	569 (34%)	-27%
40-64	1009 (47%)	861 (45%)	713 (42%)	-29%
≥65	7 (0%)	34 (2%)	138 (8%)	2007%
Unknown	6 (0%)	107 (6%)	42 (2%)	620%

Source: MS data submissions under the 2025 Social Data Call

9.17.5 Workforce education and training

Education

Between 2017 and 2023, the number of fishers with medium education, typically vocational maritime or technical training fell by 29%, but this group continues to represent the majority of active fishers. Those with low education declined by 41%, partly reflecting the exit of older, family-based crew from small-scale fisheries, while highly educated fishers (mainly in management or engineering roles) decreased by 49%. These declines are partly consistent with the structural contraction of the fleet. Meanwhile, cases with unknown education level increased by 33%, indicating reporting improvements or non-response rather than a shift in qualifications.

Across fleet segments, cutters remain dominated by fishers with medium education (around 85-88%), reflecting vocational pathways through Dutch maritime schools (Dutch upper-secondary vocational education, MBO levels 3–4. Small coastal fisheries show a more mixed pattern, with low education prominent (35%) and a large share of “unknown” responses (41%) in 2023, likely due to incomplete surveys. Trawlers, operating under large pelagic companies, maintain medium-level certification among crew, but data gaps remain substantial (around 70% “unknown”).

Table 181. Netherlands Relative change in employment per education level (2017–2023)

Education	2017	2020	2023	Δ 2023-2017
high	69 (3%)	73 (4%)	35 (2%)	-49%
medium	1350 (63%)	1278 (68%)	952 (57%)	-29%
low	377 (18%)	156 (8%)	223 (13%)	-41%
Unknown	352 (16%)	386 (20%)	469 (28%)	33%

Source: MS data submissions under the 2025 Social Data Call

Training

Maritime education in the Netherlands is based on internationally recognised standards under the STCW Convention. Students follow training programmes aligned with STCW requirements and, upon completion of the required training, may apply for a Certificate of Competency (CoC). Students who choose the fishing specialisation additionally receive education covering the specific

requirements of the STCW-F Convention for fishing vessel personnel. The Basic Fishers Safety Training, a Medical Fitness certificate and a Seaman's book (Dutch: Monsterboekje) are mandatory for all fishing vessel personnel. Only Basic Safety certificates from acknowledged Dutch and Belgian institutes are valid on Dutch flagged vessels.

There are two Ministries involved in training and education. The Ministry of Infrastructure and Water Management checks if the vocational training programme meets all the profession-related requirements. If that is the case, the Ministry of Education, Culture and Science can subsequently accredit the vocational training programme (Haasnoot et al., 2025) .

The Dutch educational system has four learning paths. There are four Dutch institutions providing regular education to become Marine Officer (MAROF) for young people from the age of 16. For students, education can be combined with an employment contract (Professional Accompanying Learning path - BBL in Dutch). Furthermore, training institutes provide professional training courses (BOL in Dutch) directed at students and refresher courses to adult professionals. In the BBL pathway, employers finance vocational training through paid employment and workplace learning (often supported by public subsidies), while BOL programmes and refresher courses are financed through a mix of public funding, employer contributions and participant fees.

Nationality

Between 2017 and 2023, the Dutch fishing workforce remained predominantly national, although with notable differences across fleet segments. National workers decreased by 24% (from 1878 to 1431), reflecting the overall contraction of employment within the fleet. EU workers remained broadly stable (-1%, from 188 to 186), while the number of non-EU/EEA fishers dropped sharply (-44%, from 50 to 28). The share of individuals with unreported nationality increased slightly (+6%), suggesting still incomplete reporting in the 2023 Social Data Call (Table 182 and

Figure 111).

By segment, the cutter fleet shows a national predominance with Dutch nationals accounting for about 92-94% of employment throughout 2017–2023, and only minor participation of other EU nationals (around 4-6%) or non-EU/EEA citizens (1-4%). Research done in 2023 showed that the amount of demersal companies with foreign crew had almost doubled compared to 2008 (from 12 to 20%). Most came from Poland, the Philippines and neighbouring countries like Great Britain, France, Belgium, Germany, Latvia, Portugal, and Bulgaria (Kraan et al., 2023). These differences are explained by the level of analysis, as Kraan et al. (2023) assess the share of companies employing at least one foreign crew member, whereas the present analysis is based on the composition of crew at vessel level, Moreover, the proportion of foreign labour might be biased due to differences in response rate of vessel owners with national and foreign crew.

Small coastal fisheries show a similar dominance of Dutch nationals, whose share rose from 80% to 90%, while EU participation decreased (from 13% to

7%) and “unknown” cases peaked temporarily in 2020 due to non-response in data collection.

The pelagic trawler segment, by contrast, exhibits a more international composition: the share of EU (non-Dutch) workers increased from 10% in 2017 to around 39-43% in 2020-2023, while the proportion of Dutch nationals declined from 80% to 55%, consistent with the multinational crewing practices of large pelagic companies operating globally. However, as any other fishing sectors, the results for the pelagic industry vary considerably, as data coverage was only 38% in 2017, increased to 100% in 2020, and then declined to 63% in 2023. Therefore, changes observed between 2017 and 2023 cannot be reliably interpreted as true demographic shifts, but could be caused by the change in coverage. Nevertheless it is known that foreign workers play a role on board of these vessels. Countries of origin are the Philippines, Poland, Portugal, Peru, Latvia, Lithuania, Ukraine and Belgium (Kraan et al., 2023).

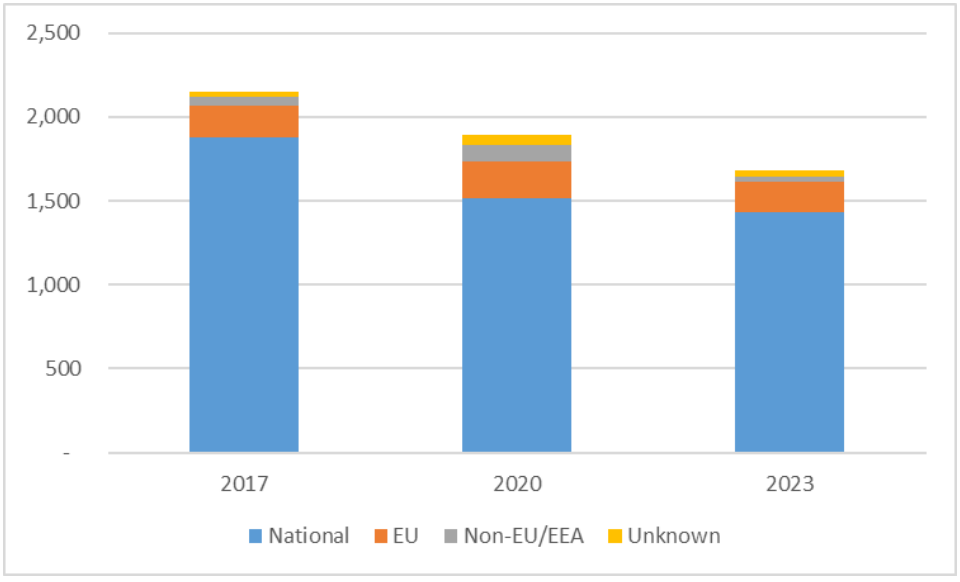
Overall, these data confirm that Dutch nationals continue to represent the majority of employment in the fishing fleet especially within the small-scale and cutter segments while pelagic trawlers rely increasingly on EU labour. The observed decline in non-EU/EEA workers likely reflects both changes in reporting coverage and the composition of international crewing contracts in 2023, rather than a policy-driven reduction.

Table 182. Netherlands Relative change in employment by nationality status (2017–2023)

Nationality	2017	2020	2023	Δ 2023-2017
National	1878 (87%)	1515 (80%)	1431 (85%)	-24%
EU	188 (9%)	216 (11%)	186 (11%)	-1%
Non-EU/EEA	50 (2%)	104 (5%)	28 (2%)	-43%
Unknown	33 (2%)	57 (3%)	35 (2%)	6%

Source: MS data submissions under the 2025 Social Data Call

Figure 111. Netherlands: Employment by nationality (2017–2023)



Source: MS data submissions under the 2025 Social Data Call

9.17.6 Gender

Reported female participation rose from 5 to 46 persons (+820% from a very low base), while male employment fell from 2 144 to 1 604 (-25%). Cases with unknown gender increased from 0 to 30 (no 2017 baseline, so a percentage change is not meaningful) (Table 183). The very large percentage increase for women should be interpreted with caution: with only five women recorded in 2017, small absolute increases produce large percentage changes. Moreover, although survey response and reporting coverage have improved, participation remains low, resulting in uncertain estimates, particularly for small groups such as women. Consequently, the apparent rise partly reflects better data coverage rather than a genuine structural change, as the sector remains overwhelmingly male-dominated.

Nevertheless, women play on important role in the fisheries sector. Yet this is largely underreported and neglected. The majority of demersal fishing companies in the Netherlands are family businesses. Many fisher wives take care of tasks on land when their husbands and sons are at sea. They can do administrative tasks or maintain relations with banks, accountants, the ministry and traders. They can also take up chores as cleaning, shopping, ordering materials and work in the cooperation, mending nets (Kraan et al., 2023; NFP NL, 2023). Some also have a formal position in the company or are co-owner. With their husbands at sea the whole week, women not only have their day-job to take care of but often also run the family alone. A new trend in the Netherlands is ‘continuous fishing’ which is built on alternating crews. Thus instead of being at sea all weeks and at home in weekends, they fish for 10 days in a row and are then home for 10 days. Especially younger fishers enjoy the fact that they can be home more and take part in managing the household and raising their children (Kraan et al., 2023).

Table 183. Netherlands: Relative change in employment by gender (2017–2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	5 (0%)	8 (0%)	46 (3%)	▲ 875%
Male	2144 (100%)	1876 (99%)	1604 (95%)	▼ -25%
Unknown	0 (0%)	8 (0%)	30 (2%)	-

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

The Netherlands reports a slight overall decline in unpaid labour from 425 (2017) to 395 (2023) (-7%). Within that total, male unpaid labour fell 13% (424 to 370), while reported female unpaid labour rose from 1 to 19 persons (+1 800%) off a near-zero base (Table 184). This large percentage change should be read as a measurement effect rather than a structural jump. The appearance of an “unknown” category (0 to 6) also signals improved but still incomplete reporting in 2023. In practice, unpaid labour is expected to be minimal in pelagic freezer-trawlers (fully waged crews) and more relevant

around small and / or family boats, which aligns with these patterns. Retired fishers often help around in the fishing sheds, mending nets and taking care or fishing related tasks (Kraan et al., 2023).

Overall, on gender, Netherlands has fully transposed Directive 2010/41/EU on the application of the principle of equal treatment between men and women engaged in self-employed activities. The transposition was implemented through national equality legislation, primarily the *Algemene wet gelijke behandeling* (General Equal Treatment Act, Stb. 1994, 230), which was amended in 2012 to align with the Directive, and the *Wet gelijke behandeling van mannen en vrouwen* (Equal Treatment of Men and Women Act, Stb. 1980, 646), consolidated in 2012. These laws guarantee equal treatment for men and women in employment and self-employment, including in family-run and small-scale fishing enterprises. Beyond the formal legal transposition, no fisheries-specific measures have been introduced. Implementation and monitoring occur through the general framework of Dutch labour and gender equality policy under the Ministry of Social Affairs and Employment (*Ministerie van Sociale Zaken en Werkgelegenheid*), with oversight and enforcement by the Netherlands Institute for Human Rights (*College voor de Rechten van de Mens*).

Table 184. Netherlands: Unpaid labour by gender, 2017–2023

Gender	2017	2020	2023	Δ 2023-2017
Female	2 (0%)	6 (1%)	37 (5%)	1639%
Male	848 (100%)	980 (99%)	739 (94%)	-13%
Unknown	0 (0%)	8 (1%)	13 (2%)	-

Source: MS data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.17.7 Material wellbeing

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Dutch fishing fleet reported an average annual labour cost of EUR 75 075 per FTE in 2023, which is significantly above the EU average (EUR 29 447 per FTE). Fishing labour costs have fluctuated around the same level over the past decade, with almost no overall change since 2013 (-1%). Average labour costs for the EU as whole increased 22% over the same period.

Fishing labour costs in the Netherlands are slightly above the national average labour costs (+6%) and over three times the national minimum wage on an annual basis (EUR 23 940). However, it should be noted that many fishers work considerably more than the standard 36 hours per week used to define one

FTE, meaning the wage per FTE figure tends to overestimate average hourly pay levels.

Table 185. Netherlands: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	75 706	81 110	90 924	117 775	100 148	99 847	78 667	82 724	80 083	78 083	75 075
National average				70 086				71 682	72 716	69 152	70 658
Ratio of fishing labour cost to national average				1.68				1.15	1.10	1.13	1.06

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Unpaid labour costs

Unpaid labour costs in the Dutch fleet decreased by roughly one-third (-32%) between 2017 and 2023, from EUR 16.1 million to EUR 10.9 million, with a temporary rise in 2020 linked to reporting coverage (Table 186). This decline corresponds to the overall decline in employment (29% in FTE) in the cutter enterprises following the BAR decommissioning and the ongoing shift toward company-owned and fully waged fleets. As noted, unpaid labour in Dutch fisheries mainly reflects the contributions of owners on board.

Table 186. Netherlands: Unpaid labour costs in million euro, 2017–2023

	2017	2020	2023	Δ 2023-2017
Unpaid labour costs	16.1	16.8	10.9	-32%

Source: MS data submissions under the 2025 Fleet economic data call

Working conditions

Total Working hours

Between 2017 and 2023, total reported working hours in the Dutch fishing fleet declined by 29%, from 3.1 million to 2.2 million hours, reflecting the overall reduction in employment and active vessels rather than shorter individual workloads (Table 187). The contraction in total labour input therefore results mainly from fleet restructuring, particularly the withdrawal of beam trawlers and family-operated cutters under BAR-supported decommissioning, rather than improvements in working-time balance.

Segment-wise, pelagic freezer trawlers continue to operate on extended offshore rotations (in the Greater North Sea area as well as in West Africa and South America) with multinational crews, with trips lasting at least two weeks. In contrast, demersal trawlers and small coastal fisheries operate shorter but more labour-intensive trips within the North Sea and coastal zones. They are considered more labour-intensive than pelagic trawlers because pelagic trawlers are much more formalised, operating with two 6-hour shifts per day while on the demersal trawlers and small coastal fisheries, the crew might work longer hours as the crew is often self-employed, there is no formal legislation governing working hours. Most small-scale fishers make day trips, and demersal fishers traditionally follow a weekday rhythm, leaving early on Monday

and returning on Thursday or Friday, although some vessels have shifted to shift-based operations to maintain continuous activity (NFP NL, 2023).

Table 187. Netherlands Relative change in total working hours (2017–2023)

	2017	2020	2023	Δ 2023-2017
Total working hours	3,135,569	2,751,725	2,231,034	-29%

Source: MS data submissions under the 2025 Fleet economic data call

Social security

In the Netherlands, fisheries are covered under the general social security system, with no separate national regime for fishers. However, a special scheme exists for self-employed fishers in the demersal sector through the Sociale Fonds Maatschappelijke Visserij (Social Fund for the Demersal Fisheries), which provides sectoral insurance and welfare support. In contrast, workers in the pelagic sector employed mainly by large trawler companies fall under a collective bargaining agreement (CBA) that regulates health, accident, and retirement provisions in line with national labour law. The legal retirement age for Dutch pelagic fishers is 67 years. However, for the demersal trawlers and small coastal fisheries there is no legal retirement age. Most demersal fishers are self-employed or operate as owner-operators, while pelagic fishers are salaried employees under standard employment contracts.

Accidents on board

Between 2017 and 2023, the number of accidents at sea involving Netherlands-flagged fishing vessels fluctuated between 7 and 33 cases per year, showing no clear upward or downward trend but some year-to-year variability. The lowest total was recorded in 2017 (7 accidents), while 2020 marked a temporary increase to 33, followed by 20-22 cases annually in 2022-2023. Most occurrences were classified as “Serious” ranging from 5 (2017) to 17 (2020) and “Less serious”, while “Very serious” accidents were absent after 2020, indicating a reduction in high-severity events.

By vessel size, accidents were concentrated in the 24-<45 m and 15-<24 m classes, which together accounted for nearly all recorded cases. In contrast, larger pelagic trawlers (≥45 m) and small coastal vessels (<12 m) reported few or no incidents. It is not clear whether the absence of recorded accidents for the smaller vessels (<12 m) reflects a true lack of incidents or limitations in reporting to EMSA, particularly as these vessels mainly operate inshore. This interpretation is supported by Dutch institutional evidence indicating that many fisheries incidents and accidents do not proceed to formal disciplinary procedures. Although fisheries incidents are legally required to be reported to both the Coast Guard and the Inspectorate for the Environment and Transport (ILT), the Dutch Maritime Disciplinary Court notes that only a limited share of these cases ultimately reaches disciplinary review (Tuchtcollege voor de Scheepvaart, 2022). Against this background, and given that small-scale fishing vessels account for the majority of fishing accidents and fatalities globally and in

Europe, a higher representation of small coastal vessels in the accident data would have been expected (FAO, 2021).

Independent safety investigations of the North Sea beam-trawler fleet further show that vessels below 24 m are structurally and operationally far more vulnerable than larger vessels, with nearly all analysed flooding and capsize accidents occurring in this size class (Conoship International, 2022). This provides a plausible explanation for the concentration of accidents in the 15-<24 m class observed in the EMSA data. Conversely, this lower structural vulnerability of larger vessels may also partly explain the low number of recorded accidents among vessels ≥45 m, in addition to their relatively small share in total vessel numbers, even though their workforce contribution within the cutter sector remains substantial.

Recent Dutch safety workshops highlighted that long-term efficiency pressures in the fisheries sector have led to the use of heavier fishing gear, reduced crew sizes, and increased exposure to asymmetric loading conditions, which together have directly contributed to several cutter sinkings in recent years. It was further noted that even 24-m vessels (e.g. in the fly-shoot fishery) are now expected to generate the same turnover as 40-m beam trawlers, despite their considerably smaller size and reduced crew capacity; thus, this could account for the many accidents among the 15-<45 m vessels (Tuchtcollege voor de Scheepvaart, 2022).

The injury rate per accident varied over the period, from a high of 0.71 injuries per accident in 2017 to a low of 0.15 in 2020-2022, rising again slightly to 0.41 in 2023, consistent with moderate incident severity overall.

No fatalities have been recorded on Netherlands-flagged fishing vessels since 2019, when two deaths occurred on mid-sized demersal vessels. The severity index remained relatively stable around 0.6 to 0.7 implying that while accidents persist, the proportion of serious cases has not increased. Overall, this stability suggests improved safety practices and vessel standards, combined with the decline in fleet size and working hours, have contributed to maintaining lower accident severity despite operational pressures (Source: EMSA)

Foreign flagged vessels

Recent data (2017-2023) only cover Dutch flagged vessels. The available literature indicates however, that besides the Dutch flagged vessels, Dutch fishing companies own around 70-80 foreign cutters and around 15 pelagic trawlers. These vessels account for an estimated total of 1 100 FTE (Hoekstra et al 2023). A portion of these vessels (mainly the cutters) land their catches in Dutch ports and use Dutch logistics networks.

Although these vessels are not counted in Dutch flag-based fleet statistics, many foreign-flagged cutters and pelagic trawlers are socially embedded in Dutch fishing communities. Many of them are crewed (partly) by Dutch fishers, despite operating under Belgian, German or UK flags. Several of these foreign-flagged vessels are also members of Dutch Producer Organisations, such as the 25 German-flagged cutters registered within the Dutch PO Rousant (NFP NL, 2023). In Urk alone, 44 foreign-flagged vessels continue to land at and

support the Urker fish auction, anchoring them socially and economically in the community. These connections demonstrate that foreign-flagged vessels remain integral to Dutch fishing communities through ownership, crewing patterns, and their continued use of Dutch ports and auctions. They contribute to maintaining employment and family businesses in regions that are often designated as shrinkage areas, and they help sustain the identity, social cohesion and cultural heritage of Dutch fishing communities, even when their activity is statistically recorded under a foreign flag.

For the year 2022, landings by foreign-flagged vessels in Dutch harbours, including those transported via truck, amounted to approximately 1.1 million tonnes (dead and/or processed weight) (Hoekstra et al., 2023). These landings are registered as imports in trade statistics and are therefore captured within Eurostat COMEXT data rather than the national fleet accounts. The corresponding monetary value in euros is not separately reported but is included under total import values for fish, shellfish, and crustaceans. A share of these landings originates from foreign-flagged vessels owned by Dutch fishing companies, particularly in the pelagic segment, reflecting operational and fiscal arrangements under foreign registration. The trend indicates stable or slightly increasing activity by such vessels, consistent with the internationalized structure of the Dutch pelagic fleet.

9.17.8 Social demographics per fishing activities

The Dutch fishing sector is undergoing a long-term social and structural transition characterised by declining labour participation, ageing fleet and increasingly professionalised fleet structures. Within the Dutch 2025 Social Data Call, the SSCF (< 12 m passive) and the L12AG subfleet (< 12 m active gear) were reported jointly as SCF, as social indicators were not yet disaggregated by gear type. Both the SCF and LSF remain a socially and culturally significant component of the industry, especially in traditional fishing communities along the Wadden Sea and Zeeland coast. In terms of economic contribution, LSF which comprises of demersal and pelagic trawlers, continues to dominate.

Between 2017 and 2023, employment within the SCF remained limited but socially vital. Total crew numbers declined slightly from 300 to 286, with only 34 FTEs in 2023 compared with 70 FTEs in 2017 (-51%), reflecting the part-time and seasonal nature of these activities. The workforce remains overwhelmingly male (92%) and nationally based, although foreign workers also play a role on board these vessels (Kraan et al., 2023). Although women's reported participation appears to have increased in 2023, this likely reflects improved survey coverage rather than a genuine rise in women's involvement in the sector. The age profile appears to have shifted markedly towards older operators, with fishers aged ≥ 65 rising from 0 to 84, while those under 25 declined sharply. However, this significant change in older fishers (≥ 65) is likely at least partly driven by improved survey coverage in 2023 rather than reflecting a true demographic shift in the sector. Most fishers traditionally have vocational maritime or technical training, although the 2023 data show a high share of 'unknown' and 'low' education categories, reflecting limited survey coverage in

the < 12 m fleet. Unpaid family labour continues to play a notable role, particularly among owner-operated vessels, where family members contribute to seasonal and shore-based activities.

Data from the 2025 Annual Economic Report indicate that labour productivity in the < 12 m fleet was around EUR 33 000 per FTE in 2023 less than half that of the > 12 m fleet. This reflects the limited number of fishing days, small vessel capacity, and the predominance of part-time and seasonal operations typical of this segment. These structural factors largely explain the lower income levels and high variability observed among small-scale coastal fishers. Despite its small economic weight, the SCF segment remains closely connected to coastal fishing communities. Similar to the demersal fleet, it contributes to the social cohesion and cultural identity of these communities (Hamon et al., 2023; Kraan et al., 2023).

Table 188. Netherlands: Summary of social demographics (2017–2023)

	2017		2020		2023	
	LSF	**SCF**	**LSF**	**SCF**	**LSF**	**SCF**
Gender						
Female	5	0	8	0	28	18
Male	1844	300	1548	328	1342	262
Anknown	0	0	1	7	24	6
Age						
15-24	255	90	232	35	209	9
25-39	757	25	575	49	491	78
40-64	824	185	714	146	603	110
65+	7	0	20	14	54	84
Unknown	6	0	16	91	36	6
Nationality						
EU	163	25	174	42	168	18
National	1623	255	1271	244	1171	260
Non-EU/EEA	50	0	104	0	28	0
Unknown	15	18	8	49	26	9
Education						
High	44	26	31	42	34	2
Low	275	102	114	42	114	109
Medium	1197	153	1117	161	901	51
Unknown	333	19	295	90	346	123
Employment status						
Employee	1314	95	1274	161	1052	73
Owner	482	205	268	174	307	134
Unknown	53	0	15	0	35	79
FTE						
Total	1653	70	1472	40	1192	34
Unpaid labour workfoce						
Female	1	0	3	0	8	11
Male	249	175	303	187	219	151
Unknown	0	0	0	4	3	3

Although the LSF is reported as a single fleet segment, the demersal cutter fleet and the pelagic freezer-trawler fleet show fundamentally different demographic dynamics. The cutter fleet is nationally rooted, with 92–94% Dutch crew, although this figure may be overestimated due to lower survey response rates and other studies indicating increased participation of non-nationals. Cutter crews are predominantly self-employed workers operating under the *maatschapcontract*, and unpaid family labour remains present around these vessels. In contrast, the pelagic freezer-trawler fleet has become progressively internationalised, with the share of Dutch nationals declining from 80% in 2017 to 55% in 2023, and EU (39%) workers now forming a substantial proportion of the crew. Pelagic crews are fully salaried employees covered by collective agreements, operate on multi-week offshore rotations, and exhibit limited owner-operator or family-based involvement. These differences underline the existence of two distinct social systems within the LSF: a community-embedded, self-employed demersal cutter fleet and a corporate, globally oriented pelagic freezer-trawler fleet.

Overall LSC continue to dominate the Dutch fishing economy but faces similar demographic pressures as the small-scale segment. Between 2017 and 2023, employment in the LSF declined by roughly 25%, and FTEs by 28%, reflecting the combined effects of Brexit-related quota losses, the pulse-trawl ban, and vessel decommissioning supported under the Brexit Adjustment Reserve (BAR). The workforce is almost entirely male (≈ 97%) and predominantly Dutch (≈ 84%), with a growing participation of EU crew in pelagic freezer trawlers. Older fishers increasingly remain active beyond retirement age (≥ 65 years +671%), while the number of younger crew (15-39 years) has decreased by about 32%. Education levels are mainly medium-level vocational maritime training, consistent with the sector's high degree of professionalisation.

According to the STECF Annual Economic Report (AER 2025), the Dutch fleet's average wage per FTE declined from EUR 100 148 in 2017 to EUR 75 075 in 2023 (-25%). Since the large-scale fleet accounts for approximately 96% of total full-time equivalents (1 192 out of 1 226 in 2023), this fleet effectively drives the national fisheries average wage. Therefore, the EUR 75 000 figure can be interpreted as the representative wage level for LSF crews. This level remains among the highest in the EU, reflecting strong labour productivity, long offshore rotations, and company-based employment structures within pelagic and demersal operations.

While analysing these aspects, it is important to note that the observed changes in employment and demographics are subject to a degree of uncertainty and may not fully represent actual developments within the Dutch fishing population. Results depend on the consistency and completeness of national data submissions, the representativeness of annual survey responses, and reporting gaps in administrative sources such as vessel registries, logbooks, and DCF social datasets. Differences in sampling coverage between years and the timing of decommissioning or registration updates can affect the apparent magnitude of change. Particularly for small-scale fisheries, survey coverage has been low (<15%), and resulting estimates are therefore uncertain. Consequently,

findings-such as the rise in women's participation-should be interpreted as indicative trends rather than precise structural changes in the Dutch fisheries labour force.

9.17.9 Trends and challenges

The Dutch fishing sector is navigating a dense mix of structural, spatial and regulatory pressures that shape its social outlook beyond the direct demographic trends described earlier. The BAR-funded decommissioning of beam trawlers, following Brexit-related quota losses and the pulse-trawl ban, has removed a substantial part of the flatfish cutter fleet and accelerated consolidation into fewer vessels with permanent effects on employment, local supply chains and service businesses in ports such as Urk and Stellendam (LNV, 2023).

At the same time, the rapid expansion of offshore wind and other offshore renewable energy (ORE) in the Dutch North Sea, combined with EU and national commitments towards 30% marine protection by 2030, is intensifying competition for space and restricting access to traditional fishing grounds, particularly for mobile demersal gears; studies underline that co-existence options remain limited and uncertain in practice, creating distributive tensions between fleets and raising questions about long-term viability for inshore and demersal segments (Bonsu et al., 2024).

Parallel pressure comes from volatile fuel prices and the climate/energy transition, which expose fuel-intensive segments while pushing an accelerated shift towards more efficient gears, larger vessels and technological innovation; this favours well-capitalised companies (notably in the pelagic segment) and risks widening the gap with smaller family-owned vessels that have fewer resources to invest (JRC, 2024a). Generational renewal is another concern for mainly the demersal cutter vessels and SSF. Fishers have expressed concern for the future outlook of their profession due to the above-mentioned trends. Their children are less interested to take over the fishing company, often parents or family members also advice their children or nephews not to pursue a career as fisher. The number of students at the fisheries training institutes also decline (Kraan et al., 2023).

For coastal communities, these combined developments translate into greater (income) uncertainty, dependence on a shrinking number of operators, and erosion of traditional support services and shore-based employment, even where headline wages per FTE remain relatively high. A large study in 2023 showed that fishers and their families are concerned about the future outlook of the sector, they find it difficult to make long-term plans, investments and think about innovation. Only 4% of the skipper-owners were confident that their business would still be around in five years from now (compared to 40% in 2008) (Kraan et al., 2023). Overall, the key social challenge for the Netherlands is managing this spatial, economic and regulatory squeeze in a way that maintains viable fisheries-dependent communities and fair working conditions, while meeting climate, energy and biodiversity objectives that are progressively reshaping the use of the North Sea.

9.17.10 Methodological considerations and data issues

The data underlying the social indicators presented in this report derive from the Council Regulation (EU) No 2017/1004 (EU-MAP/DCF) Social Data Call, implemented in the Netherlands by Wageningen Marine Research and Wageningen Economic Research under the legal framework of the Statutory Research Tasks (WOT) for fisheries research. Data collection is a mixture of survey-based returns and administrative register data, submitted every three years for the fleet segment (2017, 2020, 2023) in accordance with the DCF templates (e.g., employment by gender, age, education, nationality, employment status; FTE by gender; unpaid labour by gender).

In the Dutch case, several data-quality issues affect interpretation of the indicators. First, response rates and coverage vary by segment: small-scale and family-operated vessels often have unpaid labour or part-time participation, which are under-reported or coded as “unknown”, leading to inflation of “unknown” categories (e.g., unpaid labour by gender) and downward bias in reported active numbers. Second, disaggregation by fleet segment (SSCF vs LSF) is incomplete for some variables (notably wage per segment and nationality of non-Dutch crews), limiting comparability over time. Third, labour inputs such as self-employment of owners, family labour and unpaid shore work are difficult to capture consistently, and Dutch methodological reports highlight mismatches between register-based employment classifications and real on-board labour engagement (van Oostenbrugge et al., 2022).

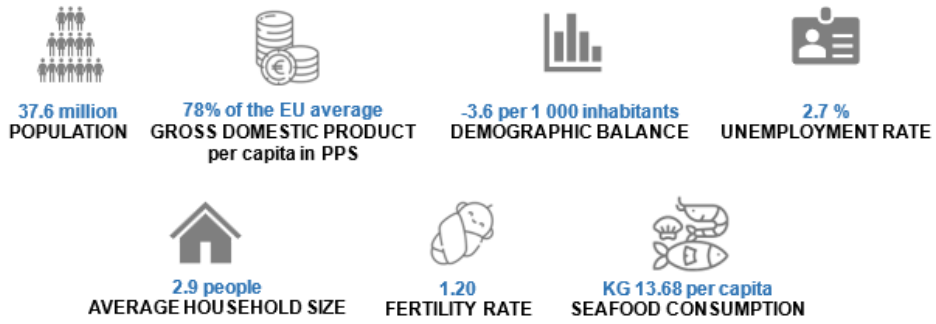
The national fisheries profile for the Netherlands also notes that while the DCF templates provide a robust minimum set of social variables, they do not fully capture community-level vulnerabilities, well-being or social resilience in coastal fishing towns, and suggest the continuation of pilot surveys to incorporate such supplementary indicators.

Users of this dataset should therefore interpret cross-year and cross-segment comparisons with caution, particularly where large “unknown” categories or missing segment breakdowns exist. Nevertheless, the data provide a valuable time-series indicator of structural social change in Dutch fisheries when viewed collectively.

9.18 Poland

9.18.1 Snapshot of Poland

Figure 112. Poland in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

At the end of 2023 population of Poland was 37.6 million, representing 8% of EU population. Compared to the previous year population decreased by 0.1 million, and since 2017 1.6 million, what was the largest decrease in EU in that period. Fertility rate was 1.2, what was one of the lowest in EU. On every 100 men it was 107 women. Unemployment rate was 2.7%, what was second lowest result in EU, after Malta (EU average 5.9%).

Eurostat data shows that in 2023, Poland's GDP per capita was EUR 30 100, which was 80% of the EU average. Seafood consumption in Poland in 2023 was 13.68 kg/person, with 2.1% growth in relation to 2022 (13.39 kg/person).

9.18.2 Short description of the fishing sector

In 2023, there were 825 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 35 476 GT and 83 870 kW. The capacity of the national fleet has decreased since 2013. The estimated total number of inactive vessels in 2023 was 35, the majority of which were in the less than 12 metres segments. For the last years trend in fleet volume and capacity has remained stable. (STECF AER, 2025).

Table 189. Poland summary table.

	2017	2018	2019	2020	2021	2022	2023			% Δ 2023-2017		
Indicator							**Overall**	**SSCF**	**LSF**	**Overall**	**SSCF**	**LSF**
Employment (number)	2560	2656	2480	2073	2292	2271	2276	1590	686	-12%	9%	-24%
FTE (number)	2285	2355	2252	1880	2089	2064	2066	1394	672	-11%	9%	-24%

Number of active vessels	795	781	789	803	809	801	790	643	145	-1%	2%	-9%
Value of landings (million €)	48	48	44	35	36	36	43	10	33	-12%	-10%	-13%
Live weight of landings (Thousand tonnes)	138	156	146	131	123	110	96	6	90	-44%	-65%	-42%
Gender (% of women/total)	2%	3%	3%	5%	4%	6%	9%			7%		
Nationality: nationals in work force (% of Polish/total)			99%	99%	99%	100%	99%			0%		

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.18.3 Social demographics in Fisheries

In 2023, the Polish fishing fleet faced structural problems resulting from the unavailability of Baltic cod and declining pelagic fish quotas. With a relatively stable fleet size, the sector struggled with overcapacity, low profitability, and rising operating costs. The estimated income of the fleet, excluding subsidies, amounted to EUR 44.3 million, an increase of 7% compared to 2022, mainly due to higher market prices rather than increased catches.

Crew costs rose by 14% to EUR 12.7 million, reflecting growing wage pressure due to the need to retain experienced crews. At the same time, the value of unpaid family labor increased by 20% to EUR 10 million, highlighting the strong dependence of small-scale coastal fisheries on self-employment and informal employment, e.g., family members.

Energy costs rose by 17% to EUR 7.3 million, further reducing margins for smaller vessels. Nevertheless, improved prices and reduced variable costs led to an increase in gross value added (GVA) to EUR 27.9 million, compared to EUR 22.4 million in 2022. Gross profit almost doubled to EUR 5.2 million, but the sector still recorded a net loss of EUR 2.5 million.

Low earnings and job insecurity discouraged investment, which fell by 68 percent to EUR 0.8 million under the EU EMFF (STECF AER, 2025).

9.18.4 Employment in Fisheries

Total Employment

In 2023 total employment in Polish fishing fleet, excluding distant water fleet, equals 2 276 people and there were no significant changes compared to 2022. In longer period 12% decrease since 2017 was observed, but it was 200 employers more than in 2020 (year of COVID, when most of the fleet stays in harbours). Employment in segments up to 12 m in length (SSCF – Small-Scale

Coastal Fisheries) was 1 590 (compared to 2017, 9% increase), what was 70% of employment of the fleet (compared to 2017 the share increase from 57%). Employment in segments 12-40 m in length (LSF – Large-Scale Fleet) in 2023 equals 686, what means decrease by 24% compared to 2017 (851).

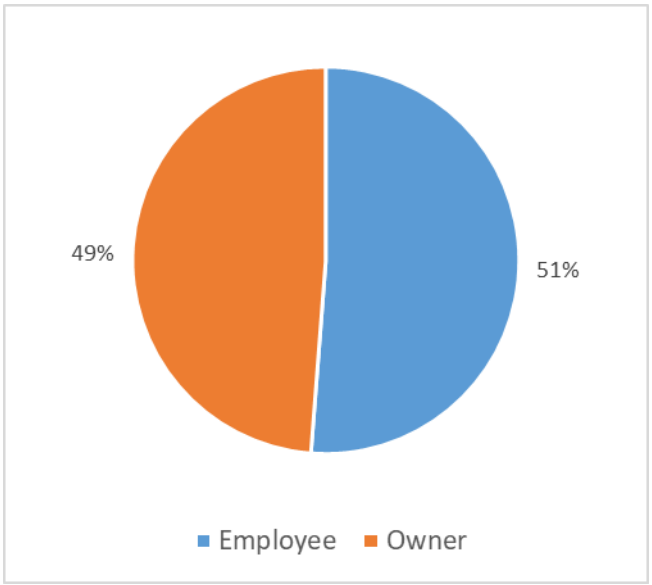
Full-Time Equivalent

Employment data for this fleet, calculated in Full-Time-Equivalent, count 2066 positions. Compared to 2017 number of positions decreased by 11% (from 2285). For SSCF segments increase in number of positions by 9% was observed, when in LSF segments the drop was 24%.

Employment status

In Polish fishing fleet on the Baltic Sea, especially in SSCF segments is common, that owners are part of the crew. In 2023 49% of the total employment was covered by owners (43% in 2017). In SSCF segments it was 58% (55% in 2017), and in LSF – 27% (20% in 2017). In 2023 among crew members 9% (215 people) were women. In SSCF it was 10%, in LSF – 8% (in 2020, which was first year of gender reporting respectively 6% for the fleet, 6% for SSCF and 5% for LSF). Among owners share woman working on board was 10% (8% in 2020), respectively 10% in SSCF (7% in 2020) and 12% in LSF (13% in 2020). Women among employee in 2023 has 9% share (2% in 2020), 10% (2%) in SSCF and 7% (3%) in LSF.

Figure 113. Poland: employment status, 2023



Source: Member States data submissions under the 2025 Social Data Call

Table 190. Poland: Employment by status, 2017-2023

Status	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Employee	1386 (57%)	1366 (54%)	1226 (51%)	1009 (49%)	1260 (55%)	1140 (50%)	1168 (51%)	-16%
Owner	1041 (43%)	1154 (46%)	1158 (49%)	1063 (51%)	1028 (45%)	1129 (50%)	1112 (49%)	7%

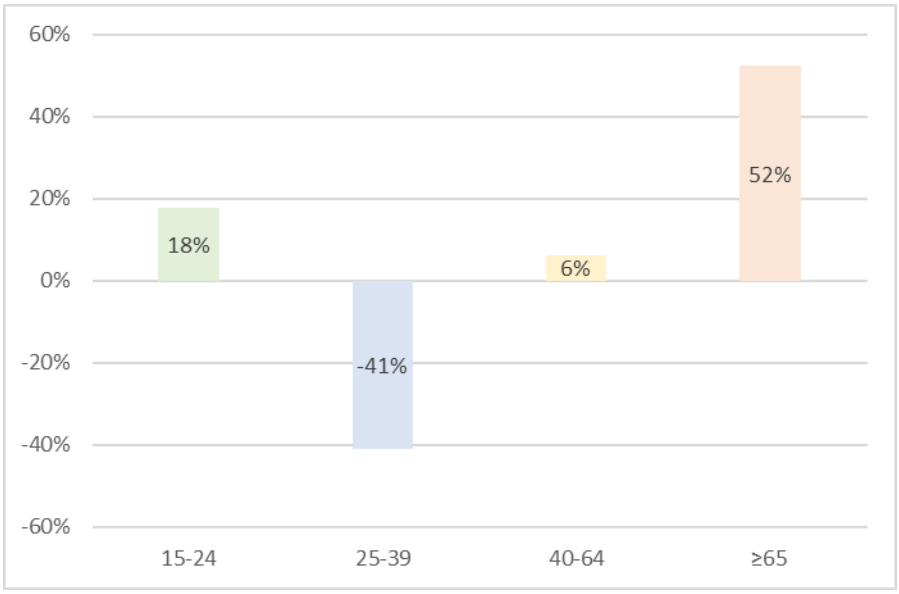
Source: MS data submissions under the 2025 Social Data Call

9.18.5 Demographics of the Workforce

Age

Age distribution of Polish fleet crew members indicates domination of people aged between 40 and 64 years. In 2023 this group consisted of 1 519 people, with share of 67% of the work force. In this group there is a growing trend of number of people (1 430 in 2017) and share in the fleet labour composition (59%). Second biggest group were people aged 25-39 with 20% share (469 people), with significant decrease in share (33% in 2017, drop by 8 percentage points) and group size (790 in 2017). Retirement-age people (over 65) were another growing group (221 in number, 10% in share in 2023). Compared to 2017 size of this group rise from 145 and share from 6%. Newcomers aged 15-24 covered 3% of labour force in 2023 (73 people), with relatively stable trend.

Figure 114. Poland: total employment by age group (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call

Table 191. Poland: Employment by age group, 2017-2023

Age group	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
15-24	62 (3%)	56 (2%)	66 (3%)	23 (1%)	36 (2%)	63 (3%)	73 (3%)	18%
25-39	790 (33%)	698 (28%)	613 (26%)	609 (29%)	494 (22%)	556 (25%)	467 (20%)	-41%
40-64	1430 (59%)	1580 (63%)	1511 (63%)	1236 (60%)	1551 (68%)	1454 (64%)	1519 (67%)	6%
≥65	145 (6%)	186 (7%)	196 (8%)	206 (10%)	207 (9%)	196 (9%)	221 (10%)	52%

Source: MS data submissions under the 2025 Social Data Call

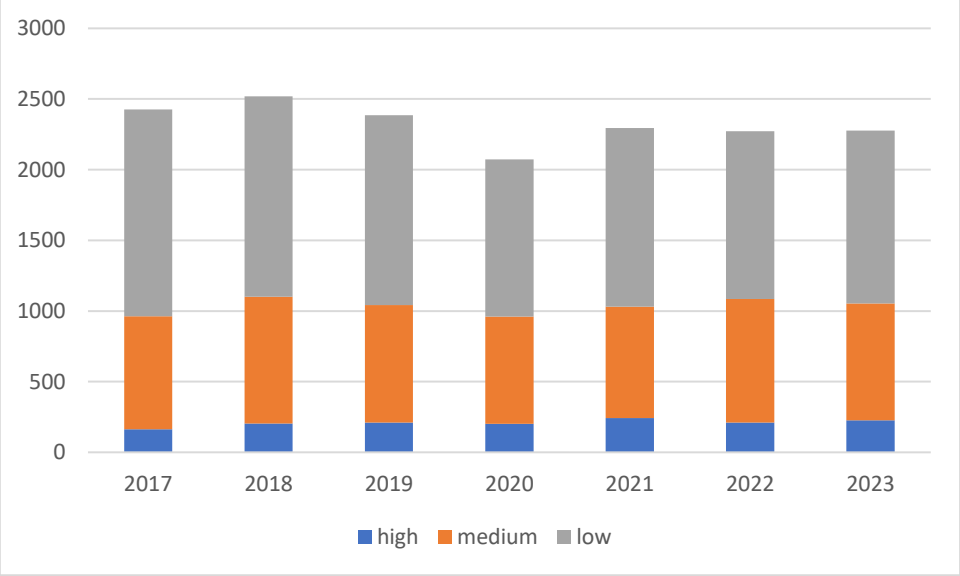
More detailed analysis, reveals general trend of ageing fishing vessel crews, but in SSCF last two years indicates growth in group of the youngest (15-24) to 5% share in 2023 (2% in 2017), and in size the growth is from 38 in 2017 to 72 in 2023. The same period size of this group in LSF segment dropped from 24 to 1 (3% share in 2017 and 0.1 in 2023). Share of the 25-39 group in 2023 age composition in SSCF segment dropped by 14 percentage points, results with 18% (32 in 2017), reaching less than 60% of the size from 2017 (500 people, decrease to 292). In LSF segment size of this group decrease from 290 in 2017 to 175 in 2023 (share dropped by 9 p.p.). In group of people aged 40-64 in SSCF segment the growth in group size was 136, to 1043 in 2023 (share rose from 58% in 2017 to 65% in 2023). In LSF segment group size was smaller (476 in 2023, -47 people) but share in age composition was bigger by 8 p.p. (61% to 69%). The size of the group of people over 65 years old in SSCF segment increase from 131 in 2017 to 186 in 2023, (share rose by 4 p.p to 12%). In segment LSF doubled to 35 in 2023 (share rose from 2% to 5%).

Education level

Education level of Polish fishing fleet crew members is relatively stable, with slow growth trend of the overall formal skills. In 2023, 54% of the crew have basic or low-level education (60% in 2017), while 36% (33% in 2017) claimed to have medium level and 10% (7%) achieved high level.

Generally, there were no major changes in education level in SSCF and LSF segments. In SSCF 54% (64% in 2017) of work force have low level of education, 35% (29%) medium and 11% (7%) high. In LSF sector low level was reported by 53% (54% in 2017), medium – 40% (no changes in share), and high level of education was claimed by 7% (6%) of working on the sea.

Figure 115. Poland: total employment by education level (2017-2022)



Source: Member States data submissions under the 2025 Social Data Call

Table 192. Poland: Employment by education level, 2017-2023

Education	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
High	164 (7%)	205 (8%)	211 (9%)	202 (10%)	242 (11%)	211 (9%)	226 (10%)	38%
Medium	798 (33%)	895 (36%)	830 (35%)	759 (37%)	789 (34%)	875 (39%)	827 (36%)	4%
Low	1464 (60%)	1419 (56%)	1345 (56%)	1112 (54%)	1263 (55%)	1186 (52%)	1223 (54%)	-16%

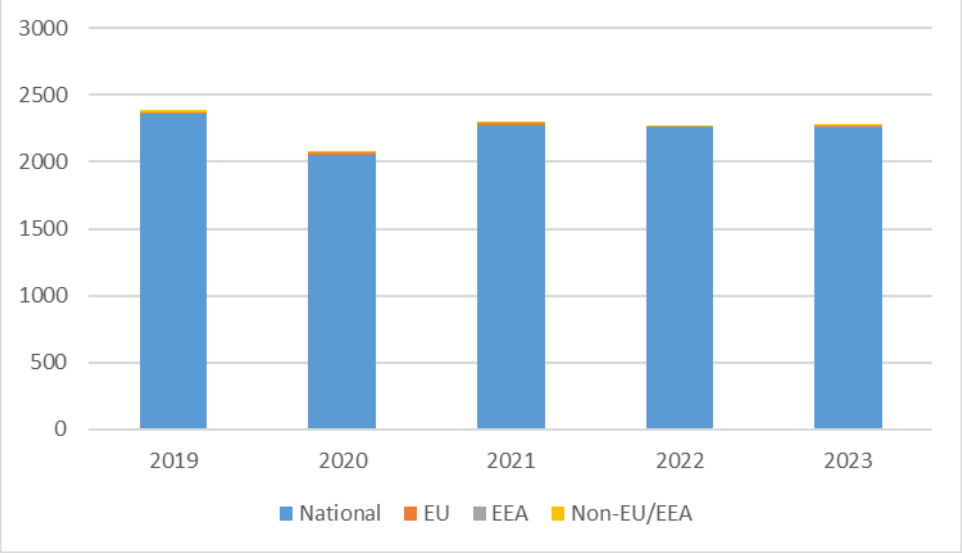
Source: MS data submissions under the 2025 Social Data Call

Nationality

Work force in Polish fishing fleet on Baltic Sea consisted mostly of Polish nationality. In 2023, 98.9% claimed Polish nationality (99% in 2019, first year of nationality data collection), while 0.7% were EU countries nationalities (0.5% in 2019), 0.2% non-EU (0.5% in 2029) and 0.3% EEA (no claims for previous years.

In 2023, in SSCF sector 1 576 people claimed Polish nationality (99.1%, respectively 1542 and 98.8% in 2019), while other nations were 0.5% (0.8%) EU, 0.1% (0.4%) Non-EU and 0.3% EEA (no claims in previous years). For LSF sector Polish covers 98.4% (99.5% in 2019) of crew members, 1.3% (no claims in 2019) were EU nationalities, and 0.3% (0.5%) Non-EU.

Figure 116. Poland: employment by nationality, 2017-2023



Source: Member States data submissions under the 2025 Social Data Call.

Table 193. Poland: Employment by education level, 2017-2023

Nationality	2019	2020	2021	2022	2023	Δ 2023-2019
National	2361 (99%)	2055 (99%)	2274 (99%)	2267 (100%)	2251 (99%)	-5%
EU	12 (1%)	15 (1%)	15 (1%)	0 (0%)	17 (1%)	42%
EEA	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4 (0%)	-
Non-EU/EEA	11 (0%)	3 (0%)	3 (0%)	4 (0%)	4 (0%)	-64%

Source: MS data submissions under the 2025 Social Data Call

9.18.6 Gender

Distribution in fisheries, compared to processing and aquaculture and → agriculture sector/EU averages

Number of women working on board of Polish fishing vessels increased fast, but majority of positions on board were occupied by male. In 2017 there were 48 women working on the sea, while in 2023 this number increase to 215, over 4 times more. Share of women employment increase from 2% to 9%. More rapid the growth was reported in LSF segment, where number of working women rose from 4 in 2017 to 58 in 2023 (8 p.p). In SSCF segment number of women rose from 44 in 2017 to 157 in 2023 (in 2023 share 10%, +7 p.p since 2017).

Table 194. Poland: Employment by gender, 2017-2023

Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	48 (2%)	73 (3%)	60 (3%)	104 (5%)	102 (4%)	127 (6%)	215 (9%)	▲ 348%
Male	2379 (98%)	2447 (97%)	2326 (97%)	1970 (95%)	2186 (96%)	2142 (94%)	2065 (91%)	▼ -13%

Source: MS data submissions under the 2025 Social Data Call

Unpaid labour by gender

Unpaid labour in Polish reporting is part of total employment. In 2023, the number of people working on board equals 1 312, of which 136 (10%) were women. Number of unpaid employees increased in period 2017-2023 by 46%, and women share was relatively stable since 2020, which was first year of collecting gender dispersion.

Compared to aquaculture women share is very low, but Polish aquaculture is 100% inland-based, so there is difference in specific condition of work.

Social aspects in Fisheries

9.18.7 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Polish fishing fleet reported an average annual labour cost of EUR 11 002 per FTE in 2023, which is significantly below the EU average (29 447 EUR/FTE). Fishing labour costs have fluctuated around the same level over the past decade, with almost no overall change since 2013 (-5%). Average labour costs for the EU as whole increased 22% over the same period.

Fishing labour costs in Poland are significantly below the national average labour costs (-64%) and just above the national minimum wage on an annual basis (EUR 10 021).

Table 195. Poland Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	11 630	8 788	9 103	9 196	10 514	12 020	10 704	12 914	11 220	9 478	11 002
National average				26 540				30 183	30 331	29 121	30 311
Ratio of fishing labour cost to national average				0.35				0.43	0.37	0.33	0.36

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Unpaid labour

Cost of unpaid labour in 2023 was estimated as EUR 10 million for the whole fleet. Calculation per person gives around EUR 640/month, what was 25% below National Minimum Wage. Value of unpaid labour in 2017 was lower than minimal wage as well, but the difference was marginal (2%).

Social security

The health insurance contribution system in Poland is mandatory for most people and is based on the principle of universal insurance, where the contribution amounts to 9% of the contribution base. These contributions go to the National Health Fund (NFZ), which finances health services and reimburses medicines, ensuring equal access to medical care for all insured persons. The contribution base may vary depending on the source of income, and the amount is calculated on a monthly basis.

The retirement contribution system in Poland is a defined contribution system based on three pillars: I (mandatory, managed by the Social Insurance Institution - ZUS), II (mandatory until 1999-2014 or optional for people working after that date, managed by the Open Pension Fund - OFE or a sub-account at ZUS) and III (voluntary, including Individual Pension Accounts - IKE, Individual Retirement Accounts - IKZE, Employee Capital Plans - PPK, Employee Pension Plans - PPE and Open Pension Accounts - OIPE). In the first pillar, the pension contribution is (19.52%) of the assessment basis, of which the employee pays (9.76%).

Self-employed persons are required to pay social security contributions (pension, disability, sickness, accident) and health insurance contributions to ZUS, which are tax deductible. The amount of contributions depends on income and the chosen form of taxation.

Accidents on board

Ensuring safety is an important part of working at sea. Safety requirements for fishing vessels are regulated by the “Regulation of the Minister of Maritime Economy and Inland Navigation of January 7, 2020, on occupational health and safety requirements on fishing vessels.” In addition to protective equipment,

periodic technical inspections of vessels, and crew training, shipowners are required to follow safety procedures and submit to inspections at sea.

Despite these requirements, accidents are still a threat. According to data from the European Maritime Safety Agency (EMSA), in 2023 there was one incident on fishing vessels, resulting in one person being injured. The previous year, there were eight incidents, resulting in three people being injured. Between 2017 and 2023, a total of 30 incidents were recorded for the Polish fishing fleet, resulting in one fatality and six injuries. These included 10 cases classified as “Less serious” (1 person injured), 2 “Marine Accidents,” 16 ‘Serious’ (5 people injured), and 2 “Very serious” (1 person killed).

9.18.8 Social demographics per fishing activities

Small Scale Coastal Fleet

SSCF segments operates mainly in 12 miles zone of Baltic Sea Polish waters and two lagoons – Vistula Lagoon and Szczecin Lagoon. It focuses on fishing Atlantic herring, European flounder and brackish water species like roach, perch, bream and others.

In 2023 it consisted of 636 active boats up to 12 m in length using passive gears (7 boats from L12AG was added to the analysis) and employed 1590, which was 1394 in FTE. Compared to 2017 number of employees and FTE increase by 9%. Women share in employment increased by 7 p.p to 10%, equals 157 people (44 in 2017). Age interval 40-64 was dominant, with growing trend (increase from 58% in 2017 to 65% in 2023) and number of people in the age over 65 doubled in this period. Interval 25-39 share decrease from 32% to 18% in 2023. 99% of employees were Polish nationality. Education level in SSCF generally have positive trend - 54% (64% in 2017) of the crew have low level of education, 35% (29%) – medium and 11% (7%) high.

L12AG (Active Gear)

According to AER2025 separate analysis for this activity was unnecessary, due to the limited number of vessels in Poland (seven vessels in 2023).

Large Scale Fleet

Analysed LSF fleet operates primarily in Baltic Sea. 2 vessels operate in the North-Western Atlantic and North Sea. Main species targeted by LSF fleet were pelagic: sprat, Atlantic herring.

In 2023 LSF segment consisted of 152 active vessels 12-40 m in length, mostly using pelagic trawl, following demersal trawl. Employment in this sector in 2023 was 686 people, which was 672 positions in FTE calculation. Compared to 2017 there was drop in number of employees by 165 people (160 positions) and -24% in share observed. 58 people of working staff in 2023 were women (8% share, increase from 4 people, (0.5%) in 2017). Constantly rising age of employees is confirmed by the data covering years 2017-2023. Interval 40-64 share increase from 61% in 2017 to 69% in 2023, when interval 25-39 share decrease from 34% to 25%. Nationality of the employees were 98% Polish, followed by EU countries (1%) and it is rather stable. Education level of the

employees of LSF segment in stable. In 2023 low level of education have 53% of the group (54% in 2017), medium – 40% (40%) and high - 7% (6%).

9.18.9 Trends and challenges

With ongoing restrictions on cod catches, reduced quotas for pelagic species, and the introduction of new fishing ground limitations linked to industrial (wind turbines) investments and marine protected areas, the Polish fishing fleet is expected to being reduced. This trend is supported by the advanced age of a large share of owners and workers in the sector and limited possibilities for generational renewal.

Income from the fishing industry have become increasingly uncompetitive compared to the national minimum wage, while rising wages in the tourism sector create additional pressure on coastal labour markets. The lack of investment in infrastructure and fishing gear, noted in the AER 2025, suggests that many owners aim to maintain in fishery until reaching retirement age and avoid modernizing their vessels. There is still hope connected to younger people recently entering the SSCF segment, what may be signal of a slow generational shift or a search for supplementary income opportunities by young generation.

In 2024, calls for the permanent cessation of vessels began, to adjust fishing capacity to available fish resources. This measure is expected to improve the fleet’s overall profitability. Temporary cessation programs have served as similar stabilizing function but are now being limited as measure.

For years, EU support has focused on promoting income/activity diversification. However, the specific conditions of the Baltic Sea offer limited opportunities for vessel-based investments. Strict on-board safety regulations further constrain options, as engaging in tourism activities requires substantial financial investments, which additionally restrict fishing operations.

9.18.10 Methodological considerations and data issues

No major issues were found. Social data on Polish fishing sector were gathered via questionnaires and sales notes from commercial fishing companies in 2024. Due to confidentiality reasons, distant water fleet (2 vessels over 40 metres fishing outside Baltic Sea) were excluded from the analysis.

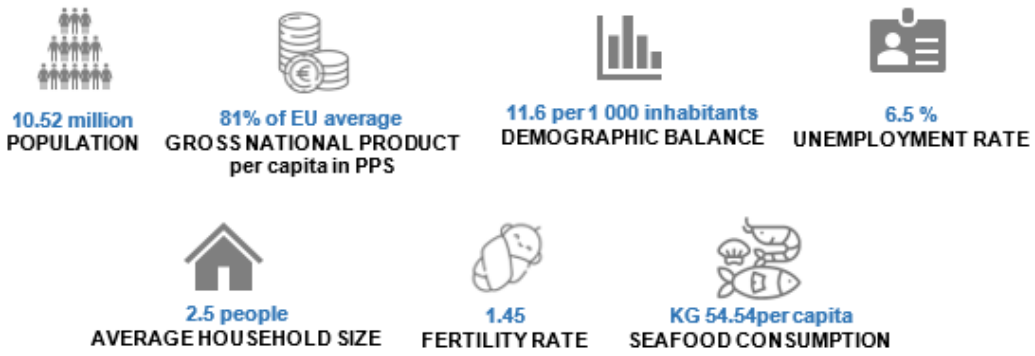
9.19 Portugal

There was no expert available to write this MS chapter. Therefore, the social data from the DCF and from some secondary sources are presented, without elaborate qualitative interpretation. Please note that a National Fisheries profile is available for Portugal.

After the official data submission deadline and the working group meeting, there were identified inconsistencies in the Portuguese data [52]. The national chapter was shared with the National Correspondent, who confirmed that the data reported through the social data call required corrections and provided updated information. However, since the data call and the working group were over, no new data could be uploaded, checked and processed, therefore, the updated data could not be incorporated. Consequently, the ASOR includes the original data submitted through the social data call for Portugal, with references to the corrected data where applicable and relevant.

9.19.1 Snapshot of Portugal

Figure 117. Portugal in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024). Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption (kg live weight/capita/year) data for 2022.

The population in 2023 was 10.52 million (2.34% of the EU-27). Portugal performs well in demographic balance (11.6), well above the EU-27 average (3.6), mostly due to net migration. The average household size (2.5) and fertility rate (1.45 per thousand inhabitants) is slightly above the EU-27 average. Portugal underperforms in terms of living standard and unemployment, with a

[52] A similar consultation with the NCP from Romania retrieved also some data issues, which has no significant impact in the EU-level figures.

gross domestic product per capita in purchasing power standards of 81, and an unemployment rate of 6.5%, above the EU-27 average (6.1%).

Seafood consumption in Portugal is very high. Portugal is the leading nation in the EU in terms of per-capita seafood consumption, more than double the EU-27 average, which stand at 23.51 kg/capita/year).

9.19.2 Short description of the fishing sector

In 2023, there were 6 878 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 84 863 GT and 343 506 kW. The capacity of the national fleet has decreased since 2013. The estimated total number of inactive vessels in 2023 was 3 488, the majority of which (92%) are in the less than 10m segments (AER, 2025).

In 2023, the SSCF consisted of 2 699 vessels, representing 80% of the active Portuguese fleet.

Table 196. Portugal summary table

		2023					% Δ 2023-2017				
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
Total employment	Number	12 804	6 480	944	5 380	n.a	-13%	n.a	n.a	n.a	n.a
FTE	Number	7 227	2 403	373	4 452	n.a	-8%	-4.1%		-7.9%	
Active vessels	Number	3 390	2 699	181	494	16	-12%				
Landings by weight	Thousand tonnes	165.14					2%				
Landings by value	Million €	412.49	104.2	16.2	268.6	24.4	6%				
Ageing work force	%	9.2	11.6	11.9	5.8		3.3	3.9		2	
Gender	%	4.8	6.8	4.2	2.4		0.7	1		0.5	
Nationality: nationals in work force	%	96.4	98.5	98.3	93.4		-2.1	0		-5	

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.19.3 Employment in Fisheries

Total employment

Table 197. Portugal: Total employment (2017-2023)

	2017	2020	2023	Δ 2023-2017
Total employment	*10 626*	12 317	12 804	▲ 20%

Source: Member States data submissions under the 2025 Social Data Call. Updated information from the Portuguese NC confirm 2017 data should be 14 705, pointing to a 13% decrease in total employment.

Full-Time Equivalent

Table 198. Portugal: employment in FTE (2017-2023)

	2017	2020	2023	Δ 2023-2017
FTE	7 820	6 839	7 227	▼ -8%

Source: Member States data submissions under the 2025 Social Data.

Employment status

According to the data submitted under the social data call, between 2017 and 2023, the number of employees increased, while the number of owners declined over the same period. However, data inconsistencies for 2017 and the sharp rise in records with unknown employment status (near 94% of the total) in 2023 reflects data limitations and constrains a meaningful interpretation of these trends.

Table 199. Portugal: Total employment (2017-2023)

Status	2017	2020	2023
Employee	8713 (82%)	10321 (84%)	0 (0%)
Owner	1913 (18%)	1899 (15%)	825 (6%)
Unknown	0 (0%)	97 (1%)	11979 (94%)

Source: Member States data submissions under the 2025 Social Data. Updated information from the Portuguese NC confirm 2017 data should be employee 12 058 and owner 2 647.

9.19.4 Demographics of the Workforce

Age

During the period 2017-2023, the age composition of the workforce has evolved toward an older profile, with increased representativeness of workers aged 40–64 and a pronounced rise in the ≥65 age group. At the same time, younger cohorts have lost representativeness, particularly those aged 15–24, while the 25–39 group has remained broadly stable with a slight decline. Since 2020, the presence of a substantial “unknown” age category reflects data limitations, which restrict a more precise interpretation of changes in the age structure.

The Portuguese National Fisheries Profile (Pita, 2025) provides a detailed analysis by region and fleet segment and reports an average workforce age of 47.5 years in 2021.

Table 200. Portugal: Total employment by age group (2017-2023)

Age group	2017	2020	2023	Δ 2023-2017
≤14	0 (0%)	2 (0%)	50 (0%)	-
15-24	464 (4%)	406 (3%)	270 (2%)	-42%
25-39	2515 (24%)	2556 (21%)	2446 (19%)	-3%
40-64	7015 (66%)	7061 (57%)	7305 (57%)	4%
≥65	632 (6%)	627 (5%)	1176 (9%)	86%
Unknown	0 (0%)	1665 (14%)	1557 (12%)	-

Source: Member States data submissions under the 2025 Social Data. Correct data for 2017 are: 0, 642, 3 480, 9 708, 875, 0.

9.19.5 Workforce education and training

Education

The distribution by education level shows an increasing representativeness of medium- and high-educated workers, both of which grew by more than 60% between 2017 and 2023. Despite this growth, these groups still represent only a small share of the total workforce. The emergence of a substantial “unknown” education category from 2020 onwards reflects data limitations, which constrain a more precise assessment of changes in educational attainment.

Table 201. Portugal: Total employment by education level (2017-2023)

Education	2017	2020	2023	Δ 2023-2017
high	62 (1%)	72 (1%)	104 (1%)	67%
medium	719 (7%)	926 (8%)	1196 (9%)	66%
low	9845 (93%)	10138 (82%)	10397 (81%)	6%
Unknown	0 (0%)	1181 (10%)	1107 (9%)	-

Source: Member States data submissions under the 2025 Social Data. Correct data for 2017 are high 86, medium, 995 and low 13 624.

Training

According to the *Baseline study on the training and certification requirements for fishers in EU Member States (*Hassnoot et al., 2025), training requirements for fishers are based on the STCW-F as laid out in Resolution No. 233/2016 (Accession to the STCW-F). Decree-Law No. 166/2019 establishes the rules relating to seafarers and creating the necessary conditions for the effective application of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F Convention) and the International Convention on Standards of Training, Certification and Watchkeeping (STCW). More specifically, the provisions relating to the STCW-F Convention apply to seafarers performing duties on board ships or fishing vessels with a length equal to or greater than 24 metres,

while those relating to STCW apply to seafarers performing duties on board seagoing vessels (Article 2). In order to perform certain functions or obtain certificates, seafarers must attend training courses or take an examination […](Article 20). There are training institutes for fishers. In the Azores fishers need to complete a vocational training programme to receive a licence to fish. In Madeira, IPTL provides training courses for various categories of seafarers. There are multiple trainings related to fishing, which vary in terms of prerequisites, contents, length and entitlement after completion.

In terms of recognition of certificates for fishers from other EU member states, Article 4 of decree 166/2019 states that without prejudice to the provisions on registration, seafarers who already hold a professional maritime qualification under the legislation of another State must […] obtain recognition of that qualification from the Maritime Administration, provided that the legal requirements defined for the professional activity are met, namely within the scope of the regime relating to the recognition of professional qualifications established by Law No. 9/2009 in its current wording *(*Hassnoot et al., 2025).

Pita (2025) highlights that training is critical not only to raise the qualifications of the fishers but also to ensure generational renewal and an effective transition towards sustainable fishing. Courses for fishers are provided by the Professional Training Centre for Fisheries and the Sea (FOR-MAR), created in 2008 within the framework of the regime provided for in the Decree- Law nº 165/85, of May 16th. FOR-MAR's main task is to promote professional training activities to enhance human resources in sectors linked to maritime activities.

Nationality

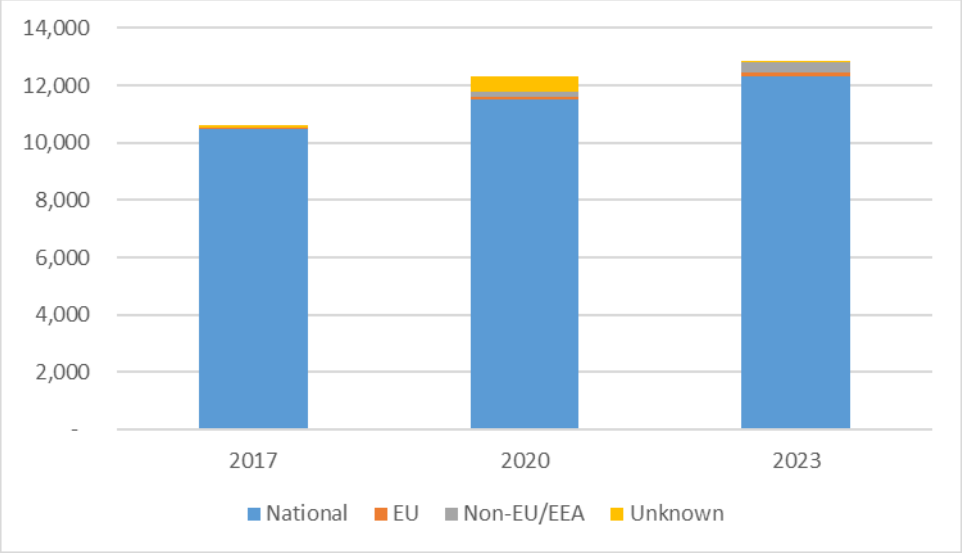
According to the data reported through the social data call, the workforce by origin shows a notable increase in both EU- and non-EU/EEA nationals between 2017 and 2023, with growth rates of 149% and a substantial rise from zero to 344, respectively. National workers also increased, though at a more moderate rate of 18%. At the same time, the number of records with unknown origin decreased sharply, showing an improvement in data reporting.

Table 202. Portugal: Total employment by nationality, 2017-2023

Nationality	2017	2020	2023	Δ 2023-2017
National	10470 (99%)	11509 (93%)	12338 (96%)	18%
EU	44 (0%)	96 (1%)	110 (1%)	149%
Non-EU/EEA	0 (0%)	178 (1%)	344 (3%)	-
Unknown	112 (1%)	534 (4%)	12 (0%)	-89%

Source: Member States data submissions under the 2025 Social Data. Correct data for 2017 are national 14 490, EU 61, Non-EU 0 and Unknow 154.

Figure 118. Portugal: employment by nationality, 2017-2023.



Source: Member States data submissions under the 2025 Social Data

9.19.6 Gender

Employment by gender shows that the workforce remains strongly male dominated despite changes between 2017 and 2023. The increases shown in the table are due to data inconsistencies for 2017.

Table 203. Portugal: Total employment by gender (2017-2023)

Gender	2017	2020	2023	Δ 2023-2017
Female	438 (4%)	499 (4%)	612 (5%)	▲ 40%
Male	10188 (96%)	11818 (96%)	12192 (95%)	▲ 20%

Source: Member States data submissions under the 2025 Social Data. Correct data for 2017: female: 606; male 14 099.

Unpaid labour by gender

Analysis of unpaid labour and total employment by gender indicates that women are proportionally more represented in unpaid labour than in the overall workforce. While women account for a small fraction of total employment (612 out of 12 804 in 2023, approximately 4.8%), they constitute a larger share of unpaid labour (145 out of 1 165 in 2023, around 12%). Men, by contrast, dominate total employment but their share of unpaid labour is proportionally lower. This suggests a gender imbalance in unpaid labour relative to formal employment.

The National Fisheries Profile (Pita, 2025) points out that women play an important role in the sector, carrying out much of the unpaid work, especially in small-scale fisheries (Pita and Gaspar, 2020). Particularly for SSCF, there is also a substantial amount of informal and unpaid work carried out by family members (such as wives mending nets, preparing gear, baiting gear, etc.),

which is an important support for the family enterprise by reducing the costs of fishing (Pita and Gaspar, 2020).

Note: definition unpaid labour in AER: Number of engaged crew that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. People working only onshore, not receiving any kind of compensation, should be included if their activity has a direct link with the fishing operations. Practice across MS might not align with that recommended definition.

Social aspects in Fisheries

9.19.7 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Portuguese fishing fleet reported an average annual labour cost of EUR 22 815 per FTE in 2023, which is below the EU average (EUR 29 447 per FTE). Fishing labour costs have increased 38% since 2013, which is more than the EU average (+22%), suggesting a convergence in fishing labour costs over time.

Fishing labour costs in Portugal are significantly below the national average labour costs (-35%) but over twice the minimum wage on an annual basis (EUR 10 640 per FTE).

Table 204. Portugal: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	16 586	18 995	19 485	21 060	21 633	21 134	23 327	22 772	22 931	23 266	22 815
National average				33 359				35 807	36 362	35 163	35 183
Ratio of fishing labour cost to national average				0.63				0.64	0.63	0.66	0.65

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Working conditions

Data from the 2025 Annual Economic Report (European Commission, 2025) shows overall volatility with a mild downward trend over the period. After a slight increase from 2017 to 2018, the working hours decline sharply in 2019 and continue decreasing into 2020. A temporary recovery occurs in 2021, nearly returning to 2017 levels; however, this rebound is not sustained, with a significant contraction in 2022 followed by a modest increase in 2023. On average, the year-over-year growth rate is approximately –1.25%, indicating a gradual long-term decline despite short-term fluctuations.

Social security

[This section is an extract of the National Fisheries Profile by Pita, 2025]

Portugal is one of the eight Member States where social security for fishers is subject to special laws or regimes and where services are provided by institutions, especially in charge of the social protection of workers at sea (Arias Schreiber et al., 2024).

The Labour Code (Law 7/2009) presents a subsidiary nature for work performed on board fishing vessels. It applies to employment contracts for work performed onboard fishing vessels (and on land, in the execution of tasks specific to the fishing activity or related to the vessel) registered in national ports and to foreign fishing vessels chartered by nationals or national companies (Lourenço, 2021).

In Portugal, social security is mandatory for local and coastal fishers, vessel owners who participate in fishing activities, collectors of marine species, and on-foot fishers. Registered maritime workers must declare their status to the competent Social Security institution. Fishers are recognized as performing arduous and hazardous work, making them eligible for early retirement. Under Regulatory Decree 40/86 and updated by Decree 2/2021, sea fishers can retire from age 55 with at least 30 years of service, with 150 days of work counted as one year. The old-age pension calculation considers years of fishing service multiplied by 0.33.

Additionally, Decree-Law 61/2014 provides income protection through a Salary Compensation Fund for fishers who are temporarily or permanently unable to work due to circumstances beyond their control.

Accidents on board

According to the EMSA database, in 2023, a total of 11 accidents occurred with Portuguese fishing vessels, mostly reported as serious accidents (54.5%). This has resulted in three people injured, but no loss of lives. Most vessels reporting accidents were from the 15m =< LOA < 24m segment (45.5%).

There seems to be a decreasing trend in the number of accidents and loss of lives, with 66 accidents reported in 2017 (with six lives lost), 12 reported in 2019 (no loss of lives), 12 reported in 2022 (with one life lost). However, 21 accidents were reported in 2024 (with six lives lost).

Pita (2025) reports on accidents in the Portuguese fishing sector. In 2020, two accidents resulted in the death of the fishers and a further 911 non-mortal accidents were registered, which resulted in 36 153 days of incapacity. The large number of days of incapacity (an average of 40 days per accident) attests to the gravity of the accidents and the danger of the activity.

9.19.8 Social demographics per fishing activities

Table 205. Portugal: social variables per fishing activity.

	Gender	2017	2020	2023
SCF	Female	358 (5.8%)	384 (6.6%)	442 (6.8%)
	Male	5771 (94.2%)	5421 (93.4%)	6038 (93.2%)
L12AG	Female	0	0	40 (4.2%)
	Male	0	0	904 (95.8%)
LSF	Female	80 (1.9%)	115 (1.8%)	130 (2.4%)
	Male	4092 (98.1%)	6250 (98.2%)	5250 (97.6%)
DWF	Female	0 (0%)	0 (0%)	0
	Male	325 (100%)	147 (100%)	0

	Age	*2017**	2020	2023
SCF	<=14	0 (0%)	0 (0%)	20 (0.3%)
	15-24	277 (4.5%)	177 (3%)	136 (2.1%)
	25-39	1507 (24.6%)	1236 (21.3%)	1175 (18.1%)
	40-64	3871 (63.2%)	3381 (58.2%)	3607 (55.7%)
	>=65	474 (7.7%)	374 (6.4%)	753 (11.6%)
	Unknown	0 (0%)	637 (11%)	789 (12.2%)
L12AG	<=14			1 (0.1%)
	15-24			18 (1.9%)
	25-39			198 (21%)
	40-64			478 (50.6%)
	>=65			112 (11.9%)
	Unknown			137 (14.5%)
LSF	<=14	0 (0%)	2 (0%)	29 (0.5%)
	15-24	168 (4%)	229 (3.6%)	116 (2.2%)
	25-39	909 (21.8%)	1320 (20.7%)	1073 (19.9%)
	40-64	2937 (70.4%)	3617 (56.8%)	3220 (59.9%)
	>=65	158 (3.8%)	253 (4%)	311 (5.8%)
	Unknown	0 (0%)	944 (14.8%)	631 (11.7%)
DWF	<=14	0 (0%)	0 (0%)	
	15-24	18 (5.6%)	0 (0%)	
	25-39	99 (30.6%)	0 (0%)	
	40-64	207 (63.8%)	63 (42.9%)	
	>=65	0 (0%)	0 (0%)	
	Unknown	0 (0%)	84 (57.1%)	

	Education	2017	2020	2023
SCF	Low	5589 (91.2%)	4618 (79.6%)	5109 (78.8%)
	Medium	497 (8.1%)	493 (8.5%)	640 (9.9%)
	High	43 (0.7%)	33 (0.6%)	47 (0.7%)
	Unknown	0 (0%)	661 (11.4%)	684 (10.6%)
L12AG	Low			748 (79.2%)
	Medium			65 (6.9%)
	High			10 (1.1%)
	Unknown			121 (12.8%)
LSF	Low	3965 (95%)	5373 (84.4%)	4540 (84.4%)
	Medium	199 (4.8%)	433 (6.8%)	491 (9.1%)
	High	9 (0.2%)	39 (0.6%)	47 (0.9%)
	Unknown	0 (0%)	520 (8.2%)	302 (5.6%)
DWF	Low	291 (89.7%)	147 (100%)	
	Medium	23 (6.9%)	0 (0%)	
	High	11 (3.4%)	0 (0%)	
	Unknown	0 (0%)	0 (0%)	

	Nationality	2017	2020	2023
SCF	National	6039 (98.5%)	5540 (99%)	6385 (98.5%)
	EU	32 (0.5%)	21 (0.4%)	21 (0.3%)
	Non-EU/EEA	0 (0%)	37 (0.7%)	74 (1.1%)
	Unknown	57 (0.9%)	0 (0%)	0 (0%)
L12AG	National	0	0	928 (98.3%)
	EU	0	0	2 (0.2%)
	Non-EU/EEA	0	0	14 (1.5%)
	Unknown	0	0	0 (0%)
LSF	National	4107 (98.4%)	5822 (94.9%)	5025 (93.4%)
	EU	12 (0.3%)	75 (1.2%)	87 (1.6%)
	Non-EU/EEA	0 (0%)	141 (2.3%)	256 (4.8%)
	Unknown	53 (1.3%)	97 (1.6%)	12 (0.2%)
DWF	National	324 (99.6%)	147 (100%)	0
	EU	0 (0%)	0 (0%)	0
	Non-EU/EEA	0 (0%)	0 (0%)	0
	Unknown	1 (0.4%)	0 (0%)	0

Note. Data inconsistencies for 2017 affect the trend and data analysis. See section 5 and heading of the MS Chapter. Updated data are available and should be submitted in the next data call.

9.19.9 Trends and challenges

The National Fisheries Profile (Pita, 2025) identifies major trends and challenges for the Portuguese fisheries, which are summarized here.

Societal changes have had mixed impacts on the fisheries sector. Urbanization and population ageing have created challenges in finding qualified labour, while

globalization has increased competition from cheaper imported products, negatively affecting domestic fisheries and value chains. Conversely, digitalization has enabled innovations such as traceability and direct selling, and the growth and evolving patterns of tourism have boosted demand for fisheries products, particularly from small-scale fisheries. Increasing consumer awareness regarding health, sustainability, and ethical food choices also presents opportunities for the sector to capitalize on shifting preference.

Over the past decades, the Portuguese fisheries sector and coastal communities have experienced significant changes driven by EU membership, globalization, societal trends, market dynamics, and regulatory frameworks. The workforce has both declined in number and aged, while coastal areas have been affected by demographic shifts, outmigration, gentrification, and competition for limited space with tourism, aquaculture, marine protected areas, and offshore renewables. Positive developments include greater industry participation in decision-making, co-management initiatives, and market diversification to support small-scale fisheries. Small-scale fishers can further benefit from tourism by highlighting product freshness, quality, and cultural heritage.

On the other hand, Pita (2025) identifies multiple sustainability and operational challenges. Overfishing and depleted fish stocks, particularly of commercially important species such as sardine, threaten long-term viability, employment, and income. Competition for sea space from offshore renewables, marine protected areas, and recreational fisheries, combined with high energy costs and volatile fuel prices, further pressures the sector. Workforce challenges include an ageing population, difficulty attracting younger workers, and increasing reliance on foreign labour. Illegal, unreported, and unregulated (IUU) fishing and limited compliance with EU regulations remain persistent concerns, although measures such as electronic logbooks and VMS systems are expected to improve monitoring and traceability. Small-scale fisheries are particularly vulnerable due to heavy dependence on single species, competition with imported seafood, and lack of robust monitoring of recreational fisheries. Additionally, climate change poses a significant risk, with certain regions and fleet segments highly exposed. These cumulative pressures contribute to economic instability, regulatory disaffection, and insecurity among fishers and coastal communities.

9.20 Romania

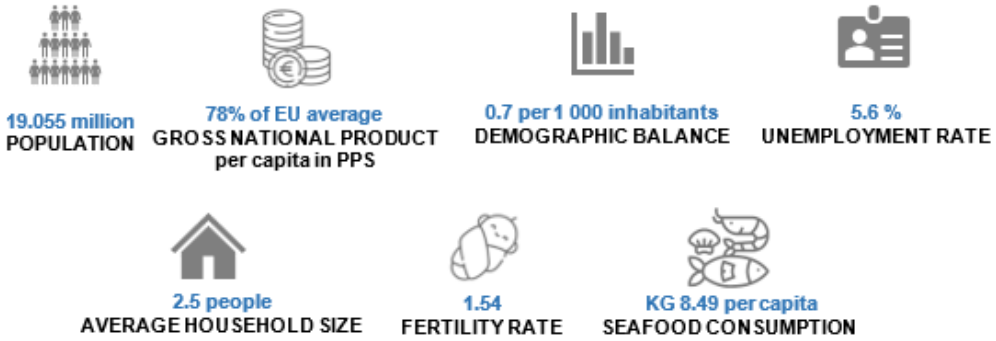
There was no expert available to write this MS chapter. Therefore, the social data from the DCF and from some secondary sources are presented, without elaborate qualitative interpretation.

After the official data submission deadline and the working group meeting, there were identified inconsistencies in the Romanian data. The national chapter was shared with the National Correspondent, who confirmed that the data reported through the social data call required corrections and provided updated information. However, since the data call and the working group were over, no new data could be uploaded, checked and processed; therefore, the updated data could not be incorporated. Consequently, this report includes the original data submitted through the social data call for Romania, with references to the corrected data where applicable.

These corrections do not affect the overall methodology or interpretation of the data.

9.20.1 Snapshot of Romania

Figure 119. Romania in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024)

Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption data for 2022 (kg live weight/capita/year).

9.20.2 Short description of the fishing sector

In 2023, there were 173 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 1 633 GT and 6 348 kW. The estimated total number of inactive vessels in 2023 was 30, the majority due to repairs, refurbishments, ownership transfers, new equipment purchases, or lack of staff (STECF AER, 2025).

Romania's population is estimated to comprise approximately 4% of the population of the EU. With regards to fisheries, it is only 0.03% of the fleet in terms of vessels and 0.3% in terms of employment in fisheries. The fleet employed a total of 383 individuals, estimated at 39.62% units in FTE, a decrease of 5.7% and 53% respectively between reference years 2017 to 2023. The sector is facing issues of generational renewal as between the same reference years, there was a 67% increase in the 40-64 age group, while the younger age groups saw over a 50% decrease.

Romania's fishing sector is particularly small and confined to the waters of the Black Sea under Romanian jurisdiction, whilst they are strongly affected by climatic conditions due to the general poor technical conditions of the fleet (STECF AER, 2025).

Table 206. Romania summary table.

		2023				% Δ 2023-2017			
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**Overall**	**SSCF**	**L12AG**	**LSF**
Total employment	Number	383	277		106	-5.7			
FTE	Number	39.6				-53			
Active vessels	Number	143	119	-	24				
Landings by weight	Thousand tonnes	3.295							
Landings by value	Million €	3.55	1.54	-	2.01				
Ageing work force	%	NA							
Gender	%	2							
Nationality: nationals in work force	%	95							

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.20.3 Employment in Fisheries

Total Employment

In 2023, the fleet employed a total of 383 individuals, a 5.7% decrease since the 2017 reference year. According to the AER (STECF, 2025) in 2023, 277 persons were employed within the SSCF and 106 in the LSF. Scuba divers manually collecting Rapa whelk are also included in the SSCF feet segment.

Table 207. Romania: total employment by gender, 2017-2023

Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	0 (0%)	0 (0%)	0 (0%)	6 (1%)	11 (3%)	8 (2%)	8 (2%)	-
Male	406 (100%)	405 (100%)	416 (100%)	433 (99%)	420 (97%)	414 (98%)	375 (98%)	-8%

Source: Member States data submissions under the 2025 Social Data Call

Full-Time Equivalent

Converted into FTE units, employment is estimated to be 47.78 units, a 43% decrease from the 2017 reference year. Between 2017 and 2023, the ratio between employment and FTE decreased from 20.6% to 12.4%.

Table 208. Romania: employment in FTE, 2017-2023

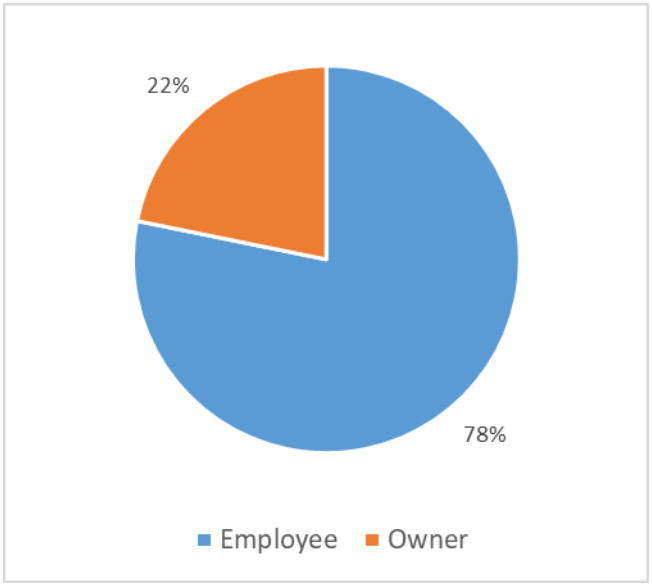
Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	12 (14%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)	1 (2%)	1 (2%)	-95%
Male	72 (86%)	60 (100%)	59 (100%)	49 (91%)	37 (98%)	53 (98%)	39 (98%)	-46%
unknown	0 (0%)	0 (0%)	0 (0%)	5 (9%)	0 (0%)	0 (0%)	0 (0%)	-

Source: Member States data submissions under the 2025 Social Data Call. Updated data for 2023 are 47.78 FTE (0.65 for females and 47.13 for males)

Employment status

Most fishers, 79%, employed in the Romanian fisheries sector in the 2023 reference year, are employees rather than owners of the vessels. Although there is a 413% increase in the number of vessel owners and a 25% decrease in the number of employees between the 2017 and 2023 reference years, this number might indicate changes in the categorizations between employees and owners in previous years.

Figure 120. Romania: employment by status, 2023.



Source: MS data submissions under the 2025 Social Data Call

Table 209. Romania: employment by status, 2017-2023

Status	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Employee	390 (96%)	398 (96%)	390 (94%)	380 (87%)	371 (88%)	346 (82%)	294 (78%)	-25%
Owner	16 (4%)	16 (4%)	26 (6%)	59 (13%)	49 (12%)	76 (18%)	82 (22%)	413%

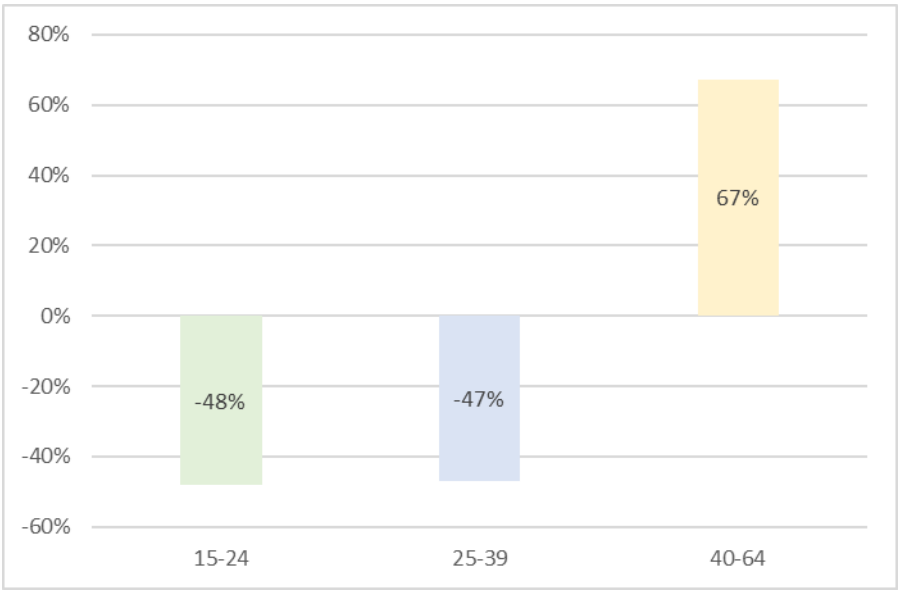
Source: Member States data submissions under the 2025 Social Data Call. Updated figures include 2018: 394 Employees and 11 Owners; 2021: 382 Employees and 49 Owners; 2023: 301 Employees and 82 Owners.

9.20.4 Demographics of the Workforce

Age

Over half of fishers in the 2023 reference year, 64%, fall under the age category of 40-64 years, whilst 29% are between 25-39, and only 7% are between 15-24 years of age. There is a clear downward trend between the reference years 2017 and 2023. There is a 48% decrease in the 15-24 age group and a 47% decrease in the 25-39 age group, while the 40-64 age category experiences a 67% increase, highlighting the issue of generational renewal the sector is facing. There are no individuals reported of 65 or more years.

Figure 121. Romania: Employment change per age category, 2017–2023



Source: MS data submissions under the 2025 Social Data Call

Table 210. Romania: employment by age group, 2017-2023

Age group	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
15-24	54 (13%)	29 (7%)	40 (10%)	47 (11%)	21 (5%)	14 (3%)	28 (7%)	-48%
25-39	205 (50%)	158 (39%)	155 (37%)	144 (33%)	129 (30%)	191 (45%)	109 (28%)	-47%
40-64	147 (36%)	218 (54%)	221 (53%)	248 (56%)	281 (65%)	217 (51%)	246 (64%)	67%

Source: Member States data submissions under the 2025 Social Data Call

9.20.5 Workforce education and training

Education

The majority of fishers employed in Romania's fisheries sector, 53%, fall into the medium education level category, while 40% fall into the low education level category and 7% into the high education level category.

There is an 8% increase in the number of fishers with a high education level, and 22% increase in the number with a medium education level in the 2023 reference year. There is a 28% decrease in the number of fishers with a low education level. These trends are likely linked to issues around generational renewal, as discussed in the preceding section.

Table 211. Romania: employment by education level, 2017-2023

Education	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
High	26 (6%)	32 (8%)	32 (8%)	30 (7%)	36 (8%)	49 (12%)	28 (7%)	8%
Medium	165 (41%)	132 (33%)	153 (37%)	298 (68%)	207 (48%)	189 (45%)	201 (52%)	22%
Low	215 (53%)	241 (60%)	231 (56%)	111 (25%)	188 (44%)	184 (44%)	154 (40%)	-28%

Source: Member States data submissions under the 2025 Social Data Call

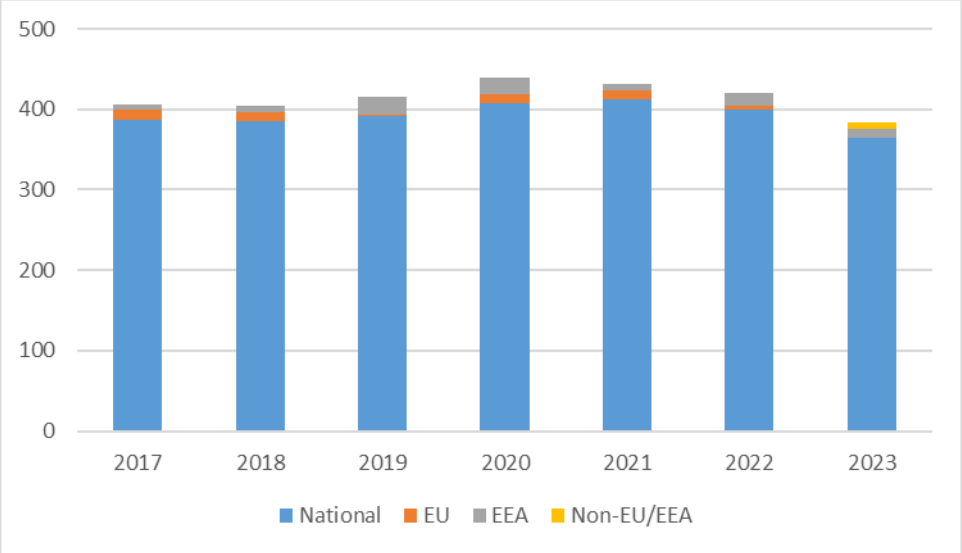
Training

Romania transposed Council Directive 93/103/EC concerning the minimum safety and health requirements for work on board fishing vessels, while it ratified STCW-F through Law, making it a legal requirement that personnel on fishing vessels be certified according to the provisions of STCW-F. It is nevertheless not clear whether this is being enforced, particularly as there appear to be no relevant courses available for fishers (though STCW-compliant courses are available for seafarers). A course for Fishing in Inland and Coastal Waters is available by the Center for Professional Training and Regional Development (CFPDR), the certificate of which is recognized by the Ministry of Labour and Social Solidarity and the Ministry of Education as well as internationally (Haasnoot et al., 2025).

Nationality

In the 2023 reference year, approximately 95% of individuals employed in the fleet were Romanian nationals, 0.2% EU nationals, 3% EEA nationals and 1.8% non-EU/EEA nationals. Many people employed in the fisheries sector are Romanian nationals. Since the reference year 2017, and up to 2023, the trend shows a big decrease in EU nationals and an increase in non-EU/EEA nationals.

Figure 122. Romania: Employment by nationality, 2017–2023



Source: MS data submissions under the 2025 Social Data Call

Table 212. Romania: employment by nationality, 2017-2023

Nationality	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
National	387 (95%)	385 (95%)	392 (94%)	408 (93%)	412 (96%)	400 (95%)	364 (95%)	-6%
EU	12 (3%)	12 (3%)	2 (0%)	10 (2%)	12 (3%)	4 (1%)	1 (0%)	-92%
EEA	7 (2%)	8 (2%)	22 (5%)	21 (5%)	7 (2%)	16 (4%)	11 (3%)	57%
Non-EU/EEA	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (2%)	-

Source: Member States data submissions under the 2025 Social Data. Updated data for 2022 are national employees 402 and total employment 422.

9.20.6 Gender

Out of the total 383 fishers employed in the fisheries sector in the 2023 reference year, 98% were male and 2% female. There is seemingly a big increase of females employed in the sector between the reference years 2017 to 2023 of 800% (from 0 to 8) and an 8% decrease of males. This change is more likely an indication of when the competent authority began to collect separate data on the gender of the employed persons in fisheries. In terms of FTE (see table in the relevant section), 98.5% is estimated to be males and 1.5% females, with a 95% decrease in FTE units by females and 46% decrease by males.

Unpaid labour by gender

There is little information on unpaid labour for Romania, whilst there is no apparent gender dimension to unpaid labour as only males have been accounted. In that category, a 90% decrease of unpaid labour has been estimated between the reference years 2017 and 2023.

Table 213. Romania: unpaid labour (2017-2023)

Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	-
Male	20 (100%)	27 (100%)	8 (100%)	15 (100%)	0 (0%)	2 (100%)	2 (100%)	-90%

Source: Member States data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.20.7 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.The Romanian fishing fleet reported an average annual labour cost of EUR 15 015 per FTE in 2023, which is significantly below the EU average (EUR 29 447 per FTE). Fishing labour costs have decreased 30% since 2013, in contrast with the rest of the EU fishing fleet which increased 22% over the same period.

Table 214. Romania: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	21 417	36 118	18 625	20 306	19 005	21 027	19 798	17 698	21 459	13 705	15 015
National average				15 783				21 774	21 845	21 795	22 937
Ratio of fishing labour cost to national average				1.29				0.81	0.98	0.63	0.65

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Fishing labour costs in Romania are significantly below the national average labour costs (-35%) but almost twice the minimum wage on an annual basis (around EUR 8 000 per FTE).

Working conditions

This information is NA.

Social security

This information is NA.

Accidents on board

Romania has not reported any accidents on the EMSA database.

Foreign-flagged vessels

This section is not relevant to the Romanian context.

9.20.8 Methodological considerations and data issues

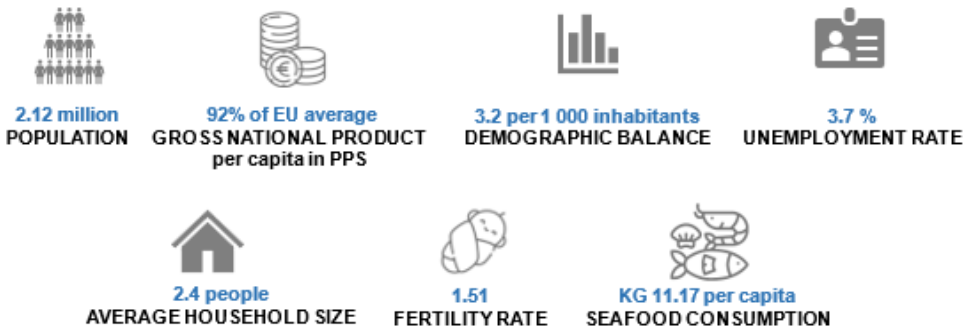
Social data for the Romanian fishing fleet are collected under the EU Data Collection Framework (DCF/EU-MAP) through an annual socio-economic questionnaire covering the previous reference year and transmitted under the Social Data Call following an n-2 reporting schedule, using a census-based approach.

There is no NFP for Romania and no national expert is engaged in the EWG Social Data in Fisheries. This created difficulties in providing additional analysis in the interpretation of the data provided. Consequently, section trends and challenges remain empty.

9.21 Slovenia

9.21.1 Snapshot of Slovenia

Figure 123. Slovenia in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024)

Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption data for 2022 (kg live weight/capita/year).

9.21.2 Short description of the fishing sector

In 2023, the Slovenian fishing fleet consisted of 136 registered vessels (12% decrease considered to the overall time series), with a combined 668 GT (+7% in period 2013-2022), a total power of 8 442 kW (-2% compared to the entire period) and an average age of 46.6 years. The average length of the fishing vessels was 9 metres in the same year. The size of the fleet decreased between 2013 and 2023; the number of vessels by 12% and kW by 2%. The major factor causing the fleet to decrease was the scrapping of vessels, including two of the largest vessels in Slovenian fishing fleet. A decrease of 22% in number of vessels is recorded in 2018 regarding 2017. In 2018, Slovenia updated the register of fishing vessels. All inactive vessels, with no fishing license, were, with the permission of the owner, deleted from the registry.

In 2023, there were 73 active vessels which represent 54% of all fishing vessels. The number of all active vessel decrease for 4% regarding 2022, while a decrease by 8% is recorded from 2013-2023. The peak in the number of active vessels was recorded in period 2014 – 2015. One of the reasons for the increased number of active vessels in that period is the scrapping of some large vessels. Many fishers lost their jobs and decided to start fishing on their own. Also, the economic crisis over the past few years had a similar effect on the increased number of active vessels. One of the reasons for the drop from 2016 to 2021 was the crisis in the purse seiners sector where the number of vessels decreased by two thirds in the period 2016 to 2018 while, from 2019 onwards, there were no more vessels in this segment.

The number of inactive vessels is still high. The case is complex and there are several reasons for this situation. One of the reasons is the high age of these vessels. If the fishing vessels in Slovenia are old and no longer efficient or cost-effective to operate, fishers may choose to retire them or leave them inactive. Also, many owners cannot fish anymore because they are retired but they do not have a successor to continue with the fishing activity. In many cases, fishers found a new job outside the fishing sector, because they could no longer earn a living from fishing, but still own the fishing vessel. Furthermore, if the price of fuel or other expenses associated with operating fishing vessels is high, fishers may choose to keep their vessels inactive until market conditions improve.

Labor productivity of the Slovenian fishing fleet was EUR 41 346 in 2023, which is above the GVA per employee average in the entire Slovenian agricultural sector (EUR 31 341) however, under the total Slovenian GVA/employee average, which amounted to EUR 57 527 in 2023 (source; SiStat Database).

In 2023, a total of 70 280 vessels were registered in the EU fishing fleet, of which 136 belonged to Slovenia, representing approximately 0.19% of the total. Across the EU, there were 119 479 employed fishers, with 111 in Slovenia, accounting for about 0.093% of the EU's fishing workforce. The total population of the EU was 449.2 million, while Slovenia's population stood at 2.12 million, making up roughly 0.47% of the EU population.

Summary of social demographics in Fisheries in 2023 and trend

In 2023, total employment in Slovenia's fishing fleet reached 111 individuals, marking a 10% increase compared to 2017, with growth observed in both small- and large-scale segments. However, full-time equivalent (FTE) employment declined by 3%, indicating a shift toward more part-time or seasonal work, especially in the small-scale fleet. Over the same period, there was a move toward more formal employment, with rising numbers of both full- and part-time employees and a slight rebound in vessel ownership.

The workforce remains predominantly male and ageing, with most fishers aged 40–64. While the number of younger and older fishers slightly increased, the sector continues to face challenges in generational renewal. Educational levels have improved gradually, with more fishers holding medium or high qualifications. Training is informal but mandatory through a certification exam covering regulatory, ecological, and technical knowledge.

Nearly all fishers are Slovenian nationals, with foreign participation virtually disappearing by 2023. The sector continues to be male-dominated, with only one female fisher recorded. Unpaid labor has declined significantly, reflecting increased formalization and structural change in the workforce.

Summary of social aspects in fisheries

In 2023, average wages in Slovenia's fishing sector remained low, with full-time equivalent (FTE) income falling below both the national average and minimum wage. Most fishers earn only part of their income from fishing, supplementing it through other activities like tourism or aquaculture. Unpaid labour continues to decline and now contributes minimally to the sector's total income. Working

hours remain significantly below the national average, reflecting the part-time and seasonal nature of the profession. Social security coverage for fishers is the same as for other Slovenian workers, with additional state support through insurance co-financing in aquaculture. No marine accidents involving Slovenian fishers were recorded between 2017 and 2023, and no vessels operate under a foreign flag.

Summary of social demographics per fleet

Between 2017 and 2023, employment in Slovenia's small-scale coastal fleet (vessels under 12m using passive gear) showed overall stability with some fluctuations, dropping from 79 workers in 2017 to 66 in 2020, then rising to 84 in 2023. The workforce remained almost entirely male, with women disappearing by 2023. The core age group (40–64) dominated consistently, while the number of younger and older workers changed slightly. Education levels saw a modest rise in medium and high qualifications. Slovenian nationals overwhelmingly composed the workforce. Ownership was the main employment type but declined, while full-time and part-time employment increased, indicating a shift toward more formal work. However, average wages fell sharply, from EUR 3 949 in 2017 to EUR 1 700 in 2023, highlighting growing economic challenges.

In the large-scale fleet, the workforce was also predominantly male, with minimal gender diversity. The 40–64 age group dominated, though there was a slight increase in younger and older workers by 2023. Educational attainment improved, with medium education levels rising and low education declining. From 2020, all workers were Slovenian nationals. Employment showed a balance between owners, full-time, and increasing part-time workers, reflecting more flexible roles. Average wages declined significantly from EUR 11 611 in 2017 to EUR 5 558 in 2023, largely due to vessels being converted for tourism in summer, reducing fishing time and earnings.

Summary of trends

Based on the available data and expert insights, Slovenian commercial fishing is primarily concentrated in coastal areas such as Koper, Izola, and Piran, where it remains an integral part of local life and supports the regional economy, particularly through tourism. Traditional fishing communities have diminished, replaced by smaller family-based networks, and the industry has faced challenges since Slovenia's independence, including a decline in fish processing and workforce. Social trends reveal an ageing workforce, fewer job opportunities, advances in technology, and increased environmental awareness encouraging sustainable practices. Economically, the sector has seen improvements in profits and value added, driven mainly by income from other sources. However, fuel consumption per tonne landed has steadily risen, while catch per sea day has decreased due to fleet changes and fishing methods. Increased subsidies and investments have supported fleet upgrades, but total operating costs have fallen mainly due to vessel scrapping, with repair and personnel costs remaining substantial. Although economic indicators suggest some alignment with fishing opportunities, concerns persist over stock sustainability and environmental impacts. There is a clear shift toward diversification, with fishing businesses seeking income in tourism and

aquaculture due to declining landings. The fleet faces growing challenges from climate change, habitat limitations in the northern Adriatic, invasive species, and pressures from coastal development prioritizing commercial over fishing berths. Additionally, the sector grapples with rising raw material costs, labour shortages, shifting consumer behaviour, and seasonal supply fluctuations, all of which affect the fisheries value chain.

Table 215. Slovenia summary table

	Units	2023			% Δ 2023-2017		
Indicator	**Units**	**Overall**	**SSCF**	**LSF**	**Overall**	**SSCF**	**LSF**
Total employment	Number	111	84	27	10%	6%	23%
FTE	Number	61.3	43.6	17.7	-3%	-17%	80%
Active vessels	Number	73	62	11	-9%	-10%	0%
Landings by weight	Thousand tonnes	0.11	0.036	0.071	-16%	-46%	18%
Landings by value	Million €	0.93	0.33	0.6	-14%	-54%	66%
Ageing work force >64	%	11.7%	14.3%	3.7%	44%	33%	100%
Gender - % of women	%	0.9%	0%	0.9%	-50%	-100%	100%
Nationality: nationals in work force	%	99%	98.8%	100%	13%	6.4%	42%

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.21.3 Employment in Fisheries

Total Employment

In 2023, total employment in Slovenia's fishing fleet reached 111 individuals, with 84 working in the small-scale coastal fleet (SSCF) and 27 in the large-scale fleet (LSF). Compared to 2017, this represents a 10% increase in total employment, indicating a modest overall growth in the sector. The SSCF saw a 6% rise, suggesting relative stability, while the LSF experienced a more notable 23% increase, pointing to growing activity or investment in the larger-scale segment.

Table 216. Slovenia: Total employment

	2017	2020	2023	Δ 2023-2017
Total employment	101	84	111	▲ 10%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Full-Time Equivalent

In terms of full-time equivalent (FTE) employment, the total in 2023 was 61.3, with 43.6 FTEs in the SSCF and 17.7 in the LSF. Despite the increase in total employment, FTEs decreased by 3% overall, indicating a possible rise in part-time or seasonal work. The SSCF showed a 17% decline in FTEs, while the

LSF recorded a sharp 80% increase, suggesting a significant shift toward more full-time roles in the large-scale fleet.

FTE (Full-Time Equivalent) is a more suitable indicator for measuring employment in the Slovenian fishing sector, as it better reflects the actual time worked rather than simply counting individuals. In Slovenia, many fishers are seasonal and only go fishing when commercially valuable species enter national waters. For most of them, fishing is not their main occupation, but a secondary activity alongside other jobs. This is also evident from the high share of non-fishing income in the total revenues of the Slovenian fleet. Therefore, FTE provides a more accurate picture of the sector's real labour input.

Table 217. Slovenia: Total employment

	2017	2020	2023	Δ 2023-2017
FTE	62.8	46.6	61.3	-2%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Employment status

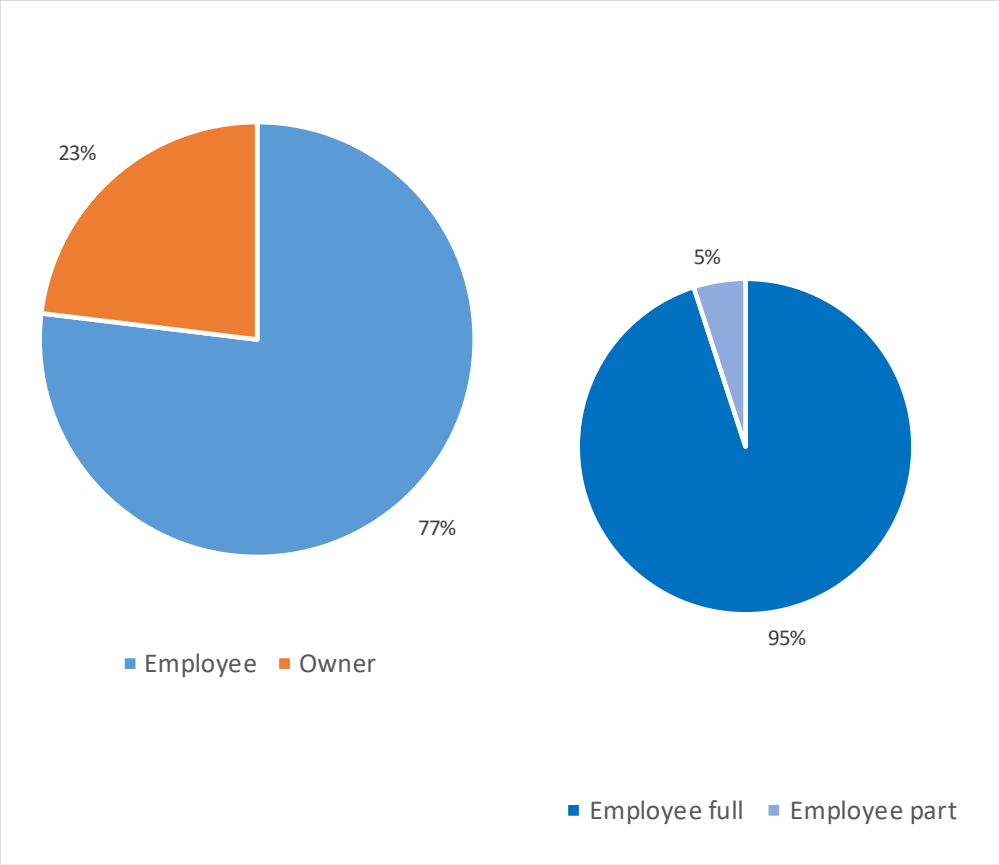
Between 2017 and 2023, the employment structure in Slovenia's fishing sector shows a shift toward increased formal employment. The number of full-time employees remained stable at 16 in 2017 and 2020, before rising to 25 in 2023. Part-time employment slightly decreased from 9 in 2017 to 7 in 2020, but then more than doubled to 18 by 2023. Meanwhile, the number of vessel owners declined from 76 in 2017 to 61 in 2020, before rising again to 68 in 2023. These trends indicate growing involvement of hired labor, particularly part-time and full-time workers, alongside a still significant presence of owner-operators.

Table 218. Slovenia: Employment status, 2017-2023.

Status	2017	2020	2023	Δ 2023-2017
Employee	25 (25%)	23 (27%)	43 (39%)	72%
Employee full		16 (19%)	25 (23%)	-
Employee part		7 (8%)	18 (16%)	-
Owner	76 (75%)	61 (73%)	68 (61%)	-11%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 124. Slovenia: Employment by employment status, 2023



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.21.4 Demographics of the Workforce

Age

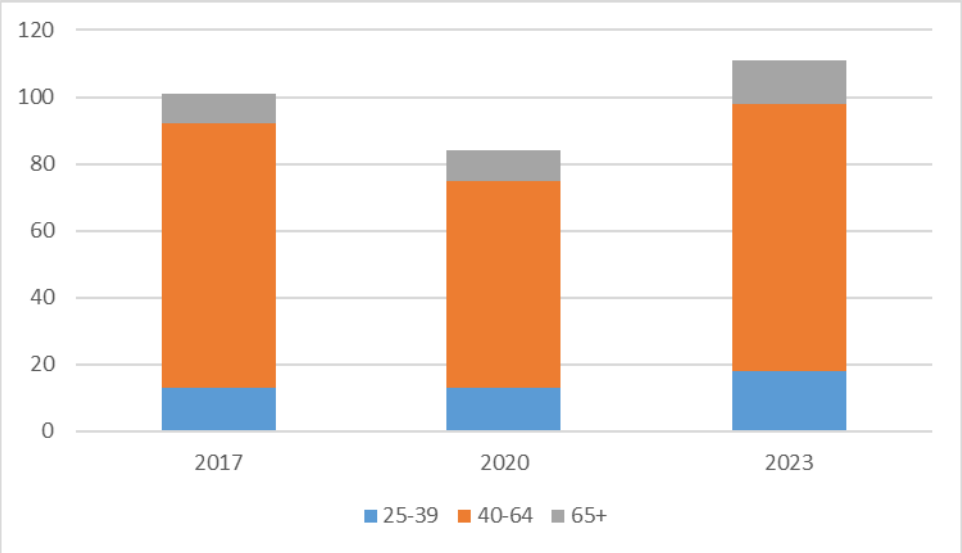
In 2023, the majority of fishers in Slovenia were aged 40–64, with 80 individuals in this group, confirming that mid- to late-career professionals dominate the sector. The number of younger fishers aged 25–39 increased slightly from 13 in 2017 and 2020 to 18 in 2023, suggesting limited but positive signs of renewal. However, the number of fishers aged 65 and over also grew from 9 in 2017 and 2020 to 13 in 2023, indicating that some continue working beyond retirement age. Overall, the 2017–2023 trend shows a stable yet ageing workforce, with only modest entry of younger individuals into the sector, raising concerns about long-term generational renewal in Slovenian fisheries.

Table 219. Slovenia: Employment by age category

Age group	2017	2020	2023	Δ 2023-2017
25-39	13 (13%)	13 (15%)	18 (16%)	38%
40-64	79 (78%)	62 (74%)	80 (72%)	1%
65+	9 (9%)	9 (11%)	13 (12%)	44%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 125. Slovenia: Employment by age group (2017-2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.21.5 Workforce education and training

Education

In 2023, the majority of fishers in Slovenia had a medium level of education, with 84 individuals, marking an increase from 73 in 2017 and 64 in 2020. The number of fishers with a high level of education also increased, from 6 in both 2017 and 2020 to 11 in 2023, indicating gradual improvement in educational attainment within the sector. Meanwhile, the number of those with low education levels declined from 22 in 2017 to 16 in 2023, despite a small increase from 2020. These trends suggest a slow but steady shift toward a more educated workforce in Slovenian fisheries, which may support better adaptability to regulatory, environmental, and technological changes in the sector.

Table 220. Slovenia: Employment by Education Level

Education	2017	2020	2023	Δ 2023-2017
high	6 (6%)	6 (7%)	11 (10%)	83%
medium	73 (72%)	64 (76%)	84 (76%)	15%
low	22 (22%)	14 (17%)	16 (14%)	-27%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Training

In Slovenia, there are no formal schools or official courses for professional fishers. Instead, fishing knowledge is typically passed down through hands-on experience, apprenticeships, and family or community traditions. However, to obtain a commercial fishing permit, candidates must pass an official exam. The

exam requires knowledge in several key areas, including national and EU fisheries regulations, the status and rights of fishers in Slovenia, marine ecology and conservation, fishing vessels and gear, fishing techniques, marine species, hygiene and food safety, and legal requirements for the sale and reporting of catches. Successful candidates receive a certificate proving they have passed the required training program for commercial fishing.

Nationality

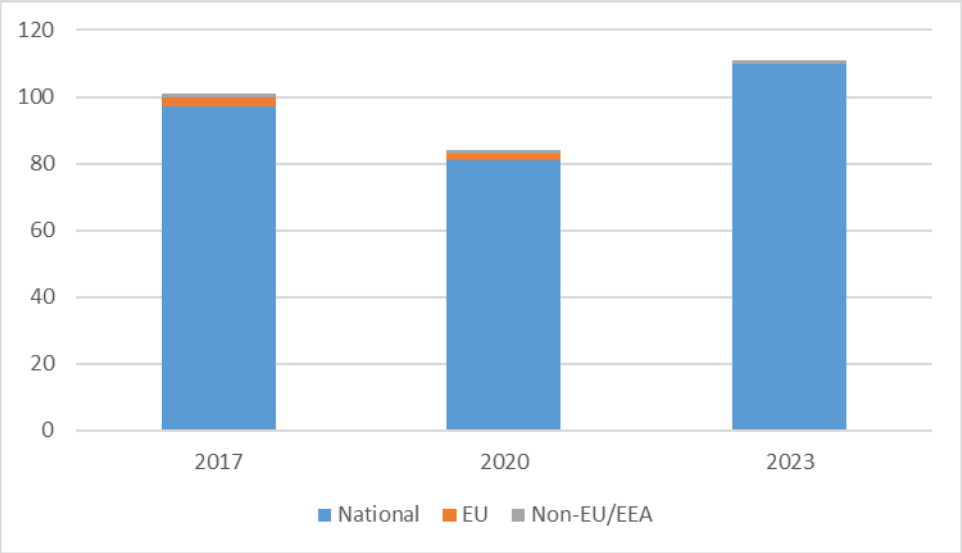
In 2023, the vast majority of fishers in Slovenia were nationals, with 110 individuals, showing an increase compared to 97 in 2017 and 81 in 2020. The number of fishers from EU countries decreased to zero in 2023, down from 3 in 2017 and 2 in 2020, while the number of non-EU/EEA nationals remained stable at 1 throughout the period. These figures indicate that the Slovenian fishing sector relies almost entirely on domestic labour, with very limited involvement of foreign workers.

Table 221. Slovenia: Employment by nationality and by year

Nationality	2017	2020	2023	Δ 2023-2017
National	97 (96%)	81 (96%)	110 (99%)	13%
EU	3 (3%)	2 (2%)	0 (0%)	-100%
Non-EU/EEA	1 (1%)	1 (1%)	1 (1%)	0%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Figure 126. Slovenia: Employment by nationality and by year



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.21.6 Gender

In 2023, the fishing sector in Slovenia remained male-dominated, with 110 male fishers, up from 99 in 2017 and 83 in 2020. The number of female fishers was

very low and nearly unchanged, with just 1 female fisher recorded in both 2020 and 2023, down slightly from 2 in 2017. This highlights the continuing gender imbalance in the Slovenian fishing workforce, with women representing a very small minority.

Unpaid labour by gender

The number of individuals engaged in unpaid labor within Slovenia's fishing sector has declined significantly, from 59 in 2017 to 16 in 2020, and further down to 7 in 2023. All unpaid workers recorded were male. These individuals are typically self-employed fishers who do not receive a traditional salary; instead, their income is derived from the profits generated by their fishing activities, which are counted as personal earnings. This trend reflects a reduction in unpaid labor, possibly due to structural changes in the fishing workforce and increased formalization of employment arrangements.

Table 222. Slovenia: Employment by gender

Gender	2017	2020	2023	Δ 2023-2017
Female	2 (2%)	1 (1%)	1 (1%)	-50%
Male	99 (98%)	83 (99%)	110 (99%)	11%

Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Social aspects in Fisheries

9.21.7 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Slovenian fishing fleet reported an average annual labour cost of EUR 5 371 per FTE in 2023, the third lowest in the EU after Cyprus and Bulgaria. Fishing labour costs have increased 38% since 2013, which is more than the EU average (+22%), suggesting a convergence in fishing labour costs over time.

Fishing labour costs in Slovenia are 90% below the national average labour costs (EUR 52 244), which is one of the largest differences in the EU. Fishing labour costs are also below the Slovenian minimum wage of EUR 15 046 in 2023 (Source; https://www.stat.si/StatWeb/en).Slovenian fishers earn only small part of their wages in fishing and the rest of their salaries with other activities, such as tourism, aquaculture, etc.

Table 223. Slovenia Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	15 140	14 345	14 397	13 675	11 798	7 768	8 840	7 374	9 372	6 281	5 371
National average				43 330				50 986	53 099	50 872	52 244
Ratio of fishing labour cost to national average				0.32				0.14	0.18	0.12	0.10

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Unpaid labour

In Slovenia, unpaid work in the fisheries sector plays a marginal role compared to the overall wage costs in the sector. In 2023, the estimated average monthly income from unpaid work per person was EUR 431, amounting to EUR 5 172 annually. This is significantly lower than the gross annual minimum wage in Slovenia for the same year, which stood at EUR 15 046. This means that unpaid work generated only around 34% of the income guaranteed by minimum wage employment, further highlighting its limited economic contribution.

Looking at the trend over the period from 2017 to 2023, the value of unpaid work has declined both in total and relative importance. In 2017, total estimated income from unpaid work was EUR 103 023, dropping to EUR 38 482 in 2020, and further to EUR 36 232 in 2023. Although the estimated average monthly income per person rose from EUR 200 in 2020 to EUR 431 in 2023, this increase is more reflective of the reduced number of active unpaid contributors than of real growth or sectoral importance.

When compared to the total wage costs in the sector (EUR 292 891 in 2023), which are substantially higher, the contribution of unpaid work is economically negligible. These figures confirm that while unpaid work may still exist within small-scale or family-based fishing operations, its impact on the sector's overall productivity and labour cost structure is minimal.

Working conditions

Total Working hours

Working hours in the Slovenian fisheries sector represent a very small share compared to total labour input in the national economy. In 2023, a total of 127 982 working hours were recorded in the sector, involving 111 active fishers. This amounts to an average of 1 153 hours per fisher per year, which is significantly lower than the Slovenian national average of 2 088 hours per worker annually in the general economy.

This pattern has been relatively consistent over time. In 2017, 101 fishers worked a total of 131 107 hours (about 1 298 hours per person), while in 2020, 84 fishers worked 134 780 hours (about 1 604 hours per person), which marked the highest average in the observed period. By 2023, although the number of fishers increased to 111, the total hours slightly declined, reducing the per capita average again.

Importantly, small-scale coastal vessels account for around 75% of the total working hours, underscoring their central role in Slovenian fisheries. Despite this, the overall labour contribution of the sector remains limited due to its part-time nature, seasonal work patterns, and the relatively small fishing area available to Slovenia.

Social security

In Slovenia, social insurance is organized through the national social security system, which provides coverage for various social risks and needs. The system is based on compulsory contributions from both employees and employers. It covers areas such as health insurance, pension insurance, disability insurance, unemployment insurance, parental leave, and various social assistance programs.

- Health Insurance: Slovenian residents have access to universal healthcare coverage through the Health Insurance Institute of Slovenia (ZZZS). This system ensures that all citizens have access to necessary medical services, including preventive care, hospitalization, and prescription drugs.
- Pension Insurance: The pension system in Slovenia is based on contributions from both employees and employers throughout their working lives. It provides retirement benefits to individuals upon reaching retirement age, ensuring income security in old age.
- Disability Insurance: Disability insurance provides financial support to individuals who are unable to work due to a disability. It covers both temporary and permanent disabilities, offering income replacement and support services to those in need.
- Unemployment Insurance: Unemployment insurance offers financial assistance to individuals who have lost their jobs involuntarily. It provides temporary income support while individuals search for new employment opportunities.
- Parental Leave: Slovenian social security includes provisions for parental leave, allowing parents to take time off work to care for their new born or newly adopted child. During this period, parents may receive partial income replacement to support their family.
- Social Assistance Programs: Additionally, Slovenia provides various social assistance programs to support vulnerable populations, including welfare benefits, housing assistance, and support for individuals facing financial hardship.

In Slovenia, all social security provisions apply to Slovenian fishers just like to all residents of Slovenia.

The Ministry of Agriculture, Forestry, and Food also provides assistance to the fisheries sector in co-financing conventional insurance. Insurance is one of the main measures used to manage production and income risks in fisheries. Co-

financing distributes the risk and consequently the cost of insurance among the insurance company, the state, and the fisher. The purpose of the measure is to reduce income risks for individuals and legal entities engaged in aquaculture activities in the Republic of Slovenia. The measure co-finances insurance premiums for the insurance of aquaculture in fish farming facilities in the event of mortality due to disease. The co-financing rate is 30% of the calculated insurance premium.

Accidents on board

According to available data, there is no recorded evidence of marine accidents involving Slovenian fishers between 2017 and 2023. The Slovenian Ministry of Infrastructure, which houses a dedicated unit for investigating marine accidents and incidents, regularly publishes statistical reports on maritime safety. However, based on these publicly available reports, no cases involving Slovenian fishers were investigated or reported during the 2017–2023 period. The data focuses on broader maritime incidents, such as collisions, groundings, or technical failures, mostly related to commercial or recreational vessels, but does not single out fishers as affected parties.

Foreign flagged vessels

There are no fishing vessels in Slovenia that fly a foreign flag.

9.21.8 Social demographics per fishing activities

Small Scale Coastal Fleet [<12m, passive]

Between 2017 and 2023, employment in the Slovenian small-scale fisheries sector shows a combination of overall stability and gradual shifts in key demographic and socio-economic categories. The total number of employed individuals declined from 79 in 2017 to 66 in 2020, before rising again to 84 in 2023, indicating a temporary dip followed by recovery.

The sector remains heavily male-dominated. In 2017, 77 out of 79 workers were male; by 2020, that number was 65 out of 66, and in 2023, all 84 workers were male. This points to a persistent and worsening gender imbalance, with the complete disappearance of female workers by 2023.

The age structure has remained relatively stable, with the 40–64 age group consistently forming the core of the workforce—61 in 2017, 28 in 2020, and 60 in 2023. The number of younger workers (25–39) fluctuated slightly, while the ≥65 group increased from 9 to 12 over the period, indicating limited generational turnover and continued dominance of middle-aged workers.

In terms of education, workers with medium-level education remained the majority, increasing from 57 in 2017 to 61 in 2023. The share of those with low education declined (from 16 to 9), while those with high education grew modestly from 6 to 11. This reflects a slight trend toward higher qualifications, though the overall structure remains largely unchanged.

Slovenian nationals consistently make up the overwhelming majority of the workforce, 78 out of 79 in 2017, 63 out of 66 in 2020, and 83 out of 84 in 2023. There were minimal appearances of EU and non-EU/EEA nationals, indicating very limited international presence in the sector.

Employment status data shows that ownership remains the dominant form of employment, although the number of owners declined from 66 in 2017 to 54 in 2023. In contrast, full-time employment increased modestly (from 12 to 15), and part-time employment rose more noticeably (from 4 to 12), suggesting a gradual shift toward more formal and flexible employment arrangements.

The average salary of a fisher in the small-scale coastal Slovenian fleet has shown a significant downward trend over the years: from EUR 3 949 in 2017 to EUR 2 432 in 2020, and further declining to EUR 1 700 in 2023. This steady decrease highlights growing economic challenges within this sector. Importantly, these wages remain deeply below the Slovenian national average salary, which underscores what has been previously noted, that Slovenian fishers primarily rely on additional activities outside of fishing to secure the majority of their income.

Large Scale Fleet

The data for employees in the Slovenian large-scale segment between 2017 and 2023 shows several key trends. Throughout all three years, the vast majority of participants were male, with only one female recorded in 2023, indicating minimal gender diversity. The age group 40–64 consistently dominated, though 2023 showed slight increases in both younger (25–39) and older (65+) participants, suggesting a modest broadening in age representation.

Educational levels improved over time, with medium education increasingly prevalent (from 73% in 2017 to 85% in 2023), while the share of participants with low education declined. Nationality became fully homogeneous from 2020 onward, with all participants being of national origin, compared to some EU and non-EU/EEA representation in 2017.

Employment status remained relatively balanced, though there was a gradual increase in part-time work (from 3 in 2017 to 6 in 2023) and in ownership (from 8 in 2020 to 11 in 2023), reflecting a trend toward more flexible work arrangements and entrepreneurial roles. Overall, the data points to a slowly diversifying yet still relatively uniform workforce in terms of gender and nationality, with notable improvements in education.

9.21.9 Trends and challenges

Based on the presented data and expert knowledge of Slovenian fisheries, we can observe several important trends.

- Geographical Significance: Commercial fishing is concentrated in coastal regions, particularly in municipalities like Koper, Izola, and Piran, where it intertwines closely with the local way of life and contributes to the regional economy, especially in terms of tourism.

- Changes in Fishing Communities: Traditional fishing communities have diminished, giving way to smaller, family-based connections among fishers, processors, and providers. The fishing industry has faced challenges since Slovenia's independence, with a decline in fish processing companies and workforce.
- Social Trends: Several social trends have been observed in Slovenian marine fisheries, including an ageing workforce, a decline in employment opportunities, technological advancements, and a growing environmental awareness prompting a shift towards sustainable practices.
- Economic Indicators: Despite challenges, there has been a positive trend in economic indicators, with increases in gross profit, net profit, and GVA over recent years, primarily due to higher revenues from other sources.
- Fuel Consumption and Efficiency: Fuel consumption per landed tonne has increased steadily since 2013, indicating a need for greater efficiency in fishing operations. Additionally, there has been a decrease in landed weight per sea day, influenced by changes in fleet composition and fishing methods.
- Financial Subsidies and Investments: The fishing sector has received increased subsidies, particularly for diversification efforts. Investments have been made to upgrade fleet equipment, resulting in increased depreciation costs and other income.
- Operational Costs: Total operating costs have decreased over time due to the scrapping of older vessels, with repair and personnel costs remaining significant expenses.
- Balance with Fishing Opportunities: Economic indicators suggest a balance with fishing opportunities, but technical indicators may show discrepancies. There are also concerns about the sustainability of fish stocks and the environmental impact of fishing activities.
- Diversification: Given reduced landings, there's a shift towards seeking earnings in other sectors such as tourism and aquaculture, indicating a need for diversification in revenue sources within the fishing industry.

The Slovenian fishing fleet is facing growing challenges linked to environmental change, resource pressure, and market instability. Climate change is driving more frequent extreme weather, rising sea temperatures, acidification, and the spread of invasive species like comb jellies and jellyfish. The northern Adriatic’s flat, muddy seabed offers limited habitat for many marine species, contributing to declining fish stocks and benthic organisms. These ecological issues are worsened by insufficient monitoring of recreational fishing and pressures from coastal development, which increasingly prioritizes commercial berths over space for the fishing fleet.

Economically, the sector struggles with rising raw material prices, supply shortages, labor scarcity, and shifting consumer habits. Seasonal fluctuations in fresh fish availability and events that damage consumer trust further affect the value chain.

9.21.10 Methodological considerations and data issues

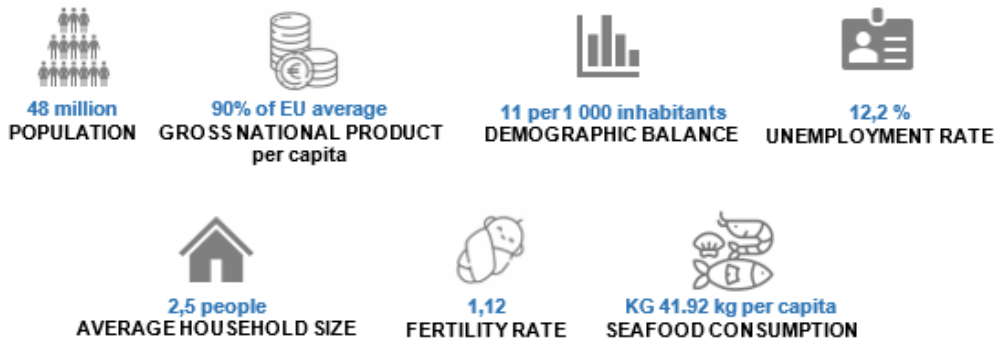
No major issues detected. The economic and social data on the fishing sector were collected mostly from accounting records – AJPES, from data base

‘InfoRib’, through questionnaires and sales notes. In the monitoring programme all fishing vessels were included (census). The data collected from all sources were combined in such a way that a complete set of accounting items is compared for each business enterprise. The target population was all the commercial fishing sector of Slovenia. There were approximately 100 fishing companies. In May 2024, the questionnaires for 2023 were sent to all users of fishing vessels in Slovenia. The response rate was 100%. Where the data from annual accounts of business enterprises was used the response rate was also 100%, because there are economic reports for all investigated companies or fishers.

9.22 Spain

9.22.1 Snapshot of Spain

Figure 127 Spain in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024)

Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption data for 2022 (kg live weight/capita/year).

Over the past decade, Spain's population has grown substantially, reaching approximately 48 million inhabitants (10.7% of the EU total). This growth has been driven primarily by significant net migration, particularly from Latin American countries. The gross national product has expanded in recent years, with several analyses underscoring the positive contribution of immigration to this development. Despite this, Spain continues to experience the highest unemployment rate in the EU. The transition of young adults to independent living occurs relatively late, primarily due to persistently high youth unemployment and elevated housing costs. Consequently, the average household size remains comparatively large, despite the country recording one of the lowest fertility rates in the EU (1.12, EUROSTAT 2023). Spain is the second-largest consumer of fish in the Union, after Portugal. In any case, consumption has declined by nearly 30% over the last decade, with the decline being more pronounced among younger cohorts, while individuals over 50 years of age maintain markedly higher consumption levels (MAPA 2023)[53].

[53] MAPA (2023). Informe del Consumo de Alimentación en España, 2022. Ministerio de Agricultura, Pesca y Alimentación, Madrid http://publicacionesoficiales.boe.es

9.22.2 Short description of the fishing sector

In 2023, there were 8 711 registered vessels in Spain (excluding those registered in the aquaculture segment), with a total capacity of 321 136 GT and 768 768 kW. The capacity of the national fleet has decreased by 14.33% in vessels, 16.57% in engine power, and 12.03% in GT since 2013. The estimated percentage of inactive vessels in 2023 was 14.75% of the fleet, mostly small-scale coastal vessels under 12 metres LOA (STECF AER, 2025, p. 374).

Gross Value Added (GVA) generated by the fleet EUR 841 million. The Fisheries-Food system represents 0.84% of the Spanish GVA (Ballesteros, 2023). The EU fleet comprised 70 280 vessels, representing Spanish fleet a 12.4% of this total, with the highest GT percentage at 24.8% (STECF AER, 2025). Considering only active vessels, Spain maintains a 13.9% of the EU fleet (STECF AER, 2025). In 2023, Spain had the largest percentage both of the total and FTE employment, with 29 964 jobs (25% total EU) corresponding to 21 172 FTE (28.6% total EU) (STECF AER, 2025). The average crew wage per full-time equivalent (FTE) amounted to EUR 26 896 in 2023, representing a decrease of 1.7% compared with 2022. In contrast, the average crew costs per FTE in other countries like Denmark rise to 97 168 in 2023 (with a 5% increase from 2022) (AER 2025). Employment in FTEs fell by 48% between 2004 and 2021 and by 20% over the last decade, outpacing the reduction in vessel numbers. This decline reflects ongoing fleet downsizing and automation (Penas, 2016, Ballesteros 2025). Of the total employment in fisheries male comprise the 97.28%, and taking into account onboard employment women employment are a 1.5%, and a 0.1% in LSF and DWF (Ballesteros, 2025). The average profile of the Spanish fisher in SSF and mid-size fleet is a man of 40-44 years old (64.5%), with a low level of education (EQF-1, 64.5%) and of Spanish nationality. In the LSF and DWF the percentage of Spanish is lower (47.05% and the non-EU is more relevant 33.90%) (Ballesteros, 2025). The most relevant general trends related to fisheries are an ageing workforce and shortage of crews, as fisheries look unattractive to younger people. This is accompanied by a reduction in the fish consumption per capita and a shift in the species consumed, with an increase in the relevance of imported fish. Equally relevant is the increasing regulatory burden affecting the fishing sector, which constrains and conditions fishing activity through a growing number of rules, administrative requirements, and compliance obligations. This regulatory pressure is further reinforced by spatial competition with other maritime uses, such as offshore renewable energy developments, Marine Protected Areas, and other environmental regulations.

The Spanish fisheries sector is highly diverse and multifaceted. The fishing fleet spans all fleet segments (small, coastal, large and distant water fleets) and operates across various fishing regions, using multiple species and fishing methods. The processing sector ranges from small companies producing high-quality, handcrafted products to large multinational firms handling substantial volumes of frozen products to global consumer demand. Similarly, the marketing, distribution and retail sectors encompass both major global fish traders and smaller local sellers, as well as venues ranging from traditional marketplaces to highly sophisticated fish shops. Seafood is deeply embedded in

Spanish gastronomic culture, which, combined with massive tourism (85.1 million in 2003, INE) stimulates a wide range of catering and hospitality services, while also promoting the cultural heritage of the fisheries communities (Ballesteros, 2025).

While fisheries communities are widespread along the approximately 8 000 km of Spanish coast (IGN, 2023), including four marine domains in the Spanish regulations[54]: Mediterranean, Cantabrian and Northwest, Gulf of Cadiz, and the Canary Islands. Nearly 60% of the workforce (total employment) is located in the European supra-region North Atlantic (NAO, including Canary Islands).

Table 224. Spain summary table

	Units	2023					% Δ 2023-2017*				
Indicator	**Units**	**Overall**	**SSCF**	**L12AG***	**LSF**	**DWF**	**Overall**	**SSCF**	**L12AG**	**LSF**	**DWF**
Total employment	Number	29 964	8 213	2 256	14 713	4 783	-13%	-15%	-41%	-7%	-4%
FTE	Number	21 173	3 474	612	11 690	5 397	-27%	-44%	-70%	-22%	-11%
Active vessels	Number	7 426	4 119	1 198	1 918	191	-10%	-	-	-	-
Landings by weight	Thousand tonnes	765	11	282	28	471	-18%	-62%	-14%	-29%	-6%
Landings by value	Million €	1 723.7	168.5	20.6	837.1	697.4	-17%	21%	-	-25%	-35%
Ageing work force >=65 in workforce	%	0.74	0.77	0.41	0.89	0.39	142%	80%	-73%	558%	518%
Gender women in workforce	%	4.6	5.6	14.7	3.1	3	14%	-11%	8%	94%	-8%
Nationality: nationals in work force	%	72	93	95	67	39	-12%	-7%	-42%	-9%	19%

* The L12AG was included in the LSF before 2024. Whenever possible, data have been disaggregated to ensure comparison.

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

9.22.3 Social demographics in Fisheries

Social demographics by supra-region

The Spanish fishing fleet is highly diversified in fishing techniques, fisheries grounds and target species, representing a plurality of social and economic functions in their areas of influence. While 95% of the fleet operates in national waters in the Atlantic and Mediterranean[55], Spanish vessels capture fish in all but one of the world's oceans.

This section presents the main variables for comparison across supra-regions (North Atlantic Ocean, Mediterranean and Other Fishing Regions), with each

[54] See Article 2 in https://www.boe.es/eli/es/rd/2022/06/27/502.

[55] The Spanish National waters include areas FAO 27.8, 27.9.a, 37.1, and the Canary Island waters 34.1.2

variable analysed in detail later at the Member State level. To provide context for the social variables, in 2023 the NAO supra-region accounts for 72% of the fleet and contributes 32% of total landings by weight, while the MSB includes 26% of the fleet and provides 8% of total landings. By contrast, the OFR comprises just 2% of the fleet but generates 60% of landings, reflecting the high industrialization of the DWF. This distribution underlies the differences observed in workforce size, employment patterns, and other social characteristics across the supra-regions.

In 2023, the North Atlantic Ocean accounted for approximately 62% of the employment, the Mediterranean for roughly 22% and the other fishing regions for around 16% of the workforce. The distribution among the three supra-regions (**Error! Reference source not found.**) has been largely stable since 2 017, while MSB gradually declined in share (a reduction of roughly 2.6%; from 8 564 to 6 714 workers). The NAO supra-region includes the Canary Islands outermost region (OMR), where fishing activity takes place in FAO area 34.1.2; in 2023, the fleet comprised 713 vessels (570 active, AER, 2025) and supported a total workforce of 1 570.

The workforce remains overwhelmingly male (95%), with women employment concentrated mostly in NAO (1 095 out of a total 1 392 female workers). Modest growth in female participation (+14% since 2017) is driven by NAO (+22%), with declines in MBS (-5%) and OFR (-8%)

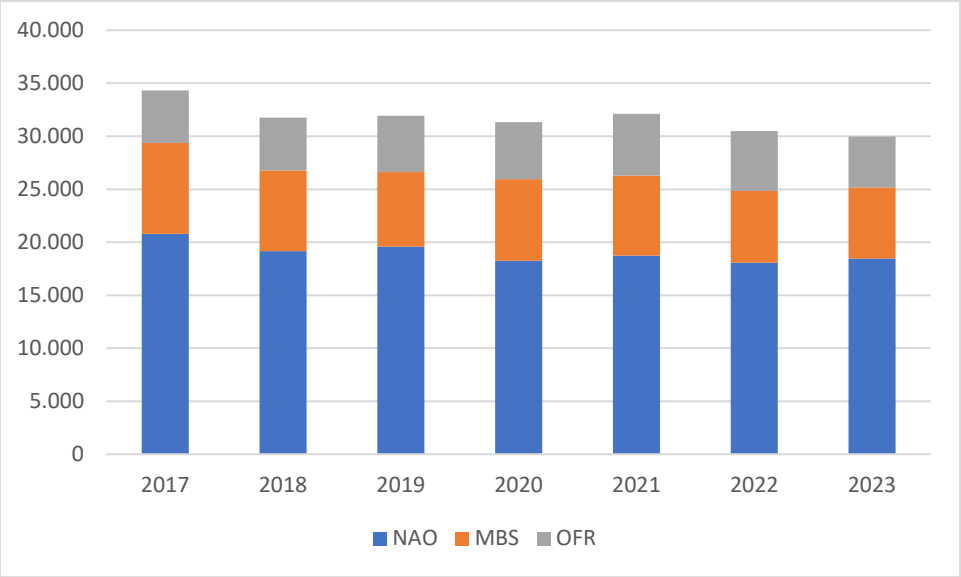
Table 225. Spain. Total employment and FTE by supra-region (2023) and trend.

Employment	2023				Δ2017-2023			
	Overall	NAO	MBS	OFR	Overall	NAO	MBS	OFR
Total employment	29 964	18 468	6 714	4 783	▼-13%	▼-11%	▼-22%	▼ -4%
FTE	21 173	11 373	4 403	5 397	▼-27%	▼-31%	▼-35%	▼-11%

Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call

Overall, employment data point to a broad downsizing. Between 2017 and 2023, employment declined across all categories, with total employment falling by −13% and full-time equivalent (FTE) employment decreasing more sharply by −27%. This indicates a structural shift toward fewer full-time positions over the period. The contraction was most pronounced in MBS, where total employment dropped by −22% and FTE by −35%, while NAO also experienced a substantial reduction in FTE (−31%). In contrast, OFR proved comparatively resilient, recording only a −4% decline in total employment and a −11% reduction in FTE.

Figure 128. Spain. Total employment by supra-region, 2017-2023



Source: Member States data submissions under the 2025 Social Data Call

The distribution of employment shows specialization by area. NAO and MBS show similar distribution, with LSF accounting for 53% of NAO and 60% of MBS employment, and SSCF representing 32% and 27%, respectively. L12AG is almost entirely concentrated in NAO (91%). Finally, DWF employment (4 783) focuses exclusively in OFR (191 vessels in 2023; STECF, 2025).

Employment status presents differences across supra-regions. In 2023 NAO owners represented 28% of its workforce (5 231 owners); MBS has a smaller share of owners (19%), and OFR is entirely employed-based (4 783). These differences in workforce composition reflect the nature of the fisheries, with family-oriented SSCF relying more on owner-operators, while business-oriented LSF and DWF are predominantly employee-based.

The fishing workforce is clearly ageing across all supra-regions. In 2023, prime-age workers (40–64) make up 61% of total employment and youth (15–24) just 2%. Since 2017, the number of young workers has fallen sharply (−49% overall), especially in MBS (−73%) and NAO (−54%), while the senior segment (≥65) has grown (from 92 to 222), driven by large increases in MBS (from 17 to 123) and OFR (from 3 to 19). Workers aged 25–39 also declined overall (−24%), most notably in NAO (−30%). These trends reflect a shift toward an older workforce, with prime-age and senior workers increasingly dominating the employment landscape, while youth participation continues to decline.

Table 226. Spain. Total employment by age group and supra-region (2023) and trend

Age	2023				Δ2017-2023			
	Overall	NAO	MBS	OFR	Overall	NAO	MBS	OFR
15-24	723	364	107	251	▼-49%	▼-54%	▼-73%	▲ 6%
25-39	8 768	5 189	1 936	1 643	▼-24%	▼-30%	▼ -8%	▼-17%
40-64	18 387	12 256	4 281	1 849	▲ 10%	▲ 19%	▼-14%	▲ 40%
≥65	222	80	123	19	▲142%	▲ 12%	▲626%	▲518%
unknown	1 864	578	265	1 021	▼-60%	▼-73%	▼-75%	▼-29%
Total	**29 964**	**18 468**	**6 714**	**4 783**	**▼-13%**	**▼-11%**	**▼-22%**	**▼ -4%**

Source: Member States data submissions under the 2025 Social Data Call

Noting the caveats in the education variable of the Social Data Call (which is unable to capture training and skills development in a continuous lifelong learning path), the 2023 data show a gradual rise in educational levels. While low-educated workers still dominate (65%), medium- and high-educated workers are growing, particularly in OFR and NAO, reflecting a shift toward a more skilled workforce. Since 2017, low education has declined slightly (−15%), medium education has increased by 10% and high by 109%. There has also been a clear improvement in data coverage.

The fishing workforce in 2023 was predominantly national (72%), with the majority of nationals in NAO and MBS. Non-EU/EEA workers make up 20%, concentrated in NAO and OFR, while EU nationals account for only 2% but have grown sharply in MBS since 2017. By fishing activity, national workers dominate SSCF and L12 AG (above 90% in all supra-regions); LSF combines mostly national workers with a significant share of non-EU/EEA nationals (above 20%). In contrast, DWF in OFR relies heavily on non-EU/EEA labour (38%) of the workforce.

Table 227. Spain: Total employment by nationality and supra-region (2023) and trend

Nationality	2023				Δ2017-2023			
	Overall	NAO	MBS	OFR	Overall	NAO	MBS	OFR
NATIONAL	21 535	14 636	5 030	1 870	▼-12%	▼-12%	▼-19%	▲ 19%
EU	540	255	227	57	▲ 34%	▼-19%	▲481%	▲ 12%
EEA	0	0	0	0	-	-	-	-
NON-EU/EEA	5 907	2 884	1 209	1 814	▲ 21%	▲ 65%	▼ 0%	▼ -6%
UNKNOWN	1 982	693	247	1 042	▼-58%	▼-68%	▼-78%	▼-27%
Total	**29 964**	**18 468**	**6 714**	**4 783**	**▼-13%**	**▼-11%**	**▼-22%**	**▼ -4%**

Source: Member States data submissions under the 2025 Social Data Call

9.22.4 Employment in Fisheries

Total employment

Total employment in fisheries has declined from 34 326 in 2017 to 29 964 in 2023, representing a 12.7% decrease over the period. These figures do not

include fishers on foot (3 779 in 2023, ISM), defined as small-scale fisheries in the EMFAF Regulation[56].

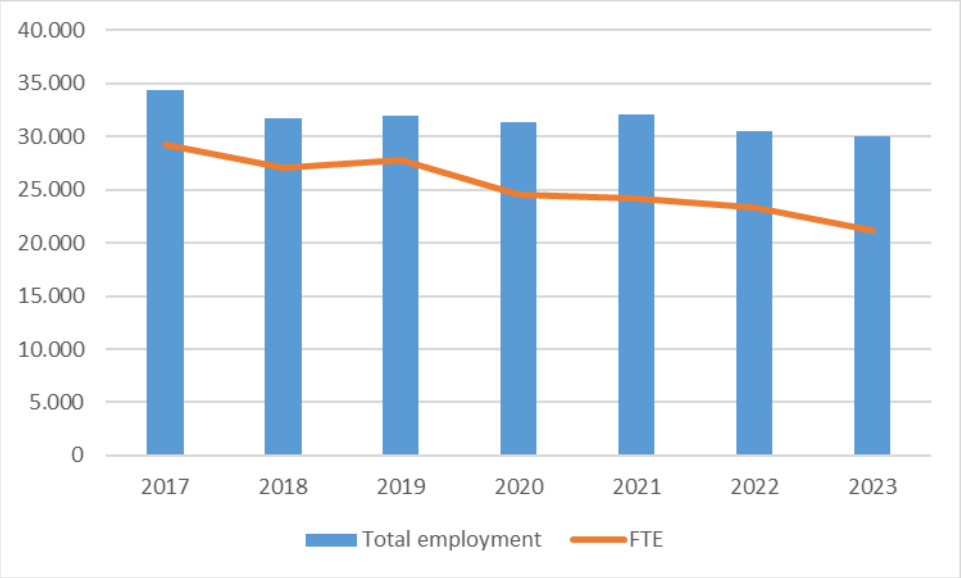
Table 228. Spain. Employment: total employment and FTE (2017-2023)

Employment	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
Total employment	34 326	31 743	31 935	31 318	32 104	30 494	29 964	▼ -13%
FTE	29 203	27 061	27 805	24 522	24 209	23 380	21 173	▼ -27%

Source: Member States data submissions under the 2025 Social Data Call

Full-time employment has declined sharply over the period, particularly among the male workforce. The total decrease from 29 202 to 21 172 represents a 27.5% reduction, considerably larger than the overall employment decline. This suggests that a significant share of the workforce either does not work full-time in fishing or suspends activity for periods. Contributing factors likely include fleet reductions and increased automation on board (Ballesteros, 2025; Penas, 2016), as well as restrictions on fishing effort in certain fisheries—such as Mediterranean trawling, as a result of the Multiannual Plan for the Western Mediterranean (reduction of the days at sea for trawlers, see STECF AER, 2025).

Figure 129. Spain. Total employment and FTE (2017-2023).



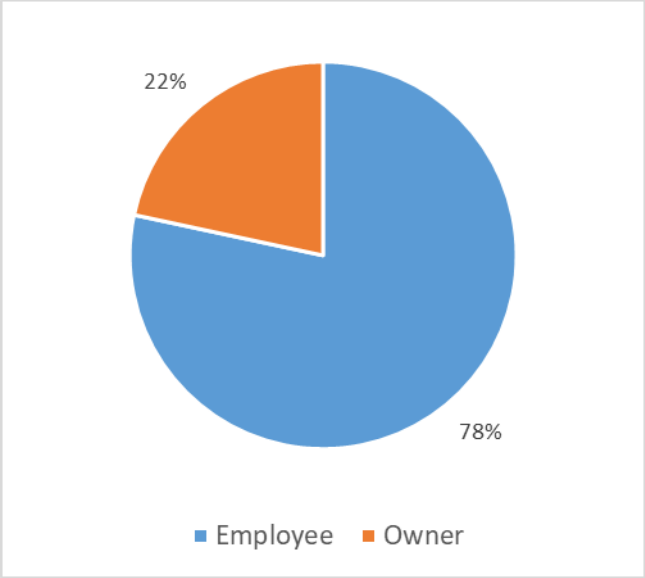
Source: Member States data submissions under the 2025 Social Data Call

[56] Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund and amending Regulation (EU) 2017/1004. Art. 2.2.(14) defines small-scale fisheries as small-scale coastal fishing' means fishing activities carried out by: (a) marine and inland fishing vessels of an overall length of less than 12 metres and not using towed gear as defined in point (1) of Article 2 of Council Regulation (EC) No 1967/2006 (28); or (b) fishers on foot, including shellfish gatherers.

Employment status

The decline in the total workforce (12.7%) is uneven between owners and employees, with owners decreasing by 10%, from 7 167 to 6 485, reflecting a gradual contraction in owner-operated activity. In contrast, employee numbers have remained broadly stable, increasing slightly by 3% over the period. Improved data reporting is notable since the first data call.

Figure 130. Spain: Employment by employment status (2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Table 229. Spain. Employment by status, 2017-2023

Status	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Employee	22699 (66%)	24933 (79%)	24839 (78%)	24937 (80%)	25220 (79%)	24287 (80%)	23480 (78%)	3%
Owner	7167 (21%)	6533 (21%)	6727 (21%)	6381 (20%)	6836 (21%)	6207 (20%)	6485 (22%)	-10%
Unknown	4460 (13%)	277 (1%)	369 (1%)	0 (0%)	48 (0%)	0 (0%)	0 (0%)	-100%

Source: Member States data submissions under the 2025 Social Data Call

9.22.5 Demographics of the Workforce

The workforce data for the Spanish fleets between 2017 and 2023 highlights demographic changes. Overall, it is an ageing workforce, mostly male dominated, with an improved educational level and an increase reliance of non-Spanish nationals in the LSF and DWF.

This section presents data on the workforce in terms of age, education and training, nationality, gender and unpaid labour.

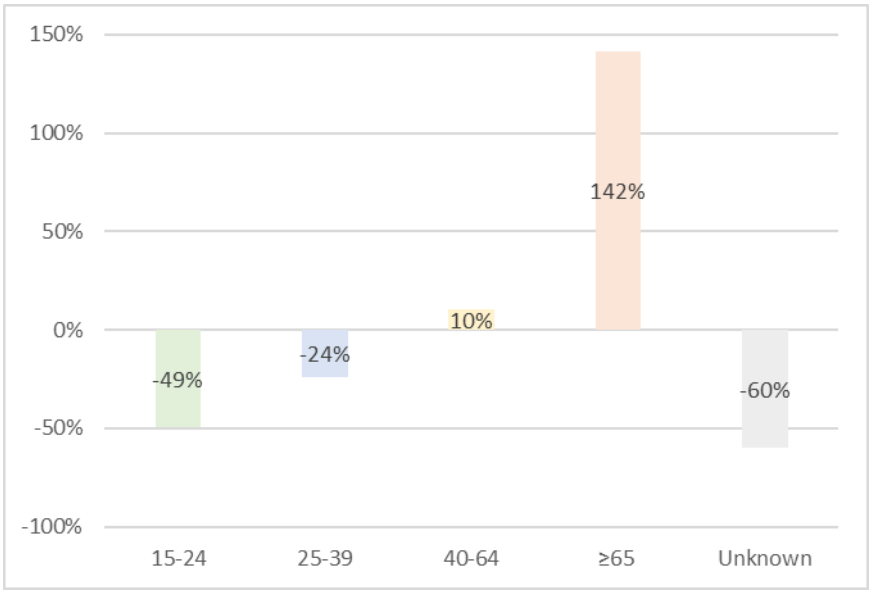
Age

The fishing workforce is ageing markedly. Employment among young workers aged 15–24 almost halved (−49%), while the 25–39 age group also declined substantially (−24%), indicating reduced entry of younger cohorts into the sector. In contrast, workers aged 40–64 increased by 10%, consolidating their dominance in the workforce, and the 65+ group more than doubled, albeit from a low base, pointing to delayed retirement and an aging labour force.

The figures should be understood in light of the early retirement age established in fisheries and other maritime professions in Spain: fishers are allowed to retire up to 10 years earlier than other workers, using reduction coefficients based on several factors (e.g. type of fishing vessel and type of activities developed (Law 47/2015 art. 30). Regardless of the coefficient applied, the access to the retirement pension is set at the limit of 52 years (art. 206 Law Social Security and art.3 RD 1698/2011) (Ballesteros, 2025). The average age of retirement for the workforce in the Special Regime of the Sea[57] went from 59.49 in 2017 to 60.75 in 2023 (INSS, 2025).

Disaggregated data on onshore employment indicate a lower rate of ageing. Although the majority of workers still fall within the 40–64 age group, the share of younger workers is comparatively higher than in the fleet workforce (SGP, 2024).

Figure 131. Spain: Change in the fisheries workforce by age group (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call

[57] The Special Regime of the Sea includes fishers (both at sea and onshore) as well as other related professions, such as aquaculture workers and netmakers. In 2023, fishers working on board accounted for 70% of the total, making the retirement age figure a reliable proxy.

Table 230. Spain: Employment by age group, 2017-2023.

Age group	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
15-24	1430 (4%)	713 (2%)	787 (2%)	699 (2%)	922 (3%)	957 (3%)	723 (2%)	-49%
25-39	11506 (34%)	11256 (35%)	9951 (31%)	9550 (30%)	9384 (29%)	7963 (26%)	8768 (29%)	-24%
40-64	16657 (49%)	16805 (53%)	16467 (52%)	16685 (53%)	18607 (58%)	16936 (56%)	18387 (61%)	10%
≥65	92 (0%)	113 (0%)	274 (1%)	193 (1%)	230 (1%)	284 (1%)	222 (1%)	142%
Unknown	4641 (14%)	2856 (9%)	4456 (14%)	4191 (13%)	2963 (9%)	4353 (14%)	1864 (6%)	-60%

Source: Member States data submissions under the 2025 Social Data Call

By fishing activity (see section 9.22.9) the most pronounced reductions in the youngest cohort (15–24) occur in SSCF (−68%) and L12AG (−76%), highlighting the limited attractiveness of these fleets for younger workers. It should be noted, however, that employment levels in this cohort were already very low in 2017, at around one fifth of the size of the 25–39 age group in both fleets. This pattern points to very late entry into the activity or early exit from fisheries among younger generations, including those from fishing families that have traditionally underpinned the “coastal employment system” (Sønvisen et al., 2011). Similar dynamics are observed in the LSF segment, whereas DWF shows a different pattern, likely linked to the presence of foreign labour, whose numbers increased by 6%.

Research on the factors driving this behaviour remains limited in the European and Spanish contexts, but several hypotheses can be advanced, including perceptions of low profitability and market uncertainty, weak fisher organisations in some communities, limited social recognition of the occupation, increased requirements for formal training prior to entry, and the availability of alternative onshore employment. A survey among students in Spanish maritime-fisheries training schools in 2018 (n=715) pointed to the hazardous nature, physical demands, and/or long periods spent away from home associated with fishing are the main sources of professional demotivation toward the sector. In addition, it is perceived as insufficiently remunerated given the level of effort it requires (SGP, 2024).

It should be noted that cohort structure used for the Social Data Call variable “age” is inadequate (see also STECF 20-14), primarily because the cohorts cover an excessively wide range of years, particularly the 40–64 group. In demographic and labour analyses, the standard practice is to use 5-year age cohorts, rather than broad groupings spanning 25 years. Such broad groupings hinder the ability to analyse social phenomena like social mobility and ageing.

9.22.6 Workforce education and training

Education

There is a slow but clear increase in the education level of the workforce. Between 2017 and 2023, workers with low education decreased by 15%, from 22 988 to 19 485, reflecting a gradual decline in the proportion of the least formally educated. Those with medium education increased by 10%, reaching 6 236 in 2023, while the number of workers with high education more than doubled (+109%), rising from 689 to 1 443, indicating a gradual upskilling of the

workforce. Improvements in data reporting are notable, while the “unknown education category” (9% of the total in 2023) may hamper the analysis of some fishing activities.

Table 231. Spain: Employment by education level, 2017-2023

Education	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
High	689 (14%)	1139 (34%)	1243 (26%)	1372 (28%)	1623 (52%)	1297 (28%)	1443 (5%)	109%
Medium	5674 (17%)	5619 (18%)	6057 (19%)	5441 (17%)	6216 (19%)	6516 (21%)	6236 (21%)	10%
Low	22988 (67%)	21596 (68%)	19931 (62%)	19590 (63%)	21142 (66%)	18125 (59%)	19485 (65%)	-15%
Unknown	4975 (14%)	3389 (11%)	4704 (15%)	4915 (16%)	3123 (10%)	4554 (15%)	2800 (9%)	-44%

Source: Member States data submissions under the 2025 Social Data Call

High educational level shows a higher prevalence in the DWF in relation to the other fishing activities (9.89% vs. 4.81%). This may be related to the qualification requirements for officers on this type of vessel.

The comparison of the education level of the fisheries workforce with the average in Spain emphasizes the low education of this sector. For instance, the lowest average percentage of high education in Spain corresponds to the men (31.4%) and women (31.3%) of the 55-64 cohort. In younger cohorts, the difference is even more significant: in 2024, 38.7% of men and 45.3% of women (aged 25 to 64) have a level of education corresponding to higher education[58].

As stated in the analysis of education level by supra-region and in the EU chapter, the educational level variable may be suitable for conventional education, but it is unable to capture fishers training and skills development in a continuous lifelong learning path.

Training

In Spain, working in the fishing sector requires regulated training designed to ensure both professional competence and safety on board. Anyone joining a vessel's crew, whether on deck or in the engine department, must obtain the corresponding fisher's qualifications certificates and complete basic safety training. This is a complex system that takes into account a variety of factors, including the size of the vessel, the length of the boat, the fishing area, and the distance from the shoreline, among others. Maritime-fisheries education is offered through public and private institutions nationwide, with the Maritime-Fisheries Polytechnic Institutes located in various areas of the country (Ballesteros, 2025).

The training is structured in professional training certificates (8), professional certificates (26), and professional qualifications (41) related to the maritime-fisheries sector. There are three basic and five advanced certificates required to work onboard a fishing vessel (Decree 36/2024). Basic certificates include polyvalent skipper and marine engineer, local skipper and coastal marine engineer, and crew; advanced certificates are Master, Large Fishing skipper, coastal skipper, and marine engineers (two levels). According to the Register of

[58] Source: Instituto Nacional de Estadistica (INE)

the Fisheries Sector Professionals (SGP, 2024), there are 100 554 professionals <60 years old with an active certificate. In addition, there are professional qualifications (a set of employment-relevant competence standards that may be obtained via modular or other forms of training, and/or through practical work experience), such as activities in longlining, trawling, purse seining, small-scale and gillnet fisheries, shell fishing, and maritime transport, auxiliary activities for the maintenance of the vessel's engines, equipment, and installations, or first sale markets organization among others (L.O 3/2022; SGP, 2024).

The comprehensive training system contrast with the ageing fishing workforce and the lack of generational renewal. A study on the employability of professional certificates pointed out that "individuals holding professional certificates from the maritime-fishing family do not primarily end up working in the sector. Instead, the majority are employed in other fields such as public administration, hospitality, transport, healthcare, or construction" (SGP, 2024).

Spain is a member of several international conventions on training (STCW-F 1995 and SFV Protocol 93[59]). Assessing the training system for the EMFAF pinpointed some shortcomings. In particular, the focus on the official certification and operational activities on board leaves caveats in business management, new technologies and the environment. Digital capacitation is also aggravated by the average age of fishers, which hampers the otherwise potential of using on-line platforms to combine daily work with capacitation (FEMPA, 2021).

Nationality

The majority of the workforce in Spanish fisheries has remained national, with the share of foreign national indicating a moderate internationalization of the workforce. National workers decreased by 12%, from 24 364 to 21 535. Workers from other EU countries increased by 34%, reaching 540 in 2023, while non-EU/EEA nationals also grew by 21%, from 4 879 to 5 907.

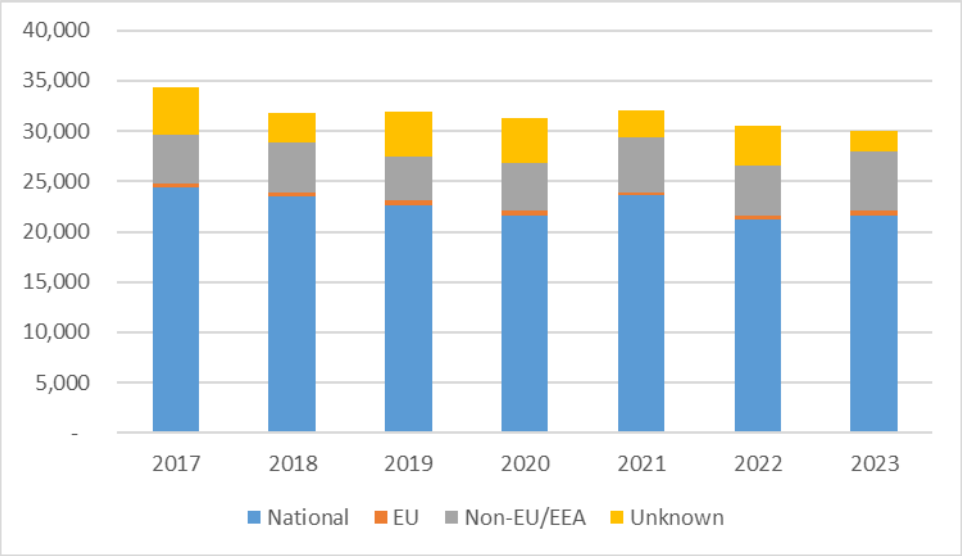
Table 232. Spain: Employment by nationality (2017-2023)

Nationality	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
National	24364 (71%)	23455 (74%)	22677 (71%)	21584 (69%)	23583 (73%)	21200 (70%)	21535 (72%)	-5%
EU	404 (1%)	458 (1%)	439 (1%)	519 (2%)	353 (1%)	460 (2%)	540 (2%)	23%
Non-EU/EEA	4879 (14%)	4902 (15%)	4379 (14%)	4782 (15%)	5406 (17%)	4857 (16%)	5907 (20%)	35%
Unknown	4679 (14%)	2928 (9%)	4440 (14%)	4433 (14%)	2762 (9%)	3977 (13%)	1982 (7%)	-55%

Source: Member States data submissions under the 2025 Social Data Call

[59] STCW-F International Convention on Training, Certification and Watchkeeping for Fishing Vessel Personnel, since 2012. The Torremolinos Convention (1977) for the Safety of Fishing Vessels deals with the technical part of fishing vessels. The Torremolinos Protocol (1993) further update and amend the Torremolinos Convention for the Safety of Fishing Vessels (accompanied by the SFV Protocol 1993).

Figure 132. Spain: Employment by nationality (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call

For the small-scale fleet and the boats that fish in the Spanish EEZ the composition of the workforce is mostly national "with a 16.8% of the workforce from non-EU countries" (Ballesteros, 2025, p. 80). The relevance of the foreign workforce is much higher in the LSF, and especially in the DWF, where the Spanish nationals reach a 47.5%.

Shifts in crew composition within the LSF and DWF fleets have important social implications that merit further investigation. Traditionally, crews were recruited from local fishing communities, with most members coming from the same or nearby villages, fostering strong social bonds. However, due to crew shortages, there is now a growing reliance on external agencies to recruit personnel from diverse and geographically dispersed backgrounds. This change has led to higher crew turnover and presents new challenges for onboard life and teamwork. As sharing limited living space for extended periods becomes more difficult, the traditional sense of solidarity among crew members weakens, and building the relationships necessary to develop mutual trust in demanding and risky working conditions becomes increasingly challenging (Ballesteros, 2025).

The origins of these immigrants are varied, coming from North Africa, Latin America, and Asia through various migration networks, or just residing in their countries of origin in the case of the DWF. The significant percentage of non-nationals in the LSF is related to the lack of attractiveness of the work onboard in these fleets for many nationals. Furthermore, the low incomes in these fisheries, compared to other land-based activities, do not attract young people, as analysed in a comparison of fishers' incomes in relation to the average salary in various EU countries (Ballesteros, 2025). Extended periods at sea aboard industrial fishing vessels are neither conducive to easy recruitment, even with improvements in working conditions and a more comfortable life on board.

In harbours with large LSF fleets, non-EU/EEA workers become predominant. For instance, in Burela (Galicia), seven out of ten crew members are immigrants

from Senegal, Cape Verde or Indonesia. This has changed the social fabric of the community: a town with less than 10 000 inhabitants has 44 nationalities around fisheries (ISM, 2025).

Crew shortages threat the viability of the fishing activity. The legal figure Training-based residence permit (*arraigo por formación,* art. 124.4 L.O 4/2000, reformed by R.D. 629/2022) provides an opportunity to meet workers need and professionalize the workforce. This mechanism allows individuals who have been in the country for at least two years to obtain a residence authorization if they commit to undertaking regulated or certified training in sectors with high labour demand. The maritime sector is one of them: courses such as local fishing skipper, deckhand, marine engine operator, or STCW certificates are options that open the door to stable employment contracts and legal regularization (ISM, 2025).

Data from the Spanish Social Security System provides a more detailed view of the workforce. In 2023, an average of 4 887 foreign workers were affiliated to the Special Regime of the Sea as employees, representing a 14% increase compared to 2017 (TGSS, 2025). Workers from non-EU countries dominate this group, accounting for 77%, and women represent approximately 10%. In contrast, the number of self-employed foreign workers remained low, averaging 193 in 2023 (up from 113 in 2017), with women accounting for 21% of this group (TGSS, 2025).

9.22.7 Gender

The Spanish fishing workforce is overwhelmingly male dominated (95% of the workforce. The female workforce (5%) has fluctuated over the 2017-2023 period and increased by 14% overall, reflecting a modest growth in female participation.

Table 233. Spain: total employment by gender (2017-2023)

Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	1217 (4%)	1013 (3%)	1028 (3%)	1030 (3%)	1193 (4%)	1144 (4%)	1392 (5%)	14%
Male	33109 (96%)	30730 (97%)	30907 (97%)	30288 (97%)	30911 (96%)	29350 (96%)	28573 (95%)	-14%

Source: Member States data submissions under the 2025 Social Data Call

Women account for only 3% of FTE work, indicating that female participation is more often part-time, seasonal, and focused in SSCF in small-scale fisheries and L12AG, with a very small representation in LSF and DWF (see section 9.23.5).

In the analysis of total employment, it was stated that the figures do not include fishers on foot (defined as SSF in the EMFAF). This is particularly relevant from a gender perspective, because out of the total 3 779 fishers on foot 60% are women, a percentage that reaches approximately 75% in Galicia (Pescadegalicia, 2025), where 93% of the fishers on foot operate.

The Spanish *Encuesta de Pesca Marítima* provides further detail on the gender gap in terms of roles played on board fishing vessels. Men dominate all activities, particularly in technical and leadership positions such as direction

(99.26%), engineer (100%), chief mate (100%), and cook (100%). Women represent less than 1% of the workforce across these roles, with the highest female participation found in the role of crew (1.07%) and an overall female share of only 0.78% of onboard activities (SGP, 2024).

This highlights a significant gender gap in employment aboard fishing vessels, with almost no female presence in technical, operational, or leadership tasks, reflecting traditional gender roles and barriers in the fishing industry, as well as perhaps the unattractiveness of working conditions and income. It also signals potential areas for policy or programmatic interventions to promote gender diversity and inclusion in maritime occupations.

While the information available regarding women in fisheries is often limited, since 2014, the Spanish Government has implemented and coordinated actions including several quantitative and qualitative diagnosis about the current situation of women in the sector and the creation of the Spanish Network of Women in the Fisheries Sector in 2010 to foster visibility, empowerment, associationism and exchange of initiatives and best practices. In 2016, the Spanish Network created the Spanish Association of Women in Fisheries (ANMUPESCA), which aims to defend women's economic and professional interests, and serve as a platform for social dialogue. These efforts could be optimized at the EU level to support improved understanding, integration and visibility of women.

Unpaid labour by gender

Unpaid labour has decreased overall by 17% between 2017 and 2023, from 7 693 to 6 395 individuals. The reduction has been more pronounced among women, declining by 32% (from 602 to 409), while men also decreased, but at a lower rate of 16% (from 7 091 to 5 986).

Table 234. Spain: unpaid labour by gender, 2017-2023

Gender	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Female	602 (8%)	344 (5%)	324 (5%)	330 (5%)	312 (5%)	309 (5%)	409 (6%)	-32%
Male	7091 (92%)	6508 (95%)	6515 (95%)	6238 (95%)	6551 (95%)	5982 (95%)	5986 (94%)	-16%

Source: Member States data submissions under the 2025 Social Data Call

These figures should be read with caution. First, unpaid labour is defined by "the number of engaged crew that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind". While people working only onshore, not receiving any kind of compensation, should be included if their activity has a direct link with the fishing operations, the practice across MS might not align with that recommended definition by RCG ECON.

Women are involved across the entire value chain through numerous traditional activities. In the capture phase, women engage in work on boats —an activity often denied or ignored but more frequent than assumed, like this data by fleet shows—, and, notably, in shellfisheries on foot. They are instrumental in

product circulation (transport, itinerant sales, preparation). Furthermore, women take on entrepreneurial roles such as managing fishing businesses, acting as shipowners, handling administrative tasks, managing information, supplying goods, and repairing nets. When coastal economies diversify, women are often the ones who develop alternative activities, frequently integrating within the domestic group structure. These diversifications include fishing-tourism (*pescaturismo*), small-scale processing, managing accommodations, and operating restaurants, which sometimes prove more profitable than the capture itself, often driven by the development of tourism.

Spain has transposed the Directive 2010/41 on the application of the principle of equal treatment between men and women engaged in an activity in a self-employed capacity. The figure of “collaborative family” of a self-employed (Law 47/2015, art. 4) is defined as the spouse and family members (relatives with consanguinity/affinity up to second grade) that usually work with the self-employed, live with him/her and have an economic dependence of him/her.

To promote the official registration of collaborative family, the Law 6/2017 established bonuses (financial benefits/discounts) to be provided to those registering ‘collaborative family members’ in the social security system of the self-employed (Art. 35). However, to be considered as collaborative family, it is required that the family member carries out identical activity to the one of the self-employee. This could be a de facto limitation, as many women develop on-shore activities that do not match the identical criteria established in the regulation.

Social aspects in Fisheries

9.22.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consist of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Spanish fishing fleet reported an average annual labour cost of EUR 29 550 per FTE in 2023, just below the EU average (EUR 29 447 per FTE). Fishing labour costs have increased 20% since 2013, again just below the EU average (+22%).

Table 235. Spain: Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	24 715	25 745	24 571	25 397	28 930	28 932	27 273	30 876	31 515	31 056	29 550
National average				50 129				51 747	49 882	47 229	47 902
Ratio of fishing labour cost to national average				0.51				0.60	0.63	0.66	0.62

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

Fishing labour costs in Spain are well below (-38%) the average labour cost (EUR 47 902) for the national economy but almost twice the minimum wage on an annual basis (EUR 15 120).

Working conditions

Understanding working conditions is critical to assessing social performance in the fishing sector and to addressing key challenges such as generational renewal. These conditions shape the attractiveness of the activity and workforce stability. This section focuses on three aspects: working hours, social security, and accidents at sea.

Data from the 2025 Annual Economic Report (European Commission, 2025) shows a clear downward trend over the period 2017–2023, with a reduction of about one-third over six years. The 52.6 million hours in 2017 declined sharply in 2018, briefly recovered in 2019, and then experienced a major drop in 2020. From that point onward, working hours continued to fall each year without recovery, reaching approximately 36.4 million hours in 2023.

For FTE calculation, the reference value is set at 1 800 hours per year. However, part of the Spanish sector is working up to 2 000 hours (STECF 24-07).

The working journey (on board or at the harbour) is legally limited to a maximum of 12 hours[60] (RD 1561/1995) with two exceptions: force majeure to guarantee the safety of the crew and the vessels or to help other people at risk at sea, with no time limit; for vessels provisions or landing of catches (max. 14 hours each 24 h or 72 hours each seven days) (Ballesteros, 2025).

Regarding working conditions, working time on board is strongly influenced by the characteristics of fishing trips, the duration of the catching operations, sea state, and weather conditions, which often blur the distinction between working and rest periods. The legal framework ensures a minimum rest period (six hours). The intraday rest may be split into two periods, provided that no more than 14 hours elapse between them. The period over which weekly rest may be accumulated is extended from the standard two weeks to four weeks, with the possibility of further extension by collective agreement up to a maximum of 180 days.

Social security

Acknowledging the specific features of the work at sea (physical environment, hard living conditions on board, isolation of the crews, distance from family, high level of sinistrality, seasonality, retributions system), the Spanish Social Security has a Special Regime for sea workers. The system combines general benefits with specific programs and a tailored protection model. While the list of specific measures is extensive (onboarding medical examination, assistance abroad for

[60] To provide some context, general regulation sets a maximum 40 hours per week on an annual basis.

workers, support and repatriation in the event of abandonment, imprisonment, or shipwreck, or maritime and sanitary vocational training, etc.), the critical one is the retirement age: they are allowed to retire up to 10 years earlier than other workers (Law 47/2015 art. 30). Regardless of the coefficient applied, the access to the retirement pension is set at the limit of 52 years (art. 206 Law Social Security and art.3 RD 1698/2011).

Most of the social benefits from the General Social Security System regime are applicable to the seafarers: economic benefits for temporary and permanent disability, death and survivor benefits, health care in cases of occupational illness and work accidents, both in the territory of the State and on board and/or abroad. However, it excludes the provision for permanent non-disabling injuries caused by work accidents and occupational diseases (Errandonea, 2021).

The Marine Social Institute (ISM, for its Spanish Acronym), established in 1919, currently covers social protection as well as professional, economic, and social improvement for fisheries workers and newcomers aiming to enter the activity. The ISM had 1363 employees in 2021, spread across the well-known “Houses of the Sea” (*Casa del mar,* mixed administrative and care centers). Nowadays, there are 96 local houses of the sea and 25 admin directions at NUTs III level, including 44 care facilities. In addition, there are care centers abroad, in countries with a significant presence of the Spanish fleet (in Mauritania, Senegal, Namibia and Seychelles, ISM, 2022) and two hospital vessels (ISM, 2022).

Sea workers are defined as employees and self-employed individuals developing marine and maritime professions. Limiting the scope to fisheries, the professionals integrated into this special regime are: marine and recreational fishing workers, research staff, observers and security staff onboard fisheries vessels, shellfish gatherers, divers extracting marine resources, netmakers and administrative staff in fishing companies and fishers’ organizations (*cofradias* and federations, cooperatives, fishing unions, shipowners’ associations) (Law 47/2015). The system also covers collaborating family (the spouse and relatives of a self-employed, who work with them on their farms habitually, live with the head of the family and are financially dependent on him/her).

Accidents on board

According to the European Maritime Safety Agency (EMSA, 2025), between 2017 and 2023, the total number of recorded fishing vessel accidents by vessels flagged to Spain shows an overall reduction. The number increased from 95 in 2018 to a peak of 110 the next year, then declined steadily to 86 in 2022 to uptick in 2023 to 98.

In terms of casualties, fatalities remained low, with nine recorded in 2018 and one in 2023. These figures should be read with caution, as fatalities outside EU waters are not recorded in the EMSA database (e.g. the accident at sea of the Villa de Pitanxo in Newfoudland (NAO) in 2022 produced 21 fatalities).

In Spain, marine fishing has one of the highest accident ratios, with higher gravity and mortality than others. According to the Instituto Nacional de Seguridad y Salud en el Trabajo, the incidence rate doubles the national

average and records ten times more fatal accidents than other economic activities. (INSST, 2024). The ratio doubles the value for men compared to women, likely linked to the fleet segments in which women operate. The ratio ranks first when considering deadly injuries. The trend shows peaks related to the high number of casualties when, e.g. a boat sinks. Analysed by nationality, accidented foreigners represent 11.3%, similar to the national average for all other activities (INSST, 2021). Experience has a special impact on sinistrality: 50% of the injured in 2022 had less than a year of experience. Fishing gears differ in their relative dangerousness ratio for the period 2011-2020: Trawlers (37.4%) Purse seiners (33%), Longliners (25.7%) and SSF gears (*artes menores*; 4%). SSF represents 32% of the accidents (INSST, 2021).

Foreign flagged vessels

Spanish vessel ownership reaches 97.67% of the fleet; other country owners include Ireland and Iceland (EC, 2019). In contrast, Spanish companies invested heavily in other EU countries, nowadays owning fishing vessels mainly in the UK, France and Ireland.

An accurate, updated figure of Spanish fishing vessel ownership in European countries is unavailable. In late 2000, Spanish-owned vessels constituted by far the largest proportion: 53 in France, 83 in the UK, and 20 in Ireland (Roncín et al., 2001). A systematic study of fleet ownership across EU countries confirms the presence of Spanish-owned vessels in Belgium, France, Ireland and the UK (EC, 2019).

Table 236. Overview of Spanish vessel ownership in EU Countries (2018)

	Share of Vessels (%)	Share of vessels tonnage (%)	Share of vessels power (%)
Belgium	1.47	3.02	2.82
France*	-	-	-
Ireland	0.14	1.05	0.96
UK	3.14	4.81	3.72

*No data available but qualitative analysis has shown that there are Spanish owned vessels flagged to the French fleet. Source: EU, 2019.

9.22.9 Social demographics per fishing activities

This section presents the main variables for comparison across fishing activities: SSCF, L12AG, LSF and DWF. Main differences are summarized in bullet points to limit the length of the chapter.

Table 237. Spain: Summary of Social variables by fishing activity: SSCF, L12AG, LSF and DWG (2017-2023)

	OVERALL								NAO						MBS						OFR	
	SSCF		L12AG		LSF		DWF		SSCF		L12AG		LSF		SSCF		L12AG		LSF		DWF	
	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023	2017	2023
Gender																						
female	519	460	308	333	236	457	154	142	454	395	308	331	139	369	65	65	0	2	97	88	154	142
male	9 145	7 753	3 535	1 923	15 618	14 256	4 811	4 641	6 357	5 810	3 331	1 717	10 208	9 845	2 788	1 942	204	206	5 410	4 411	4 811	4 641
Nationality																						
National	8 210	7 612	3 712	2 148	10 872	9 905	1 570	1 870	5 885	5 941	3 560	1 956	7 138	6 739	2 325	1 671	152	193	3 734	3 167	1 570	1 870
EU	39	45	0	3	314	435	51	57	39	27	0	3	275	226	0	18	0	0	39	208	51	57
EEA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NON-EU/EEA	133	465	0	72	2 824	3 557	1 922	1 814	68	224	0	57	1 677	2 603	65	241	0	15	1 147	954	1 922	1 814
unknown	1 282	92	131	33	1 844	815	1 422	1 042	819	14	79	33	1 257	645	463	77	52	0	587	170	1 422	1 042
Age																						
≤14																						
15-24	609	195	234	56	351	221	236	251	312	161	234	52	249	151	297	34	0	3	102	70	236	251
25-39	2 864	2 454	1 437	503	5 234	4 167	1 971	1 643	2 277	1 754	1 357	452	3 802	2 982	587	700	80	51	1 432	1 185	1 971	1 643
40-64	4 891	5 410	2 007	1 668	8 434	9 460	1 325	1 849	3 384	4 255	1 935	1 524	5 022	6 477	1 507	1 155	72	144	3 412	2 983	1 325	1 849
≥65	35	63	34	9	20	132	3	19	35	22	34	0	3	58	0	40	0	9	17	74	3	19
unknown	1 265	91	131	20	1 815	733	1 430	1 021	803	13	79	20	1 271	545	462	77	52	0	544	187	1 430	1 021
Education																						
low	6 319	6 019	2 923	1 671	11 026	9 626	2 720	2 169	4 378	4 553	2 789	1 512	7 305	6 348	1 941	1 465	134	159	3 721	3 277	2 720	2 169
medium	1 952	1 801	770	470	2 366	3 074	586	891	1 572	1 449	770	428	1 432	2 144	380	352	0	42	934	931	586	891
high	107	275	19	56	359	640	204	473	38	162	1	50	314	550	69	112	18	6	45	90	204	473
unknown	1 286	118	131	58	2 103	1 372	1 455	1 250	823	41	79	58	1 296	1 171	463	77	52	0	807	201	1 455	1 250
Employment status																						
owner	4 040	4 090	2 128	1 305	999	1 089	0	0	2 816	3 233	2 076	1 248	526	750	1 224	857	52	57	473	339	0	0
employee	4 390	4 123	1 584	950	13 096	13 624	3 629	4 783	3 223	2 972	1 484	800	8 596	9 464	1 167	1 150	100	150	4 500	4 160	3 629	4 783
unknown	1 234	0	131	0	1 759	0	1 336	0	772	0	79	0	1 225	0	462	0	52	0	534	0	1 336	0
FTE per gender																						
female	326	197	184	62	204	294	139	122	280	165	184	62	130	251	47	32	0	0	75	43	139	122
male	5 863	3 277	1 881	549	14 693	11 396	5 912	5 275	4 240	2 303	1 733	438	9 839	8 153	1 623	974	148	111	4 854	3 243	5 912	5 275
Average wage per job																						

Source: Member States data submissions under the 2025 Social Data Call

Small Scale Coastal Fleet

To give context to the social variables, 4 199 vessels were involved in SSCF fishing activity in 2023 a significant portion of which operates on a part-time basis (AER; 2025).

- SSCF total employment between 2017-2023 declines in line with the overall employment trend but slightly more pronounced (-15% vs -13% overall). FTE declines faster than the overall trend (-44% vs -27% overall).

Table 238. Spain: total employment and FTEs in the SSCF, 2017-2023

Employment	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
Total employment	9.664	8.516	8.171	8.517	8.406	8.129	8.213	▼ -15%
FTE	6.189	5.105	4.834	4.245	4.349	4.083	3.474	▼ -44%

Source: Member States data submissions under the 2025 Social Data Call

- SSCF shows a sharper contraction of younger workers age 15-24 (-68% vs -49% overall). Trends in the other groups follow similar paths to the entire fleet, except of the ≥65 years (+80% vs +142% overall).

- The difficulties in enrolling the younger generations during holiday breaks in the family boats (related to security rules and mandatory training requirements) have been pointed as a barrier to spark a vocation in SSCF.

Table 239. Spain: total employment by age group in the SSCF, 2017-2023

AGE	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
15-24	609	166	178	197	293	193	195	▼ -68%
25-39	2.864	3.040	3.136	2.715	2.656	2.037	2.454	▼ -14%
40-64	4.891	4.737	4.086	4.822	5.111	5.210	5.410	▲ 11%
≥65	35	57	104	96	74	90	63	▲ 80%
unknown	1.265	516	667	687	272	600	91	▼ -93%
Total	**9.664**	**8.516**	**8.171**	**8.517**	**8.406**	**8.129**	**8.213**	▼ **-15%**

Source: Member States data submissions under the 2025 Social Data Call

- The SSCF workforce is mostly national (roughly 93% vs. 72% overall). Even if the overall share of nationals rose due to total employment decline, the SSCF has become more reliant on EU and particularly non-EU/EEA workers (approx. +197% from 2017 to 2023).

Table 240. Spain: total employment by nationality in the SSCF, 2017-2023

NATIONALITY	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
NATIONAL	8.210	7.399	7.265	7.456	7.597	7.355	7.612	▼ -7%
EU	39	66	29	84	77	67	45	▲ 15%
EEA	0	0	0	0	0	0	0	-
NON-EU/EEA	133	544	102	353	369	288	465	▲ 249%
UNKNOWN	1.282	507	775	624	364	420	92	▼ -93%
Total	**9.664**	**8.516**	**8.171**	**8.517**	**8.406**	**8.129**	**8.213**	▼ **-15%**

Source: Member States data submissions under the 2025 Social Data Call

L12AG Vessels under 12 metres using active gears fleet

In 2023, 1 198 vessels integrated this fishing activity, including 1 094 dredges for catching shellfish like oysters, prawns, and crabs using small dredgers (STECF AER; 2025).

- L12AG total employment declines far more sharply than the overall trend (-41% vs -13% overall), with a sustained downward trend indicating a structural contraction of the segment rather than cyclical adjustment. FTE contraction is even stronger (-70% L12AG vs -27% overall), with continuous losses throughout the period, suggesting intensified reductions in working time.

- Most of this fleet in Spain is related to the extraction of shellfish using small dredges, mainly in Galicia and the Southern part of the Spanish mainland. The sustained decrease in this period may be related to the reduction in the availability of shellfish or the lack of profitability of the activity due to imports.

Table 241. Spain: total employment and FTEs in the L12AG, 2017-2023

Employment	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
Total employment	3.843	3.214	3.434	2.786	2.746	2.567	2.256	▼ -41%
FTE	2.065	1.303	1.766	1.086	914	826	612	▼ -70%

Source: Member States data submissions under the 2025 Social Data Call

- L12AG is losing workers across almost all age groups, especially youth (15-24) and prime-age employees (25-39), contrasting sharply with the overall fleet workforce where older groups grow.

Table 242. Spain: total employment by age group in the L12AG, 2017-2023

AGE	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
15-24	234	20	75	120	88	139	56	-76%
25-39	1.437	1.513	1.168	1.166	683	685	503	-65%
40-64	2.007	1.640	1.786	1.500	1.975	1.665	1.668	-17%
≥65	34	0	0	0	0	13	9	-73%
unknown	131	41	405	0	0	64	20	-85%
Total	**3.843**	**3.214**	**3.434**	**2.786**	**2.746**	**2.567**	**2.256**	**-41%**

Source: Member States data submissions under the 2025 Social Data Call

- L12AG is heavily dominated by national crew, national and EU numbers are shrinking sharply, indicating an overall contraction of this segment.

Table 243. Spain: total employment by nationality in the L12AG,2017-2023

NATIONALITY	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
NATIONAL	3.712	3.092	2.946	2.705	2.703	2.437	2.148	-42%
EU	0	0	28	24	0	18	3	-
EEA	0	0	0	0	0	0	0	-
NON-EU/EEA	0	80	56	57	26	83	72	-
UNKNOWN	131	42	404	0	18	30	33	-75%
Total	**3.843**	**3.214**	**3.434**	**2.786**	**2.746**	**2.567**	**2.256**	**-41%**

Source: Member States data submissions under the 2025 Social Data Call

Large-scale Fleet

In 2023 there were 1 918 vessels in the LSF segment (STECF AER, 2025).

- LSF total employment declines less than overall employment (-7% vs -13% overall), with relative stability over the period; FTE declines in line with the overall FTE trend (-22% vs -27% overall).
- The LSF fleet that operates in the Spanish waters has seen a substantial reduction in the last 15 years, of nearly -43%, (Ballesteros, 2025). A large percentage of this fleet is composed of bottom trawlers (772 in 2020), and in some fishing areas the reduction of this fleet has been larger than -50%, like in the Cantabric Sea (op.cit).
- The impact of the West Med Plan and the reduction of fishing days had also affected the FTE.
- The LSF working in EU waters has seen a reduction of -55% in the period 2006-2020 (in vessel number and capacity) in a process of buying other units and scrapping them to pursue increasing the number of fishing days per vessel (Ballesteros, 2025).

- In other fleets, such as the pole and line tuna fleet of the Canary Islands, it is common for companies to lay off a large portion of their crew during periods of very low tuna catches, especially during the winter. All these circumstances may highlight the difficulties for reaching similar numbers in the engaged crew and FTE in LSF.

Table 244. Spain: total employment and FTEs in the LSF (2017-2023)

Employment	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
Total employment	15.854	15.024	15.008	14.652	15.135	14.150	14.713	▼ -7%
FTE	14.897	14.483	14.313	13.009	13.113	11.993	11.690	▼ -22%

Source: Member States data submissions under the 2025 Social Data Call

- LSF shows relatively better retention of younger workers age 15-24 (-37% vs. -49% overall) and a similar trend in the other groups except for the ≥65. Considering the physically demanding conditions of this fishing activity, the ageing workforce raises additional questions about the long-term viability and sustainability of the segment.

Table 245. Spain: total employment by age group in the SSCF, 2017-2023

AGE	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
15-24	351	319	344	215	358	388	221	▼ -37%
25-39	5.234	4.658	4.044	3.952	4.100	3.577	4.167	▼ -20%
40-64	8.434	8.795	9.123	8.985	9.288	8.378	9.460	▲ 12%
≥65	20	35	122	67	133	136	132	▲ 558%
unknown	1.815	1.217	1.375	1.433	1.255	1.670	733	▼ -60%
Total	**15.854**	**15.024**	**15.008**	**14.652**	**15.135**	**14.150**	**14.713**	▼ **-7%**

Source: Member States data submissions under the 2025 Social Data Call

- LSF has a stable base of national crew (from approximately 78% in 2017 to 71% in 2023) while showing an increasing growth in internationalization (from roughly 22% to 29%). The trend shows a similar path to the overall fleet, with a gradual increase in EU participation (+38% vs. +34% overall) and a slightly above-trend growth in non-EU workers (+26% vs. +21% overall).

Table 246. Spain: total employment by nationality in the LSF, 2017-2023

NATIONALITY	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
NATIONAL	10.872	11.074	10.838	9.785	10.798	9.340	9.905	▼ -9%
EU	314	332	321	287	212	357	435	▲ 38%
EEA	0	0	0	0	0	0	0	-
NON-EU/EEA	2.824	2.368	2.488	2.846	3.163	2.825	3.557	▲ 26%
UNKNOWN	1.844	1.250	1.361	1.734	961	1.629	815	▼ -56%
Total	**15.854**	**15.024**	**15.008**	**14.652**	**15.135**	**14.150**	**14.713**	▼ **-7%**

Source: Member States data submissions under the 2025 Social Data Call

Distant Water Fleet

In 2023, there were 191 vessels in the DWF (STECF AER, 2025).

- DWF total employment and FTE declines are substantially less than the overall trend (-4% vs -13% overall in total employment and (-11% vs -27% overall in FTE). Adjustments in this fishing activity have been limited.

Table 247. Spain: total employment and FTEs in the DWF, 2017-2023

Employment	2017	2018	2019	2020	2021	2022	2023	D2017-2023
Total employment	4.965	4.989	5.322	5.363	5.818	5.647	4.783	▼ -4%
FTE	6.051	6.170	6.892	6.182	5.834	6.478	5.397	▼ -11%

Source: Member States data submissions under the 2025 Social Data Call

- DWF shows a slight increase in younger workers (15–24, +6%) versus a sharp overall fleet decline (-49%), suggesting effective retention or recruitment of youth in this segment, likely linked to the working conditions. Similarly, the strong growth in older workers (40–64, +40% vs +10% overall) and even in the ≥65 group, despite small absolute numbers, raises puzzles that warrant further investigation.

Table 248. Spain: total employment by age group in the DWF, 2017-2023

AGE	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
15-24	236	208	190	167	183	237	251	▲ 6%
25-39	1.971	2.045	1.603	1.717	1.945	1.665	1.643	▼ -17%
40-64	1.325	1.633	1.472	1.378	2.232	1.683	1.849	▲ 40%
≥65	3	21	48	30	23	44	19	▲ 518%
unknown	1.430	1.082	2.009	2.071	1.436	2.019	1.021	▼ -29%
Total	**4.965**	**4.989**	**5.322**	**5.363**	**5.818**	**5.647**	**4.783**	▼ **-4%**

Source: Member States data submissions under the 2025 Social Data Call

- DWF is much more internationally mixed than the other fishing activities, with nationals and non-nationals roughly equal in 2023. However, national workers increased in the DWF (+19% from 2017 to 2023), contrasting with the overall fleet decline (-12%).
- Unknown nationality has declined moderately, indicating improvements in data reporting; as of 2023, about 22% of the DWF workforce nationality is not reported. This may be due to the high rotation of crew and the use of external recruitment agencies, which can make traceability of information more complex.
- The non-national workforce figures in the DWF are influcenced by the Sustainable Fisheries Partnership Agreements (SFPA). Under the SFPA protocols negotiated within the framework of the EU's Common Fisheries Policy, vessels fishing under these agreements are often required to employ a minimum proportion of crew from the partner country — e.g., 20–60% national crew in agreements such as those with Mauritania and other West African states — to support local employment and economic benefits (EC, 2023).

Table 249. Spain: total employment by nationality in the DWF, 2017-2023

NATIONALITY	2017	2018	2019	2020	2021	2022	2023	Δ2017-2023
NATIONAL	1.570	1.890	1.628	1.638	2.485	2.068	1.870	▲ 19%
EU	51	60	61	124	65	18	57	▲ 12%
EEA	0	0	0	0	0	0	0	-
NON-EU/EEA	1.922	1.910	1.733	1.526	1.849	1.662	1.814	▼ -6%
UNKNOWN	1.422	1.129	1.900	2.075	1.420	1.899	1.042	▼ -27%
Total	**4.965**	**4.989**	**5.322**	**5.363**	**5.818**	**5.647**	**4.783**	▼ **-4%**

Source: Member States data submissions under the 2025 Social Data Call

9.22.10 Trends and challenges

The Spanish fishing fleet is experiencing high operational pressure, limited workforce renewal, and ongoing structural and social changes, with notable variations across fleets, ports, and coastal communities.

The major trend is related to the ageing workforce, whith slightly better renovation prospects in industrial fleets compared to SSCF (due to the entry of young non-national workers). Importantly, this challenge is not confined to fishing alone, but extends to all directly and indirectly related occupations, such as net making and gear production, fish transport and logistics, processing activities, and even fish retail. This points to a broader erosion of fisheries-related skills and professions within coastal economies.

Fisheries seems to have limited attractiveness as a career, driven by income instability, demanding working conditions, retribution and social perception. This problem appears to be more acute in the SSCF. The Spanish Government has

allocated significant resources to diagnose and tackle this issue through a roadmap (see SGP, 2024), including pragmatic approaches to training barriers (e.g. online training or the review of criteria and embarkation periods to facilitate recognition of onboard training and simulation hours) financial support for young fishers and communication action.

The social performance of the Spanish fleet between 2017 and 2023 is heavily affected by a cumulative policies impact. The management and conservation measures adopted within the CFP, the MSFD, the MSP, the EU Biodiversity Strategy for 2030 and other international commitments have had three major impacts:

- A squeezing marine space for the fisheries sector, particularly the one operating in Spanish waters, due to spatial closures for the protection of Vulnerable Marine Ecosystems (EU 2022/1614) and the setting of priority areas for the development of Offshore Wind Farms (Spanish MSP plan).

- A perception of overlapping constraints, reducing predictability and further weakening the economic resilience, investment capacity and social adaptability, in a context of economic pressure, low margins and limited capacity for transition (see ASOR, 2025).

- A perception of displacement from the policy agenda vs other priorities within the Blue Economy and a sustained erosion of the trust in the fisheries governance system, reflected in the fisheries sector resorting to legal challenges and judicialization of disputes (e.g. Case T-681/22 and art. 263 TFEU or the resource against the Spanish Supreme Court against Spanish Real Decree 150/2023, MSP Plans).

- A “perfect storm” is emerging in the fisheries socio-economic system, driven by the simultaneous decline in productivity and abundance of fishery resources, and a sharp increase in competition within the food system. This competition comes not only from other aquatic products—particularly aquaculture, which has expanded its market share, and imports—but also from non-aquatic proteins, such as meat, whose consumption increased by 2.4% in recent years, and from non-fresh food products, which accounted for 62% of the Spanish household food basket in 2024 (MAPA, 2025[61]). These dynamics are further

[61] Ministerio de Agricultura, Pesca y Alimentación (MAPA). (2025). *Informe del consumo alimentario en España 2024*. Panel de Consumo Alimentario. Gobierno de España. Available at https://www.mapa.gob.es/dam/mapa/contenido/alimentacion/temas/consumo-y-tendencias-en-alimentacion/panel-de-consumo-alimentario/ultimos-datos/consumo-2024/informe-consumo-2024-baja.pdf

compounded by inflationary pressures and a decline in purchasing power, resulting in a significant contraction of demand for fish, a product that is highly price-sensitive

At supra-regional level, the socioeconomic impact of the West Med Plan (adopted in 2019) is notable (See STECF 25-11).

There are shrinking available resources for fishers' representatives, scientists and fisheries management authorities to deal with an enlarged agenda (fisheries, environmental issues, marine spatial planning) and respond to mandatory requirements in shortened periods. The lack of human resources and the multiplication of fora at national and international level hamper the ability for meaningful participation.

The social capacity to adapt is shrinking in light of the changes in the availability and distribution of stocks associated with climate change and the increase of exotic and invasive species.

In this context, the Spanish fisheries sector is characterized by a complex network of organizations (cofradías, cooperatives, associations, producers' organizations, etc.), which plays a role in coordinating collective action, structuring dialogue, and shaping responses to changing social, political, and economic conditions.

Finally, the continuous decline in seafood consumption in Spain poses a significant challenge with implications beyond the national fleet. Apparent per-capita consumption decreased by approximately 8.1% over five years, from 45.6 kg in 2017 to 41.92 kg in 2022 (EUMOFA, 2019; 2024), and by nearly 30% between 2010 and 2020 (Ballesteros, 2025), highlighting a major concern for Spain as one of Europe's key seafood markets.

9.22.11 Methodological considerations and data issues

The National Authority responsible for implementing the Data Collection National Program (PNDB) is the Secretaria General de Pesca (SGP), from Ministry of Agriculture, Fisheries and Food (hereinafter MAPA).

Economic data on fisheries is collected by MAPA in the Economic Survey of Marine Fisheries and the Economic Survey of Aquaculture, respectively. These surveys are included in the National Statistical Plan.

Social data on fisheries is collected by the Spanish National Statistics Institute (INE). This Institute also collects socioeconomic data on the fish processing sector, through the Survey of Industrial Companies.

Data is gathered through a probability sample survey.

The fact that fishers on foot are not included in the Social Data Call neither in Fisheries (Fleet) or Aquaculture call is a major gap. A total of 3 779 workers, mostly concentrated in Galicia are omitted from statistics at EU level.

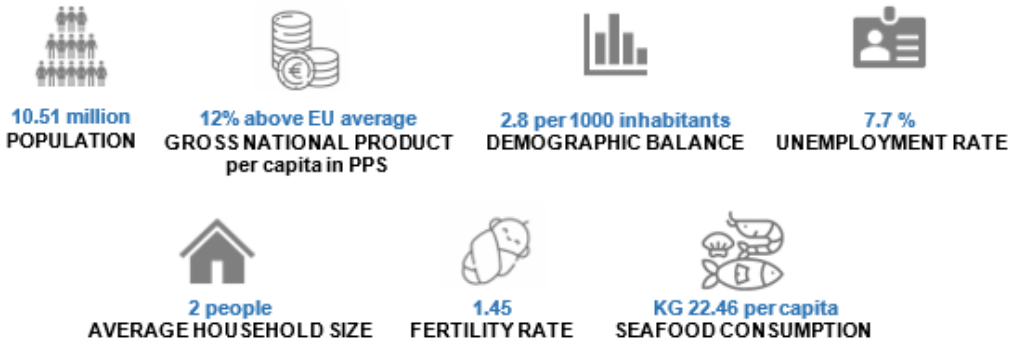
Despite improvements in data coverage, the unknown category is still significant for critical variables (e.g. nationality in the LSF and DWF). This might be explained by the high rotation of crew and the hiring through external agencies, which makes obtaining information more difficult.

Further details on methodological considerations can be accessed in Spain's Work Plan for data collection in the fisheries, aquaculture and processing industry sectors.

9.23 Sweden

9.23.1 Snapshot of Sweden

Figure 133. Sweden in figures (2023)



Source: Eurostat (2023) and EUMOFA (2024)

Note: Eurostat's purchasing power standard (PPS) is an artificial currency that adjusts national currencies for price differences so the same amount can buy equivalent goods and services in every country (see glossary). Seafood consumption data for 2022 (kg live weight/capita/year).

Sweden is the third largest country by surface in the EU but has a population of only 10.51 million. The country has a high standard of living, with a per capita gross national product of 12% above the EU average in 2023. The demographic balance (crude rate of total population change) stands at 2.8 per 1 000 persons, indicating a low population growth (below EU average level of 3.6) with slightly more births than deaths as well as immigration than emigration numbers). The unemployment rate is one of the lowest in the EU and currently 7.7%, while the average household size is 2 people. Sweden's total fertility rate is 1.45 children per woman, below the replacement level of 2.1. Notably, the country has a strong tradition of seafood consumption, with an average of 22.46 kg per person annually.

9.23.2 Short description of the fishing sector

In 2023, there were 1 032 registered vessels (excluding those registered in the aquaculture segment), with a total capacity of 21 931 GT and 118 189 kW. The capacity of the national fleet has decreased since 2013. The number of inactive vessels in 2023 was 220. The proportion of inactive vessels was 22% for vessels less than 12 m long compared to 16% in vessels larger than 12 m of length (STECF AER, 2025). The reasons for vessels' inactivity are unknown but are probably related to the biological situation of stocks resulting in, for example, the closure of the eastern Baltic cod fishery since 2019 – which affected around 160 vessels - as well as the low profitability, ageing and low levels of job satisfaction of some fishers in the SSCF fleet. The Swedish fisheries Gross Value Added (GVA) for 2023 was EUR 59.6 million which

represents 1.9% of the GVA for the whole EU fleet. The number of fishing vessels represented 1.5% of the EU total fishing fleet. At least 1300 Swedish fishers represented 1.1% of the total number of EU fishers. When fish processing and distribution is added the number of people employed increases to almost 6 500 mainly because of people working in distribution of seafood (retail and wholesale). The reduced fisheries sector represents currently a minor component of the Swedish economy but an important contributor to the Swedish Blue Economy. In 2022, capture fisheries and aquaculture, processing and distribution of fish products contributed 11% to the GVA of the Swedish Blue Economy and 13% of its employment, only surpassed by coastal tourism and the maritime transport sector (EU Blue Economy observatory).

Between 2013 and 2023, Swedish employment in fisheries fell by 12% (STECF AER, 2025). Data between 2017 and 2023, suggest that the trend continues steadily downwards (11%). In this period, employment only increased in the L12AG segment, probably due to the government's support to enter the Northern prawn or vendace fisheries after the ban of the eastern Baltic cod fishery. Landings per weight and value have decreased over the last six years, a new trend in respect to value which had been considered relatively stable over the last decade. Landings are heavily dominated by pelagic species (herring and sprat) from the LSF. Vessels less than 12 m are responsible for 3 to 4% of total annual landings. The age of fishers is very high in the SSCF (almost 40% of fishers are equal or older than 65 years), however an ageing trend can be also observed in the LSF sector. Women working in fisheries are far more common in vessels less than 12 m long (up to 25%) than in larger vessels from the LSF (7%). Swedish nationality is held by nearly all fishers, irrespective of the fishing fleet in which they are employed.

In Sweden, most fishers - three out of four – work on vessels that are less than 12 meters long equipped with both passive and active fishing gears (small trawlers). Therefore, the social implications of developments within the SSCF are deemed to be critical. This is acknowledged in the official document "Strategy for Swedish Fisheries and Aquaculture 2021-2026" in which coastal fisheries:

> "a*re bearers of culture and tradition that can contribute to Sweden's attractiveness for tourism and recreation through lively ports with active fishing and fish products for sale*" (SwAM & JBV 2021; p. 29).

While small vessels landings in weight represent only about 4% of total landings, the value of these landings account for 15% of the total value of Swedish landings. This means that the SSCF generates a revenue of EUR 4.8 more per kg of fish product sold than the LSF. However, the number of vessels in the SSCF has decreased from 851 to 620 between 2013 and 2023 and it is projected to be only 599 in 2024 (AER 2025). This downward trend is of particular relevance to the economy and ongoing viability of the cultural identity, livelihoods, maritime knowledge and traditions of the remaining rural coastal towns with strong ties to the coastal fleet segment.

Table 250. Sweden: summary of the fishing sector.

Indicator	Units	2023				Δ (2023-2017) %			
		Overall	SSCF	L12AG*	LSF	Overall	SSCF	L12AG	LSF
Total employment	Persons	1361	819	162	380	▼ 11	▼ 13	▲ 41	▼ 24
FTE	Hours	579	217	62	300	▼ 22	▼ 28	▲ 25	▼ 23
Active vessels	Vessels	812	620	78	114	▼ 17	▼ 18	▼ 3	▼ 20
Landings by weight	Thousand tonnes	142.3	2	3.3	137	▼ 36	▼ 49	▲ 7	▼ 36
Landings by value	Million €	119	11	7	99	▼ 22	▼ 29	▼ 14	▼ 21
Value (€) per landed kg	€/kg	0.83	5.5	2.2	0.7	-	-	-	-
Ageing work force: >=65 in workforce	%	28	39	21	8	▲ 2	▲ 4	▲ 14	▲ 24
Gender: women in workforce	%	15	13	25	7	▲ 62	▲ 73	▲ 38	▼ 26
Nationality: nationals in workforce	%	99	98	99	99	▲ 4	▲ 7	▲ 0.4	▲ 0.7

Source: Sweden data submissions under the 2025 Social Data Call and Fleet Economic data call.

Social demographics in Fisheries

9.23.3 Employment in Fisheries

Total employment and total FTE

The fishing fleet employed 1 361 fishers in 2023, including vessel owners, which corresponded to approximately 579 FTE. Since 2017 the number of fishers has decreased by 11% whereas the FTE decreased by 22% suggesting that the fishers working part time have increased over this period.

The reasons for the decrease in the number of fishers are unknown but follows the same trend as the whole fleet and could be related to the eastern Baltic cod fishing ban from 2019 and the ageing population in the SSCF. Research on reasons for fisheries participation in Sweden indicated that in 2019, around 60% of fishers showed low levels of job satisfaction related not only to economic returns (Arias Schreiber and Gillette, 2021). Small-scale fishers in the Baltic Sea point out to the increased populations of seals and cormorants as one important reason for exiting fishing. High levels of bureaucratic burdens and regulations that favour the recreational fisheries and the LSF have been also reported as reasons for exiting (ibid.).

Table 251. Sweden: Total employment and total FTE 2017-2023

Employment	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
Engaged crew	1535	1480	1482	1441	1421	1456	1361	-11%
FTE national	740	695	659	634	611	605	579	-22%

Source: MS data submissions under the 2025 Social Data Call.

FTE by gender

The FTE from 2017 decreased from 740 to 579 in 2023, which represents a decrease of 22%. Breaking down the data by gender the decrease has not been as large in women as in men, 6% and 23% respectively. A possible explanation could be that women tend to be working often on land with administrative tasks that are not as volatile in time as the fishing activity itself. At least in the SSCF sector, the academic literature has reported that their work is more done on land including bookkeeping, net mending or cleaning, taking care of the landings, etc.

Table 252. Sweden: FTE by gender for the years 2017, 2020, and 2023

Gender	2017	2020	2023	Δ 2023-2017
Female	64	59	61	-5%
Male	676	575	518	-23%
Total	740	634	579	-22%

Source: MS data submissions under the 2025 Social Data Call.

Employment status

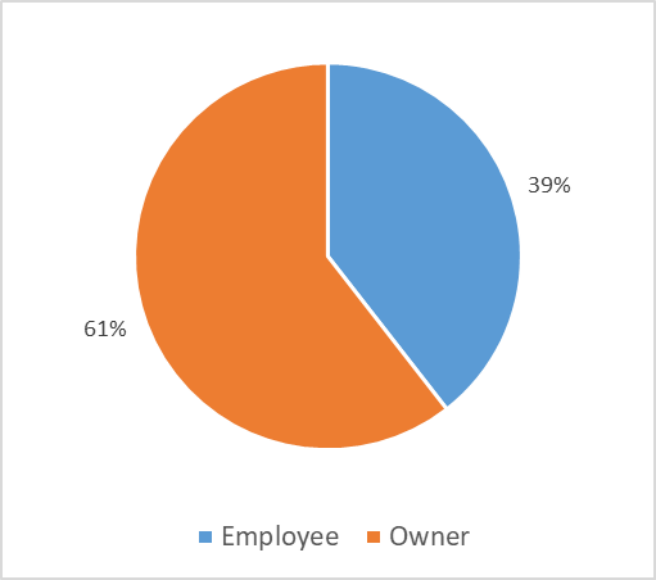
In 2023, the fishing fleet had 537 vessels owners and 824 employees. Compared to 2017, the number of owners fell by 25.4%, while the number of employees rose by 24.5%. This shift suggests a trend toward fewer independent owners - probably belonging to the SSCF segment - and more employed workers, probably in larger vessels. However, these figures can only partially reveal the evolving structure of fleet and ownership dynamics.

Table 253. Sweden: Employment status by owners and employees

Status	2017	2020	2023	Δ 2023-2017
Employee	431 (28%)	507 (35%)	537 (39%)	25%
Owner	1103 (72%)	934 (65%)	824 (61%)	-25%

Source: MS data submissions under the 2025 Social Data Call.

Figure 134. Sweden: Employment by employment status (2023)



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.23.4 Demographics of the Workforce

Age

In 2023, the data reveals a clear ageing population, with 28% of fishers being 65 years old or older and 46% between 44 and 64 years old; in total only 26% of the fishers is younger than 40 years. One potential reason for the ageing workforce in this sector may be the difference between the requirements for entering the sector and those for remaining as an active fisher. To enter the sector, applicants must obtain a license, which is only granted if the biological outlook for the targeted species is estimated to be at “a biological sustainable level”. However, the only requirement upon renewal of a license is if the fishing activity is conducted with a business purpose. This means that changes in the stocks are not taken into account when applying for a license renewal, and the Swedish Agency for Marine and Water Management cannot revoke the license if the fish stocks are in decline. Since the biological outlook for example the Baltic cod and other coastal stocks have been poor in recent years, there have been few opportunities for new entrants to join the sector.

The trend over the period 2017 to 2023 shows however fewer fishers in the middle and older age groups and an increase among the youngest. The age category 15-24 years increased from 102 in 2017 to 154 in 2023, marking a 51% increase. The age group of 25-39 years decreased from 226 in 2017 to 183 in 2023. A possible explanation is that new fishers enter the sector at a very young age but quit after a few years. However, given the remarkable differences between working as a fisher in a large trawler (LSF) spending many days at sea and getting a monthly salary, and working with a friend or family member in a 12 m long vessel, landing every day a few kilos of fish and being paid according to that landing, therefore the age structure trends cannot be

explained as a single group. Waldo and Blomquist (2020, p. 14) reported that the age structure of Swedish fishers showed regional differences in 2015. The west coast had a lower proportion of fishers older than 64 years and a higher proportion of younger fishers with about 200 young individuals entering the fishing industry. Both the north and south east coasts have a high proportion of older fishers (over 25%), but here too around 20% are under 35 years of age. The same report shows that the north and south east coasts have also the major proportion of vessels using passive gears (62% and 81%, respectively in 2017), indicating that the recruitment problem was impacting more the SSCF and L12AG fleets. An analysis of municipalities with fewer than 5 vessels as home ports showed that these municipalities have a higher proportion of people aged 65 or older (28%) compared to other municipalities (18%). They also have a lower proportion of people aged 35 or younger (13% compared to 21%).

The age group 40-64 was the largest age group which showed a consistent decline, from 781 fishers in 2017 to 621 in 2023 or a 20% reduction. This trend could indicate an ageing workforce transitioning out of the sector, possibly due to retirement. The official retirement age is 65 years but an earlier pension can be obtained with 61 (raised to 62 years in 2020) The second largest age group >65 years decreased marginally from 421 in 2017 to 380 in 2023. The stability suggests that these are fishers in the SSCF that despite of being old and retired, continue fishing because they regard it as “a way of life” more than a job.

In regard to age structure of the fishing fleet, in the official document “Swedish Strategy for Fisheries and Aquaculture 2021-2026" it is stated that:

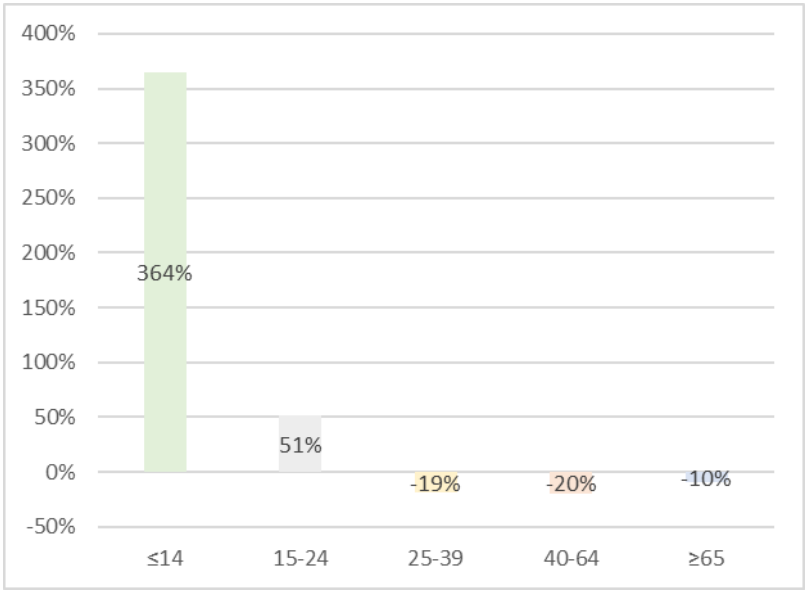
> *A large proportion of the local coastal and inland fishing industry have an ageing workforce. This is particularly evident in several local coastal fisheries. There are several reasons for the low recruitment rate, but profitability problems due to reduced fishing opportunities and a high administrative burden are contributing factors. Overall, this affects the attractiveness of the industry to young people and means that knowledge, traditions and values associated with local coastal and inland fishing are at risk of being lost. Within large-scale pelagic commercial fishing, the same challenge does not exist, as this type of fishing has good profitability and recruitment, which creates a more even age structure* (SwAM & JBV 2021, p. 31).

Table 254. Sweden: Employment by age, 2017-2023.

Age group	2017	2020	2023	Δ 2023-2017
≤14	5 (0%)	23 (2%)	22 (2%)	364%
15-24	102 (7%)	158 (11%)	154 (11%)	51%
25-39	226 (15%)	181 (13%)	183 (13%)	-19%
40-64	781 (51%)	680 (47%)	621 (46%)	-20%
≥65	421 (27%)	398 (28%)	380 (28%)	-10%

Source: Sweden data submissions under the 2025 Social Data Call.

Figure 135. Sweden: Change in fishers workforce by age group, 2017-2023



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

9.23.5 Workforce education and training

Education

In 2023, the fishing fleet's education levels were relatively evenly distributed: 24% of fishers had a high level of education, 32% had a medium level, and 31% had a low level. Between 2017 and 2023, the proportion of fishers with lower education decreased, while those with medium and high education increased.

Table 255. Sweden: Employment by level of education, 2017- 2023.

Education	2017	2020	2023	Δ 2023-2017
high	342 (22%)	345 (24%)	331 (24%)	-3%
medium	520 (34%)	469 (33%)	442 (32%)	-15%
low	513 (33%)	466 (32%)	422 (31%)	-18%
Unknown	160 (10%)	160 (11%)	166 (12%)	4%

Source: Sweden data submissions under the 2025 Social Data Call.

This trend mirrors broader changes in Sweden's general population, indicating that the shift is not unique to the fishing sector. The trend could reflect the exit of fishers in the SSCF who often belong to the group with low education level since the profession is learned usually from fathers to sons.

Training

Sweden has not ratified the STCW-F Convention and applies the STCW-78 Convention to its fishers. There are specific education programmes for

becoming a fisher in larger vessels and for all fishers it is mandatory to complete a specific training course. These courses are:

- Training course to serve a master of fishing vessels with a length of at least 12 metres (described in Appendix 7 of the TSFS 2024:36); the course is 32 hours) (Transportstyrelsen, 2024); and
- Safety training for duty on fishing vessels (described in Appendix 17 of TSFS 2024:36; the course is 16 hours) (Transportstyrelsen, 2024).

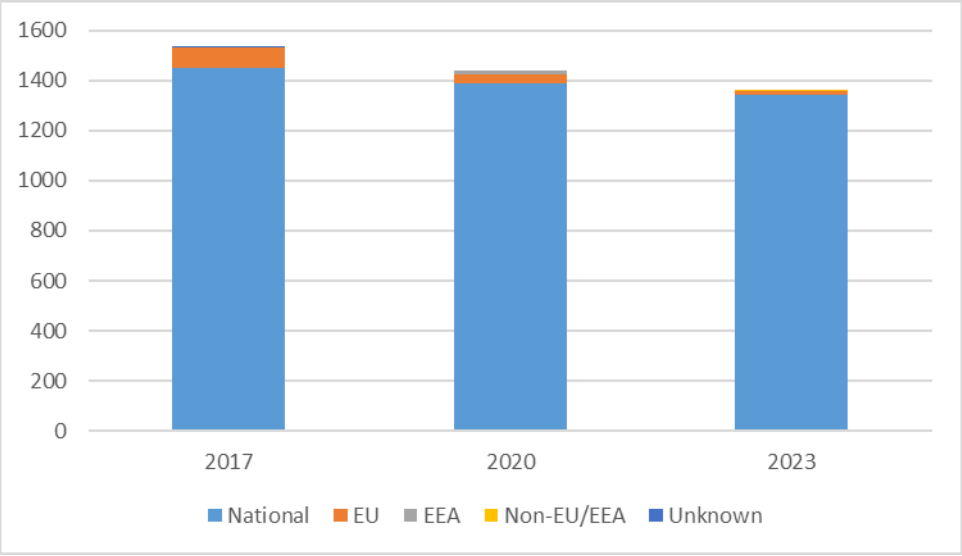
Both men and women have equal access to education and training (Swedish Transport Agency, 2024).

The presented data does not show this type of training but only relate to official education degree, additional information is therefore needed to have a more accurate picture of the education level in this sector.

Nationality

The vast majority of fishers working in Sweden holds Swedish citizenship. In 2023, this group numbered 1 341 individuals, representing an overwhelming share of the sector. Over the years, the proportion of Swedish citizens among fishers has steadily risen, increasing from 95% in 2017 to 99% in 2023. Fishers of other nationalities are primarily from other EU countries. While there were a few fishers with citizenship from outside the EU reported in 2020, their presence was only temporary, as no non-EU citizens were recorded in the sector by 2023.

Figure 136. Sweden: Employment by nationality, 2017-2023



Source: Own elaboration from Member States data submissions under the 2025 Social Data Call

Table 256. Sweden: Employment by nationality, 2017-2023.

Nationality	2017	2020	2023	Δ 2023-2017
National	1452 (95%)	1391 (97%)	1341 (99%)	-8%
EU	79 (5%)	32 (2%)	18 (1%)	-77%
EEA	0 (0%)	18 (1%)	0 (0%)	-
Non-EU/EEA	0 (0%)	0 (0%)	1 (0%)	-
Unknown	4 (0%)	0 (0%)	0 (0%)	-

Source: Sweden data submissions under the 2025 Social Data Call

9.23.6
9.23.7 Gender

Gender equality on the Swedish labour market is characterized by both significant progress and persistent challenges. Sweden is widely recognized as a global leader in promoting gender equality, with strong legal frameworks and policies aimed at ensuring equal rights and opportunities for all genders.

However, this in not reflected in the fishing harvest sector which is prominently dominated by male workers. In 2023, there were 173 women and 1187 men, which represent 13% women in the sector. Even though the share has increased by 26% between 2017 and 2023 it is still low with only 13% women in the sector in 2023.

Table 257. Sweden: Employment by gender, 2017-2023.

Gender	2017	2020	2023	Δ 2023-2017
Female	138 (9%)	163 (11%)	173 (13%)	26%
Male	1397 (91%)	1278 (89%)	1187 (87%)	-15%

Source: Sweden data submissions under the 2025 Social Data Call

The gender distribution can be attributed to several factors: a long tradition of male dominance in the production (onboard vessels) and women in the processing and distribution of marine products, selection bias due to the physically demanding nature of the work or lack of adequate working facilities for women onboard.

Unpaid labour by gender

From a gender (social) analysis perspective, the unpaid labour data are not available. The available data on unpaid labour are only relevant for the economic estimation of the fishing fleet's labour costs (see definition from AER below) and have no relation with the regular, unsalaried work that women perform in the fisheries sector, in particular in SSCF in Sweden.

In 2010, Sweden enacted Socialförsäkringsbalken (SFS nr 2010:110) (Social Security Code) implementing Directive 2010/41/EU, on the application of the principle of equal treatment between men and women engaged in an activity in

a self-employed capacity and repealing Council Directive 86/613/EEC. Further national policies or regulations promoting equal treatment in the fisheries sector are unknown.

Social aspects in Fisheries

9.23.8 Material well-being and social welfare

Wage

The DCF records fishing labour costs, which consists of personnel costs and the value of unpaid labour, and does not directly record fishing wages. Labour costs include non-wage payments such as social insurance contributions. Relative comparisons to other sectors and the economy should therefore be based on labour costs (rather than wages). This process is described in more detail in the EU chapter.

The Swedish fishing fleet reported an average annual labour cost of EUR 37 101 per FTE in 2023, which is significantly above the EU average (EUR 29 447 per FTE). Fishing labour costs have decreased 17% since 2013 (mostly from 2021-2023), in contrast with the rest of the EU fishing fleet which increased 22% over the same period. This is probably a consequence of decreases in landed value, changes in market structure due to Covid-19 and increases of fuel prices.

Table 258*.* Fishing labour costs compared to the national average

Measure	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fishing labour cost	44 868	43 249	48 395	50 615	48 305	47 548	48 244	49 118	48 753	40 790	37 101
National average				90 434				85 425	93 230	85 011	77 075
Ratio of fishing labour cost to national average				0.56				0.57	0.52	0.48	0.48

Source: MS data submissions under the 2025 Fleet Economic Data Call and calculation based on Eurostat hourly wages and hours worked. All values inflation-adjusted to 2023.

In 2023, the wage per engaged crew for the Swedish fleet was at approximately EUR 15 800 per year. However, the wage per engaged crew varies substantially between segments. LSF had a wage per engaged crew of approximately EUR 33 000 per year, whereas the SSCF was at a level wage per engaged crew of approximately EUR 7 200 per year. The L12AG fleet were in 2023 in between the other segments with wage per engaged crew of approximately EUR 14 900 (AER 2025).

In 2023, the wage per FTE for fishers was at approximately EUR 37 000 per FTE per year whereas the national average was at approximately EUR 44 600 per FTE per year. Similar as for wage per engaged crew, wage per FTE varies between fleet segments. The LSF and L12AG have wage per FTE that is higher than the overall fleet, at approximately EUR 42 000 per year and approximately EUR 39 000 per year respectively. The SSCF had a wage per FTE of approximately EUR 21 000 per year which is less than the wage per engaged

crew per segment. This indicates that in the SSCF there are more fishers that are more efficient per FTE spent fishing than per engaged crew spent fishing.

Fishing labour costs in Sweden are significantly below the national average labour costs (-52%). This gap has remained fairly consistent over time as national average labour costs have fallen in parallel with the decline in fishing labour costs.

Working conditions

The total number of worked hours in 2023 for the fishers were 865 125 hours, representing a decrease of 18% since 2017. It follows the same trend as the whole fleet where the number of vessels, engaged crew and days at sea are decreasing. Both SSCF and LSF showed a decrease in hours worked of 27% and 12% repetitively over the 2023 to 2027 period. Yet, the L12AG increased worked hours with 14% over the same period, which also correlates positively with the increased number of fishers in these fleet.

Table 259. Sweden: Total working hours, 2017-2023.

Working hours	2017	2018	2019	2020	2021	2022	2023	Δ 2023-2017
SSCF	572 601	555 687	540 805	479 447	459 250	403 061	418 734	▼ 27%
L12AG	78 369	75 649	83 034	79 786	73 929	80 337	89 150	▲ 14%
LSF	408 198	393 611	368 660	347 799	344 687	357 348	357 242	▼ 12%
Total	1 059 167	1 024 947	992 498	907 032	877 867	840 746	865 125	▼ 18%

Source: Sweden data submission under the 2025 Fleet Economic data call.

Social security

Swedish fishers are covered by the General Social Security System with obligations for pension and accidents schemes. For social security coverage employment in a fishing fleet can be divided between fishers with a standard employment relation (SER) and fishers under part-time, seasonal or self-employment (non-standard employment). It can be estimated, that at the moment, around 250 fishers in the LSF fleet in Sweden work under SER, with a formal contract and are covered by the regular social security schemes for Swedish workers. Swedish official statistics report a total of 722 self-employed workers (471 older than 60 years) in the fisheries and aquaculture sector in 2022. These are mostly fishers in SSCF. Almost all fishers in the SSCF fleet are registered as self-employed and therefore less covered by vacation benefits and occupational sickness. Unemployment benefits in Sweden are the responsibility of the employee and not of the employer. There are currently three companies offering unemployment security schemes for Swedish professional fishers. Despite being self-employed, a special regulation for professional fishers in the unemployment insurance includes the possibility of receiving compensation for temporary interruptions in fishing activities due to ice obstruction or certain weather conditions.

Many SSCF fishers are pensioners and continue working as fishers after retirement often with their sons or friends and as unpaid work. These fishers usually consider fishing as a “way of life” and find it difficult to stop fishing after retirement. Hammarlund *et al*. (2018) report that retired coastal fishers over the age of 65 currently account for about 40% of the total lobster catches in Swedish commercial fishing.

Accidents on board

In Sweden, the total number of work-related fatal accidents in 2023 was 55 which represents an incidence rate of 1.04 fatal work accidents per 100 thousand workers. The number of non-fatal accidents at work was around 50 thousand in 2023. Swedish National Statistics report that between 2008 and 2014; 4 fishers died at work, but no fatal accidents were reported between 2015 and 2024.

Although the statistics on accidents are valuable, a study of accidents at work in Nordic fisheries showed that they are reported voluntarily and are therefore significantly under-reported. Consequently, any statistic about accidents at work should be taken with a considerable degree of caution (Christiansen & Hovmand, 2017).

Table 260. Sweden: Number of accidents in Swedish fishing vessels per vessel size.

Vessel size	2017	2020	2023
12m =< LOA < 15m	1		
15m =< LOA < 24m		5	3
24m =< LOA < 45m		3	
LOA < 12m			2
Total	1	8	5

Source: EMSA

Foreign flagged vessels

This section is not applicable for Sweden as there are no foreign-flagged vessels.

9.23.9 Social demographics per fishing activities

The SSCF represents a large part of the Swedish fleet, accounting for 76% of the vessels and 60% of employment, but only 10% of the landed value. Adding the vessels that are less than 12 m long but using trawls (L12AG) to the SSCF, these percentages increase to 86% of vessels, 72% of employment and 15% of value. It is evident that these two segments are of considerable relevance for social aspects of the fishing sector. However, it is important to acknowledge that, on a national level, their economic contribution is relatively negligible. Conversely, this is not the case at a local level, where they could be vital for Baltic coastal rural economies and wellbeing (Björkvik et al., 2020; Svedäng et al., 2025).

The L12AG is a smaller segment of the Swedish fleet, encompassing 10% of the vessels, 12% of employment, and 2% of the landed value. It follows a similar trend to the SSCF when it comes to gender, with the share of women rising from 18% to 25% between 2017 and 2023. However, a divergence in the age distribution is evident. Specifically, the proportion of workers over the age of 65 in L12AG is lower than in SSCF.

The LSF accounts for 14% of the vessels, 28% of employment, and 84% of the landed value. This segment exhibits a significant national economic influence, yet its societal imprint remains comparatively negligible. Unlike the SSCF, the LSF shows different trends: the share of women participating in harvest fisheries decreased from 10% to 7% between 2017 and 2023. Additionally, the age distribution in the LSF indicates few workers are over 65 years old in contrast to the SSCF.

Table 261. Sweden: Social indicators by SSCF, L12AG and LSF for the years 2017, 2020 and 2023.

	SSCF			L12AG			LSF		
Indicator	2017	2020	2023	2017	2020	2023	2017	2020	2023
Gender									
Women	70	83	105	21	44	40	48	36	28
Men	869	771	713	94	121	122	433	386	352
Total	939	854	819	115	165	162	481	422	380
Age									
≤14	3	14	12	1	2	3	0	7	8
≥65	350	345	316	21	28	34	50	25	30
15-24	39	40	67	22	49	37	41	69	50
25-39	83	68	75	17	24	17	127	89	92
40-64	464	387	350	54	62	72	263	232	200
Total	939	854	819	115	165	162	481	422	380
Nationality									
EEA	0	6	0	0	3	0	0	9	0
EU	68	21	12	1	4	1	10	7	5
National	867	827	806	114	157	161	471	406	374
Non-EU/EEA	0	0	1	0	0	0	0	0	0
Unknown	4	0	0	0	0	0	0	0	0
Total	939	854	819	115	165	162	481	422	380
Education									
High	184	173	165	16	30	18	142	143	147
Low	357	315	285	36	37	41	120	114	97
Medium	339	273	281	43	50	52	139	146	109
Unknown	59	93	87	20	48	51	80	19	27
Total	939	854	819	115	165	162	481	422	380
Employment status									
Employee	163	192	249	44	103	91	225	212	197
Owner	776	662	570	71	62	71	256	210	183
Total	939	854	819	115	165	162	481	422	380

Source: Sweden data submissions under the 2025 Social Data Call.

The data reveals that the increase in the number of women participating in harvest fisheries in the SSCF and L12AG is driving the shift toward a more gender-equal fishing sector in Sweden. It is also notable that both the L12AG and LSF have few workers over 65, whereas the SSCF has a larger share of fishers continuing to work past this age. This indicates that the generational recruitment is worse in the SSCF. In terms of education, the L12AG fleet is the only one where the trend is towards fishers with lower levels of education. Finally, the fleet is shifting toward more fishers being employed rather than owners, a trend observed across all segments.

9.23.10 Trends and challenges

The Swedish population has strong connections to the marine environment, and the condition of the seas is a matter of collective concern. Furthermore, seafood is traditionally consumed regularly and a “must have” on the tables of Christmas and Easter, autumn, and mid-summer celebrations. In the third decade of the 21st century, the number of fishers has reached its lowest point since fisheries statistics started to be collected and the traditional fishing communities that were once a prominent feature of the Swedish coastal landscape have now nearly disappeared. A prevailing trend over the last decade has been marked by a decline in the number of vessels, fishers and landings in volume. Examination of the landings composition, shows that the current Swedish fisheries sector is characterised by an LSF landing large and irregular captures of small pelagic species, which are later processed into fish meal and fish oil in Denmark. The profitability of this fleet is substantial, and its workforce is comparatively younger and male dominated when contrasted with other fleets. The primary challenge facing the fleet is the vulnerable status of key target fishing stocks, such as the herring stock in the central Baltic Sea, which is in severe decline. This LSF for pelagic species is confronted with difficulties stemming from its negative public image, related to vast economic returns connected to vulnerable status of fishing stocks. Moreover, the fishery is linked to EU quotas that do not always align with scientific recommendations, but are set at higher levels, likely as a result of intense lobbying from this fishing segment. The practice of trawling which is associated with ecological damage and the fact that most of the catches are not used for human consumption, further contribute to the negative perception of this fleet.

In terms of fleet structure and employment, 85% of the fishing fleet comprises of vessels less than 12 m long that fish in coastal areas or in the many archipelagos. In Sweden, most fishers - three out of four – work on vessels that are less than 12 meters long, equipped with both passive and active fishing gears (small trawlers). Therefore, the social implications of developments within the SSCF are deemed to be critical. While their landings in weight represent only about 4% of total landings, the value of these landings account for 15% of the total value of Swedish landings. This means that the SSCF generates a revenue of EUR 4.8 more per kg of fish product sold than the LSF. However, the number of vessels in the SSCF has decreased from 851 to 620 between 2013 and 2023 and it is projected to be only 599 in 2024 (AER 2025). This

downward trend is of particular relevance to the economy and ongoing viability of the cultural identity, livelihoods, maritime knowledge and traditions of the rural coastal towns with strong ties to the coastal fleet segment (see Björkvik et al., 2020; Svedäng et al., 2025).

As said, the majority of Swedish fishers work for the coastal, small-scale fleet. These fishers are self-employed and are of an advanced age (approx. 65 years old in average in the Baltic Sea), which means that a significant lack of generational recruitment has been taking place at least during the last 30 years. A persistent concern for those engaged in coastal fishing in the Baltic Sea is the large populations of seals and cormorants, which too frequently impede their operations. Coastal fishers feel like they lack adequate representation and political influence, limiting their capacity to shape fisheries management decisions. Their disagreement with the prevailing fisheries management system and fisheries policies is significant. Relevant for social developments, the decline of the coastal fleet has resulted in the dissolution of the once-abundant rural fishing communities that relied on them and are considered nowadays part of Swedish history. This near extinction of coastal fishing communities has resulted in the loss of a substantial source of employment and commercial activity around harbours in rural Sweden. In addition to providing employment for men and women, fishing communities have traditionally played an important role in maintaining a vibrant and dynamic atmosphere along the extensive coastline and in the abundant archipelagos. The coastal fishers' way of life, understanding of the environment and unique skills and knowledge were also instrumental in the preservation of a centuries-old fishing culture and the identity of the communities in question. Moreover, the supply of fish to local markets from coastal fishers is currently negligible (less than 5% of all landings). Consequently, around 75% of all seafood consumed in Sweden is imported to the country, primarily from Norway. Among the new challenges for the fishing sector, the construction of offshore wind farms in fishing grounds is particularly noteworthy. From a gender perspective, while Sweden is listed highly in global rankings of gender equality, the contribution of women in low-profit coastal fisheries needs further exploration.

The Swedish government's aspirations for the period 2021-2026 are to develop an attractive, profitable and ecologically sustainable fishing sector. However, generational recruitment is low and inequalities in economic profitability are evident between the LSF and the SSCF. A similar divergence can be observed with regards to the levels of organisation and political influence on fisheries management outcomes, with coastal fishers facing a distinct disadvantage. There are potential avenues for revitalising the coastal fisheries sector and its past vibrant fishing communities, yet the social and political will for such a transformation may be lacking. About the decline of important commercial fish species, some stocks of cod and herring, have either collapsed or are in dangerous decline. Despite the many challenges such as decreasing fish stocks, climate change, top-down management, an ageing workforce and profit and income inequalities, the resilience and adaptive capacity of the fishing sector is noteworthy but could be reaching a “tipping point” or point of no return due to the lack of generational recruitment evidenced by the age structure data

as a consequence of environmental and biological issues resulting in decreasing fishstocks.

9.23.11 Methodological considerations and data issues

There are no major data issues in the Swedish data concerning the social data call. Swedish data come from questionnaires sent out on census level to all licenced fishers. Further, in 2019, the Swedish Agency for Marine and Water Management made it possible to fill out the survey on economic cost and social information online instead of by hand. This has and will increase the quality of the survey responses due to missing data and miss writings or miss readings. An important issue is clustering. With a small and diminishing fleet, Sweden is forced to cluster all of the economic and social data and also report cluster definitions. For this year report (and also for 2021 and 2022) the clustering has changed from previous reports due to the confidentiality of the economic and social information. One pending issue regards the data on unpaid labour which is used for the estimation of economic costs of the fleet and has no social data value. Therefore, interpreting these data for ASOR should be done with extreme caution.

10. AQUACULTURE

10.1 Belgium

10.1.1 Short description of the aquaculture sector

The aquaculture production in Belgium is almost entirely freshwater from finfish for which data collection is not mandatory under the DCF. The available data indicates a small sector that is growing. Developments of shellfish aquaculture in coastal waters are ongoing in Belgium. According to FAO production data, in 2022, the freshwater aquaculture sector produced 243 tonnes valued at EUR 1.7 million. The total number of persons employed in 2022 was 120, corresponding to 81 FTE. This marks an increase from 72 FTE in 2021. (STECF Aquaculture Economic Report, 2024).

Table 262. Production and sales for Belgium 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	0.1	0.1	0.1	0.2	0.2	0.2	9%	73%
Sales value (million €)	0.7	0.8	0.5	1.4	1.4	1.7	20%	77%
Number of enterprises			7	7	17	17	0%	65%
Employment					101	120	19%	19%
FTE			36	31	72	81	13%	76%

Source: Own elaboration from EU Member States DCF data submission and FAO (2024) data

10.1.2 Demographics characteristics in Aquaculture

The data availability on demographics characteristics of the Belgian aquaculture sector is limited, and a number of data gaps are present in the figures presented below. Therefore, careful interpretation is required when considering these numbers.

10.1.3 Employment in Aquaculture

Total Employment

Data on employment is available for the period 2019-2023. In 2019 and 2020, 51 and 38 people were employed in the aquaculture sector, respectively, of which approximately 70% were women. From 2021 onwards, the numbers look different, with a total employment of over 100 people. Note that the unknown gender row is likely the total number of employment given that the sum of the gender specific employment numbers in 2021 and 2022 is equal to the unknown employment. If that this is the case, this would imply that in 2023, 48 female and 54 male workers were active in the aquaculture sector. Since 2020, the share of male workers increased to more than 50%.

Table 263. Employment by gender and year in the aquaculture sector.

	2019	**2020**	**2021**	**2022**	**2023**
female	37	26	37	46	48
male	14	12	64	74	
unknown			101	120	102

10.1.4 Demographics of the Workforce

No disaggregated data regarding age and nationality of the employees in the Belgian aquaculture was available.

10.1.5 Workforce education and training

Education

Most employees in the aquaculture sector have a medium education level, followed by a low and high education level, respectively. Only in 2023, the number there was an equal number of employees with high and medium education level, while the number of employees with a low education level was slightly lower.

Table 264. Education level by year of the Belgian workforce in the aquaculture sector.

	2019	2020	2021	2022	2023
high	8	5	13	10	34
medium	31	22	49	56	34
low	12	11	39	54	27
unknown					7

Nationality

No data on nationality of the employees was available. However, given the fact that most aquaculture companies are small family owned companies, it is likely to assume that a vast majority of the employees are Belgians.

10.1.6 Gender

see section 10.1.3

10.1.7 Social demographics per aquaculture segment (choose the one applicable)

All previous figures relate to the freshwater aquaculture segment.

10.1.8 Methodological considerations and data issues

Data on Belgian aquaculture enterprises that have have an annual financial account are collected in the census. The list is updated every year. The MS notes that smaller enterprises are difficult to detect and that there are many one-person enterprises with only intermittent aquaculture activity, where years with activity are interspersed with years without aquaculture activity. Moreover, many people engaged in aquaculture have another main profession which hinders to separate data from aquaculture activities from other activities.

Furthermore, it is stated that the socio-economic data collection for aquaculture enterprises in Belgium is still new, and the processes will be revised every year of the current WP cycle. This is especially relevant as a new test study on data collection from the aquaculture sector is started in the current WP cycle. Finally, it is stated that the response to the questionnaire are non-existent.

10.2 Bulgaria

10.2.1 Short description of the aquaculture sector

The overall performance of the Bulgarian aquaculture sector has improved significantly in the last decade as the total income in 2020 increased by 27% compared to the average value for the period 2012-2019. In 2020, the COVID-19 crisis was the main driver of the decline in the overall performance, decreasing the total sales weight and value by 25% and 24%, respectively. In 2021, the sales volume and value increased by 19% and 23%, respectively, but in 2022 sales volume and value decreased again by 19% and 2%, respectively. The most important species produced in the country are trout and carp. In terms of sales value, the largest turnover was generated by the segment trout ponds, followed by trout cages and carp ponds.

In 2017, the turnover from sales was EUR 22.4 million, and in 2022, the turnover increased by 9% compared to the period 2017-2021 and amounted to EUR 32.6 million. Compared to 2021, the turnover in 2022 decreased by 2%. Table 265 shows that the number of enterprises grew gradually during the period 2017-2021. In 2021, there has been an increase in the sales volume and value in both the freshwater and shellfish sectors compared to 2020. In 2022, there was an increase in the sales value of shellfish, but a decrease in the sales value of freshwater aquaculture. (The 2024 Aquaculture Economic Report (STECF-24-14).

The market structure in Bulgaria did not show any changes over the last years. The slow process of development continues with a need for well-organized and constructed chains of retail stores and wholesale distribution networks of fish and fish products, including exchanges and specialized centres for purchasing fish not only near the seaside but also in the middle of the country. The distribution of fresh fish is absent in some regions, and the consumption of fish in these regions is much lower than the average per capita in the country. In general, Bulgaria has one of the lowest per capita consumption rates for fish and fisheries products in the EU. Compared to the EU average of 24 kg per person annually, Bulgarians consume an average of 7.2 kg annually (EUMOFA, 2023).

Table 265. Bulgaria: Production and sales, industry structure and employment 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**9.8**	**11.4**	**13.0**	**9.8**	**11.7**	**9.4**	-19%	-15%
Freshwater	8.2	10.0	11.3	8.6	10.3	8.0	-22%	-17%
Shellfish	1.6	1.3	1.7	1.2	1.4	1.4	0%	-3%
Sales value (million €)	**22.4**	**30.5**	**35.7**	**27.0**	**33.3**	**32.6**	-2%	9%
Freshwater	21.3	29.5	34.2	26.1	32.2	31.1	-3%	9%
Shellfish	1.1	1.0	1.5	1.0	1.1	1.5	31%	30%
Number of enterprises	**597**	**627**	**719**	**754**	**756**	**714**	-6%	3%
Freshwater	566	600	696	731	735	692	-6%	4%
Shellfish	31	27	23	23	21	22	5%	-12%
Employment	**1,572**	**1,262**	**1,390**	**1,292**	**1,503**	**1,518**	1%	8%
Freshwater	1,469	1,213	1,324	1,216	1,451	1,455	0%	9%
Shellfish	103	49	66	76	52	63	21%	-9%
FTE	**1,096**	**892**	**998**	**930**	**1,219**	**1,236**	1%	20%
Freshwater	1,021	849	943	864	1,173	1,181	1%	22%
Shellfish	75	43	55	66	46	55	19%	-3%

Source: Own elaboration from EU Member States DCF data submission

10.2.2 Demographics characteristics in Aquaculture

In 2023, Bulgaria had 684 registered aquaculture enterprises. Only 395 enterprises from the total population have sales, turnover, and employees; the rest of the 289 registered enterprises have declared that they have no sales. There were 636 enterprises with 5 or less employees, 25 enterprises with 6–10 employees, and 23 enterprises with more than 10 employees.

10.2.3 Employment in Aquaculture

Total Employment

Total employment (paid and unpaid) in 2023 was 1 507, corresponding to 1 234 FTEs. The level of employment decreased between 2009 and 2012 but increased in the period 2013–2017, followed by a 10% increase in 2019, when the total employment was 1 390 persons. Among the possible reasons for these fluctuations are the unstable economic situation in the country and the COVID-19 pandemic. Total employment in 2023 is 19% higher than the average for the period 2017-2022. Since 2017, the social variables like gender, age classes, education, nationality, and employment status have been collected together with the economic variables. Due to the type of table that was used for the collection of the social variables, it is also possible to provide combined variables like education by gender, age distribution by gender, nationality by gender, and employment status by gender.

10.2.4 Demographics of the Workforce

Age

The data presents the age distribution of employees in the sector from 2017 to 2023. In 2017 and 2018, the 40–64 age group was reported as a single category, comprising the majority of employees—884 and 737 respectively. Following recommendations from PGECON (RCG ECON), this broad category was divided into two separate groups (40–54 and 55–64) starting in 2020, to allow for more precise age monitoring. The new breakdown revealed that most employees remain concentrated in the 40–54 group, which grew steadily from 468 in 2020 to a peak of 625 in 2022, slightly declining to 616 in 2023. The 55–64 group also showed a consistent increase, rising from 267 in 2020 to 392 in 2023. Other age groups, particularly the 25–39 range, also maintained significant representation, though with a slight decline in recent years. Meanwhile, the 15–24 and >=65 age groups, although growing, remain much smaller in number, indicating limited entry of younger workers and some retention or re-entry of older individuals. The <=14 age group has almost no employed individuals, which is in line with expected employment patterns for this age range. Overall, the data underscores an aging workforce, highlighting the importance of monitoring generational shifts in employment.

Table 266. Bulgaria: Employment in aquaculture by age

	2017	2018	2019	2020	2021	2022	2023
<=14					1		1
15-24	24	17	29	33	76	60	50
25-39	330	273	263	232	336	341	298
40-54				468	579	625	616
40-64	884	737	771				
55-64				267	389	375	392
>=65	59	55	55	72	122	117	150

Data source: MS data submissions under the 2025 Social Data Call

10.2.5 Workforce education and training

Education

The data on the education level of employed individuals from 2017 to 2023 reveals a positive trend toward higher qualifications in the workforce. Medium education remains the most common level throughout the period, peaking at 1 133 in 2021 and staying consistently high through 2023 (1 041). At the same time, there is a steady increase in the number of employees with higher education, rising from 108 in 2018 to 249 in 2023. This upward trend may be partially attributed to the availability of specialized higher education programs in aquaculture, such as the bachelor's and master's degrees offered by Trakia University. These programs likely contribute to the growing number of highly educated professionals entering the sector. Meanwhile, the number of

employees with low education remains comparatively low and relatively stable, reinforcing the broader shift toward a more educated workforce.

Table 267. Bulgaria: Employment in aquaculture by education

	2017	2018	2019	2020	2021	2022	2023
high	150	108	141	124	180	233	249
medium	903	793	770	804	1133	1111	1041
low	244	181	207	144	190	174	217

Data source: MS data submissions under the 2025 Social Data Call

Nationality

The data on the nationality of employees in the aquaculture sector from 2017 to 2023 clearly shows that the vast majority are Bulgarian nationals. Their number has remained consistently high, ranging from 1 049 in 2018 to a peak of 1 514 in 2022. In contrast, the presence of foreign workers is minimal. EU citizens account for only a handful of employees each year, with a noticeable spike in 2018 (33), but the numbers remain very low overall. There are no employees from the EEA, and non-EU/EEA workers are almost absent. This is consistent with the trends observed in the other two related sectors — fisheries and fish processing — where employment is also dominated by Bulgarian nationals. A key factor contributing to this is that salaries in Bulgaria are significantly lower than the EU average, making positions in these sectors less attractive to foreign workers.

Table 268. Bulgaria: Employment in aquaculture by nationality

	2017	2018	2019	2020	2021	2022	2023
NATIONAL	1290	1049	1114	1070	1493	1514	1502
EU	6	33	4	2	9	3	5
EEA	0	0	0	0	0	0	0
NON-EU/EEA	1	0	0	0	1	1	0

Data source: MS data submissions under the 2025 Social Data Call

10.2.6 Gender

Employment in the aquaculture sector is predominantly male, with men consistently representing the majority of the workforce between 2017 and 2023. While the number of employed women has slightly increased—from 117 in 2018 to 236 in 2023—female participation remains significantly lower than that of men, whose numbers range from 915 to 1 312 during the same period. A likely reason for this gender imbalance is the nature of the work, which often involves physical labour and, depending on the type of farm, may also include night shifts—factors that can make the job less appealing or accessible to women.

Table 269. Bulgaria: Employment in aquaculture by gender

	2017	2018	2019	2020	2021	2022	2023
female	238	117	156	157	191	233	236
male	1059	965	962	915	1312	1285	1271

Data source: MS data submissions under the 2025 Social Data Call

10.2.7 Social demographics per aquaculture segment

The segments with the highest economic and social importance in 2023 were trout ponds, trout cages, carp ponds, and mussel long lines. The largest segment, regarding the number of enterprises, number of employees, and FTE, was carp ponds. The employment data in aquaculture by species, production system, and gender from 2017 to 2023 reveals several notable trends that reflect both the structure of the sector and underlying socio-economic factors.

Carp farming, particularly in pond systems, remains the dominant production activity in Bulgaria, employing the highest number of people over the years. Although the number of men working in carp pond farms is consistently higher, there is a stable and visible female presence as well. In 2023, 95 women and 605 men were employed in carp pond farms. The persistence of female workers in this traditional farming system suggests that it offers relatively accessible and less physically demanding roles that are suitable for both genders.

Cage farming of carp shows more fluctuation in female employment, with a peak in 2019 (26 women) and a stable male workforce. This variation may be linked to seasonal demand or changing practices in specific farms. Sturgeon farming in cages remains a male-dominated area, with no recorded female workers across most years. This could be attributed to the physically demanding nature of cage operations.

Trout farming, which is carried out in both cages and ponds, shows a growing number of female employees over the years, especially in pond systems. Female employment in trout ponds increased from 35 in 2017 to 62 in 2023. This could indicate that trout farming is becoming more inclusive or that it offers more varied roles suitable for women, particularly in processing, feeding, or administrative activities.

Mussel farming (marine longline systems) remains predominantly male-driven, with a noticeable decline in female participation—from 14 in 2017 to just 3 in 2023. This sharp drop may suggest increased mechanization, less seasonal labor, or a shift in farm ownership and practices. The marine environment may also present challenges less attractive or accessible to female workers.

Recirculation systems, which involve species like North African catfish, sturgeon, and Coho salmon, show a steady increase in female employment—from 13 in 2017 to 26 in 2023. These systems are more technologically advanced, environmentally controlled, and often located indoors, which may offer better conditions for both men and women. This trend supports the notion

that modernization and innovation in aquaculture create more gender-balanced employment opportunities.

Finally, the farming of species that have a niche at the market such as Danube crayfish and North African catfish in pond systems employs relatively few people, with both male and female numbers declining or remaining very low over the years. This may reflect the limited market or experimental nature of these operations.

The data show that employment patterns in aquaculture are strongly influenced by the type of species farmed, the production system used, and the physical or technological nature of the work. Traditional pond farming offers more balanced gender participation, while marine and cage systems remain heavily male-dominated. However, modern technologies such as recirculation systems appear to promote greater gender inclusion. These trends highlight the potential for more inclusive growth in the sector, especially if investment in modern infrastructure and training continues.

Table 270. Bulgaria: Aquaculture figures by gender

		Carp	Carp	Danube sturgeon, Siberian sturgeon, common carp	Mussels	North African catfish, Danube crayfish	North African catfish, Siberian sturgeon, Coho salmon	Trout	Trout
year	gender	cages	ponds	cages	longline	ponds	recirculation systems	cages	ponds
2017	female	8	151	0	14	10	13	7	35
2017	male	70	546	54	73	53	32	63	168
2018	female	6	62	0	4	7	9	6	23
2018	male	63	527	44	41	33	24	58	175
2019	female	26	58	0	10	1	14	6	41
2019	male	154	413	63	49	15	22	42	204
2020	female	23	55	2	17	0	15	9	36
2020	male	107	408	42	53	13	43	62	187
2021	female	20	83	1	4	4	18	16	45
2021	male	101	678	67	48	17	38	110	253
2022	female	23	94	0	11	3	20	23	59
2022	male	123	632	60	52	15	46	89	268
2023	female	23	95	0	3	1	26	26	62
2023	male	110	605	69	54	9	38	95	291

Data source: MS data submissions under the 2025 Social Data Call

10.2.8 Methodological considerations and data issues

Data source used for the DCF Social Data Call

The achieved sample rate for social data for all years during the period 2017-2023 was 100%. This achieved sample rate has an impact on the quality of the data provided by the sector, which also understood the importance of data provision.

Data for the aquaculture sector is published once a year. The aquaculture statistic is published in the Agricultural Report and on the website of the

Executive Agency for Fisheries and Aquaculture approximately 12 months after the end of the reference year.

In 2023, there was no confidentiality issue because the number of enterprises in each segment was more than five. All segments are divided by species and technique. If an enterprise produces more than one species, then it is allocated to the segment of the species that represents the biggest volume of sales. Some enterprises own more than one farm using different techniques, but these activities are separated into different segments because the enterprise is used as a data collection unit. There are very few examples of enterprises using more than one production technique.

Data quality issues related to your MS

Data quality is ensured through a multi-step validation process. First, when the questionnaire is received, an EAFA employee performs an initial quality check focusing on completeness and identifying any unrealistic values. The second check occurs during data entry into the database, where the same types of errors—such as missing or illogical values—are reviewed again. At this stage, data is also cross-checked against enterprise-specific parameters, such as production technology documentation, number of employees, or the consistency between sales volume and income. If any discrepancies are found that cannot be logically explained, the farm owner is contacted and required to correct the data in person if necessary. The risk of double counting, data duplication, or respondent error is minimal, as only one questionnaire is submitted per enterprise per year. Upload errors are also avoided because questionnaires are scanned and uploaded directly into the agency’s document management system, linked to each aquaculture farm's file. Finally, after expert processing, all data undergoes an additional review by an independent expert to check for any typographical errors.

10.3 Czechia

10.3.1 Short description of the aquaculture sector

Czechia boasts a long-standing tradition of aquaculture, with a specialisation on freshwater production in earthen ponds (STECF 24-14: 105). Czechia is a landlocked country producing only freshwater aquaculture products, with common carp being the primary species. In 2022, the Czech aquaculture sector yielded 24 100 tonnes of fish, worth approximately EUR 66.3 million.

After a decline in 2020, production activity has increased again during 2021 and 2022.

Table 271. Production and sales, industry structure and employment for Czechia 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	24.5	23.9	23.8	22.5	23.5	24.1	2%	2%
Sales value (million €)	51.7	49.9	47.0	42.7	47.5	66.3	40%	39%
Number of enterprises	480	480	480	480	480	440	-8%	-8%
Employment	2,332	2,189	2,193	2,391	2,180	2,463	13%	9%
FTE	816	794	678	725	671	808	20%	10%

Source: STECF 24-14, p. 105

10.3.2 Demographic characteristics in Aquaculture

The last available social data on demographics in the Czech aquaculture sector to date of this report is 2020 and refers to employees and “own account workers”. Unpaid labour is not reported.

10.3.3 Employment in Aquaculture

2 188 people worked in the Czech aquaculture in 2020. Of which 20 own account workers are reported. The number of unpaid (family) labour is unknown. There were 480 companies active in aquaculture (STECF 24-14: 105). The mid-term trend from 2017 to 2022 infers an increase in employment of +9%.

10.3.4 Demographics of the Workforce

Age

For the 2 188 reported employees and own account workers, the distribution across age classes was as follows in 2020.

No employee was younger <14 years. 266 individuals were between 15 and 24 years old (12%). 488 individuals were between 25 and 39 years old (22%).

1 315 individuals were between 40 and 64 years old (60%). 119 individuals were older >65 years old (5%). No conclusive trend emerges from the available data for 2018 and 2020.

10.3.5 Workforce education and training

For the 2 188 reported employees and own account workers, the distribution across levels of education was as follows in 2020.

There were 219 individuals with a high degree of educational background (10%). A total of 1 730 individuals had achieved a medium level of educational attainment (79%). 239 individuals possessed low educational qualifications (11%).

No conclusive trend emerges from the available data for 2018 and 2020.

Table 272. Employment by education level in Czech aquaculture 2018 and 2020

Education	2018	2020
high	249	219
medium	1 666	1 730
low	196	239
Grand Total	2 111	2 188

Data source: MS data submissions under the 2025 Social Data Call.

Nationality

For the 2 188 reported employees and own account workers, the breakdown by nationalities was as follows in 2020.

Table 273. Employment by education level in Czech aquaculture 2018 and 2020.

	2018	2020
NATIONAL	2 104	2 185
EU	6	3
EEA	0	0
NON-EU/EEA	1	0
Grand Total	2111	2188

Data source: MS data submissions under the 2025 Social Data Call.

Almost all, in numbers 2 185, individuals were Czech. Only three individuals were from other EU member states. No conclusive trend emerges from the available data for 2018 and 2020.

10.3.6 Gender

For the 2 188 reported employees and own account workers, the gender distribution was as follows in 2020. 308 women (14%) and 1 880 men (86%) worked in aquaculture.

Table 274. Employment by gender in Czech Aquaculture 2018 and 2020.

Gender	2018	2020
female	248	308
male	1863	1880
Grand Total	2111	2188

Data source: MS data submissions under the 2025 Social Data Call.

No conclusive trend emerges from the available data for 2018 and 2020.

10.3.7 Social demographics per aquaculture segment

In the Czech Republic, there is only one freshwater aquaculture segment: carp polyculture (in ponds).

10.3.8 Methodological considerations and data issues

- Data is provided by the Institute of Agricultural Economics and Information, IAEI, Mánesova 75, 120 00 Prague 2
- Probability Sample Survey of aquaculture enterprises (reference year 2021 = 440 enterprises) by questionnaire as data source used for the DCF Social Data Call
- Probably data imprecision: 20 own account workers are reported for 2020 in Czech social data. But, 480 were listed for the same year in aquaculture (STECF 24-14: 105). This discrepancy indicates missing or incomplete data

10.4 Germany

10.4.1 Short description of the aquaculture sector

In Germany, the predominant form of marine aquaculture is on-bottom blue mussel production (STECF 24-14, p. 138). Between 2017 and 2023, the annual yields of blue mussels fluctuated significantly, ranging from less than 10 000 tonnes to over 20 000 tonnes. In contrast, the member state's freshwater aquaculture production has remained relatively stable, with annual yields oscillating between 17 000 tonnes and 19 000 tonnes since 2017. The primary and most economically significant species farmed in aquaculture are salmonids, including trout and char, as well as common carp. In 2022, the production of these species totalled approximately 15 700 tonnes, generating an estimated sales value of EUR 76.3 million. In addition, high-value, niche segments such as catfish, eel, sturgeon, crustaceans, and pike perch are produced in recirculating aquaculture systems (RAS) accounted for an additional sales weight of 2 620 tonnes in 2022.

Table 275. Production and sales, industry structure and employment for Germany: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**35.0**	**30.9**	**37.1**	**27.0**	**26.1**	**27.4**	5%	-12%
Freshwater	16.4	15.0	15.1	15.0	15.7	15.7	0%	1%
Shellfish	18.6	15.9	22.0	12.0	10.3	11.7	14%	-26%
Sales value (million €)	**109.1**	**102.1**	**108.7**	**100.3**	**85.0**	**93.7**	10%	-7%
Freshwater	83.6	69.6	66.6	75.0	66.0	76.3	16%	6%
Shellfish	25.5	32.5	42.1	25.3	19.0	17.4	-8%	-40%
Number of enterprises	**2,900**	**2,755**	**2,642**	**2,403**	**2,382**	**2,283**	-4%	-13%
Freshwater	2,891	2,746	2,633	2,394	2,373	2,274	-4%	-13%
Shellfish	9	9	9	9	9	9	0%	0%
Employment	**5,893**	**5,745**	**5,619**	**4,862**	**4,837**	**4,980**	3%	-8%
Freshwater	5,766	5,610	5,476	4,712	4,676	4,834	3%	-8%
Shellfish	127	135	143	150	161	146	-9%	2%
FTE	**3,048**	**2,900**	**2,833**	**2,659**	**2,745**	**2,932**	7%	3%
Freshwater	2,952	2,792	2,713	2,547	2,622	2,820	8%	3%
Shellfish	95	108	120	112	123	112	-9%	0%

Source: STECF 24-14, p. 138

By trend, freshwater aquaculture stagnates, and marine aquaculture decreases. The reasons for this development are multi-dimensional and include cost-intensive seed collection, expansion of Pacific oyster and climate change effects in general, in the case of blue mussel aquaculture in the southern North Sea (STECF 24-14, p. 145). Challenges for freshwater aquaculture are a shortage of water supply and increased water temperatures due to climate change (affecting salmonids negatively), investment backlog, fish loss due to

cormorants and otters, fish diseases, issues with generational renewal, and rising production costs driven by increasing price trends in production factors. In general, these external pressures lead to a concentration process of the salmonid sector, where farm numbers decline while retaining stable production output of the sector. Overall, Lasner & Gimpel (2024) argue that the primary obstacle to the economic growth of Germany's aquaculture is the uncertain societal environment, which arises from two key factors: a sector that is characterized by its small size and fragmentation, lacking economic and political influence, and a governance framework that is overly complex and heavily regulated. This combination creates an uncertain and challenging investment context that hinders the adaptation to the above-mentioned challenges.

10.4.2 Demographic characteristics in Aquaculture

The last available social data on demographics for Germany's aquaculture sector to date of this report is 2023, covering employees and unpaid labour.

10.4.3 Employment in Aquaculture

4 702 individuals worked in approximately 2 300 German aquaculture farms in 2023. Of which 2 707 unpaid individuals and 1 995 employees are reported. 1 126 employees work in full-time (60%) and 734 employees work in part-time (40%). According to the 2025 social data call, the trends in employment and labour are not clearly defined. While the number of employees appears to have slightly decreased, the level of unpaid labour remains stable, based on the comparison of data from 2017 and 2023. However, the 2020 data appears to be an outlier, potentially due to methodological issues, and is not considered in this assessment.

10.4.4 Demographics of the Workforce

In the following, only the characteristics of employees are reported in the data submitted to the 2025 social data call.

Age

For 1 863 employees the distribution across age classes was reported as follows in 2023.

No employee was younger <14 years. 152 individuals were between 15 and 24 years old (8%). 362 individuals were between 25 and 39 years old (19%). 1 278 individuals were between 40 and 64 years old (69%). 71 individuals were older >65 years old (4%).

In 2023, the sector's age demographics showed a shift, with a +20% increase in the proportion of individuals aged 40-64, while those over 65 years old (-12%) and those between 25-39 years old (-9%) were relatively fewer compared to the 2020 period.

10.4.5 Workforce education and training

For 1 861 employees, the distribution across levels of education was reported as follows in 2023.

There were 141 individuals with a high degree of educational background (8%). A total of 987 individuals had achieved a medium level of educational attainment (53%). 733 employees possessed low educational qualifications (39%).

Table 276. Employment by education level in German aquaculture 2017-2023.

Education	2017	2020	2023
high	105	293	141
medium	179	806	987
low	160	792	733
Grand Total	444	1891	1861

Data source: MS data submissions under the 2025 Social Data Call

The education level demographics in the sector experienced a change in 2023, characterized by a +10% rise in the percentage of medium educated individuals, accompanied by a -8% decline in those with higher and -2% with low levels of education, compared to 2020.

Nationality

For 1 995 employees, the breakdown by nationalities was reported as follows in 2023.

Table 277. Employment by nationality in German aquaculture 2017-2023.

Nationality	2017	2020	2023
NATIONAL	1844	1641	1713
EU	97	106	110
EEA	27	106	110
NON-EU/EEA	12	54	62
Grand Total	1980	1907	1995

Data Source: MS data submissions under the 2025 Social Data Call

1 713 or 86% individuals were Germans. 110 individuals were from other EU Member States (6%), and 110 individuals were from EEA states (6%). 62 individuals were from Non-EU/EEA states (3%). There is no trend in the proportion of origin in the period 2020-2023.

10.4.6 Gender

For 1 859 employees, the distribution across gender was reported as follows in 2023. 678 women (36%) and 1 215 men (64%) worked in aquaculture.

Table 278. Employment by gender in German Aquaculture 2017-2023.

Gender	2017	2020	2023
Female	732	678	663
Male	1260	1215	1196
Grand Total	1992	1893	1859

Data source: MS data submissions under the 2025 Social Data Call

The data reveals a consistent pattern, with the proportion of female employees in Germany's aquaculture sector remaining relatively stable at approximately 36%, indicating no notable changes or trends over time.

10.4.7 Social demographics per aquaculture segment

For Germany, specifics on gender distribution are uploaded per environment and production system segment for 2020-2023. The freshwater environment includes ponds, tanks, and raceways. The marine environment includes on-bottom culture. However, the share of women is lowest in marine mussel culture (approximately 4%), significantly higher in carp pond cultures (approximately 34%), in trout tanks and raceway systems (approximately 36%) and trout ponds (approximately 38%). For some reason, the 2017 data was reported as a different aggregated segment, "trout/carp ponds", and cannot be compared.

10.4.8 Methodological considerations and data issues

- Data is provided by Thünen-Institute of Fisheries Ecology (TI-FI), Herwigstraße 31, 27572 BREMERHAVEN, GERMANY
- Different secondary data sources (census-based) are used, mainly the Employment Agency and Statistics Germany (DESTATIS). In addition, a probability sample (survey) is applied.
- Regarding the social data collection method, an improved employee population estimation was applied for 2020 and 2023 compared to the population source used in 2017. In the meantime, data was recalculated by the data collecting institute, but not in the case of employment by education. In consequence, the data is not comparable in that case and colour-marked.
- Note that the social data collection call for 2025 reported equal employment numbers by nationality for the 'EU' and 'EEA' categories, with both counting 106 individuals for the years 2020 and 2023. However, further reporting in the 'NON-EU/EEA' category raised questions about the consistency of the data.

- Discrepancies in employment data. German employment data submitted under the 2025 Social Data Call differs from the data presented in the 2024 aquaculture economic report (STECF 24-14, p. 138). E.g. the latter reports 5 893 individuals working in the sector companies for 2017 or 2 659 FTEs for 2020, while social data lead to an employment of 4 686 individuals in 2017 or 2 326 FTEs in 2020.

10.5 Denmark

10.5.1 Short description of the aquaculture sector

The Danish aquaculture sector mainly produces trout in cages, ponds and recirculation systems and blue mussels on longline (STECF 24-14). In 2022, the total sales weight show a decrease of 2%, whereas the sales value increased 7% compared to 2017 to 2021. From 2021 to 2022, the sales weight decreased 3% and the value increased 11%. The segment trout cages and blue mussels provided a positive net profit, whereas trout ponds and trout in recirculation systems had a negative net profit (STECF 24-14).

In total, the Danish aquaculture sector produced 56 thousand tonnes in 2022, which is a slight decrease compared to 2021, however an increase compared to 2020. The total sales value reached EUR 213 million in 2022, which is an increase compared to 2021. Compared to the average of 2017 to 2021, the total sales weight has decreased 2%, and the total sales value increased 7% in 2022 (STECF 24-14).

Table 279. Denmark: Production and sales, industry structure and employment: 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**53.6**	**55.9**	**64.5**	**54.1**	**57.8**	**56.3**	-3%	-2%
Marine	13.8	14.4	14.4	11.3	12.3	13.6	11%	3%
Freshwater	37.4	38.4	41.2	35.9	36.7	32.0	-13%	-16%
Shellfish	2.4	3.1	8.9	6.9	8.9	10.7	19%	76%
Sales value (million €)	**205.1**	**205.9**	**210.7**	**180.8**	**192.2**	**213.0**	11%	7%
Marine	74.3	71.8	60.8	53.8	58.2	78.2	34%	23%
Freshwater	129.3	131.9	144.4	123.7	128.5	129.2	0%	-2%
Shellfish	1.4	2.3	5.5	3.3	5.5	5.7	3%	58%
Number of enterprises	**100**	**99**	**94**	**90**	**84**	**79**	-6%	-15%
Marine	4	4	4	4	4	4	0%	0%
Freshwater	92	89	82	77	72	64	-11%	-22%
Shellfish	4	6	8	9	8	11	38%	57%
Employment	**662**	**681**	**675**	**675**	**643**	**602**	-6%	-10%
Marine	137	146	90	95	133	137	3%	14%
Freshwater	504	507	533	530	473	427	-10%	-16%
Shellfish	21	28	52	50	37	38	3%	1%
FTE	**388**	**399**	**426**	**425**	**500**	**459**	-8%	7%
Marine	94	101	64	65	98	99	2%	18%
Freshwater	282	282	329	331	374	332	-11%	4%
Shellfish	12	16	33	29	28	28	-2%	17%

Source: Own elaboration from EU Member states DCF data submission (STECF 24-14 Aquaculture Economic Report)

Demographics characteristics in Aquaculture

10.5.2 Employment in Aquaculture

Total Employment

The total number of people working in aquaculture in Denmark is 566 people in 2023. That is a slight increase (3%) compared to 2017.

Table 280. Denmark: Total Employment.

	2017	2020	2023	% Δ 2023-2017
Total employment	549	585	566	3%

Most people working in aquaculture are employees, with 545 in 2023. 21 people were registered as owners. The number of owners reduced with 59% and the number of employees increased with 12%. The unknown category was zero in 2023.

Table 281. Denmark: Employment by employment status

Employment status	2017	2020	2023	% Δ 2023-2017
employee	488	536	545	12%
owner	51	39	21	-59%
unknown	9	10	0	-100%

10.5.3 Demographics of the Workforce

Age

Most people working in Aquaculture, 299 people in 2023, are between 40-64 year old. If we look at the trend this has always been the age segment with most employees. Changes over time are minimal, there is an increase in all age segments when comparing 2017 with 2023, most new employees or changes have occurred in the 15-24 age category, an increase of 7% and in the 25-39 age category (10%). The increase of 200% in the ≤14 is due to the low numbers (from 1 to 3 people).

Table 282. Denmark: Total Employment by Age

Age	2017	2020	2023	% Δ 2023-2017
≤14	1	2	3	200%
0-14	0	1	0	0
15-24	54	58	60	7%
25-39	142	171	156	10%
40-64	305	309	299	1%
≥65	47	44	48	2%

10.5.4 Workforce education and training

Education

Most people working in aquaculture have a medium level education (244 people), followed by low (211 people). Looking at the trend, the number of people with higher education is 50% higher (from 74 in 2017 to 111 in 2023). Also the number of people with medium level education increased (9%) where the number of people with a lower level of education declined (12%). The unknown category disappeared in 2023.

Table 283. Denmark: Employment by Education Level

Education	2017	2020	2023	% Δ 2023-2017
high	74	110	111	50%
medium	223	230	244	9%
low	242	228	211	-12%
unknown	10	17	0	-100%

Nationality

Due to data quality issues in the 2023 reporting period, a breakdown of the analysis by nationality could not be reliably produced.

10.5.5 Gender

Most people working in aquaculture in Denmark are male (472), with 94 females. Women comprise 16% of the workforce. The share of women in the workforce increased more (7%) between 2017 and 2023 than of men (2%). Yet in absolute numbers more men (11) than women (6) joined the sector in 2023 compared to 2017.

Table 284. Denmark: Employment by gender

Gender	2017	2020	2023	% Δ 2023-2017
Female	88	106	94	7%
Male	461	479	472	2%

10.5.6 Methodological considerations and data issues

Employment by employment status was reported with decimals, this was corrected.

In 2023, data reported by nationality seems to be inconsistent: the non EU/EEA employment reaches 458 people from 41 in 2020; while the national employment goes from 461 to 98 people in 2023.

10.6 Greece

10.6.1 Short description of the aquaculture sector

In 2022, Greek aquaculture produced 137 thousand tonnes with a total sales value of EUR 770 million, marking a 35% increase in value compared with the 2017–2021 average, while sales volume remained stable over the 2019–2022 period. Marine aquaculture accounted for 86% of total production and 97% of total sales value, confirming its dominant role. The sector comprised 657 enterprises.

The seabass and seabream segment represented the largest share of production, posting a 34% rise in sales value and a 1% increase in volume in 2022, driven by higher market prices and the expansion of high-value marine species. Freshwater aquaculture also grew, with sales volume up 30% and value up 34%, largely due to improved market access and supermarket distribution of trout and other freshwater species. Meanwhile, the shellfish sector contracted by over 20% in both volume and value, as higher sea temperatures reduced mussel productivity and mussel seed availability.

Table 285. Production and sales, industry structure and employment for Greece: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**119.6**	**130.8**	**139.2**	**137.5**	**136.4**	**137.1**	0%	3%
Marine	98.5	105.7	111.7	113.3	116.5	117.6	1%	8%
Freshwater	4.5	4.2	4.7	3.1	3.5	4.5	30%	14%
Shellfish	16.6	20.9	22.9	21.2	16.4	15.0	-9%	-24%
Sales value (million €)	**545.3**	**556.3**	**564.9**	**600.8**	**578.3**	**769.8**	33%	35%
Marine	527.9	539.0	539.7	582.7	558.3	745.8	34%	36%
Freshwater	11.3	10.9	16.4	10.4	14.5	18.6	28%	47%
Shellfish	6.1	6.5	8.7	7.7	5.5	5.4	-2%	-22%
Number of enterprises	**659**	**650**	**691**	**691**	**648**	**657**	1%	-2%
Marine	343	347	358	358	311	309	-1%	-10%
Freshwater	115	110	132	132	130	129	-1%	4%
Shellfish	201	193	201	201	207	219	6%	9%
Employment	**3,876**	**3,924**	**4,383**	**4,418**	**4,903**	**5,007**	2%	16%
Marine	3,085	3,123	3,313	3,322	3,657	3,750	3%	14%
Freshwater	297	307	419	430	542	545	1%	37%
Shellfish	494	494	651	666	704	712	1%	18%
FTE	**2,924**	**3,338**	**3,761**	**3,795**	**3,918**	**3,958**	1%	12%
Marine	2,574	2,958	3,125	3,134	3,321	3,334	0%	10%
Freshwater	151	181	294	302	320	328	3%	31%
Shellfish	199	199	342	359	277	296	7%	8%

Source: STECF 24-14, p. 149

Regarding the structure of the Greek aquaculture sector, 20% of enterprises are SA or Ltd companies, but they generate 85% of the sector's total sales value. The marine fish segment experienced a 10% decline in enterprise numbers compared with the 2017–2021 period, reflecting ongoing consolidation and mergers within the seabass and seabream industry. Despite a slight reduction in enterprise count, total employment rose by 16% (12% in FTE), highlighting continued growth and resilience in Greece's aquaculture sector.

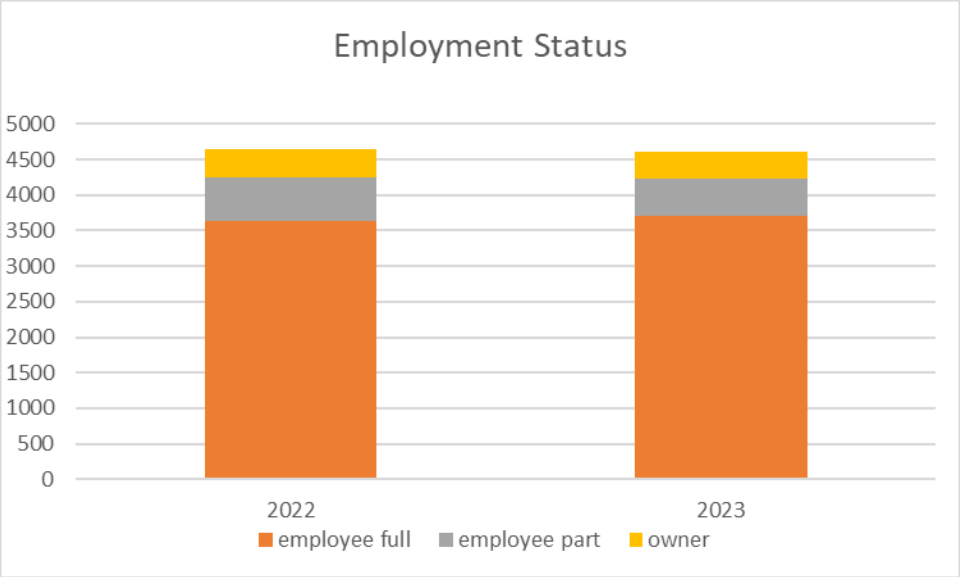
Demographic characteristics in Aquaculture

The last available social data on demographics in the Greek aquaculture sector to date of this report is 2023, covering employees, unpaid labour and owners.

10.6.2 Employment in Aquaculture

Employment levels in Greek aquaculture stayed almost unchanged between 2022 and 2023, dropping slightly from 4 639 to 4 611 workers. The number of full-time employees rose from 3 635 to 3 699, showing a small increase in stable work positions. At the same time, part-time jobs dropped from 617 to 525, a decline of about 15%, which points to fewer seasonal work roles. Finding seasonal workers in the country is challenging, and the additional workload is usually managed through overtime by the existing staff. The number of owners remained steady at 387, confirming the continued importance of family-run and self-operated farms. Those figures suggest a workforce that is becoming more permanent and consolidated, with a gradual shift toward full-time employment and overall operational steadiness in the sector.

Figure 137. Employment (employees and owners) in Greek aquaculture 2022-2023.



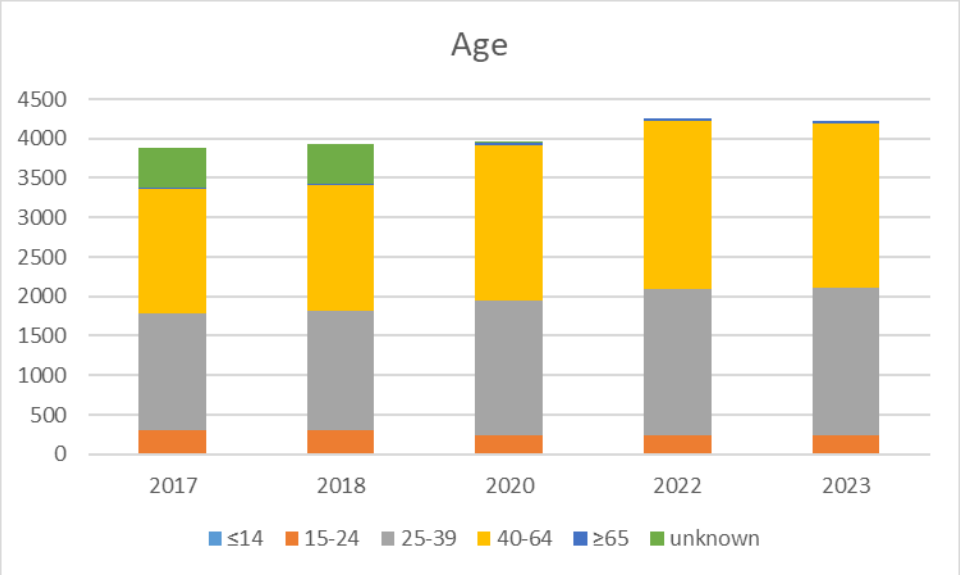
Data source: MS data submissions under the 2025 Social Data Call.

10.6.3 Demographics of the Workforce

Age

Between 2017 and 2023, the age composition of Greece's aquaculture workforce remained consistent, with most employees belonging to the 25–64 age range. The 40–64 group forms the largest share, growing from 1 580 workers in 2017 to around 2 089 in 2023. The 25–39 group also increased gradually, from 1 477 to 1 867. By contrast, the number of younger employees aged 15–24 stayed low, declining slightly from 300 to 242, indicating that few newcomers are joining the field. Many students also avoid doing their internship in companies, as the workload is demanding, and they tend to prefer staying within the university environment, where conditions are more manageable. The 65-plus category remained small and stable at about 25 workers. Earlier age records with "unknown" values are no longer reported, reflecting better reporting quality.

Figure 138. Distribution of individuals' age per class in Greek aquaculture from 2017 to 2023.



Data source: MS data submissions under the 2025 Social Data Call.

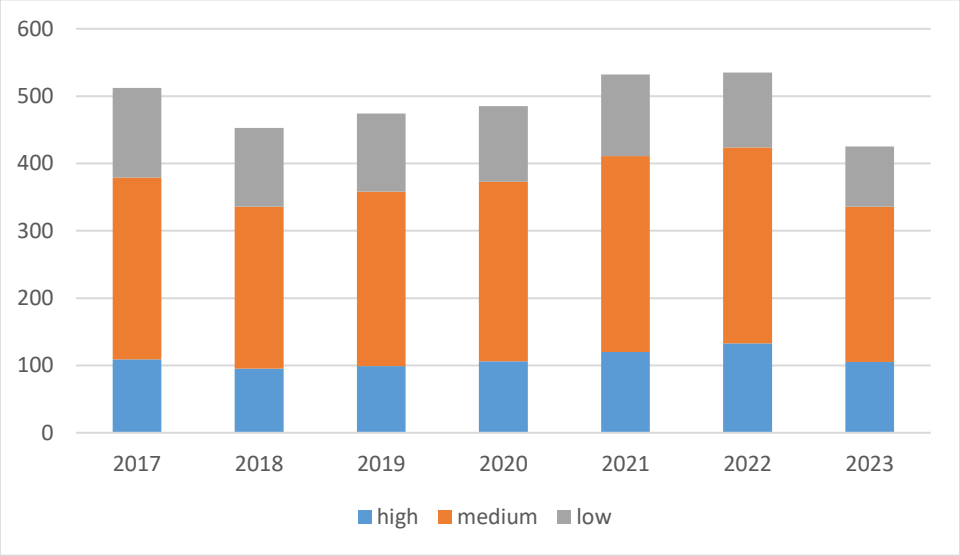
According to the data reported, Greek aquaculture demonstrates an experienced but aging workforce, with strong participation from middle-aged employees and a continuing shortage of younger employees. Even though Greece is one of Europe's main aquaculture producers regarding seabass and seabream, the sector attracts very few young people. Most farms operate in remote coastal or island areas, where living and working conditions are not appealing to younger people. The jobs are often physically demanding and modestly paid, with limited chances for advancement. These factors, combined with better opportunities in urban and service-based jobs, have left the industry with an aging workforce and a shortage of new workers.

10.6.4 Workforce education and training

Between 2017 and 2023, most employees in Greek aquaculture held a medium level of education, which reached 2 148 people (51%) in 2023. Workers with lower education numbered 1 398 (33%), showing the sector's continued dependence on manual and technical labour. The highly educated group accounted for 678 employees (16%), a relatively small but stable share of the workforce, typically covering managerial, scientific, and supervisory positions.

Overall, the sector retains a distinctly vocational character, with most employees holding secondary or technical qualifications. The large seabass and seabream companies, which often operate vertically integrated facilities such as hatcheries-nurseries, and processing units, are those that typically employ higher-educated professionals. Although these staff members represent a smaller share of the workforce, they play a crucial role in the sector's organization and overall performance.

Figure 139. Distribution of individuals' education level in Greek aquaculture 2017-2023.



Data source: MS data submissions under the 2025 Social Data Call

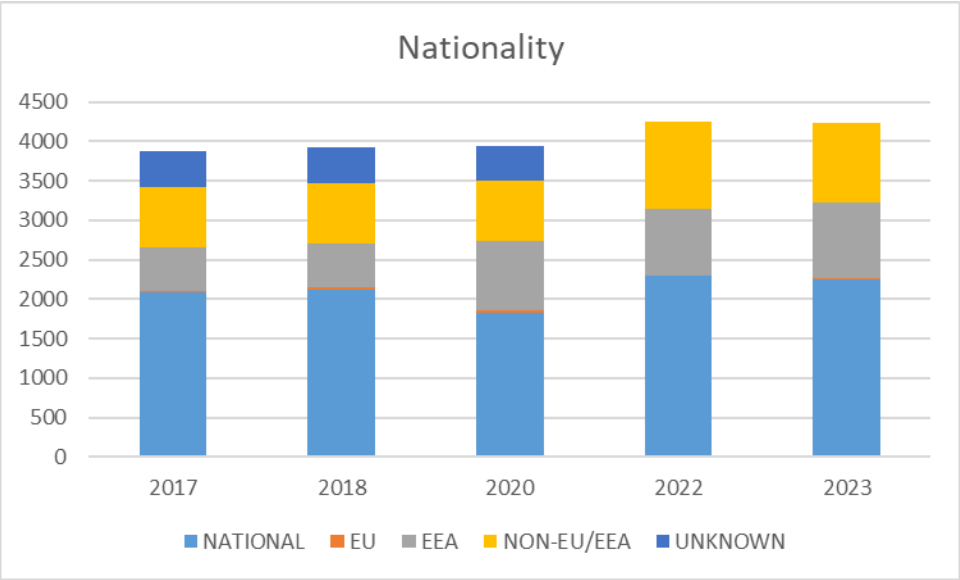
Nationality

Employment in Greek aquaculture remains dominated by Greek nationals, who numbered 2 251 employees (53%) in 2023. The share of EEA nationals has gradually increased, reaching 960 workers (23%), while non-EU/EEA employees accounted for 1 007 people (24%). In comparison, only six employees (<1%) came from other EU countries, showing that mobility within the EU aquaculture labor market remains very limited.

Earlier datasets included several workers of unknown nationality (about 450 people up to 2020), but these entries have been removed for 2022-2023, suggesting better data quality. Overall, the sector continues to rely primarily on domestic labour, complemented by a growing share of foreign employees,

particularly from EEA and non-EU countries, reflecting a gradual diversification of the workforce in recent years.

Figure 140. Distribution of individuals' education level in Greek aquaculture 2017-2023.

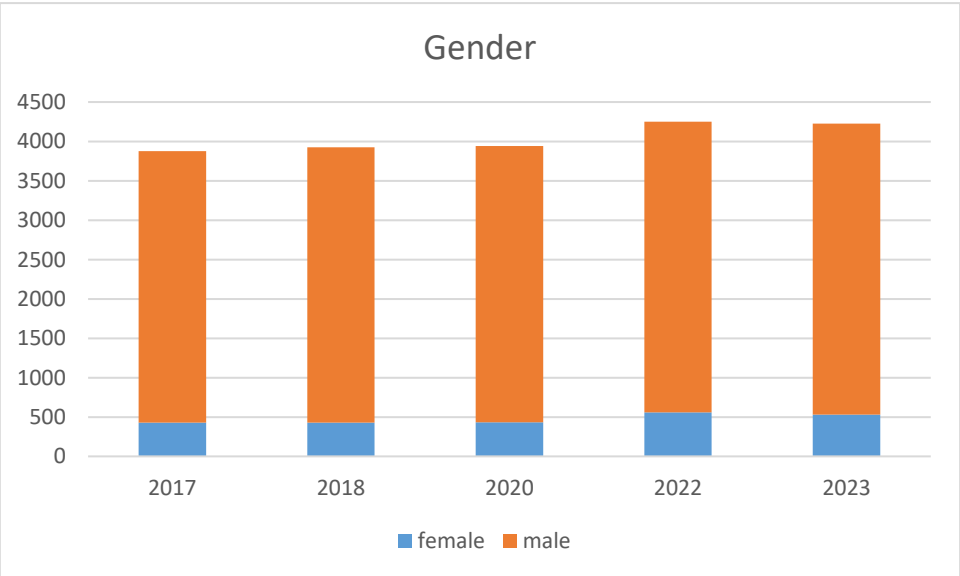


Data source: MS data submissions under the 2025 Social Data Call

10.6.5 Gender

Employment in Greek aquaculture continues to be male dominated, although the presence of women has grown slightly over time. In 2023, out of a total of 4 224 employees, 532 were women (13%) and 3 692 were men (87%). The number of female workers rose noticeably between 2020 and 2022, reaching a peak of 561, before a small decline in 2023.

Figure 141. Distribution of individuals' gender in Greek Aquaculture 2017-2023.



Data source: MS data submissions under the 2025 Social Data Call

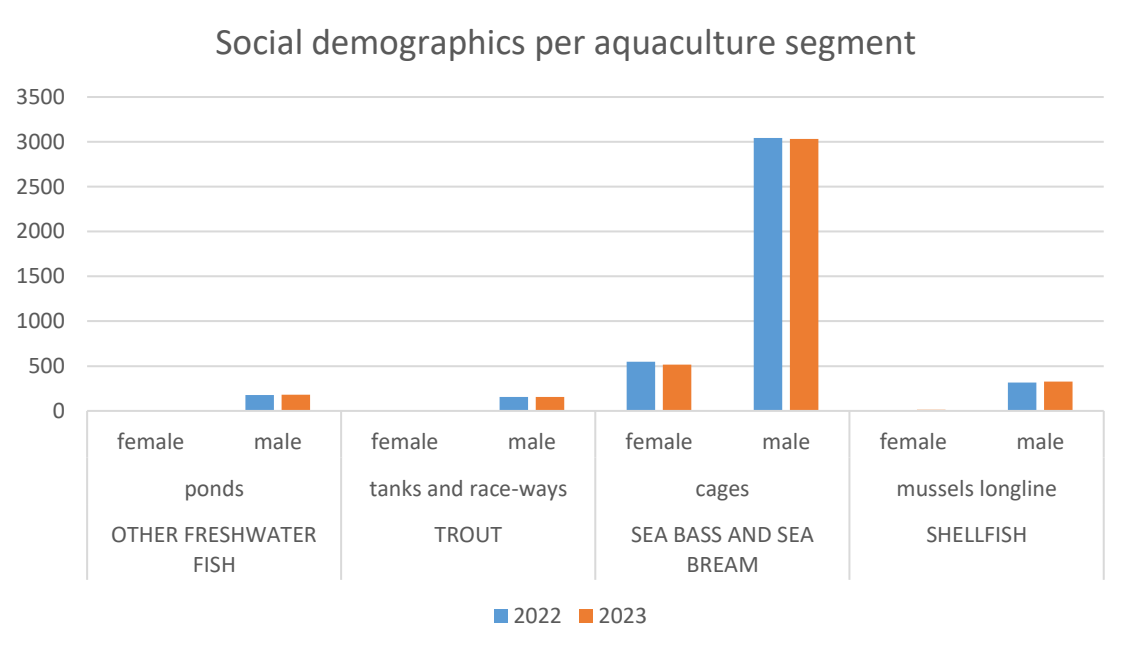
This pattern suggests that women are maintaining a stable but limited share of employment, mainly in positions related to administration, quality control, and product processing. The increase observed in recent years points to a gradual improvement in gender representation, though the workforce as a whole remains heavily weighted toward men, especially in field and technical roles.

10.6.6 Social demographics per aquaculture segment

In 2023, employment in Greek aquaculture remained largely male-dominated across all species and production systems. The sea bass and sea bream farms, in cage category, employed the most people overall, with 3 031 men and 516 women, making women about 15% of the workforce in this segment. In shellfish farming, of mussel longline species, were 327 men and 11 women, giving women a share of roughly 3%. The freshwater sector also showed similar patterns: in the ponds category, in other freshwater fish segment, there were 180 men and only 5 women, while trout farms, under tank and raceway technology, had 154 male workers and no women reported.

The data reported show that while women are present in aquaculture, particularly in the marine fish segment, their participation remains limited, especially in more physically demanding or outdoor farming systems.

Figure 142. Distribution of individuals' gender in Greek Aquaculture per environment 2022-2023



Data source: MS data submissions under the 2025 Social Data Call

10.6.7 Methodological considerations and data issues

For the 2021-2022 period, the Non-Probability Sample Survey (NPS) sampling scheme was applied, with planned sample rates ranging from 40% to 70%. This approach was taken because, for the past seven years, data collection was conducted through a census, achieving high response rates. For the social variables, the planned sample rates for 2022-2024 are based on the high response rates (ranging from 40% to 50%) observed during the previous 3-year social pilot study.

10.7 Spain

10.7.1 Short description of the aquaculture sector

Spanish aquaculture is primarily marine-based (fish and shellfish). Production is distributed along the coast in more than 5.200 facilities and three main locations: at sea -nurseries, rafts and longlines; on the beach, intertidal zone and estuaries; on dry land -salt water and fresh waters- (APROMAR, 2025).

In 2022 the Spanish aquaculture sector recorded an output of 282 251 tonnes and generated revenues of EUR 868.7 million. The number of firms remained broadly unchanged at approximately 2 800 while employment declined slightly to 5 878 FTE. Although production has fallen since the COVID 19 crisis and operating costs have increased these costs grew at a slower rate than revenues leading to an improvement in economic performance indicators. As a result, net profit shifted from a loss of EUR 2.2 million in 2021 to a surplus of EUR 12.2 million in 2024 (STECF 24-14).

Table 286. Spain: Production and sales, industry structure, and employment (2017-2022)

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**331.1**	**329.7**	**318.9**	**284.4**	**283.9**	**282.3**	-1%	-9%
Marine	65.3	63.2	65.2	56.3	53.1	64.1	21%	6%
Freshwater	19.1	18.0	20.9	19.0	21.0	20.7	-1%	6%
Shellfish	244.4	246.6	230.8	206.9	206.5	194.9	-6%	-14%
Algae	2.3	2.0	2.0	2.2	3.2	2.5	-22%	7%
Others			0.0	0.0	0.0	0.0	147%	367%
Sales value (million €)	**635.8**	**717.3**	**701.9**	**623.8**	**706.2**	**868.8**	23%	28%
Marine	398.6	478.8	470.2	408.1	434.1	588.8	36%	34%
Freshwater	71.2	70.7	75.7	71.1	80.4	82.8	3%	12%
Shellfish	148.9	152.7	137.9	125.0	162.8	173.9	7%	20%
Algae	17.0	15.1	16.1	17.5	27.4	21.3	-22%	14%
Others			2.0	1.9	1.5	2.1	39%	15%
Number of enterprises	**2,945.0**	**2,887.0**	**3,007.0**	**2,828.0**	**2,931.0**	**2,807.0**	-4%	-4%
Marine	56	53	51	49	47	43	-9%	-16%
Freshwater	176	141	138	111	110	108	-2%	-20%
Shellfish	2685	2664	2781	2630	2723	2606	-4%	-3%
Algae	28	29	28	28	34	33	-3%	12%
Others			9	10	17	17	0%	42%
Employment	**25,423**	**28,515**	**22,418**	**19,050**	**17,275**	**15,783**	-9%	-30%
Marine	2,459	2,781	2,727	2,394	1,858	2,025	9%	-17%
Freshwater	1,058	980	1,046	891	917	936	2%	-4%
Shellfish	21,384	24,149	18,014	15,257	14,003	12,420	-11%	-33%
Algae	522	605	585	459	434	341	-21%	-35%
Others			46	49	64	61	-5%	15%
FTE	**6,269**	**6,691**	**6,715**	**5,651**	**5,722**	**5,878**	3%	-5%
Marine	1,921	1,926	1,886	1,791	1,749	1,931	10%	4%
Freshwater	701	679	727	689	703	705	0%	1%
Shellfish	3,420	3,834	3,815	2,918	2,881	2,957	3%	-12%
Algae	226	252	248	222	342	246	-28%	-5%
Others			38	31	47	39	-16%	-99%

Source: STECF 24-14

The aquaculture production in 2022 was dominated by marine species (more than 92% of total), including also freshwater species (about 7%) and a marginal algae production despite recent growth. By far the most important cultured species was mussels (*Mytilus galloprovincialis*), representing 68% of total aquaculture production, although volumes declined compared with previous years, while first sale value increased. Marine finfish accounted for around 22% of total production and showed a recovery to pre COVID 19 levels with a changing species composition. Production of seabass and particularly seabream continued to decline while higher value species such as turbot, meagre and bluefin tuna expanded. Freshwater aquaculture remained stable and was overwhelmingly dominated by rainbow trout, which accounted for more than 95% of freshwater output, reflecting a moderate recovery in demand following the disruption experienced in 2020.

10.7.2 Employment in Aquaculture

Total Employment

From 2017 to 2023 total employment in the Spanish aquaculture sector shows a continuous and pronounced decline by roughly 49% over the six-year period considered: from approximately 16 147 in 2017 to around 8 209 in 2023. This confirms a sustained contraction in the number of people employed in the sector with no reversal of the trend observed up to 2023.

When considered together with FTE, the contraction of labour input appears more nuanced. FTE decreased from 6 301 in 2017 to 5 854 in 2023. From 2020 onwards, the data show that while total employment continued to decline FTE levels remained relatively stable.

Table 287. Total employment and Full Time Equivalents (FTEs)

Employment	2017	2018	2019	2020	2021	2022	2023	Δ2020-2023
Total employment	16 147	-	-	12 478	11 364	10 254	8 209	-49%
FTE	6 301	-	-	5 656	5 722	5 878	5 854	-7%

Data source: MS data submissions under the 2025 Social Data Call.

This contraction was linked primarily to the decline in mussel production — a subsector that historically generates a large share of aquaculture jobs, especially in Galicia — which has depressed employment levels and overall income for the industry (MAPA, 2025). Employment status reflects this declining trend (Table 288), with a more pronounced decrease among owners (-56%) compared with employees (-38%).

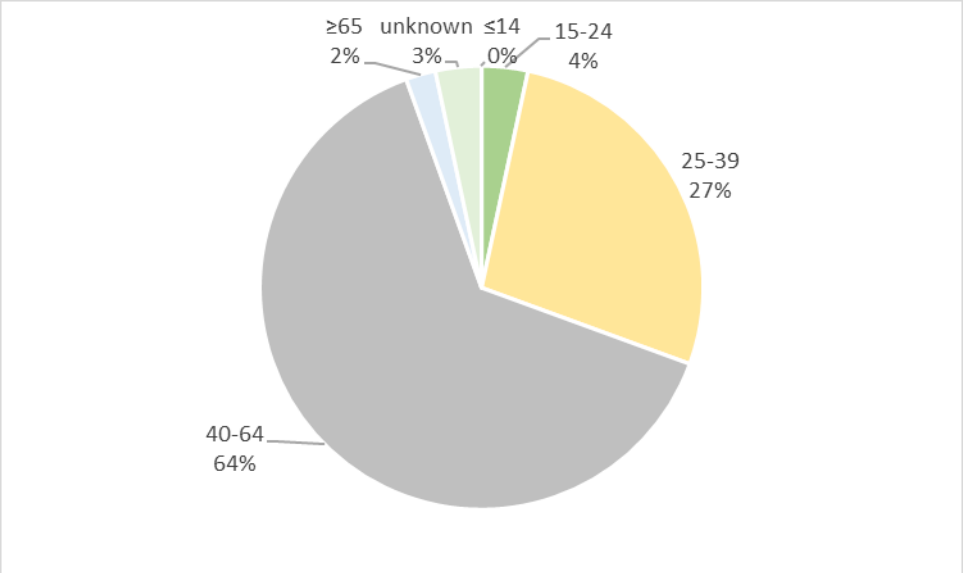
Table 288. Spain: Employment status by owners and employees (2017-2023)

Employment status	2017	2020	2021	2022	2023	Δ2017-2023
employee	7 049	7 162	5 369	4 860	4 394	-38%
owner	8 695	5 294	5 657	5 360	3 815	-56%
unknown	403	22	371	33	0	-100%

Data source: MS data submissions under the 2025 Social Data Call.

Age

Figure 143. Spain: Total employment by age group in 2023.



Data source: MS data submissions under the 2025 Social Data Call.

Between 2017 and 2023, the employment decline in Spanish aquaculture declined took place across most age groups, with the largest reductions observed among prime working-age groups. In 2023, workers aged 25-39 accounted for approximately 27 % of total employment, down from 31 % in 2017. Young workers aged 15-24 remained a small proportion (around 3%). This suggest that the sector has difficulties in attracting younger entrants.

Table 289. Spain: Employment by age group (2017-2023)

Age group	2017	2020	2021	2022	2023	Δ2017-2023
≤ 14	0	0	0	0	0	-
15-24	343	312	268	241	277	-19%
25-39	3 680	4 018	2 947	2 929	2 234	-39%
40-64	7 753	7 510	6 374	5 519	5 245	-32%
≥65	223	201	129	240	179	-20%
unknown	4 147	436	1 646	1 325	275	-93%

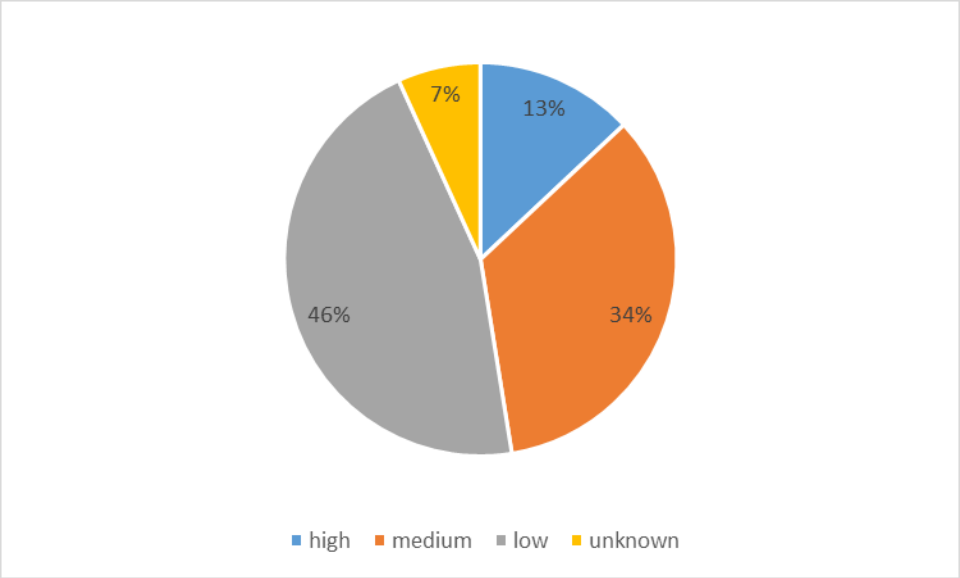
Data source: MS data submissions under the 2025 Social Data Call.

10.7.3 Workforce education and training

Education

Between 2017 and 2023 the composition of the Spanish aquaculture workforce by education level shifted noticeably. The share of workers with low education decreased from 57 % to 46 %, while those with medium education remained relatively stable around 30–35 %. In contrast, the proportion of highly educated workers increased from 5 % in 2017 to 13 % in 2023, reflecting a gradual rise in the relative presence of more qualified employees. There has been also an improvement in data collection and reporting of data over time.

Figure 144. Spain: Employment by education level distribution in 2023



Data source: MS data submissions under the 2025 Social Data Call.

Table 290. Spain: Employment by education level

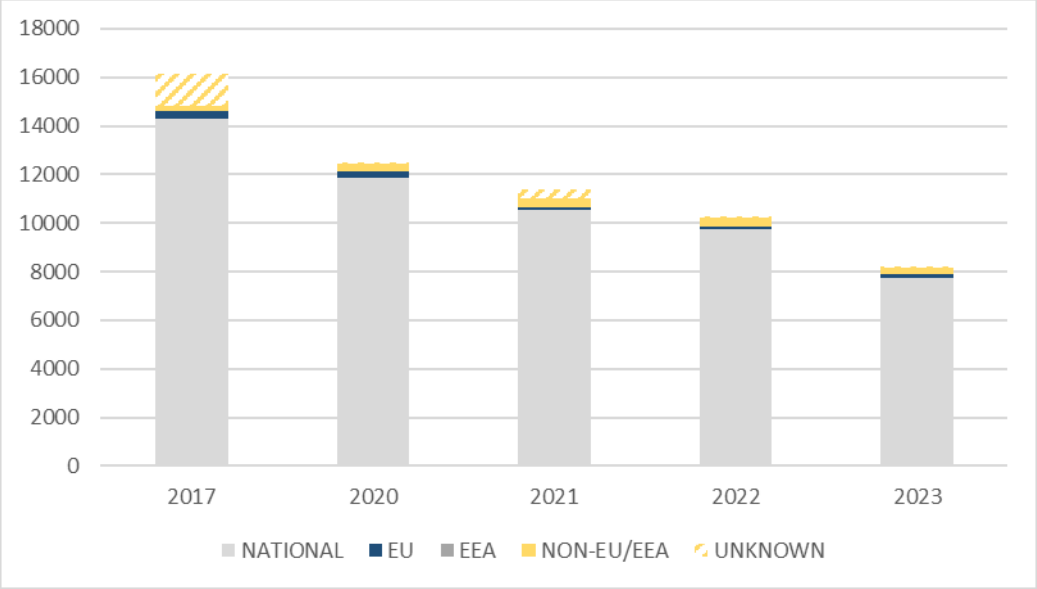
Education level	2017	2020	2021	2022	2023	Δ2017-2023
high	868	1528	1426	1136	1070	23%
medium	4887	3415	2747	2703	2826	-42%
low	9354	7124	5993	4555	3753	-60%
unknown	1038	411	1578	1860	562	-46%

Data source: MS data submissions under the 2025 Social Data Call.

Nationality

The Spanish aquaculture workforce is overwhelmingly national (95% in 2013), with a small and relative stable presence of foreign labour: around 2% of EU workers and about 3% of non-EU/EEA employees.

Figure 145. Spain: Employment by nationality, 2017-2023



Data source: MS data submissions under the 2025 Social Data Call.

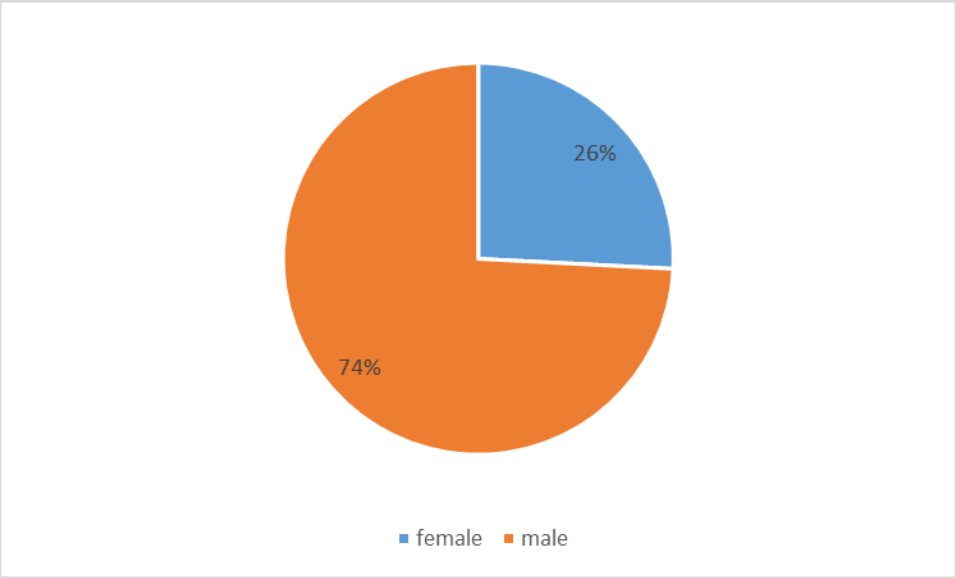
Table 291. Spain: Employment by nationality

Nationality	2017	2020	2021	2022	2023	Δ2017-2023
NATIONAL	14 289	11 888	10 519	9 730	7 748	-46%
EU	317	247	128	146	152	-52%
EEA	0	0	0	0	0	-
NON-EU/EEA	221	315	355	360	275	24%
UNKNOWN	1 320	28	361	18	35	-97%

Data source: MS data submissions under the 2025 Social Data Call.

10.7.4 Gender

Figure 146. Spain: Employment distribution by gender in 2023



Data source: MS data submissions under the 2025 Social Data Call.

The gender composition of the workforce remained stable. Women consistently accounted for approximately 26% of total employment, while men represented about 74%, despite the overall reduction in workforce numbers over the period.

While total employment in Spanish aquaculture declined for both genders between 2017 and 2023, FTE remained relatively stable. For women, headcount fell sharply from 4 227 to 2i 119, but FTE stayed around 1 130, indicating more stable or full-time roles among remaining employees. For men, total employment decreased from 11 920 to 6 090, while FTE remained near 4 700, showing a similar but less pronounced pattern.

Table 292. Spain: Employment by gender

Gender	2017	2020	2021	2022	2023	Δ2020-2023
female	4227	3164	3013	3077	2119	-50%
male	11920	9314	8351	7177	6090	-49%

Data source: MS data submissions under the 2025 Social Data Call.

10.7.5 Social demographics per aquaculture segment

The employment data for aquaculture by species, production system, and gender from 2017 to 2023 reveals several notable trends that reflect both the structure of the sector and underlying socio-economic factors.

- Marine finfish: Marine finfish production in Spain is dominated in terms of value by the seabass and seabream cage segment combined (i.e. DCF segment 03_03), with a total of 20 enterprises in 2022. The marine finfish

subsector has experienced a substantial decline in employment, dropping from 4 041 women and 11 125 men in 2017 to 436 women and 1 964 men in 2023. This decline is proportionally sharper than the overall aquaculture workforce (-89 % for women and -82 % for men versus -50 % and -49 % overall). Gender distribution remains male-dominated, even more so than the total sector, with women representing only about 18 % of marine finfish employment in 2023 compared with 26% across all subsectors.

- Shellfish: Shellfish production is dominated by the mussel's production in rafts (DCF segment 7_01). This is the segment with the highest number of enterprises (1 926) and employees, with 2 531 FTE in 2022, and also the one with the highest number of employed people in the segment during the period. It is traditionally a sector in which there are many people working part of the year, most of them self-employed, so small family units are the basis of this segment. In this context, in 2022, the mussel industry saw the biggest drop in profitability of the three segments analysed during 2022. Despite this, economic indicators continue to show positive results (STECF 24-14). Data for the shellfish subsector in 2023 indicate 1 463 women and 3 440 men employed. While previous years are not shown, the 2023 figures suggest shellfish remains the largest subsector in terms of employment. Gender distribution is male-dominated, with women representing roughly 30 % of shellfish workers, slightly above the overall female share of 26 % in the total sector.
- Freshwater: Freshwater production is dominated by the trout tanks and race-ways segment (DCF segment 2_2) with 67 companies in 2022. Employment in freshwater aquaculture has remained relatively stable between 2017 and 2023. Female employment increased slightly from 186 to 199, while male employment declined modestly from 795 to 650. Compared with the overall sector, the freshwater subsector exhibits a smaller reduction in total employment, and the gender distribution is closer to balance, with women representing roughly 23 % of freshwater workers in 2023, slightly below the overall female share of 26 % in total aquaculture.
- Algae: Employment in the algae subsector remains very small, with 22 women and 37 men employed in 2023.

10.7.6 Methodological considerations and data issues

Aquaculture Social data for 2018 and 2019 are not available. The methodology used for data collection is mixed. One part of the population is surveyed exhaustively (with a census) and the other part is surveyed with stratified random sampling, according to the Spanish WP.

10.8 Finland

10.8.1 Short description of the aquaculture sector

In 2022, Finland's aquaculture sector yielded 13.9 tonnes of fish and fry, with a total revenue of EUR 90.3 million (STECF 24-14: 122pp.). The industry comprised 161 businesses operating in both marine and freshwater environments, supporting 583 jobs. The primary fish farming method for human consumption is trout cage farming, which encompasses the production of marine rainbow trout and European whitefish. Other production systems are tanks and raceways, recirculation systems, freshwater ponds, and hatcheries and nurseries. Rainbow trout makes up 91% of the total production and 79% of the production value.

Although 2022 was a relatively strong year for Finnish aquaculture in terms of sales, the sector as a whole reported a net loss. Notably, performance varied significantly across different industry segments, with the recirculation aquaculture systems (RAS) segment being a major contributor to the overall loss, offsetting the successes of other areas.

Table 293. Production and sales, industry structure and employment for Finland: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**12.6**	**11.9**	**12.6**	**13.1**	**12.6**	**13.9**	11%	11%
Marine	9.0	8.2	8.9	8.7	8.2	8.8	7%	2%
Freshwater	3.6	3.7	3.8	4.4	4.4	5.2	17%	30%
Sales value (million €)	**84.0**	**78.9**	**76.5**	**73.3**	**79.4**	**94.2**	19%	20%
Marine	51.0	48.0	47.7	40.3	41.8	49.6	19%	8%
Freshwater	33.0	30.9	28.8	33.0	37.6	44.6	19%	37%
Number of enterprises	**177**	**157**	**165**	**160**	**173**	**161**	-7%	-3%
Marine	28	29	32	28	28	25	-11%	-14%
Freshwater	149	128	133	132	145	136	-6%	-1%
Employment	**579**	**501**	**525**	**519**	**575**	**583**	1%	8%
Marine	186	161	184	153	155	147	-5%	-12%
Freshwater	393	340	341	366	420	436	4%	17%
FTE	**350**	**320**	**320**	**370**	**395**	**385**	-3%	10%
Marine	132	111	122	126	120	113	-6%	-8%
Freshwater	218	209	198	244	275	272	-1%	19%

Source: STECF 24-14, p. 121

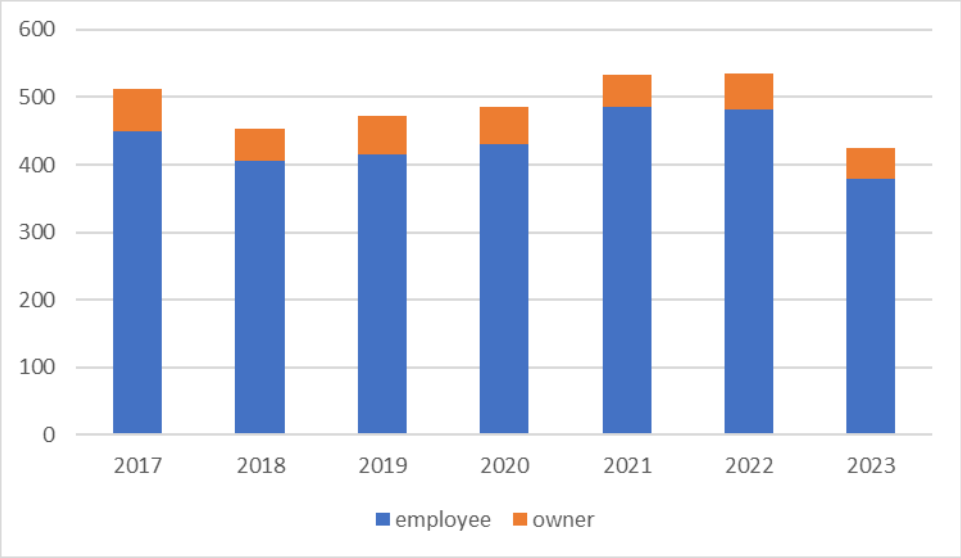
Demographic characteristics in Aquaculture

The last available social data on demographics in the Finnish aquaculture sector to date of this report is 2023, covering employees and owners.

10.8.2 Employment in Aquaculture

425 people worked in Finnish aquaculture in 2023. Of which 44 owners are reported. In general, Finnish employment data submitted under the 2025 Social Data Call differ slightly from the data presented in the 2024 aquaculture economic report (STECF 24-14, p. 121). The latter reports 161 companies for 2022, of which 136 operate in freshwater and 25 in the marine environment. Data from the 2025 social data call reveals a fluctuating employment trend, with a slight decline from 2017 to 2018, followed by an increase from 2018 to 2022, and then a subsequent decrease again in 2023. This overall pattern is consistent with the findings reported in STECF 24-14.

Figure 147. Employment (employees and owners) in Finnish aquaculture from 2017 to 2023.



Data source: MS data submissions under the 2025 Social Data Call.

10.8.3 Demographics of the Workforce

Age

For 423 employees and owners, the distribution across age classes was reported as follows in 2023.

No employee was younger <14 years. 16 individuals were between 15 and 24 years old (3%). 115 individuals were between 25 and 39 years old (22%). 271 individuals were between 40 and 64 years old (53%). 21 individuals were older >65 years old (4%). In 2023, the sector's age demographics showed a slight shift, with a +2% increase in the proportion of individuals aged 25-39, while those under 25 and those between 40-64 years old were relatively fewer compared to the 2017-2022 period (-1% each).

10.8.4 Workforce education and training

For 425 employees and owners, the distribution across levels of education was reported as follows in 2023.

There were 105 individuals with a high degree of educational background (25%). A total of 231 individuals had achieved a medium level of educational attainment (54%). 89 employees possessed low educational qualifications (21%).

The education level demographics in the sector experienced a modest change in 2023, characterized by a +3% rise in the percentage of highly educated individuals, accompanied by a corresponding -3% decline in those with lower levels of education, compared to the preceding years (2017-2022).

Table 294. Employment by education level in Finnish aquaculture, 2017-2023.

Education	2017	2018	2019	2020	2021	2022	2023
High	109	95	99	106	120	133	105
Medium	270	241	259	267	291	291	231
Low	133	117	116	112	121	111	89
Grand Total	**512**	**453**	**474**	**485**	**532**	**535**	**425**

Data source: MS data submissions under the 2025 Social Data Call

Nationality

For 425 employees and owners, the breakdown by nationalities was reported as follows in 2023.

379 or 89% individuals were Finns. 33 individuals were from other EU Member States (8%) and 13 individuals were from Non-EU/EEA states (3%). The sector experienced a modest growth in the proportion of non-Finns in 2023, with a +1% to +2% increase, compared to the 2017-2022 period, with the range varying between EU and non-EU/EEA origins.

Table 295. Employment by nationality in Finnish aquaculture, 2017-2023.

Nationality	2017	2018	2019	2020	2021	2022	2023
NATIONAL	472	412	439	449	479	479	379
EU	30	28	26	24	38	41	33
EEA		1	0	0	0		
NON-EU/EEA	10	12	7	12	16	16	13
Grand Total	512	453	472	485	533	536	425

Data source: MS data submissions under the 2025 Social Data Call

10.8.5 Gender

For 424 employees and owners, the distribution across gender was reported as follows in 2023. 99 women (23%) and 335 men (77%) worked in aquaculture.

The data reveals a consistent pattern, with the proportion of women in Finland's aquaculture sector remaining relatively stable at approximately 20%, indicating no notable changes or trends over time.

Table 296. Employment by gender in Finnish Aquaculture 2017-2023.

Sum of value	**year**						
gender	2017	2018	2019	2020	2021	2022	2023
female	104	100	102	97	121	124	99
male	408	353	371	388	412	412	325
Grand Total	**512**	**453**	**473**	**485**	**533**	**536**	**424**

Data source: MS data submissions under the 2025 Social Data Call

10.8.6 Social demographics per aquaculture segment (choose the one applicable)

For Finland, specifics on gender distribution are uploaded per environment and production system segment for 2019-2023. The freshwater environment includes hatcheries and nurseries, ponds, recirculating systems, tanks, and raceways. The marine environment includes net cages. However, the share of females is approximately 20% in all segments, without any significant trend over the years.

10.8.7 Methodological considerations and data issues

- Data is provided by Natural Resources Institute Finland (Luke), Latokartanonkaari 9, FI-00790 HELSINKI, FINLAND
- Main data sources for economic and social data are structural business and financial statement statistics, statistics on business subsidies and employment statistics of Statistic Finland
- The data appears to be consistent, with no apparent errors or discrepancies noticeable at first review.

10.9 France

10.9.1 Short description of the aquaculture sector

The French aquaculture sector is structured around two main activities: shellfish farming, which includes mussels, oysters, and other molluscs, and marine culture (*élevages marins*), which covers fish such as sea bass, sea bream, and trout, as well as macro-algae cultivation. Recently, the sector has further diversified with the development of micro-algae and spirulina production.

Shellfish farming takes place in the public maritime domain, either near the shore or in deeper waters. Mussels and oysters are cultivated on-bottom or on rafts, macro-algae grow on ropes in deep waters, and micro-algae are produced on land or in Mediterranean lagoons. Trout are raised in tanks and raceways, while other freshwater species are farmed in ponds. Sea bream and sea bass are primarily grown in cages at sea.

Geographically, shellfish farming and marine cultures are found along the Atlantic coast, the English Channel, and the Mediterranean, with macro-algae cultivation mainly in the Atlantic and Mediterranean.

According to the *Aquaculture Annual France 2024*, French aquaculture production (trout, mussels, oysters, and multispecies) reached 231.9 thousand tonnes, with a total value of EUR 937 million. The sector includes 2 584 companies employing 17 380 people, corresponding to 9 830 full-time equivalents (FTEs). On average, aquaculture enterprises employ 3.9 FTEs (3.8 FTE for shellfish and 3.6 FTE for freshwater), reflecting the generally small size of these businesses.

This report focuses on social variables related to shellfish and trout farming; no data are available for other segments, including sea bass and sea bream marine aquaculture or pond-based fish farming.

Presentation of the four segments

The following presentation is based on the 2024 Aquaculture Economic report.

Segment 1 - Pacific cupped oyster: In 2022, this segment included 1 530 companies employing 6 111 FTEs. Production totalled 117.1 thousand tonnes, generating EUR 572.8 million, representing 50% of total production and 57% of sector value. Wages and the value of unpaid work remain a major cost, accounting for 35% of total costs.

Segment 2 - Mussel bottom: This segment had 275 companies with 1 201 FTEs. Production in 2022 declined about 11% from 2021, but remained in line with the five-year average, totalling 51.3 thousand tonnes and EUR 125 million in revenue. Wages and unpaid labour contributed 32% of operating costs.

Segment 3 - Multispecies On-bottom: This segment, farming mainly oysters and mussels, included 76 companies with 371 FTEs, generating EUR 74.1 million in 2022.

Segment 4 - Trout tanks and raceways: Trout production reached 34.4 thousand tonnes, generating EUR 177.5 million from 315 companies employing 1 146 FTEs. Wages were the second-largest cost after feed, which accounted for approximately 45% of total production costs.

Table 297. Production and sales for France 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**209.1**	**218.0**	**235.6**	**232.0**	**237.3**	**231.9**	-2%	2%
Freshwater	37.8	37.4	38.0	40.0	37.2	34.4	-7%	-10%
Shellfish	163.6	173.0	177.5	178.0	182.3	178.3	-2%	2%
Others	7.7	7.5	20.1	14.0	17.8	19.3	8%	44%
Sales value (million €)	**799.1**	**850.9**	**885.3**	**823.7**	**887.0**	**937.0**	6%	10%
Freshwater	148.4	147.0	159.6	160.7	160.5	166.7	4%	7%
Shellfish	618.7	668.0	659.4	613.0	666.5	698.6	5%	8%
Others	32.0	35.9	66.3	50.0	60.0	71.7	19%	47%
Number of enterprises	**2,779**	**2,782**	**2,516**	**2,527**	**2,386**	**2,584**	8%	-1%
Freshwater	324	327	327	313	291	315	8%	0%
Shellfish	2394	2394	2105	2134	1999	2163	8%	-2%
Others	61	61	84	80	96	106	10%	39%
Employment	**15,187**	**15,249**	**17,186**	**16,269**	**15,870**	**17,380**	10%	9%
Freshwater	1477	1539	1566	1446	1763	1506	-15%	-3%
Shellfish	13308	13308	14435	14280	13404	15198	13%	11%
Others	402	402	1185	543	703	676	-4%	4%
FTE	**5,842**	**5,888**	**6,029**	**6,027**	**9,365**	**9,830**	5%	48%
Freshwater	809	855	889	766	1,124	1,146	2%	29%
Shellfish	4,799	4,799	4,823	5,020	7,803	8,260	6%	52%
Others	234	234	317	242	438	424	-3%	45%

Source: Own elaboration from EU Member states DCF data submission and FAO (2024) data in 2024 Aquaculture Economic Report, 2024, STECF.

Demographics characteristics in Aquaculture

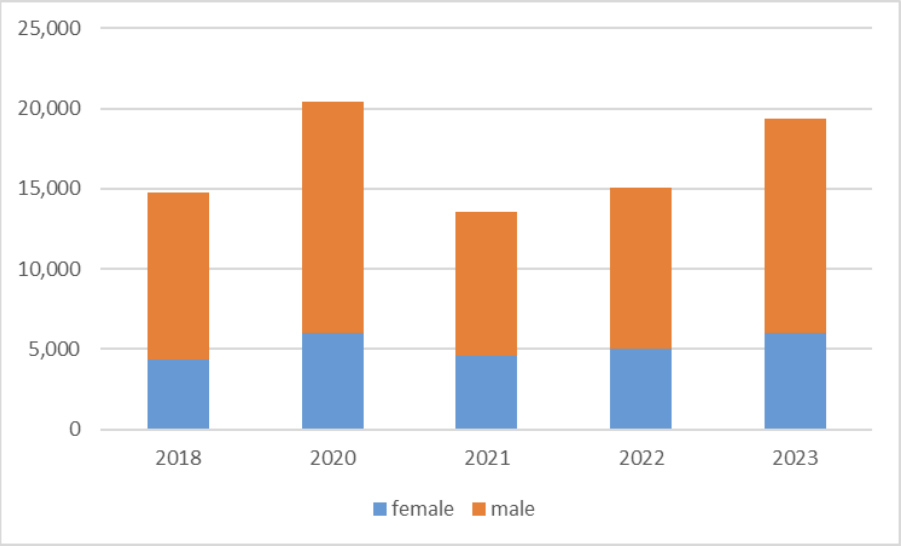
The availability of data on the demographic characteristics of the French aquaculture sector is limited.

10.9.2 Employment in Aquaculture

The tables below present total employment and full-time equivalents (FTEs) by gender across the four French aquaculture segments."

In terms of employment, the workforce in the sector declined by 5% between 2020 and 2023. The number of female employees remained stable, whereas the number of male employees decreased by 8%. In 2023, women represented 31% of total employment in the sector.

Figure 148. Total Employment by Gender 2020-2023



Source: MS submissions under the 2025 Social Data Call in Aquaculture.

Table 298. Total Employment by Gender 2020-2023

	2020	2021	2022	2023	Δ20-23
female	6,007	4,543	5,030	6,037	0%
male	14,417	8,977	10,002	13,312	-8%
Total	**20,424**	**13,520**	**15,032**	**19,349**	**-5%**

Source: MS submissions under the 2025 Social Data Call in Aquaculture

In terms of employment, the number of FTEs in the sector decreased by 5% between 2020 and 2023. The decline in female FTEs was greater than that of males, at 5%.

Table 299. Full Time Employment (FTE) by gender 2020-2023

	2020	2021	2022	2023	Δ20-23
female	3,842	2,955	3,031	3,615	-6%
male	11,777	7,746	8,228	11,159	-5%
Total	**15,619**	**10,701**	**11,259**	**14,774**	**-5%**

Source: MS submissions under the 2025 Social Data Call in Aquaculture

The number of individuals engaged in unpaid labour declined by 10% between 2020 and 2023.

Table 300. Unpaid labour by gender 2020-2023

	2020	2021	2022	2023	Δ20-23
female	916	779	856	828	-10%
male	3,835	3,240	3,636	3,446	-10%
Total	**4,751**	**4,019**	**4,492**	**4,274**	**-10%**

Source: MS submissions under the 2025 Social Data Call in Aquaculture

10.9.3 Demographics of the Workforce

No disaggregated data regarding age, nationality or education of the employees for French aquaculture.

10.9.4 Social demographics per aquaculture segment

Not available

10.9.5 Methodological considerations and data issues

The questionnaire achieved a 100% sample rate, but no data have been transmitted. Social variables such as age, education, and nationality are missing, and employment and FTE figures differ from those in the 2024 Aquaculture Economic Report.

10.10 Croatia

10.10.1 Short description of the aquaculture sector

Based on the Aquaculture Economic Report 2024, the Croatian aquaculture sector is dominated by marine finfish production, particularly sea bass, sea bream, and Atlantic bluefin tuna, which collectively drive the industry's economic performance. In 2022, the sector comprised 144 enterprises with aquaculture as their main activity, producing 27.3 thousand tonnes and generating 1 599 jobs totalling 1 267 FTEs. The sector demonstrated steady growth over the 2017-2022 period, with production increasing by 60% compared to 2017, though experiencing a slight 2% decrease from 2021 to 2022. Total production value reached EUR 178.2 million in 2022, representing a 6% increase over 2021, reflecting the sector's overall resilience and expansion trajectory.

The industry structure reveals a clear dichotomy between small-scale shellfish farming and large-scale marine operations. Large companies in the marine segment (tuna and sea bass & sea bream) account for approximately 57% of total employment, 80% of total sales weight, and 92% of total sales value. Sea bass and sea bream production represents the most important activity, comprising approximately 64% of production volume and 66% of total value, with most production (74%) exported to EU markets. Bluefin tuna farming constitutes the second most significant segment, covering 22% of total value and 12% of volume, with production entirely destined for export, primarily to Japan. These three species alone represent 88% of total Croatian aquaculture production value and 76% of volume.

Table 301. Croatia summary table.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**17.1**	**19.7**	**20.4**	**21.7**	**27.9**	**27.3**	-2%	28%
Marine	12.9	15.9	16.2	18.5	22.9	22.0	-4%	28%
Freshwater	3.3	2.9	3.1	2.7	4.2	4.2	0%	30%
Shellfish	1.0	0.9	1.1	0.5	0.9	1.1	24%	22%
Sales value (million €)	**101.0**	**120.0**	**120.8**	**133.0**	**167.4**	**178.2**	6%	39%
Marine	92.3	111.6	111.1	126.0	156.3	164.6	5%	38%
Freshwater	7.0	6.7	7.1	6.2	9.5	11.1	17%	52%
Shellfish	1.7	1.7	2.6	0.8	1.6	2.5	57%	47%
Number of enterprises	**173**	**161**	**162**	**155**	**138**	**144**	4%	-9%
Marine	30	26	28	29	28	26	-7%	-8%
Freshwater	40	38	32	28	29	32	10%	-4%
Shellfish	103	97	102	98	81	86	6%	-11%
Employment	**1,476**	**1,389**	**1,360**	**1,366**	**1,509**	**1,599**	6%	13%
Marine	795	768	838	853	908	908	0%	9%
Freshwater	439	365	367	375	465	523	12%	30%
Shellfish	242	256	155	138	136	168	24%	-9%
FTE	**1,116**	**1,085**	**1,108**	**1,105**	**1,242**	**1,267**	2%	12%
Marine	684	700	736	745	795	791	-1%	8%
Freshwater	361	296	322	307	344	353	3%	8%
Shellfish	71	88	51	52	103	123	19%	69%

Source: Own elaboration from EU Member States DCF data submission, 2024

In contrast, the shellfish segment, dominated by small family-owned farms, represents a significant portion of enterprises but contributes only modestly to overall production value (approximately 7%). Mediterranean mussels and European flat oysters are almost exclusively sold on the domestic market, particularly to the tourism and HoReCa sectors.

Freshwater aquaculture, focused on common carp and rainbow trout production, accounts for approximately 14% of total production volume but only 5% of value, and has historically underperformed relative to objectives set in the National Strategic Plan for Aquaculture 2021-2027, though recent signs indicate recovery through capacity expansion and emerging export opportunities.

Demographics characteristics in Aquaculture

10.10.2 Employment in Aquaculture

The Croatian aquaculture sector employed 1 662 workers in 2023. Total employment declined from 1 367 employees in 2017 to 1 283 employees in 2020, representing a decrease of 84 workers (-6.1%), likely reflecting the impacts of the COVID-19 pandemic and market disruptions during this period. However, the sector experienced a rebound between 2020 and 2023, adding 379 employees, a substantial increase of 29.5% that not only recovered the pandemic losses but significantly exceeded pre-pandemic employment levels.

Overall, the sector grew by 295 employees (+21.6%) over the 2017-2023 period, demonstrating the aquaculture industry's resilience and expansion trajectory. The strong post-pandemic recovery and sustained growth trend position aquaculture as a dynamic and expanding component of Croatia's blue economy, with significant potential for further employment creation in coastal and rural communities, particularly as the sector continues to invest in production capacity expansion, species diversification, and vertical integration with processing activities.

10.10.3 Demographics of the Workforce

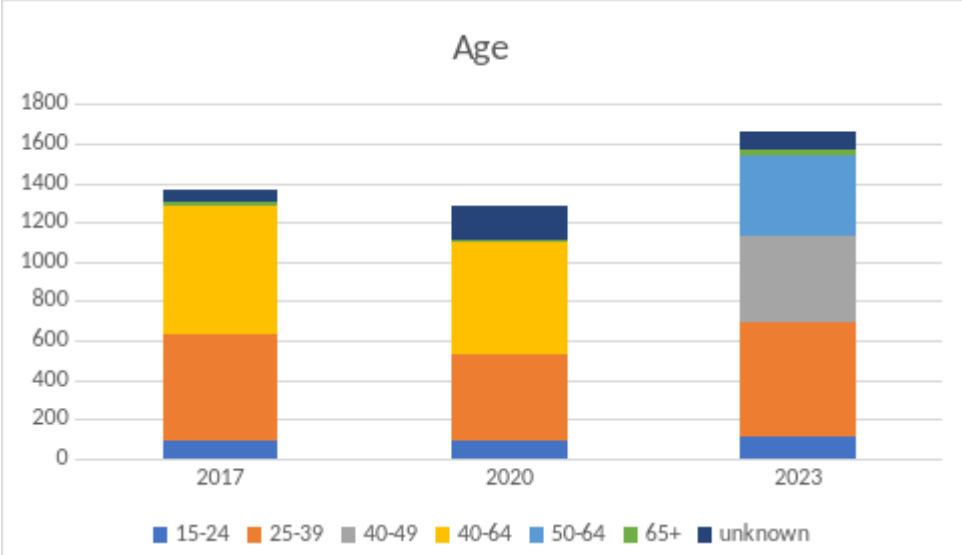
Age

The Croatian aquaculture workforce between 2017 and 2023 maintained a mature age profile while experiencing significant shifts across age categories. In 2023, workers aged 40-64 comprised 850 employees (51.1% of the workforce), representing the largest concentration and increasing from 652 employees (47.7%) in 2017, an absolute growth of 198 workers (+30.4%), making this the fastest-growing age segment in proportional terms.

The 25-39 age category showed modest absolute growth from 548 employees (40.1%) in 2017 to 579 employees (34.8%) in 2023, adding only 31 workers (+5.7%), though its relative share declined by 5.3 percentage points, reflecting stronger growth in the older age bracket. Young workers aged 15-24 demonstrated moderate expansion, increasing from 85 employees (6.2%) in 2017 to 108 employees (6.5%) in 2023, a gain of 23 workers (+27.1%),

maintaining a relatively stable share around 6-7% throughout the period. Notably, elderly workers (≥65) doubled from 17 employees (1.2%) in 2017 to 34 employees (2.0%) in 2023.

Figure 149. Croatia: employment in aquaculture by age

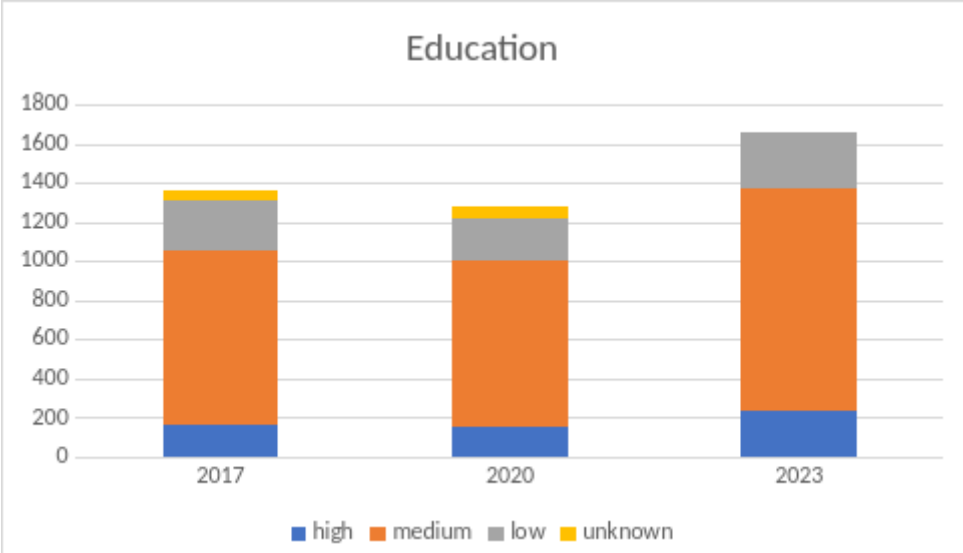


Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

10.10.4 Workforce education and training

Education

Figure 150. Croatia: Education in aquaculture sector



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

The educational profile of the Croatian aquaculture workforce between 2017 and 2023 was dominated by workers with medium-level (secondary school) education, with exceptionally high data reporting rates that improved from 95.6% in 2017 to 99.6% in 2023.

Among workers with reported education, those holding medium education consistently represented the largest share, increasing from 901 employees (68.9%) in 2017 to 1 140 employees (68.8%) in 2023, an addition of 239 workers (+26.5%), with their share remaining remarkably stable throughout the period. Workers with high education (tertiary) experienced the strongest relative growth, rising from 159 employees (12.2%) in 2017 to 237 employees (14.3%) in 2023, an increase of 78 workers (+49.1%), reflecting gradual upskilling as aquaculture operations become more technologically sophisticated and require specialized knowledge in areas such as marine biology, water quality management, fish health, and production optimization. Low-educated workers (primary school) increased moderately from 247 employees (18.9%) in 2017 to 279 employees (16.8%) in 2023, adding 32 workers (+13.0%), though their share of reported education declined by 2.1 percentage points, suggesting a slow but steady shift toward a more educated workforce.

The educational distribution reflects aquaculture's dual character as an industry requiring both manual labour for daily feeding, harvesting, and cage maintenance operations (favouring medium and low education) and technical expertise for production management, disease prevention, and environmental monitoring (requiring tertiary education). The strong growth in high-educated workers (+49.1%) aligns with the sector's strategic direction toward technological advancement, vertical integration, species diversification, and premium product development that characterize Croatia's aquaculture modernization efforts since EU accession.

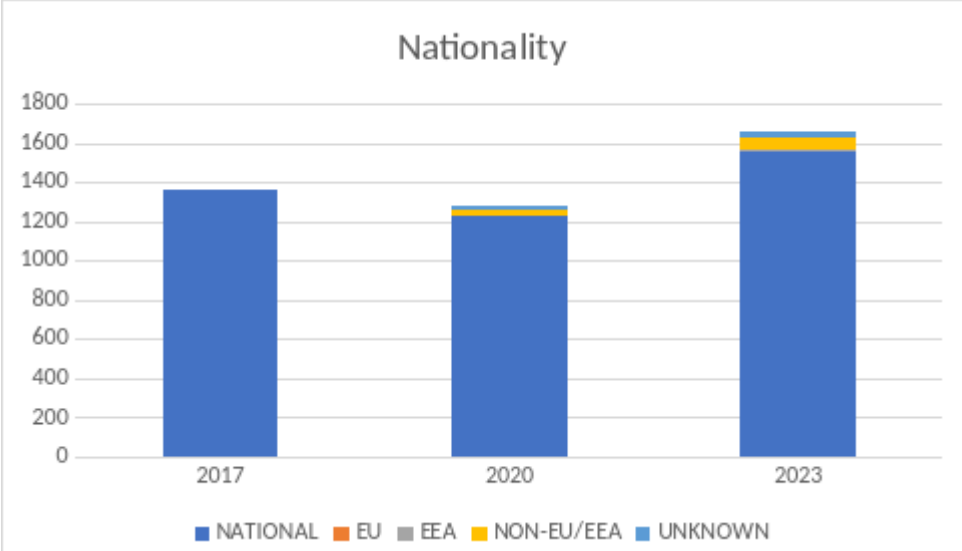
Nationality

The Croatian aquaculture workforce remained overwhelmingly national throughout the 2017-2023 period, though the sector experienced notable acceleration in foreign worker recruitment, exclusively from non-EU/EEA countries.

In 2023, Croatian nationals comprised 1 627 employees (97.9% of the workforce), representing substantial absolute growth from 1 366 employees (99.9%) in 2017, an increase of 261 workers (+19.1%), though their relative share declined by 2.0 percentage points. Foreign workers totalled 35 employees (2.1%) in 2023, exclusively from non-EU/EEA countries with no EU/EEA workers recorded throughout the entire 2017-2023 period. The growth trajectory of foreign employment, while modest in absolute numbers, was dramatic in relative terms, surging from just 1 worker (0.1%) in 2017 through 12 workers (0.9%) in 2020 to 35 workers (2.1%) in 2023, representing extraordinary growth that reflects the sector's response to labour shortages, particularly in demanding outdoor and marine operations.

Despite this growth, foreign workers remain a minimal presence in aquaculture (2.1%), significantly lower than the processing sector's 8.0% foreign worker share in 2023. The aquaculture sector's continued heavy reliance on national workers (97.9%) reflects several factors: the sector's deep integration with coastal and rural Croatian communities where aquaculture represents traditional livelihoods, the specialized local knowledge required for marine cultivation in Croatian waters, language barriers in managing production operations and coordinating with regulatory authorities, and potentially less acute labor shortages compared to processing due to smaller absolute workforce requirements and different work arrangements including family-based operations.

Figure 151. Croatia: Nationality in aquaculture sector



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

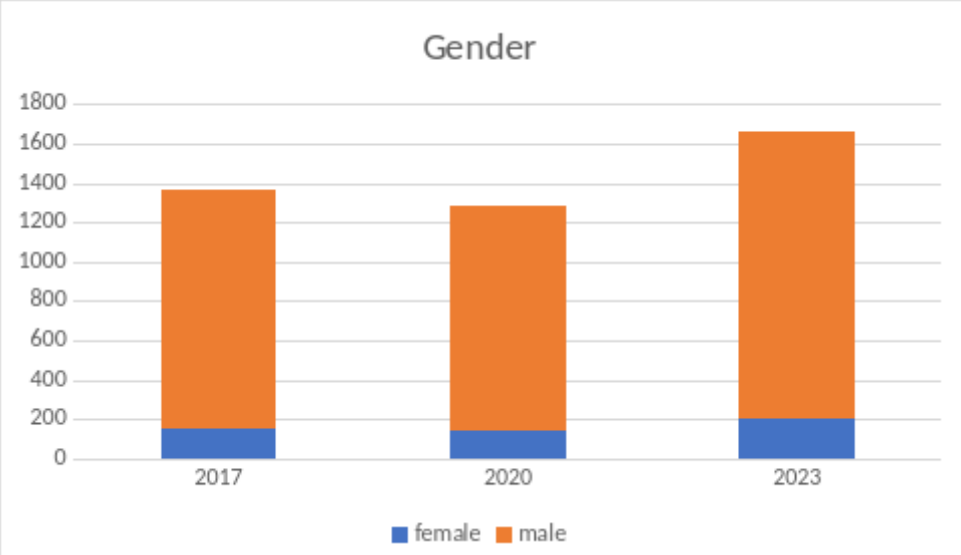
10.10.5 Gender

The Croatian aquaculture sector maintained an overwhelmingly male-dominated workforce throughout the 2017-2023 period, with men consistently comprising approximately 87-89% of employment. In 2023, male workers totaled 1 456 employees (87.6% of the workforce), having increased from 1 216 employees (89.0%) in 2017, representing absolute growth of 240 workers (+19.7%) but a slight decline in relative share of 1.4 percentage points. Female workers numbered 206 employees (12.4%) in 2023, up from 151 employees (11.0%) in 2017, an increase of 55 workers (+36.4%) and a gain of 1.4 percentage points in workforce share.

Despite female employment experiencing stronger relative growth (+36.4%) than male employment (+19.7%), women remained vastly underrepresented in aquaculture. The sector experienced a temporary setback during the pandemic, with female employment declining to 139 workers (10.8%) in 2020 before recovering strongly by 2023. The male-to-female ratio improved modestly from

8.05:1 in 2017 to 7.07:1 in 2023, though it remained extraordinarily skewed. The male predominance in aquaculture reflects traditional gender roles in maritime activities, the sector's historical development as a male-dominated industry, and potential structural barriers to female entry including workplace culture, facilities designed primarily for men, and accommodation challenges on remote marine sites.

Figure 152. Croatia: Gender in aquaculture sector



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

10.10.6 Social demographics per aquaculture segment

The Croatian aquaculture sector in 2023 was segmented into three distinct production environments, each with markedly different demographic characteristics and employment scale.

- **Shellfish aquaculture** dominated the sector, employing approximately 831 workers (50.0% of total aquaculture employment), though this segment exhibited significant data reporting limitations with limited demographic detail available, suggesting data collection challenges in this traditionally family-run and artisanal segment dominated by small-scale mussel and oyster farmers operating in naturally suitable protected areas.
- **Marine finfish aquaculture** employed approximately 558 workers (33.5% of the sector), displaying a relatively balanced age structure with strong representation across the 25-39 and 40-64 age brackets, and the highest education reporting rates among segments. This segment, focused on sea bass, sea bream, and tuna cultivation, demonstrated the sector's most technologically sophisticated operations, requiring specialized knowledge in marine biology, water quality management, and

cage operations, reflected in its relatively high share of workers with tertiary education.

- **Freshwater aquaculture** was the smallest segment with approximately 273 employees (16.5%), primarily focused on trout and carp production, demonstrating a younger workforce profile with notably higher youth representation (15-24 age group) compared to other segments. The freshwater segment showed relatively high shares of low-educated workers, potentially reflecting the more traditional, land-based nature of pond-based cyprinid and salmonid operations that require less specialized marine knowledge than offshore cage cultivation. The dominance of shellfish aquaculture in employment terms (50%) reflects the labour-intensive nature of longline mussel farming and the large number of small family enterprises operating in this segment, though many of these workers are part-time, seasonal, or combine aquaculture with other activities such as fishing or tourism. The marine finfish segment, while employing only one-third of workers, generates the vast majority of aquaculture production value (approximately 88-90%), underscoring the capital-intensive, export-oriented nature of cage-based fish farming versus the predominantly domestic market-oriented shellfish production. This segmentation highlights the dual character of Croatian aquaculture: large-scale, technologically advanced marine operations driving economic performance and exports, alongside numerous small-scale shellfish enterprises providing important but lower-value employment in coastal communities.

10.10.7 Methodological considerations and data issues

The near-complete education reporting in 2023 (99.6%) represents an improvement from earlier years and contrasts with the processing sector's lower reporting rates, potentially reflecting aquaculture's more formalized employment structures and better data collection systems.

10.11 Hungary

10.11.1 Short description of the aquaculture sector

Hungary is a landlocked country producing only freshwater aquaculture products, with dominant production of common carp and North-African catfish. The basic production method is production in earthen ponds, also in polyculture with other species. The Hungarian aquaculture sector produced 18.9 thousand tonnes of fish in 2022. This production was valued at about EUR 55.4 million (FAO, 2024). Hungary produces only freshwater species.

The production has been showed increasing trend between 2017-2022, both in terms of volume and value. The production weight in 2022 was 6% higher than previous five-year average; respective growth in value was 48%. It is worth emphasizing that the increase in value was influenced primarily by high increases in sales prices in 2022, mainly for carp - which is also reflected in other markets of Central and Eastern Europe.

Table 302. Production and sales, industry structure and employment for Hungary 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Production weight (thousand tonnes)	**18.3**	**17.9**	**17.3**	**18.4**	**17.8**	**18.9**	6%	6%
Marine	0	0	0	0	0	0		
Shellfish	0	0	0	0	0	0		
Freshwater	18.3	17.9	17.3	18.4	17.8	18.9	6%	6%
Production value (million €)	**38.7**	**38.4**	**36.1**	**35.4**	**38.1**	**55.4**	45%	48%
Marine	0	0	0	0	0	0		
Shellfish	0	0	0	0	0	0		
Freshwater	38.7	38.4	36.1	35.4	38.1	55.4	45%	48%

Source: STECF 24-14, p. 158.

Demographic characteristics in Aquaculture

The 2023 social data on demographics regarding Hungarian aquaculture sector refers to employees and unpaid labour.

10.11.2 Employment in Aquaculture

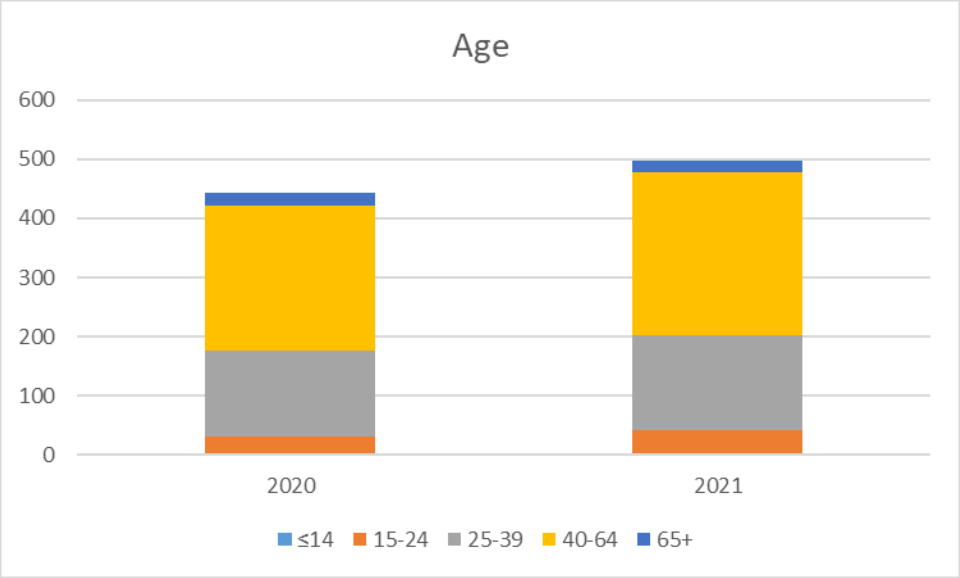
The year 2023 is not reported in the Hungarian social data available. The social data covers the years 2020, 2021 and the data for 2022 appears duplicated. Using 2021 as the latest reference year, 498 workers were employed in the Hungarian processing sector, an almost 13% increase from the 442 workers in 2020.

10.11.3 Demographics of the Workforce

Age

In both 2020 and 2021, the 40–64 age group accounted for most employees. The 25–39 group ranked as the second largest category, while younger workers (15–24) represented only a small share. No employees were recorded under 14 years old, and the 65+ group remained minor. Therefore, the age structure shows a mature workforce with limited participation of young workers.

Figure 153. Distribution of workers' age per class in Hungarian Aquaculture 2020-2021.

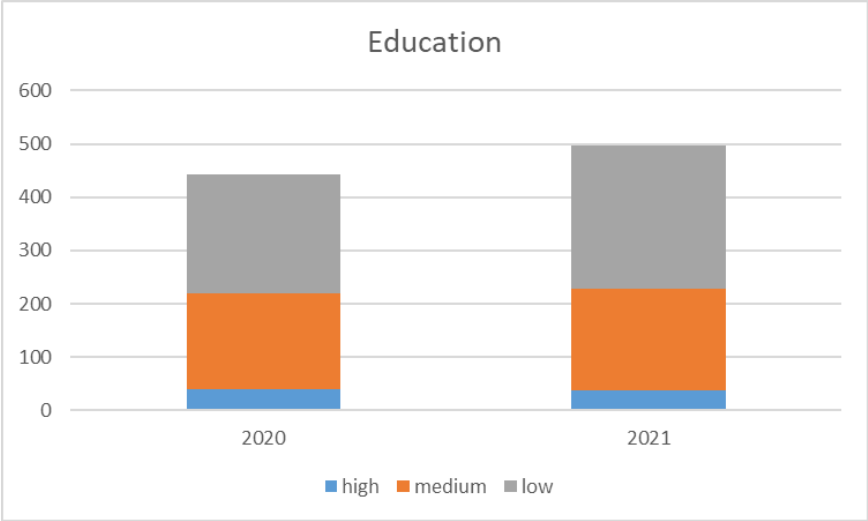


Data source: MS data submissions under the 2025 Social Data Call.

10.11.4 Workforce education and training

For 2020-2021, most employees had a low or medium level of education. The low-education group increased from 222 in 2020 to 270 in 2021 while the medium level rose from 181 to 191. Workers with higher education remained few and declined slightly from 39 to 37.

Figure 154. Distribution of workers' education in Hungarian Aquaculture 2017-2023.



Data source: MS data submissions under the 2025 Social Data Call.

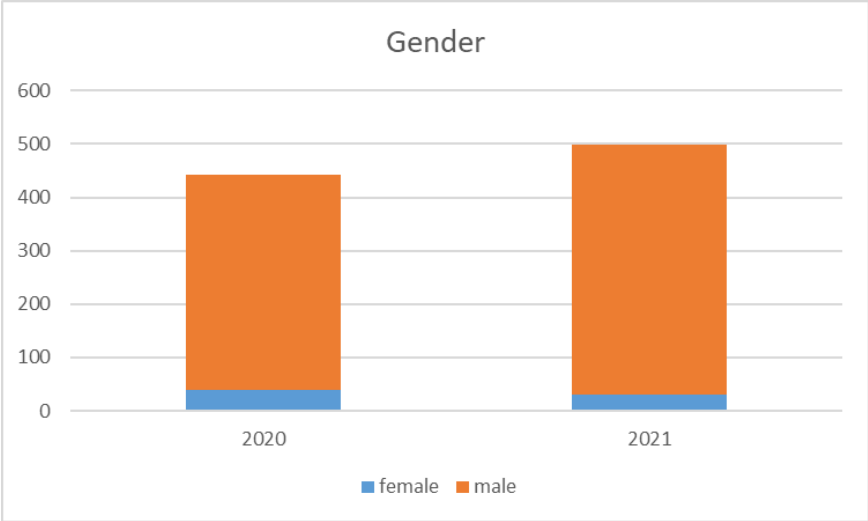
Nationality

During 2020 and 2021, employment in Hungarian processing was exclusively national, and no foreign workers were employed.

10.11.5 Gender

In both 2020 and 2021, male workers comprised most of the Hungarian employment in processing. In 2020 men represented 91% of the workforce (402 workers) and women 9% (40 workers) while in 2021, the male workers increased further to 94% (467 workers), while female employment dropped to 6% (31 workers).

Figure 155. Distribution of workers' gender in Hungarian Aquaculture 2017-2023.



Data source: MS data submissions under the 2025 Social Data Call.

10.11.6 Social demographics per aquaculture segment

For the years 2020-2021, the total workforce in Hungary was employed in the freshwater carp aquaculture.

10.11.7 Methodological considerations and data issues

According to the STECF 24-14 economic report, the socio-economic data collection for Hungary is not mandatory under the DCF, as the share of Hungarian aquaculture is under 2.5% of total EU production and value. The analysis of the Hungarian aquaculture sector is therefore based on data extracted from FAO.

Hungarian Aquaculture employment data is missing for 2017 and 2023. Aquaculture employment data is duplicated for 2022. Aquaculture employment data by nationality reports all employment from the EU in 2022 rather than national as in previous years. Aquaculture FTE employment data are missing for the whole period.

10.12 Ireland

10.12.1 Short description of the aquaculture sector

Irish aquaculture is primarily marine based, focusing on Atlantic salmon, Pacific oysters, and blue mussels. Shellfish are farmed along sheltered coastal areas using various culture methods, while these main species represent half of Ireland's Data Collection Framework (DCF) aquaculture segments. A smaller number of land-based freshwater finfish farms and shellfish hatcheries also contribute to the sector (European Commission, 2024).

National aquaculture output rose steadily from 2020, reaching 44 500 tonnes in 2022. Despite a brief dip in 2021, sales value recovered to EUR 184 million in 2022, representing an overall 1% increase (EUR 3 million) since 2020. The 2021 decline was driven by lower salmon unit prices.

Table 303. Ireland: Production and sales, industry structure, and employment for Ireland: 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**45.7**	**37.2**	**38.3**	**37.7**	**42.8**	**44.5**	4%	10%
Marine	18.9	12.2	11.7	13.3	13.4	12.0	-10%	-14%
Freshwater	0.6	0.6	0.6	0.6	0.5	0.4	-26%	-33%
Shellfish	26.2	24.4	26.0	23.8	28.9	32.1	11%	24%
	200.6	**179.5**	**175.3**	**179.8**	**178.7**	**183.8**	3%	1%
Marine	138.6	119.6	112.1	126.8	109.5	105.1	-4%	-13%
Freshwater	2.0	1.6	1.7	1.9	1.8	2.2	26%	25%
Shellfish	60.0	58.2	61.5	51.1	67.4	76.5	13%	28%
Number of enterprises	**282**	**281**	**292**	**316**	**314**	**291**	-7%	-2%
Marine	28	26	26	28	26	23	-12%	-14%
Freshwater	5	6	7	8	8	9	13%	32%
Shellfish	249	249	259	280	280	259	-8%	-2%
Employment	**1,952**	**1,766**	**2,230**	**1,988**	**2,040**	**2,080**	2%	4%
Marine	204	225	243	212	266	272	2%	18%
Freshwater	14	20	22	22	21	26	24%	31%
Shellfish	1733.9	1521.33	1965	1754	1753	1782	2%	2%
FTE	**1,018**	**1,086**	**1,086**	**1,007**	**1,129**	**1,171**	4%	10%
Marine	176	191	217	159	245	232	-5%	17%
Freshwater	12	16	17	18	18	19	2%	14%
Shellfish	831	878	852	831	866	921	6%	8%

Source: Own elaboration from EU Member States DCF data submission 2024, (European Commission, 2025).

Finfish output remained stable in 2021 but fell 11% to 12 400 tonnes in 2022, with sales value down 16.9% to EUR 107 million due to reduced volumes and prices. In contrast, the shellfish sector fuelled growth, delivering an 18% rise in

national output and a 2.2% increase in sales value since 2020. Farmed oysters and rope-grown mussels were key drivers, while seabed-cultured mussel output grew to 6 864 tonnes in 2022, though weaker prices limited sales to EUR 9 million (European Commission, 2024).

Demographics characteristics in Aquaculture

10.12.2 Employment in Aquaculture

Total Employment

Between 2017 and 2023, total employment in Irish aquaculture remained broadly stable, increasing slightly by 1% from 1 944 to 1 955 people. However, the number of full-time equivalents (FTEs) grew more notably by 11%, from 1 033 to 1 146. This suggests a gradual strengthening of employment quality within the sector, with more positions becoming full-time or offering greater year-round stability. The shift toward higher FTEs also points to improved employment sustainability and a more stable income base for those working in aquaculture across Ireland.

Table 304. Ireland: Total employment and Full Time Equivalents (FTEs)

Employment	2017	2020	2023	% Δ 2023-2017
Total employment	1 944	1 848	1 955	1%▲
FTEs	1 033	1 036	1 146	11%▲

Data source: MS data submissions under the 2025 Social Data Call.

The key trends in terms of employment status are presented in Table X. Data on ownership was collected for the first time in 2023, and this represents a break in the time series.

Table 305: Ireland: Employment status by owners and employees

Employment status	2017	2020	2023	% Δ 2023-2017
Employee full	666	695	521	-22%▼
Employee part	1 278	1 153	1 168	-9%▼
Owner			266	

Data source: MS data submissions under the 2025 Social Data Call.

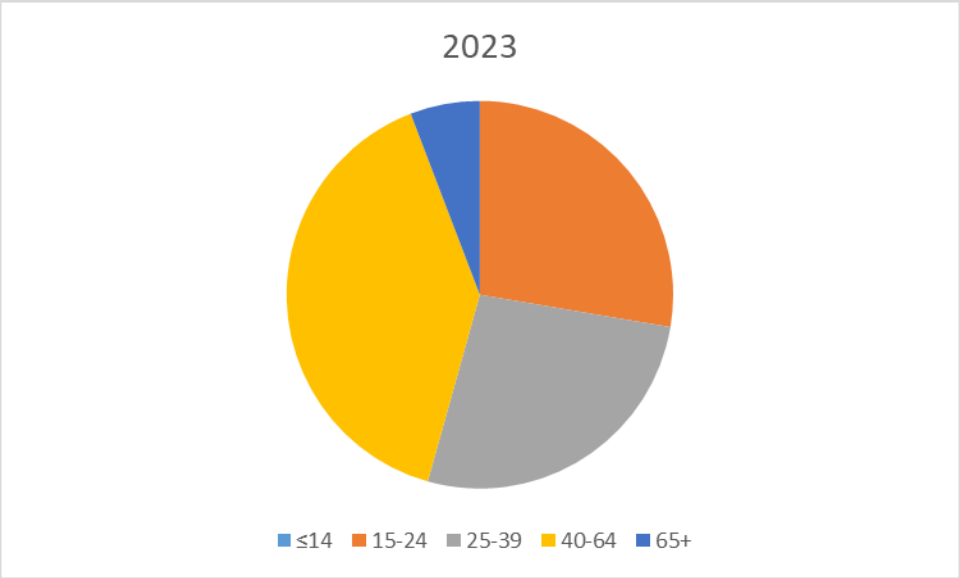
Age

Between 2017 and 2023, employment in the sector showed a clear generational shift, with younger employees making up an increasingly significant share of the workforce. Employment among those aged 15-24 more than doubled (+114%), rising from 253 to 541 individuals, while the 25-39 age group grew by 15% to 522. This suggests that the sector has become more attractive or accessible to

younger entrants, possibly due to improved training opportunities, increased recruitment efforts, or the adoption of new technologies that appeal to a younger demographic.

Conversely, participation among older employees declined considerably. Employment in the 40-64 age group fell by 21%, and the number of employees aged 65 and over dropped sharply by 54%. This may reflect a wave of retirements, limited succession in small family-run operations, or a broader generational turnover within the industry.

Figure 156. Ireland: Employment by age group in 2023.



Data source: MS data submissions under the 2025 Social Data Call.

Table 306. Ireland: Employment by age

Age	2017	2020	2023	% Δ 2023-2017
≤14	0	0	0	-
15-24	253	519	541	114%▲
25-39	455	578	522	15%▲
40-64	986	640	779	-21%▼
65+	249	119	114	-54%▼
Unknown	2	0	0	-

Data source: MS data submissions under the 2025 Social Data Call.

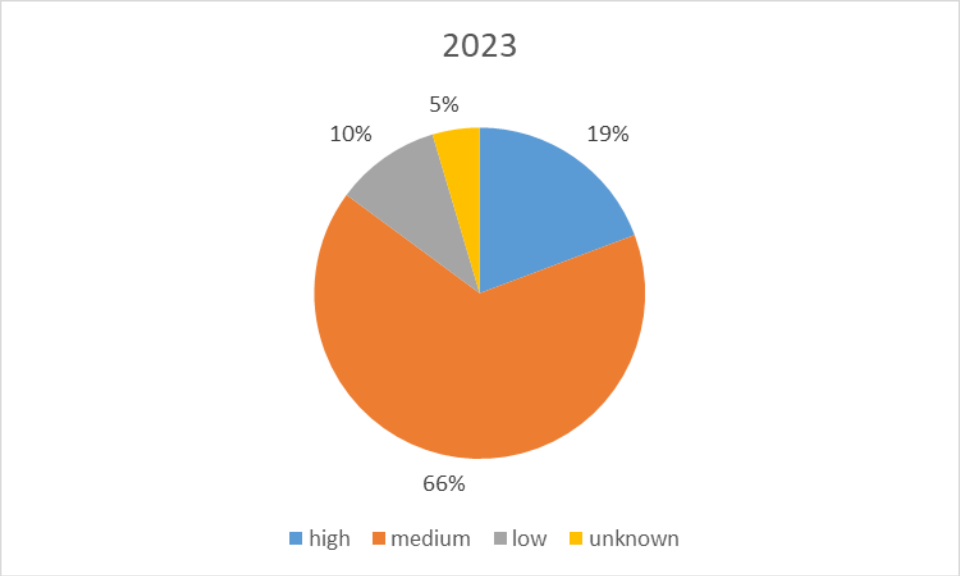
10.12.3 Workforce education and training

Education

Between 2017 and 2023, the education profile of the Irish aquaculture workforce has shown significant shifts. Employees with high education levels increased by 13%, from 334 to 377, indicating a gradual rise in the proportion of highly qualified staff. Meanwhile, those with medium-level education, the largest group in 2017, experienced a slight decline of 5%, falling from 1 354 to 1 287, suggesting a modest reduction in mid-skilled roles.

The most notable change occurred among employees with low education levels, which surged by 175%, from 73 to 201. This sharp increase may reflect the recruitment of entry-level or seasonal staff to meet growing labour demands in certain segments, such as shellfish farming. At the same time, the number of employees with unknown education status fell by 49%, from 178 to 90, indicating improved data collection and reporting within the sector. Overall, these trends point to a workforce that is becoming both more diverse in skill levels and better documented.

Figure 157. Ireland: Employment by education level distribution in 2023



Data source: MS data submissions under the 2025 Social Data Call.

Table 307. Ireland: Employment by education level

Education	2017	2020	2023	% Δ 2023-2017
High	334	371	377	13%▲
Medium	1 354	1 086	1 287	-5%▼
Low	73	328	201	175%▲
Unknown	178	63	90	-49%▼

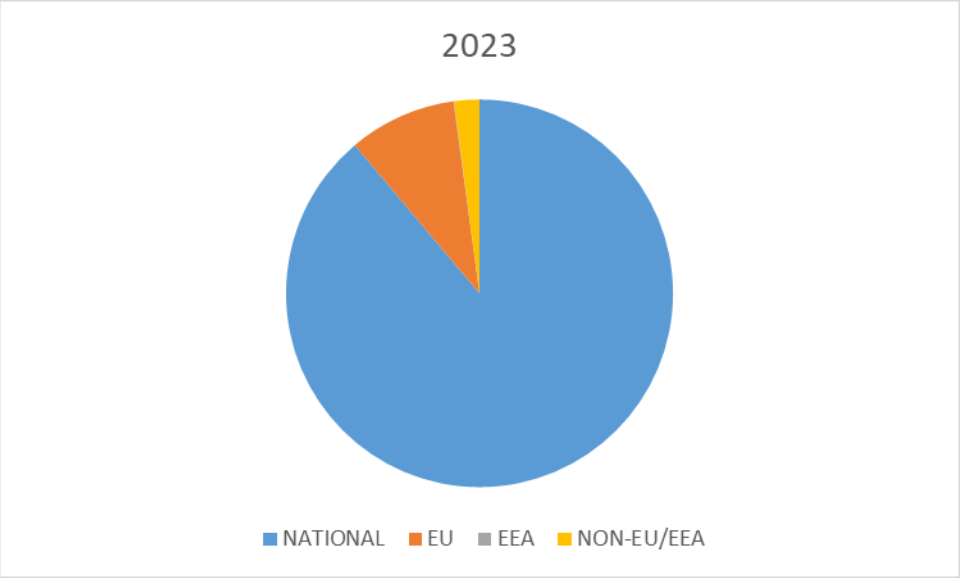
Data source: MS data submissions under the 2025 Social Data Call.

Nationality

Between 2017 and 2023, employment became increasingly dominated by Irish nationals, whose numbers grew by 8% from 1 604 to 1 737. This steady rise suggests stronger local participation and greater stability within the domestic workforce. In contrast, employment of EU nationals fell sharply by 44%, from 316 to 176, reflecting Brexit impacts, reduced labour mobility, or shifting employment opportunities elsewhere in Europe. Employment from the wider EEA remained minimal throughout the period.

Non-EU/EEA employment, however, more than doubled (+105%) from 20 to 41 individuals, highlighting a gradual diversification of labour sources beyond Europe. This trend suggests that while the Irish aquaculture sector continues to rely primarily on national workers, it is also becoming more globally integrated, turning to non-European labour to address skills or labour shortages.

Figure 158. Ireland: Employment by nationality distribution in 2023



Data source: MS data submissions under the 2025 Social Data Call.

Table 308. Ireland: Employment by nationality

	2017	2020	2023	% Δ 2023-2017
National	1 604	1 680	1 737	8%▲
EU	316	145	176	-44%▼
EEA	0	6	1	
NON-EU/EEA	20	16	41	105%▲

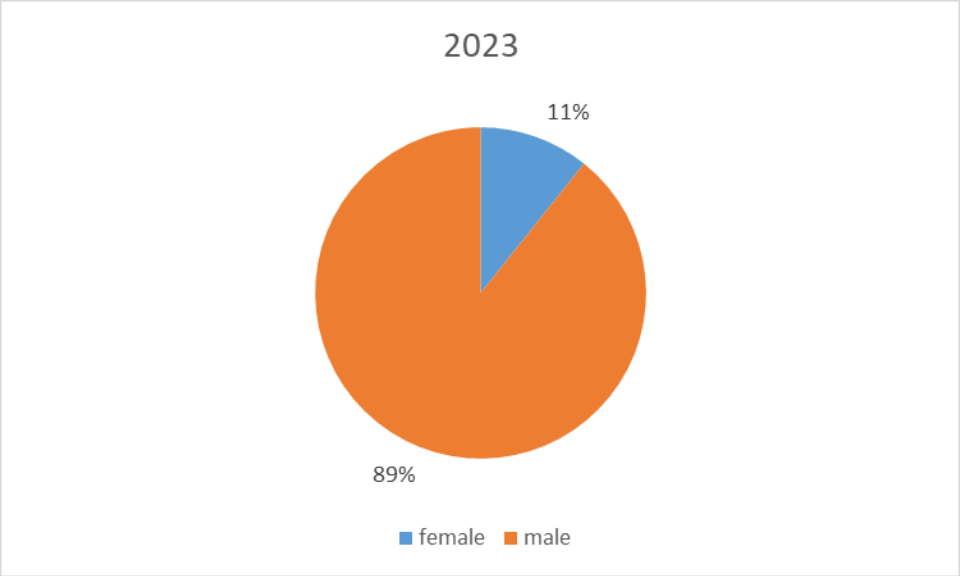
Data source: MS data submissions under the 2025 Social Data Call.

10.12.4 Gender

Between 2017 and 2023, the gender composition of employment in Irish aquaculture shows a gradual but meaningful shift toward greater female participation. The number of women employed in the sector increased by 42%, rising from 148 to 210, indicating growing gender diversity and possibly reflecting efforts to broaden access and attract women into aquaculture-related roles. This growth may also be linked to changing perceptions of the industry, improved working conditions, and the expansion of roles beyond traditional farm operations into areas such as management, research, and technology.

Male employment, meanwhile, declined slightly by 3%, from 1 796 to 1 745, suggesting a modest contraction in the overall male workforce. Despite this, men still represent most employees, highlighting that aquaculture remains a male-dominated sector. However, the upward trend in female participation signals slow but positive progress toward a more balanced and inclusive workforce, supporting broader social and economic sustainability within the industry.

Figure 159. Ireland: Employment distribution by gender in 2023



Data source: MS data submissions under the 2025 Social Data Call.

Table 309. Ireland: Employment by gender

Gender	2017	2020	2023	% Δ 2023-2017
Female	148	186	210	42%▲
Male	1 796	1 662	1 745	-3%▼

Data source: MS data submissions under the 2025 Social Data Call.

10.12.5 Social demographics per aquaculture segment

In addition to the marine cultures that predominate the sector, there are a small number of land-based freshwater finfish units and shellfish hatcheries (Denis et al., 2024). The employment data for aquaculture by species, production system, and gender from 2017 to 2023 reveals several notable trends that reflect both the structure of the sector and underlying socio-economic factors. The segments with the highest social and economic importance in 2023 were marine finfish (i.e., salmon cages), and shellfish (i.e., oyster other and mussel longline) and these are presented in the next section.

Marine finfish: Marine finfish production in Ireland is dominated by the salmon cage segment (i.e. DCF segment 1.6). While it represents 15% of the total employment in the wider sector, it generates approximately 58% of the total aquaculture production by value (Denis et al., 2024).

Segment 1.6: Salmon cages Between 2017 and 2023, employment in Ireland's marine salmon cage segment showed steady growth, particularly among male full-time employees, whose numbers rose by 26%. Overall employment expanded modestly, with increased diversification across age, nationality, and education profiles. The workforce shows a clear ageing trend, with employment in the 40-64 age group increasing by 67%, while younger cohorts (15-24) declined by 46%. The 25-39 age group grew by 42%, suggesting some mid-career retention but limited new entry. Workers with medium or high education levels increased significantly, indicating a more skilled workforce. Medium-educated fishers rose by 27%, while those with higher education almost doubled. Low education levels remained negligible, reflecting improved qualifications and reporting quality in the sector. The segment remains predominantly Irish, with nationals accounting for over 80% of the workforce, increasing by 37% over the period. Employment of EU nationals rose moderately, while non-EU/EEA participation fluctuated, peaking in 2020 before declining slightly by 2023, suggesting a stabilising but diverse labour base. The sector continues to be male dominated, though female participation tripled between 2017 and 2023, mostly in full-time positions. Despite this improvement, women still represent a small minority of the workforce, underscoring persistent gender imbalance. Overall, the data indicate a maturing and moderately expanding workforce, with higher educational attainment and sustained national participation, but ongoing challenges in youth recruitment, gender balance, and long-term labour renewal.

Shellfish: Shellfish production is dominated by the oyster other (DCF segment 11.12) and mussel longline segments (DCF segment 10.10). The following section presents the social demographics of these segments.

Segment 11.12: Oyster other (Farmed oyster)

In 2023, the segment generated 1 009 jobs representing 46% of total employment in the aquaculture sector.

Between 2017 and 2023, employment in this segment increased on average by 11%. The workforce shows signs of gradual ageing alongside strong youth participation. Employment among younger workers (15-24) more than doubled

(+120%), while the 65+ group also expanded (+88%), reflecting both new entrants and prolonged retention of experienced labour. Mid-career groups (25-64) remained stable overall, suggesting continuity within core age categories.

The segment has become more skilled, with workers holding high-level qualifications increasing by 53% (from 153 to 234) and those with medium education rising slightly. The share of low-educated workers also grew moderately, reflecting the continued presence of seasonal and manual roles, while “unknown” categories declined, pointing to improved data quality.

The workforce remains predominantly Irish, rising from 640 to 879 nationals (+37%) over the period. EU nationals declined slightly, while non-EU/EEA participation more than doubled, underscoring growing diversity and continued reliance on migrant labour to fill operational gaps.

The segment continues to be male dominated, though female participation increased by 21%, driven by part-time roles. Women now represent a small but gradually expanding share of employment in oyster farming.

Overall, the 2017–2023 data depict a stable and increasingly skilled workforce, with moderate employment consolidation, stronger youth, and migrant representation, and a slow but positive shift toward gender inclusion within Ireland’s oyster aquaculture sector.

Segment 10.10: Mussels longline (Suspended mussels)

In 2023, the segment generated 242 jobs representing 12% of total employment in the sector. Between 2017 and 2023, total employment remained largely stable, increasing slightly by 1% reflecting minimal overall change despite fluctuations in the intervening years.

The workforce shows an ageing trend in the core 40-64 group, which fell by 24%, while younger workers aged 15-24 increased significantly, indicating targeted recruitment of new entrants. The 65+ group declined by 78% possibly reflecting retirements.

Employment among those with high-level qualifications decreased by 20% while medium-educated workers grew by 40%, representing a skilled core workforce. Low-educated roles declined, reflecting improved workforce qualifications and data reporting.

The segment remains largely Irish, with nationals increasing slightly by 2%. EU nationals decreased by 18%, while non-EU/EEA workers entered the workforce, indicating modest diversification. The workforce remains male dominated, with female employment rising 12% in part-time roles, representing a small but gradually increasing share.

Overall, the 2017-2023 data indicate a contracting but more skilled workforce, with an ageing demographic partially offset by new young entrants, stable national representation, and modest gains in gender diversity.

10.12.6 Methodological considerations and data issues

The annual data source used to collect social and economic data from the Irish aquaculture sector is principally by census questionnaire. Each year, operators are obliged to provide data to Ireland's National Seafood Survey, coordinated by Bord Iascaigh Mhara (BIM, Ireland's Seafood Development Agency).

Primary data is received from the sector by a combination of interactive return, emailed PDFs, postal surveys, and follow-up phone surveys. Data is currently entered manually, therefore errors submitted are detected as anomalies in screening tables in Excel. However, the survey is moving to a fully online system by 2026 which has been designed to mitigate the number of data errors submitted by survey users.

Data for the aquaculture sector in Ireland is published once a year in autumn by BIM and disseminated as a report and online dashboard. Further details on methodological considerations can be accessed in Ireland's Work Plan for data collection in the fisheries and aquaculture sectors (Marine Institute, 2024).

10.13 Italy

10.13.1 Short description of the aquaculture sector

According to the Aquaculture Economic Report (STECF 24-14; 172), Italian aquaculture covers three main segments: marine finfish, freshwater finfish and shellfish. In 2022, total aquaculture production reached 123 thousand tonnes, representing a decrease of 13 percent compared with 2021 and 10 percent below the 2017–2021 average. Despite this reduction, the shellfish segment remained predominant, accounting for about 66 percent of total production (81 thousand tonnes), followed by freshwater species (29 thousand tonnes) and marine finfish (13 thousand tonnes).

In economic terms, the total sales value reached EUR 404 million in 2022, 12 percent lower than in 2021, although slightly above the long-term average (plus 1 percent compared with 2017–2021). The shellfish segment provided the largest contribution (EUR 215 million), while freshwater and marine species generated EUR 93 million and EUR 96 million, respectively. This distribution highlights the higher market value of marine species despite their smaller production volumes.

The number of enterprises remained stable at 582, with a prevalence of small-scale and family-run businesses. In 2022, employment in the sector totalled 7 283 persons (a decline of 7 percent compared with 2021), corresponding to 2 017 full-time equivalents (FTEs). Shellfish farming continued to be the main employer, accounting for more than 80 percent of the workforce. Thus, the Italian aquaculture sector demonstrated resilience despite the challenging context marked by rising input costs and market uncertainties. It continues to play a key role in supporting the national blue economy, providing stable employment opportunities and contributing to food security through sustainable production practices.

Table 310. Production and sales, industry structure and employment for Italy 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	152,1	150,3	125,7	119,5	141,3	123,4	-13%	-10%
Sales value (million €)	390,8	380,3	406,8	372,4	459,1	404,1	-12%	1%
Number of enterprises	592	592	582	582	582	582	0%	-1%
Employment	4.566	4.808	7.805	7.805	7.800	7.283	-7%	11%
FTE	2.128	1.609	2.042	2.042	1.969	2.017	2%	3%

Data source: Italy data submissions under the 2024 Aquaculture Data Call (STECF 2024-14; 173)

10.13.2 Demographics characteristics in Aquaculture

In 2023, total employment in Italian aquaculture was about 4 300 persons, showing a slight decrease compared with previous years (around 4 500 in 2017). The reduction reflects a gradual consolidation of the workforce across

the three main aquaculture environments (marine, freshwater and shellfish). Employment remained highly seasonal in the shellfish segment, which accounts for the majority of workers, while more stable positions are concentrated in marine and freshwater farming.

10.13.3 Employment in Aquaculture

Total Employment

The collection of social data in Italian aquaculture is carried out on a sample basis at the enterprise level, covering all production segments with annual outputs above 5 tonnes. This approach ensures representativeness across marine, freshwater, and shellfish farming activities.

In 2023, employment in the aquaculture sector remains male-dominated, as shown in the chart below. Men represent around 92% of the workforce, while women account for approximately 8%. Female participation is typically concentrated in shellfish farming, particularly in cooperatives and small-scale enterprises, whereas male employment prevails in marine and freshwater finfish farming, where the work often requires physical effort and technical skills. These proportions have remained relatively stable over recent years, reflecting the traditional gender structure of the Italian aquaculture workforce, though some gradual diversification is emerging in processing and management roles.

10.13.4 Demographics of the Workforce

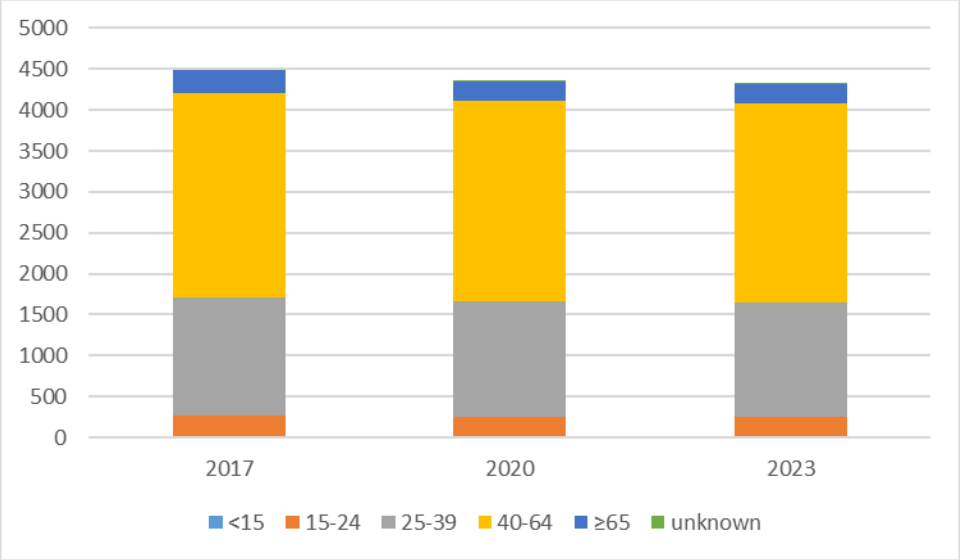
Age

The Italian aquaculture workforce is predominantly middle-aged. The trend from 2017 to 2023 shows no major demographic change, confirming an aging workforce and highlighting the need for initiatives to attract younger generations through training, innovation, and skill development programmes.

In 2023, the largest group of employees (around 60%) belonged to the 40–64 age range, followed by workers aged 25–39 years (approximately 30%).

Younger age groups remain very limited: workers under 25 years old represent less than 10%, indicating low generational turnover. The share of workers aged 65 and above is small but stable, reflecting the persistence of family-based and self-employed operators who remain active beyond retirement age.

Figure 160. Italy: Employment in aquaculture sector by age



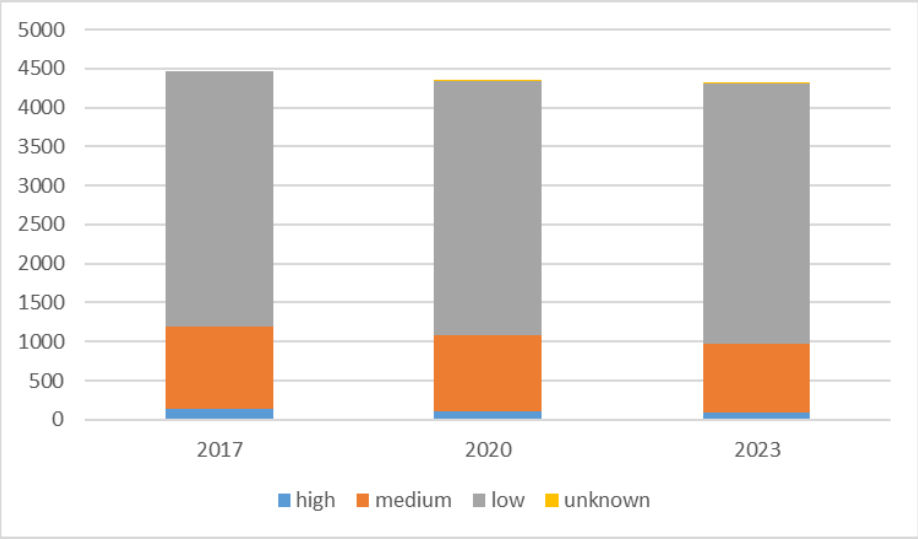
Data source: Italy data submissions under the 2024 Aquaculture Data Call

10.13.5 Workforce education and training

Education

The overall trend from 2017 to 2023 remains stable, with no major improvement in formal education levels. However, there is an increasing demand for technical skills and vocational training, particularly in marine aquaculture, where technological systems and environmental management require more specialized competences. Continuous training and capacity-building programmes are therefore essential to enhance workforce skills and support innovation and sustainability across the sector.

Figure 161. Italy: Employment in aquaculture by education



Data source: Italy data submissions under the 2024 Aquaculture Data Call

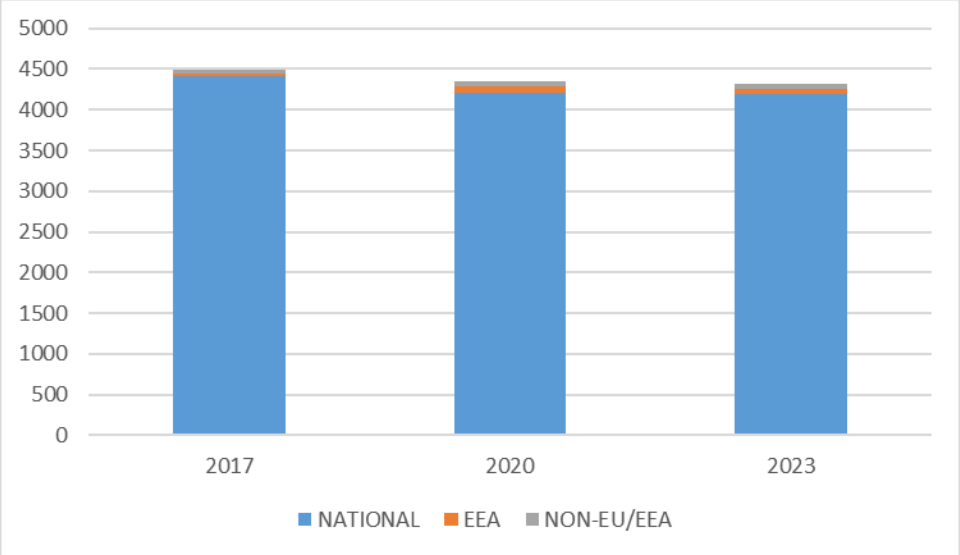
In 2023, about 78 percent of aquaculture workers held a low education level, while 20 percent had a medium level (secondary or vocational education) and only 2 percent a high level of qualification, such as a university degree.

Nationality

From 2017 to 2023, the composition of the aquaculture workforce by nationality in Italy has remained largely stable. The sector continues to be dominated by Italian nationals, who consistently represent more than 95% of total employment. Only small variations are observed across years, with a slight increase in the presence of non-EU/EEA workers, particularly after 2020.

In 2023, Italian nationals still accounted for the vast majority of employees, while foreign workers—both from the EEA and non-EU/EEA countries—represented a minor but essential share of the workforce. These workers are primarily engaged in shellfish farming and on-site processing, especially in coastal regions along the Adriatic Sea, where seasonal labour demand is high. Foreign employees often take on physically demanding or seasonal positions, supporting production continuity during peak periods. Despite their limited share, their role remains strategic in sustaining productivity in some regional clusters of Italian aquaculture.

Figure 162. Italy: Employment in aquaculture sector by nationality



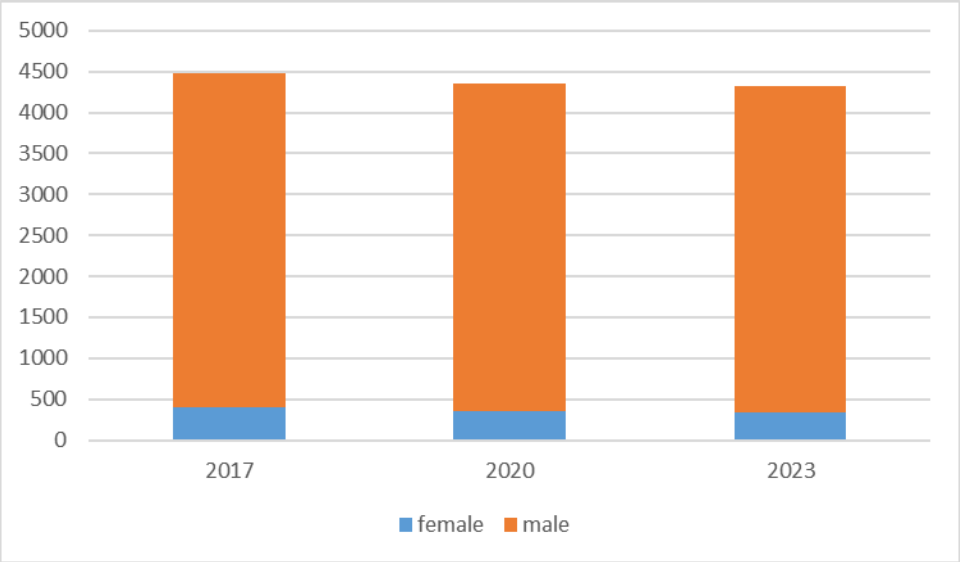
Data source: Italy data submissions under the 2024 Aquaculture Data Call

10.13.6 Gender

Between 2017 and 2023, total employment in the Italian aquaculture sector has remained relatively stable, with only slight fluctuations observed across the three reference years. The overall number of workers shows a small decrease after 2020, reflecting the effects of economic uncertainty, rising production

costs, and environmental pressures—especially in the shellfish segment. The gender distribution has also remained consistent: men account for about 90–92% of total employment, while women represent around 8–10%, mainly in shellfish farming and processing.

Figure 163. Italy: Employment in aquaculture by gender



Data source: Italy data submissions under the 2024 Aquaculture Data Call

In 2023, about 8 percent of the total workforce were women (approximately 330 female workers out of 4 300 total). Although the share of female employment slightly decreased over time (from 9% in 2017), women continue to play a key role in administrative, processing and quality control activities. Their participation remains limited in primary production, particularly in shellfish and marine finfish farming. No major structural changes are evident in the workforce composition, indicating a mature and stable sector with limited new entry. However, the persistence of low female participation and an aging workforce underline the need for generational renewal and stronger efforts toward diversification and inclusion in the coming years.

10.13.7 Social demographics per marine segment

The Italian marine aquaculture ssegment is mainly composed of finfish farming—primarily gilthead seabream (*Sparus aurata*) and European seabass (*Dicentrarchus labrax*)—and shellfish farming, which focuses on clams (*Ruditapes philippinarum*), mussels (*Mytilus galloprovincialis*), and, to a lesser extent, oysters. Together, these activities form the backbone of Italy's coastal aquaculture economy, supporting thousands of jobs across different regions.

Finfish farming is a capital-intensive activity that requires specialized skills and technical knowledge. Workers are employed both offshore, where cages are managed and maintained under challenging sea conditions, and onshore, in land-based facilities and lagoon areas where operations involve feeding, water

quality monitoring, and handling of juvenile fish. These jobs demand training in animal welfare, biosecurity, and technology use, reflecting a professionalized and increasingly specialized workforce. In contrast, shellfish farming relies on a larger and more community-based workforce. It is often organized through producer cooperatives, particularly in Emilia-Romagna and Veneto, where clam and mussel farming plays a vital role in local economies. Many families depend directly on this sector, and women represent a significant share of the workforce, having entered the industry since the 1980s when the clam sector began to expand. Since 2021, the rapid spread of the invasive blue crab (*Callinectes sapidus*) has caused severe damage to aquaculture. However, the clam and mussel segment have been the most heavily affected, where the species preys on juvenile shellfish and destroys essential farming infrastructures such as nets, ropes, and cages. The impact has been significant, with many producers struggling to safeguard their farming activities and maintain previous production and employment levels. Despite these challenges, numerous mitigation measures are being implemented to control the spread of the species and limit further damage to seed stocks and production systems. The situation has highlighted the vulnerability of coastal aquaculture and the urgent need for adaptive management strategies, combining scientific research, coordinated monitoring, and the active involvement of producers to protect one of the most socially and economically important sectors of Italian marine aquaculture.

10.13.8 Methodological considerations and data issues

The social data for aquaculture were collected under the DCF Social Data Call (reference year 2022), in accordance with the Italian Work Plan 2022–2024, section 6 – Economic and Social Data in Aquaculture. The information is derived from a combination of survey-based primary data and administrative secondary sources provided by regional fisheries departments, producer organisations, and national institutions such as MiPAAF and ISTAT.

The reference population covers all registered aquaculture enterprises active in marine, freshwater, and shellfish production. Data are compiled at enterprise level, including employment characteristics (gender, age, nationality, and education). Thresholds for data collection comply with EU MAP and RCG ECON standards, ensuring that segments representing at least 5% of national production (in weight and value) are included. The 2022 dataset is consistent with previous years and represents approximately 13% of total EU aquaculture production. Data quality is overall good and coherent, supported by harmonised procedures for validation and cross-checking across regions. However, minor limitations persist, including a) underrepresentation of part-time and family-based labour, particularly in small-scale shellfish farming; b) seasonal fluctuations in employment due to the biological cycles of molluscs and finfish; c) incomplete reporting from some minor production units not captured in regional administrative databases. Despite these challenges, the 2022 dataset provides a robust and representative picture of the social structure of Italian

aquaculture, ensuring alignment with EU statistical and methodological standards for comparability across Member States.

10.14 Latvia

10.14.1 Short description of the aquaculture sector

Latvia's aquaculture sector remains primarily focused on freshwater species and has shown moderate but steady economic growth in recent years. Between 2017 and 2022, the total sales value increased by 39%, rising from EUR 3.6 million to EUR 6.2 million, while the sales volume remained relatively stable at around 0.9–1.1 thousand tonnes. From 2021 to 2022, the sector recorded a 10% increase in sales value, despite a 13% decline in production volume. This indicates either stronger market prices or a shift towards higher-value species, such as sturgeon and trout. The number of enterprises fell by 15% compared to the 2017–2021 average, reflecting gradual consolidation in the sector. Overall, employment levels remained stable, increasing by 8% since 2017 to reach 310 people in 2022, equivalent to 202 FTEs. These figures suggest that the sector is characterised by improving economic efficiency and steady employment, even as production capacity consolidates (Aquaculture Economic Report, 2024).

Table 311. Production and sales, industry structure and employment for Latvia: 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	0.9	1.0	0.7	0.8	1.1	0.9	▲ 5%	▲ 3%
Sales value (million €)	3.6	4.4	4.4	4.3	5.7	6.2	▲ 73%	▲ 39%
Number of enterprises	88	87	79	78	75	69	▼ -22%	▼ -15%
Employment	245	235	323	330	307	310	▲ 27%	▲ 8%
FTE	173	182	175	223	206	202	▲ 17%	▲ 5%

Source: Own elaboration from EU Member States DCF data submission

Demographics characteristics in Aquaculture

As part of the DCF, social data on aquaculture is collected via a non-probability survey sample. Due to the small number of aquaculture enterprises and data confidentiality regulations, the collected data is provided in a single category: 'Other freshwater fish, other methods (segment 8.5)'.

10.14.2 Employment in Aquaculture

Total Employment

The Latvian aquaculture sector has shown a generally stable employment situation, with only minor fluctuations occurring between 2017 and 2022. The number of people employed increased from 490 in 2017 to 620 in 2022, reflecting moderate growth and a stable workforce. This figure peaked at 660 in 2020. Similarly, full-time equivalents (FTEs) rose from 346 in 2017 to 404 in 2022, suggesting an overall increase in work output despite variability from year to year. The disparity between total employment and FTEs suggests that part-

time or seasonal employment remains prevalent in the sector, a common feature in aquaculture where activity levels often depend on production cycles and environmental conditions. Overall, the data suggest a steady and resilient labour market, with a slight trend towards greater efficiency and stability following the temporary surge in employment around 2019–2020.

Table 312. Persons employed and number of FTE in Latvia between 2017 and 2022

Variable	2017	2018	2019	2020	2021	2022
Persons employed	490	470	646	660	614	620
FTE	346	364	349	446	412	404

10.14.3 Demographics of the Workforce

Age

Between 2017 and 2023, the age composition of the Latvian aquaculture sector showed a gradual ageing trend, with modest growth in participation by younger people. The 40–64 age group remained the largest, growing by 15% to 186 individuals, reflecting the sector's continued reliance on experienced workers. Meanwhile, the 25–39 age group grew by 23%, indicating a stable presence of younger professionals entering or remaining in the sector. Notably, the 65+ age group more than doubled in size (+129%), suggesting that older workers are remaining active for longer, possibly due to limited generational turnover or labour shortages. Although younger age groups remain small, there has been some positive change: the 15–24 age group increased by 60%, and the ≤14 age group appeared in 2023 for the first time with two individuals. This suggests the potential for increased youth involvement through family or training activities. Overall, the workforce is ageing but diversifying, with slight rejuvenation at the youngest end of the spectrum.

Table 313. Total number of employments by age in Latvia from 2017 to 2023 and the relative change between 2023 and 2017 (in %)

Age categories	2017	2020	2023	∆ 17-23
≤14	0	0	2	▲100%
15-24	5	14	8	▲60%
25-39	61	115	75	▲23%
40-64	162	158	186	▲15%
65+	17	43	39	▲129%

10.14.4 Workforce education and training

Education

Between 2017 and 2023, there was a notable shift in the educational profile of those employed in Latvian aquaculture. Diversification and improved qualification levels were key features of this shift. The number of individuals with higher qualifications increased by 36%, reaching 117 by 2023. This suggests a growing demand for advanced technical and management expertise in the sector, as well as a trend towards professionalisation. While the medium education category still represented a significant proportion of the workforce, it declined by 10%, which may indicate that some workers pursued further education or left the sector. The most striking change occurred among those with a low level of education, with this group rising sharply from five to 51 individuals — suggesting either broader recruitment or an increase in seasonal work. A small 'unknown' category emerged by 2023, representing minimal unclassified data. Overall, the trend points towards an increasingly skilled workforce, complemented by a modest influx of less-educated, potentially temporary, workers.

Table 314. Total number of employments by education level in Latvia from 2017 to 2023 and the relative change between 2023 and 2017 (in %)

Education	2017	2020	2023	∆ 17-23
high	86	66	117	▲36%
medium	154	264	139	▼-10%
low	5	0	51	▲920%
unknown	0	0	3	▲100%

Nationality

Between 2017 and 2023, the Latvian aquaculture workforce remained predominantly national, with locals consistently accounting for 98–100% of employees. Workers from the EEA appeared for the first time in 2023, accounting for 1% of the workforce. A small 'unknown' category also emerged at 1%, possibly reflecting unreported or unclassified data. No workers from other EU or non-EU/EEA countries were recorded during this period. Overall, the sector shows very limited international labour participation and remains largely reliant on domestic workers.

Table 315. Employment composition by nationality in Latvia from 2017 to 2023 is shown as numbers and percentages.

Nationality	2017	2020	2023
NATIONAL	240 (98%)	330 (100%)	304 (98%)
EU	-	-	-
EEA	-	-	3 (1%)
NON-EU/EEA	5 (2%)	-	-
UNKNOWN	-	-	3 (1%)

10.14.5 Gender

Between 2017 and 2023, there was a modest increase in the number of both male and female workers in the Latvian aquaculture sector. The number of female workers increased by 26%, rising from 42 to 53, while the number of male workers grew by 27%, rising from 203 to 257. This indicates a gradual but balanced expansion of the workforce, with both genders contributing proportionally to the sector's growth during this time.

Table 316. Composition of the labour force by gender in Latvia from 2017 to 2023 and the relative change between 2023 and 2017 (in %)

Gender	2017	2020	2023	∆ 17-23
female	42	43	53	▲ 26%
male	203	287	257	▲ 27%

10.14.6 Social demographics per aquaculture segment

Fresh water

Between 2017 and 2023, the freshwater aquaculture workforce in Latvia experienced moderate growth and underwent some structural changes. In terms of gender, proportional increases were similar for both men and women. Female employment increased by 26%, rising from 42 to 53, while male employment grew by 27%, rising from 203 to 257. This indicates balanced expansion of the workforce, with a slight overall increase in male employment.

The workforce remains predominantly national, with nationals accounting for most employees throughout the period (240 in 2017 and 304 in 2023). There was minor international participation in 2023, with three EEA nationals and three individuals of unknown nationality. No EU or non-EU/EEA workers were reported in the most recent data. This highlights the sector's strong reliance on domestic labour.

The age distribution shows a relatively stable, albeit ageing, workforce. Those aged 40–64 continue to dominate, increasing from 162 in 2017 to 186 in 2023.

The 25–39 age group remains significant, although it has fluctuated, peaking at 115 in 2020 before decreasing to 75 in 2023. Meanwhile, the number of older workers (65+) increased substantially, from 17 to 39, while younger age groups remained limited, with only a few individuals in the 15–24 age bracket and just two under 14 in 2023. This may be due to training or family involvement.

The number of highly educated workers increased from 86 to 117, indicating a growing demand for skilled labour. The number of workers with a medium level of education declined from 264 in 2020 to 139 in 2023, while the number of workers with a low level of education increased sharply from zero in 2020 to 51 in 2023. A small number of workers fall into the 'unknown' category (three in 2023). Overall, the data suggest that the workforce is gradually becoming more qualified, while also incorporating some lower-skilled or temporary positions.

Table 317. Latvia: Overall social variables for aquaculture sector

	Fresh water		
	2017	**2020**	**2023**
Gender			
female	42	43	53
male	203	287	257
Nationality			
NATIONAL	240	330	304
EU	0	0	0
EEA	0	0	3
NON-EU/EEA	5	0	0
UNKNOWN	0	0	3
Age			
≤14	0	0	2
15-24	5	14	8
25-39	61	115	75
40-64	162	158	186
65+	17	43	39
Education			
high	86	66	117
medium	154	264	139
low	5	0	51
unknown	0	0	3

10.14.7 Methodological considerations and data issues

Social data on aquaculture was collected through a non-probability sample survey as part of the DCF. No specific quality issues have been identified.

10.15 Malta

10.15.1 Short description of the aquaculture sector

Malta's aquaculture sector is exclusively marine-based and centred on marine finfish production, with a strongly export-oriented profile. The industry is relatively concentrated, comprising seven enterprises, most of which operate Atlantic bluefin tuna fattening facilities, alongside a small number of mixed operations producing limited volumes of gilthead seabream and European seabass and other marine species (e.g. amberjack). In production terms, Atlantic bluefin tuna dominates, accounting for roughly 86% of total output, while seabream/seabass contribute around 13%, with other species remaining marginal. The sector's commercial focus is primarily on high-value export markets, particularly in Asia, reflecting strong demand for premium tuna products.

In 2021, Malta produced 16.4 thousand tonnes of marine fish, generating EUR 210 million in gross sales, supported by 371 employees and 318 FTEs. Production in 2021 represented a notable decline relative to 2020 (–17%), yet gross sales fell only modestly (around –2%), suggesting that market conditions and pricing helped cushion the reduction in volume. In 2022, production increased slightly to 16.6 thousand tonnes (+1.3%), while gross sales rose sharply to EUR 286 million (+36%), with employment remaining broadly stable (370 employees; 315 FTEs). The strong increase in turnover despite only marginal volume growth indicates that the performance of the sector in 2022 was driven mainly by improved prices and market recovery for Atlantic bluefin tuna, reinforcing both the sector's resilience and its continued dependence on a high-value, globally traded flagship species.

Table 318. Production and sales, industry structure and employment for Malta: 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	15.7	19.3	13.8	19.8	16.4	16.6	6%	-2%
Sales value (million €)	180.4	242.7	161.9	215.4	210.4	286.1	59%	42%
Number of enterprises	7	7	9	9	9	10	43%	22%
Employment	256	320	341	410	371	370	45%	9%
FTE	216	258	293	300	318	315	46%	14%

Source: Malta data submissions under the 2024 Aquaculture Data Call (STECF 2024-14

Demographics characteristics in Aquaculture

10.15.2 Employment in Aquaculture

Total Employment

Employment in Malta's Aquaculture sector is entirely marine finish. Headcount employment increased strongly between 2017 and 2020 (from 256 to 410), before moderating in 2021–2022 (371–370). The year-on-year change from

2021 to 2022 is marginally negative (–0.3%), indicating that the sector's workforce size was essentially flat in 2022. Importantly, relative to the pre-2022 baseline, 2022 employment remains higher than the 2017–2021 average (+9.0%), suggesting that the labour footprint of the sector has structurally increased compared with the earlier period, even if some contraction has occurred since the 2020 peak.

The FTE series follows a similar pattern but provides additional insight into labour intensity. FTE increased from 216 (2017) to 318 (2021), then edged down to 315 in 2022 (–0.9%). Compared with the 2017–2021 average, however, 2022 FTE is still substantially higher (+13.7%), implying that the sector's labour input expressed in full-time equivalents remained elevated even as headcount stabilised. The FTE-to-headcount ratio provides a useful signal of employment structure: it falls from about 0.84 in 2017 to around 0.73 in 2020, then rises to roughly 0.86 by 2022. This pattern suggests that the workforce composition may have shifted over time between more part-time/seasonal arrangements (lower ratio) and more full-time equivalent engagement (higher ratio). In 2022 specifically, the ratio indicates a comparatively higher average labour intensity per worker, consistent with a sector relying on a stable workforce to deliver output rather than expanding headcount.

From a social and working-conditions perspective, the absence of recorded unpaid labour across all years distinguishes aquaculture from capture fisheries: it suggests that production is organised primarily through formal enterprise structures and paid labour relationships rather than household-based or family labour inputs. At the same time, the combination of stable employment and stable-to-slightly lower FTE in 2022 implies that the sector's strong revenue performance in 2022 (as described earlier) was not employment-led; instead, it is more consistent with price-driven turnover growth and/or productivity effects, with distributional implications that may be reflected in wage dynamics, workload allocation, and the capacity of firms to absorb rising operating costs without workforce expansion.

Table 319. Malta: Total employment in aquaculture

	2017	2018	2019	2020	2021	2022	Δ 2022 vs 2021	Δ 2022 vs avg. 17–21
Total employees	**256**	**320**	**341**	**410**	**371**	**370**	**-0.3%**	**9.0%**
Finfish marine	256	320	341	410	371	370	**-0.3%**	**9.0%**
FTE	**216**	**258**	**293**	**300**	**318**	**315**	**-0.9%**	**13.7%**
Finfish marine	216	258	293	300	318	315	**-0.9%**	**13.7%**
Unpaid labour	**0**	**0**	**0**	**0**	**0**	**0**	-	-
Finfish marine	0	0	0	0	0	0	-	-

Source: Malta data submissions under the 2024 Aquaculture Data Call (STECF 2024-14)

10.15.3 Demographics of the Workforce

Age

The age distribution indicates a strong concentration in prime working ages, with the workforce consistently dominated by the 25–39 cohort, followed by 40–64. Younger workers (15–24) represent a small but visible minority, while workers aged ≥65 remain a very small share throughout, suggesting limited retention into older ages (or earlier exit/role changes). Between 2022 and 2023, the overall structure is broadly stable: the 25–39 cohort decreases slightly in absolute terms, while 40–64 and 15–24 show modest increases. Relative to the 2017–2022 baseline, the 2023 profile points to a higher presence of mid-career cohorts, particularly 40–64, consistent with a sector that appears to rely on an experienced labour pool. In proportional terms (based on the age-table totals), 25–39 accounts for just over half of employment in both 2022 and 2023, while 40–64 accounts for around two-fifths, with 15–24 remaining around 6% and ≥65 around 1%a pattern that suggests limited demographic renewal despite a persistent younge segment.

Figure 164. Malta: Employment in aquaculture by age and years

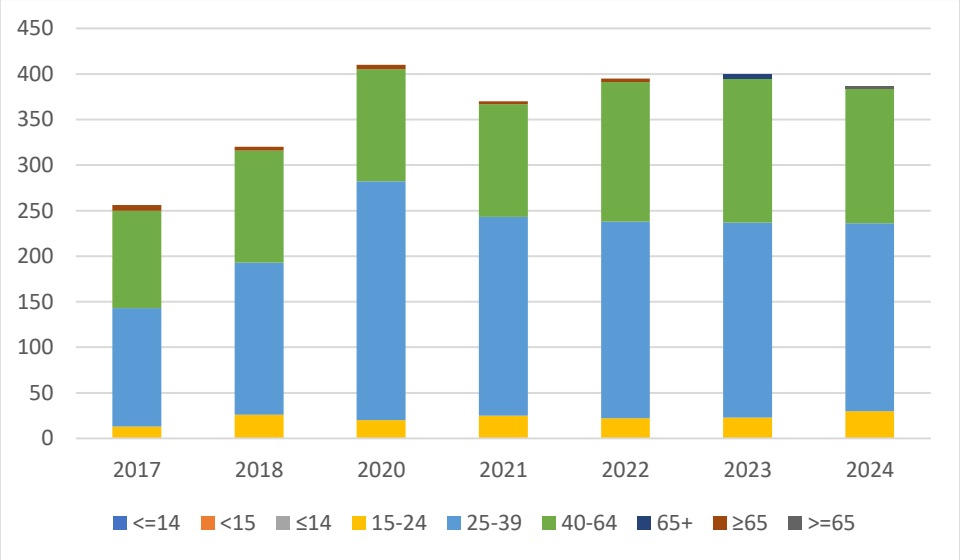


Table 320. Malta: Employment in aquaculture by age

Year	2017	2018	2020	2021	2022	2023	Δ 2022 vs 2022	Δ 2023 vs avg. 17–22
≤14	0	0	0	0	0	0	-	-
15-24	13	26	20	25	22	23	4.5%	8.5%
25-39	130	167	262	218	216	214	-0.9%	7.8%
40-64	107	123	123	124	153	158	3.3%	25.4
≥65	6	4	3	4	5	3	25%	13.6%
Unknown	0	0	0	0	0	0	-	-

Source: MS data submissions under the 2025 Social Data Call.

10.15.4 Workforce education and training

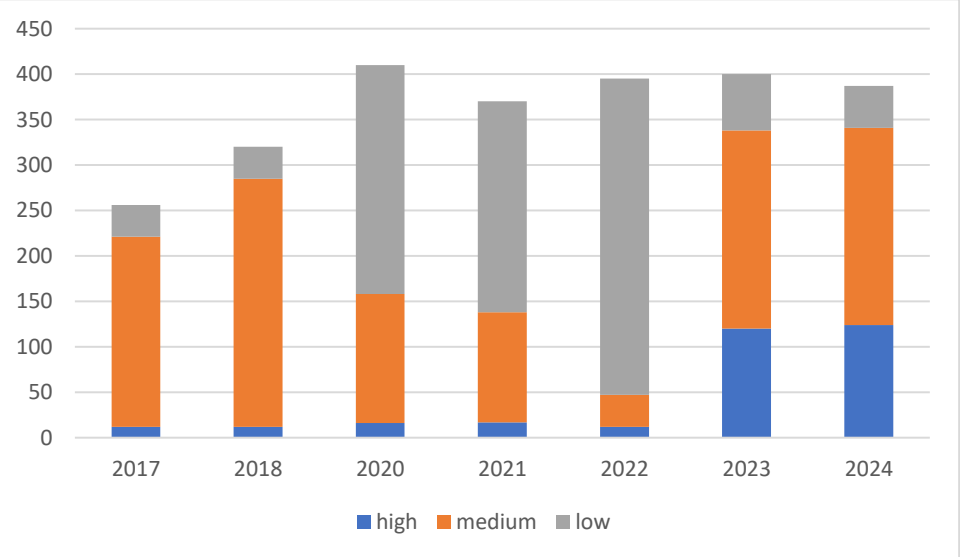
Education

The education profile displays a major structural break in 2023, with a sharp reallocation across attainment categories that is unlikely to reflect a genuine one-year shift in workforce qualifications. Up to 2022, the distribution is characterised by a predominantly medium- and low-attainment structure (with "high" remaining small and "unknown" consistently zero). In 2023, however, the "high" category increases abruptly while "low" declines sharply and "medium" rises suggesting a change in reporting, coding practices, respondent interpretation, or coverage rather than a purely demographic change. This is reinforced by reconciliation issues across tables: the education totals match overall employment in several years (e.g., 2017, 2018, 2020, 2021), but do not reconcile in 2022, indicating either differences in population coverage or a data-collection inconsistency. As such, the 2023 pattern is best interpreted as indicating potential improvements or changes in education classification and should be treated cautiously when drawing conclusions about human-capital trends.

Table 321. Malta: Employment in aquaculture by education

Year	2017	2018	2020	2021	2022	2023	Δ 2022 vs 2022	Δ 2023 vs avg. 17–22
High	12	12	16	17	12	120	900%	769.6%
Low	35	35	252	232	348	62	-82.2%	-65.6%
Medium	209	273	142	121	35	218	522.9%	39.7%
Unknown	0	0	0	0	0	0	-	-

Figure 165. Malta: Employment in aquaculture by education and years



Source: MS data submissions under the 2025 Social Data Call.

If the 2023 shift reflects improved reporting rather than real change, it may indicate that education is being captured more accurately (e.g., distinguishing higher qualifications that were previously under-reported or misclassified). However, because the 2022 distribution is atypical and does not reconcile cleanly, the series does not currently support strong inferences about true educational upgrading or downgrading of the workforce without confirmation of consistent definitions and coverage across years.

Nationality

The nationality profile indicates an increasingly internationalised workforce, with a sustained shift toward non-EU/EEA workers over the period. While Maltese nationals remain a sizeable component of employment, their relative weight appears to have declined compared with earlier years, whereas non-EU/EEA workers now represent the largest group within the nationality breakdown. EU nationals remain a small and broadly stable component throughout, and EEA/unknown categories are consistently recorded as zero. From a social perspective, this pattern is consistent with labour-market tightness in small island contexts and the sector's demand for reliable labour for cage operations, husbandry, harvesting, and logistics, but it also implies greater importance of integration measures, occupational safety training, language-accessible procedures, and consistent application of labour protections for migrant workers.

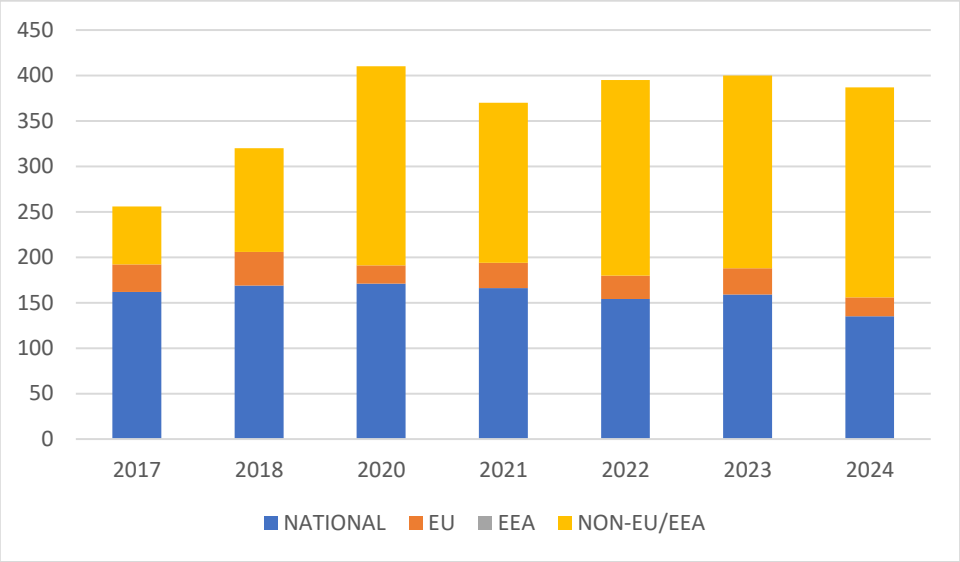
Relative to the 2017–2022 baseline, the strongest structural movement is the higher level of non-EU/EEA employment in 2023, suggesting that the sector increasingly depends on third-country workers to meet labour needs. EU employment shows only minor variation, and nationals remain broadly stable in level between 2022 and 2023 but lower than the longer-period average, consistent with gradual substitution and/or recruitment constraints. This shift has practical implications for working conditions and welfare: effective onboarding, safety-at-sea/industrial safety procedures, and clear written work arrangements become more important when teams are multinational, and attention to social protection access (registration, contributions, health coverage, and enforceable work agreements) becomes more relevant as the foreign workforce share increases.

Table 322. Malta: Employment by nationality

Year	2017	2018	2020	2021	2022	2023	Δ 2022 vs 2022	Δ 2023 vs avg. 17–22
EU	30	37	20	28	26	**29**	**11.5%**	**2.8%**
National	162	169	171	166	154	**159**	**3.2%**	**-3.3%**
Non-EU/EEA	64	114	219	176	215	**212**	**-1.4%**	**34.6%**
Unknown	0	0	0	0	0	**0**	-	-

Source: MS data submissions under the 2025 Social Data Call.

Table 323. Malta: Employment by nationality and year



10.15.5 Gender

The aquaculture workforce remains structurally male-dominated across the observed period, with women consistently representing a single-digit share of total employment. Based on the gender table totals, female participation ranged from ~2.8% (2018) to a peak of ~7.6% (2022), before easing to ~5.8% (2023). In absolute terms, the female headcount increased steadily from 2018 through 2022 (9 → 28), suggesting that the sector can attract and retain women when recruitment conditions are favourable; however, the 2023 decline (28 → 23) indicates that progress is not yet embedded and may be sensitive to firm-level staffing needs, role availability, and working-time requirements. Put differently, the gender profile suggests limited diversification of occupational roles at sector level, with women's participation remaining relatively small and therefore more exposed to year-to-year staffing changes.

The 2022–2023 shift is also informative from a composition standpoint. Total employment in the gender table increases from 370 (2022) to 396 (2023) (+7.0%), but this expansion is driven entirely by male employment (+31), while female employment declines (–5). As a result, the female share falls despite overall employment growth consistent with growth concentrated in roles that are more typically male-occupied in marine finfish systems (e.g., offshore cage operations, vessel work, heavy maintenance, harvesting logistics), while roles that may be more accessible to women (e.g., administration, compliance, quality assurance, laboratory/monitoring functions) do not expand at the same pace. This pattern implies that gender balance in aquaculture may be strongly influenced by occupational segmentation and the distribution of work between offshore and shore-based functions, rather than by overall sector growth alone.

The trajectory suggests that improving gender balance is less a question of overall sector expansion and more about the mix of roles being created, the

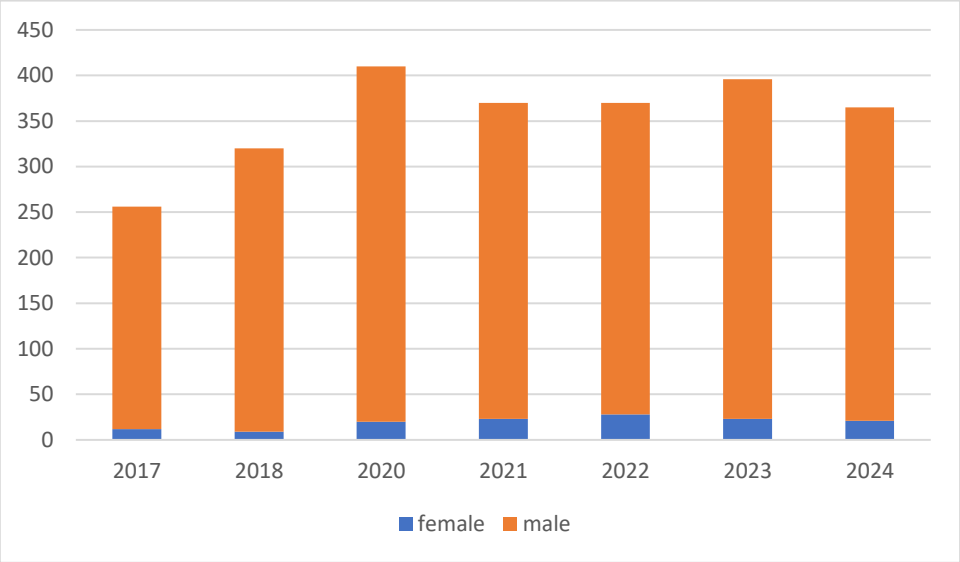
accessibility of working arrangements (shift patterns, offshore deployment), and workplace supports (safe facilities, equipment fit, progression pathways, and retention conditions).

Table 324. Malta: Employment by gender

Year	2017	2018	2020	2021	2022	2023	Δ 2022 vs 2022	Δ 2023 vs avg. 17–22
Male	244	311	390	347	342	373	9.1%	14.1%
Female	12	9	20	23	28	23	-17.9%	25%

Source: MS data submissions under the 2025 Social Data Call.

Figure 166. Malta: Employment by gender and by year



10.15.6 Social demographics per aquaculture segment (choose the one applicable)

Marine finfish

Employment and Working Conditions

The sub-segmentation of Malta's marine finfish aquaculture highlights a highly concentrated labour structure, with employment and FTE overwhelmingly anchored in tuna cage operations. In 2022, tuna cages accounted for roughly nine-tenths of total employees and FTE, confirming that the sector's social footprint jobs, work organisation, and skills demand is driven primarily by the tuna value chain. Sea bass/sea bream cages represent a much smaller secondary segment, while "other marine fish" cages appear small and episodic, with very limited headcounts and intermittent labour inputs. Importantly, the number of enterprises shown is segment-specific and not additive, as a single enterprise may operate across multiple sub-segments (and therefore be counted more than once).

From a labour-input perspective, the FTE-to-headcount relationship suggests meaningful differences in employment intensity across sub-segments. Tuna cages show greater variability over time in the implied intensity of employment (i.e., FTE relative to employees), consistent with operational scaling and the potential use of more seasonal/variable labour in some years; this is also aligned with the stronger swings in “employment per firm” observed in tuna cages. By contrast, sea bass/sea bream cages display a more consistently high FTE-to-employee ratio, which may indicate a more stable full-time equivalent structure (or a more consistent year-round staffing requirement relative to headcount), even as the segment contracts in later years. The sea bass/sea bream segment also shows a marked downscaling of workforce per enterprise after a peak year, suggesting a period of restructuring or consolidation within that activity.

Wage and productivity indicators point to heterogeneity in economic returns to labour across sub-segments and over time. Mean wages in tuna cages increase across the period, reaching their highest level in the latest year shown, which is broadly consistent with an export-oriented, high-value activity. Sea bass/sea bream wages (where available) also rise by the final year shown, despite the smaller scale of the segment, suggesting that wage levels are not purely scale-driven and may reflect occupational composition, skills need, or tightening labour markets. Labour productivity shows volatile dynamics, including negative values in earlier years for some segments followed by positive outcomes thereafter patterns that are more consistent with market-cycle effects and cost-price dynamics than with incremental, smooth productivity improvements. Overall, the segmentation reinforces a key social implication: Malta’s aquaculture employment outcomes (job stability, wage dynamics, and working-time intensity) are likely to be highly exposed to the performance and operating conditions of tuna cage activity, with smaller segments contributing limited buffering capacity at national level.

Table 325. Malta: Employment by segment

Segment name	*Variable Name*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*Grand Total*
Other marine fish cages		**8**	**29**	**- 63,966**	**1**	**329,310**	**535,273**	**800,656**
	Number of enterprises	-	-	1	1	1	2	5
	FTE	4	13	1	-	0	1	19
	Mean wage	-	-	32,480	-	36,558	37,400	106,438
	Labour productivity	-	-	- 96,450	-	292,749	497,870	694,169
	Employment per firm	-	-	1	-	1	1	3
	Total employees	4	16	1	-	1	1	23
Tuna Cages		**22,870**	**33,616**	**- 52,207**	**358,242**	**243,008**	**174,492**	**780,021**
	Number of enterprises	6	6	6	6	6	6	36
	FTE	153	198	144	257	275	283	1,311
	Mean wage	22,495	33,123	32,529	34,226	33,834	36,964	193,171
	Labour productivity	-	-	- 85,074	323,331	208,516	136,849	583,623
	Employment per firm	31	41	27	60	54	56	269
	Total employees	185	247	161	361	323	334	1,611
Sea bass & Sea bream Cages		**194**	**162**	**- 71,743**	**116,518**	**122,742**	**141,750**	**309,624**
	Number of enterprises	1	1	2	2	2	2	10
	FTE	59	47	147	43	43	31	370
	Mean wage	-	-	32,516	29,742	30,547	37,654	130,459
	Labour productivity	-	-	- 104,677	86,658	92,079	104,011	178,072
	Employment per firm	67	57	90	25	24	18	279
	Total employees	67	57	179	49	47	35	434

10.15.7 Demographic Characteristics of each segment

Across all subsegments, Malta's aquaculture activity is consistently characterised as marine finfish farming using cages, with socio-demographic patterns that differ mainly by species specialisation and scale. In practice, bluefin tuna (BFT) cages represent the dominant employment base and therefore provide the most statistically meaningful signal, while sea bream/sea bass (SBG & BSS) cages show a smaller and generally contracting workforce, and other marine fish cages appear intermittent and very small, limiting the robustness of any demographic profiling for that subsegment.

BFT cages (dominant subsegment). The workforce remains strongly male-dominated throughout, with women consistently representing a small minority of employment (in 2022–2023, female headcounts remain low relative to male headcounts). The age profile is concentrated in prime working ages, with 25–39 forming the largest cohort and 40–64 the second largest; the presence of 15–24 workers is persistent but modest, while ≥65 remains marginal. This structure suggests that tuna farming relies on a largely mid-career workforce, with some but limited pipeline of younger workers. In terms of nationality, BFT cages show a clear and sustained reliance on non-EU/EEA workers, who become the majority in the later years shown, while Maltese nationals remain a sizeable but smaller component and EU nationals represent a minor share. From a social perspective, this concentration of third-country labour points to increasing relevance of integration capacity (e.g., onboarding, language-accessible OSH, enforceable work arrangements, and consistent social protection registration) as a determinant of working conditions and retention. The education distribution shows a major discontinuity in 2023 (with a sharp increase in the "high" category and reallocation across categories), which is more consistent with a coding/measurement change than with genuine one-year human-capital upgrading; consequently, the education series is best treated as indicative of classification practice rather than a clean trend. Regarding employment status, BFT cages are recorded as overwhelmingly employee-based, with the post-2020 breakdown indicating that most jobs are full-time employee positions and part-time employment remains secondary; "owner" is consistently recorded as zero, consistent with the organisation of aquaculture labour through formal enterprise employment rather than owner-operator models typical in capture fisheries. SBG & BSS cages (smaller subsegment). This subsegment also remains male-dominated, with very low female representation, but the key feature is the contraction in headcount over time, implying restructuring and/or downscaling. The age profile shifts toward an older structure in the later period: the 15–24 cohort becomes negligible by 2022–2023, while 40–64 becomes more prominent relative to 25–39, indicating weaker generational renewal within this activity. The nationality profile diverges from tuna cages: non-EU/EEA employment declines sharply and is absent in the latest year shown, while Maltese nationals dominate and EU nationals remain present but small patterns that may reflect changing staffing strategies, changing production intensity, or definitional/reporting effects at low base numbers. The education profile is

volatile (including a disappearance of “low” in the final year and a strong shift toward “medium”), again suggesting that education coding and coverage may not be fully stable for this subsegment. Employment status remains primarily employee-based, with a predominance of full-time roles and limited part-time work, consistent with structured enterprise employment even in a smaller-scale activity. Other marine fish cages (very small/intermittent). Employment is recorded only in very small numbers and is not consistently observed across years, which limits the analytical value of socio-demographic disaggregation. Where recorded, the headcount is too low for stable inference, and the absence of observations in several years suggests that this activity may be sporadic, pilot-based, or operationally marginal within the national sector. Any interpretation of gender, age, nationality, education, or employment status in this subsegment should therefore be treated as descriptive only and not as a trend. Cross-cutting interpretation and caveats. The subsegment comparison reinforces three structural messages: (i) aquaculture employment is formalised and employee-driven rather than owner-operator and unpaid-family-labour based; (ii) social outcomes at national level are largely tuna-driven, including the marked dependence on non-EU/EEA labour; and (iii) demographic renewal appears more constrained outside tuna cages, particularly for SBG & BSS where youth presence weakens.

10.15.8 Methodological considerations and data issues

Social data are collected in line with the methodology defined in Malta’s DCF Work Plan. Primary information is gathered through targeted electronic questionnaires issued on an ad hoc basis to all aquaculture operators, A census-based approach is used to compile the core social indicators, including employment by age, gender, education and nationality; full-time equivalents (overall and by gender); total hours worked; paid and unpaid labour; labour costs.

Data quality issues related to your MS

The Maltese aquaculture social data present several quality and comparability constraints that should be acknowledged when interpreting trends. First, although the sector is consistently reported as marine finfish cages, several disaggregated series (gender, age, nationality, education, employment status) do not always reconcile cleanly with aggregate employment totals in the same reference years, suggesting coverage differences, reporting breaks, or inconsistencies in the underlying reference population across tables. Second, the education series shows a pronounced structural discontinuity in 2023most notably an abrupt reallocation toward “high” attainment in the dominant tuna-cage subsegment which is unlikely to reflect a genuine one-year change and is more consistent with changes in coding, questionnaire interpretation, or data processing. Third, some subsegments particularly “other marine fish” cages are very small and intermittent, meaning that socio-demographic profiles are sensitive to small absolute changes and are not robust for trend inference. Fourth, the employment status series includes clear methodological changes over time (e.g., earlier years reported only “employee” while later years

distinguish full-time and part-time), which introduces breaks in comparability and complicates longitudinal analysis. Finally, while “unknown” categories are largely recorded as zero in several aquaculture tables (suggesting completeness), the combination of reconciliation issues and discontinuities implies that apparent shifts especially those concentrated in 2022–2023should be treated as indicative of direction and structure rather than precise magnitudes unless supported by consistent metadata and cross-validation against administrative registers.

10.16 Netherlands

10.16.1 Short description of the aquaculture sector

The Dutch aquaculture sector is dominated by marine shellfish farming, mainly blue mussel (*Mytilus edulis*) and oysters (*Crassostrea gigas*, *Ostrea edulis*), cultivated in Zeeland and the Wadden Sea. There is no marine finfish aquaculture; all finfish farming is land-based, operated in recirculating aquaculture systems (RAS) by a few companies producing eel, catfish, yellowtail kingfish, rainbow trout, sturgeon, pike-perch, and Arctic char.

In 2022, total aquaculture output was ≈39.4 thousand tonnes, worth ≈EUR 109 million. Blue mussels accounted for ≈75% of volume (29.6 thousand tonnes) and ≈49% of value (EUR 53.3 million). Oysters contributed ≈3.5 thousand tonnes, however both Centraal Bureau voor de Statistiek (CBS) and producers warned 2022 figures may be overestimated. Therefore, CBS revised the oyster production volume in December 2024 to approximately 2.2 thousand tonnes, which is lower than previously reported in EU publications. The freshwater subsector, excluded from Data Collection Framework (DCF) but estimated by FAO/NEVEVI, produced ≈6.3 thousand tonnes worth ≈EUR 42.5 million, supplying mainly domestic and niche export markets.

The sector comprised 79 shellfish farms (41 mussel, 38 oyster) employing 243 people (224 FTEs) in 2022, 97% of which had fewer than five employees. Most workers were in mussel farming (168), followed by oysters (56) and 19 unpaid family workers.

Table 326. Production and sales, industry structure and employment for Netherlands: 2017-2022

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**46.5**	**51.9**	**35.7**	**31.5**	**33.4**		-100%	-100%
Freshwater								
Shellfish	46.5	51.9	35.7	31.5	33.4		-100%	-100%
Sales value (million €)	**60.7**	**67.5**	**49.0**	**45.3**	**94.6**	**88.0**	-7%	39%
Freshwater					18.5	25.0	35%	35%
Shellfish	60.7	67.5	49.0	45.3	76.1	63.0	-17%	5%
Number of enterprises	**69**	**69**	**64**	**42**	**80**	**79**	-1%	22%
Freshwater								
Shellfish	69	69	64	42	80	79	-1%	22%
Employment	**249**	**243**	**224**	**187**	**235**	**224**	-5%	-2%
Freshwater								
Shellfish	249	243	224	187	235	224	-5%	-2%
FTE	**234**	**231**	**213**	**187**	**235**	**224**	-5%	2%
Freshwater								
Shellfish	234	231	213	187	235	224	-5%	2%

Source: Own elaboration from EU Member States DCF data submission, 2024

Note: For 2020, the information from the oyster sector (56) is missing in the table above.

Economically, performance fluctuated between 2017-2022. After strong results in 2020-2021 (net profit margin 36%), profitability fell in 2022 to ≈ 5% as income dropped 28% (EUR 56.2 million) and costs rose 6% (EUR 48.9 million), mainly due to energy, maintenance, and mussel-seed collection costs. High mortality and slow growth further limited recovery. Despite this, the sector remains financially resilient, supported by stable demand, RAS innovation, and the shift from wild seed harvest to mussel-seed collectors under national sustainability agreements.

Overall, Dutch aquaculture is structurally stable but biologically constrained. Shellfish farming dominates production and value, while land-based finfish adds diversification. A focus on technology, low-impact methods, and vertical integration continues to position Dutch aquaculture as a sustainable, knowledge-driven model within the EU.

Demographics characteristics in Aquaculture

10.16.2 Employment in Aquaculture

Total Employment

Between 2017 and 2023, total employment in Dutch aquaculture remained almost stable (slight increase by 6%, from 234 to 247 persons), indicating overall structural stability in the sector. Employment growth was modest but positive across both major segments (Table 327).

The mussel farming segment remains the dominant employer, accounting for nearly four-fifths of total aquaculture jobs. Employment in this segment increased from 184 persons in 2017 to 191 in 2023 (+4%), reflecting continued operational continuity despite fluctuating production volumes and profits.
The oyster segment showed a somewhat stronger relative increase, rising from 50 to 56 employees (+12%) over the same period. This is consistent with gradual diversification of activities of the shellfish companies in a period in which the production of cupped oysters (Magallana gigas) and European flat oysters (Ostrea edulis) declined (Table 327).

Overall, the employment trend demonstrates that the Dutch aquaculture sector has maintained its workforce base despite biological and market pressures. Job numbers have remained remarkably stable, underpinned by the strong presence of small family enterprises (≈97 % of all farms with < 5 employees) and vertical integration within the shellfish industry. This modest growth contrasts with the general contraction observed in capture fisheries, suggesting that aquaculture though smaller in scale has offered steady employment opportunities, particularly in Zeeland and the Wadden Sea coastal regions.

Table 327. Netherlands: Relative change in total employment (2017–2023)

species	2017	2020	2023	∆17-23
MUSSEL	184	187	191	▲ +4%
OYSTER	50	56	56	▲ +12%
Grand Total	234	243	247	▲ +6%

Data source: MS data submissions under the 2025 Social Data Call

Employment status

Employment in Dutch aquaculture shows a gradual shift from self-employment to wage labour within a small, shellfish-dominated sector. Between 2017 and 2023, the number of employees rose slightly (+5%, 138 to 145), while owner-operators declined (-13%, 96 to 84), consistent with slow consolidation and more vertically integrated operations. The unknown category appears after 2017 and is 18 in 2023, reflecting survey non-response or classification gaps rather than a structural status. As with other social indicators, year-to-year changes may partly reflect coverage and response variation, so trends should be read as indicative.

Table 328. Netherlands: Employment status

Employment status	2017	2020	2023	∆17-23
employee	138	124	145	▲ +5%
owner	96	90	84	▼ -13%
unknown		29	18	-

Data source: MS data submissions under the 2025 Social Data Call

10.16.3 Demographics of the Workforce

Age

Between 2017 and 2023, the age composition of the Dutch aquaculture workforce remained broadly stable, though with signs of gradual ageing. The share of younger fish farmers declined slightly, while older age classes expanded.

Workers aged 15-24 years remained relatively stable over the period, decreasing slightly from 50 to 49 persons (-2%) and maintaining an employment share of about 19-20%. The 25-39 year group, representing early- to mid-career workers, declined more noticeably from 81 to 74 persons (-9%) and its share of total employment fell from 32% to 28%. Together, these younger cohorts indicate a limited inflow of new entrants into the sector (Table 329).

Conversely, employment among middle-aged workers (40-64 years) increased from 97 to 108 persons (+11%), consolidating their role as the largest age group (≈ 44% in 2023). The number of older workers (≥ 65 years) more than doubled from 6 to 16 persons (+167%) reflecting a growing reliance on veteran operators who continue working beyond retirement age (Table 329).

This structure highlights an ageing but experience-rich workforce, typical of small family-run aquaculture enterprises. It also underlines the sector's challenge in attracting younger participants, a pattern consistent with other parts of the Dutch fisheries and aquaculture industries.

Overall, these results point to a gradual ageing trend and limited generational renewal within Dutch aquaculture, similar to patterns observed in capture fisheries. However, some of the observed variation may reflect survey coverage, reporting frequency, or sampling differences between data calls, as the aquaculture social dataset remains small and partially aggregated. Hence, the figures should be interpreted as indicative trends rather than exact population shifts.

Despite these caveats, the data suggest that the sector relies heavily on experienced, middle-aged operators, while attracting and retaining younger workers remains a challenge particularly given the capital and technical demands aquaculture and the limited scale of the industry overall.

Table 329. Netherlands: Relative change in employment per age category (2017–2023)

age	2017	2020	2023	∆17-23
15-24	50	56	49	▼ -2%
25-39	81	66	74	▼ -9%
40-64	97	112	108	▲ +11%
65+	6	9	16	▲ +167%

Data source: MS data submissions under the 2025 Social Data Call

10.16.4 Workforce education and training

Education

Between 2017 and 2023, the Dutch aquaculture workforce shifted further toward medium-level qualifications. Headcounts show medium education rising from 161 to 198 (+23%), while high education fell from 21 to 9 (-86%) and low education from 47 to 25 (-47%); unknown increased from 5 to 15 (+200%). The base-data composition mirrors this: medium accounts for roughly 64% (2017) to 75% (2020) to 80% (2023); high declines from 12% in 2017 to 4% in 2023; low from 22% to 11%; and unknown edges up from 2% to 5%. Overall, the picture is of a sector dominated by medium-level (vocational/technical) qualifications, with fewer workers reporting high or low education over time (Table 330).

The rise in "medium" and the fall in "high/low" coincide with a small increase in "unknown," so part of the shift may reflect reporting/coverage rather than a pure

change in qualifications. Given the small population in aquaculture and variation in survey response between years, these results should be read as indicative trends rather than precise structural change.

Table 330. Netherlands: Relative change in employment by education (2017–2023)

education	2017	2020	2023	∆17-23
high	21	22	9	▼ -86%
medium	161	182	198	▲ +23%
low	47	27	25	▼ -47%
unknown	5	12	15	▲ +200%

Data source: MS data submissions under the 2025 Social Data Call

Nationality

The aquaculture workforce in the Netherlands is overwhelmingly Dutch nationals and has stayed that way through 2017-2023. Official counts show nationals: 232 to 235 (+1%); other-EU nationals: 2 to 10 (+400% from a very low base); and non-EU/EEA: 0 to 2 (first appearance in 2023, so the percentage change is not meaningful). Per segment analysis, this equates to roughly 99% nationals / 1% EU (2017), 97% / 3% (2020), and ≈96% nationals / 4-6% EU with ≤1% non-EU (2023).

This demonstrates a stable nationally based shellfish workforce with a small rise in other-EU workers and minimal non-EU presence. Because these are very small absolute numbers, year-to-year percentage changes (e.g., “+400%”) reflect measurement effects rather than a structural shift. As with other social variables in aquaculture, figures can be influenced by survey coverage and response variation between data calls, so results should be read as indicative trends rather than precise population changes.

Table 331. Netherlands: Relative change in employment by nationanlity (2017–2023)

nationality	2017	2020	2023	∆17-23
NATIONAL	232	236	235	▲ +1%
EU	2	7	10	▲ +400%
NON-EU/EEA			2	Infinity

Data source: MS data submissions under the 2025 Social Data Call

10.16.5 Gender

Dutch aquaculture remains overwhelmingly male and essentially stable over 2017-2023. Official counts show female: 3 to 3 (≈0% net change) and male: 231 to 236 (+2%); an “unknown” category appears only in 2023 (8 persons). In shares this equals ~1.3% female / 98.7% male (2017), ~2.1% / 97.9% (2020),

and ~1.2% female / 95.5% male / 3.2% unknown (2023) out of a total 247 jobs. Given the very small absolute number of women and the new “unknown” responses in 2023, percentage changes are not meaningful; the pattern points to a persistently male-dominated shellfish workforce with no clear structural increase in female participation. As with other aquaculture social variables, coverage and response effects between data calls likely explain part of the year-to-year variation rather than real shifts in gender composition.

Table 332. Netherlands: Employment by gender

gender	2017	2020	2023	∆17-23
female	3	5	3	↔0%
male	231	238	236	▲ +2%
unknown			8	Infinity

Data source: MS data submissions under the 2025 Social Data Call

10.16.6 Social demographics per aquaculture segment (choose the one applicable)

Shellfish

Shellfish production in the Netherlands is dominated by blue mussels (*Mytilus edulis*) and oysters (*Ostrea edulis* and *Crassostrea gigas*), both cultivated through on-bottom culture in coastal waters of Zeeland and the Wadden Sea. According to the DCF segmentation, these correspond to segment 10.11 (mussels on-bottom) and segment 11.11 (oysters on-bottom), which together represent the entirety of Dutch marine aquaculture.

Segment 10.11: Mussel on-bottom

In 2022 (latest available data, approximated to 2023 levels), the mussel segment remained the core of Dutch aquaculture, generating approximately three-quarters of total production volume and half of total sales value. The segment comprised 41 enterprises employing around 168 persons, representing roughly 70% of total aquaculture employment. Between 2017 and 2023, total employment in the mussel segment increased modestly (+4%, from 184 to 191 persons). The age structure shows a gradual ageing trend: workers aged 40–64 years rose by 11%, while those aged ≥65 more than doubled (+167%). Younger cohorts (15-39 years) declined slightly, indicating limited new entry into the sector. The workforce remains predominantly male (≈98%), nationally based (≈96% Dutch nationals), and medium educated (≈80%), with few workers holding tertiary qualifications. The number of women in mussel farming remains very low, and no structural increase has been recorded. Economically, the segment experienced strong profitability in 2020-2021 (net profit margin up to 36%), followed by a sharp contraction in 2022 (5%) as total income fell 28% (EUR 56.2 million) and costs increased 6% (EUR 48.9 million). Main cost components were energy, repair and maintenance, and mussel seed collection, with biological constraints (mortality, slow growth) also affecting

performance. The sector is composed almost entirely of family-owned microenterprises (97% with <5 employees), characterised by long-standing traditions, stable employment, and high labour retention.

Segment 11.11: Oyster on-bottom

Oyster farming represents the second major shellfish segment, with 38 enterprises employing about 56 persons in 2022, or roughly 23% of total aquaculture employment. Production volume was approximately 2.2 thousand tonnes. These production data were corrected in December 2024 by Statistics Netherlands[1] and are lower than previously reported in EU publications. Employment in oyster farming remained stable between 2017 and 2023 (+12%, from 50 to 56 persons). The age structure mirrors that of mussels dominance of 40–64 years (≈44%), moderate youth participation (ages 15-24) (≈20%) in 2023, and an increasing share of older workers (≥65 years). As with mussel culture, the workforce is predominantly male and national, with very limited female participation and negligible non-EU/EEA presence. Educational attainment is mostly medium-level vocational, reflecting the technical but hands-on nature of shellfish cultivation. Due to limited DCF economic coverage for oysters, financial data remain incomplete, but available evidence indicates a smaller-scale, steady subsector integrated within the wider shellfish value chain.

Overall assessment

Between 2017 and 2023, the Dutch shellfish aquaculture workforce grew slightly (+6%), driven mainly by stable employment in mussel and oyster farming. The shift from bottom seed to seed from Mussel seed collectors might have contributed to this increase. The sector remains socially cohesive and economically stable, with high labour continuity, increasing average age, and limited inflow of younger or foreign workers. Educational attainment has gradually shifted toward medium, but the workforce remains overwhelmingly national, male, and full-time employed. The Dutch shellfish sector thus represents a mature, specialised, and regionally rooted aquaculture model, sustaining employment and cultural identity in Zeeland and the Wadden Sea while facing ongoing demographic ageing and generational renewal challenges. As with other social indicators, the trends presented for Dutch aquaculture should be interpreted with caution. The year-to-year differences may partly reflect variations in survey coverage, response rates, or reporting consistency rather than structural changes. Given the small number of aquaculture enterprises, even minor shifts in participation or classification can noticeably influence percentages, so results are best viewed as indicative patterns rather than exact measures of change.

10.16.7 Methodological considerations and data issues

In the Netherlands, data for the DCF Social Data Call are collected through a comprehensive survey census of aquaculture enterprises, coordinated by Wageningen Economic Research (WEcR) under the supervision of the Ministry of Agriculture, Fisheries, Food Security and Nature(LVVN). This approach is defined in the Dutch National Work Plan 2022-2027 under the EU Data

Collection Framework (DCF). The social questionnaire gathers information on employment by gender, age, nationality, education, and employment status, as well as data on full-time equivalents (FTEs) and unpaid labor. The survey is administered every three years to all licensed aquaculture companies active in shellfish and freshwater aquaculture. Completed questionnaires are validated and submitted to the Joint Research Centre (JRC) through the national data-collection portal, following DCF methodological standards. Several factors influence the accuracy and comparability of Dutch aquaculture social data. The aquaculture sector is relatively small, comprising fewer than 80 enterprises and around 247 workers in total in the year 2023. Consequently, even small absolute changes can produce large percentage variations in indicators, which may exaggerate apparent trends. Response rates vary across survey years and aquaculture segments, with some farms either not responding or submitting incomplete data. This variation contributes to partial coverage and potential non-response bias. Due to the small number of enterprises, results are often aggregated at the sector level to maintain confidentiality, which limits the detail available for sub-segment analysis. Missing or “unknown” classifications also present a challenge. Variables such as education level, nationality, and unpaid labor frequently include “unknown” categories, reflecting reporting inconsistencies or limited record-keeping rather than genuine demographic changes. Since most social information relies on self-reported data from enterprises, differences in how farms interpret employment status, ownership, or family labor can lead to misclassification and under-reporting, particularly for part-time and unpaid work. In addition, data collection occurs on a triennial basis, which restricts temporal resolution and makes interannual comparisons sensitive to methodological adjustments or differences in sample composition between survey years. Finally, the coverage of social data under the DCF remains incomplete. Current submissions include only shellfish aquaculture (mussels and oysters), while the freshwater finfish subsector comprising eel, catfish, yellowtail kingfish, and other land-based species is not yet fully integrated into the DCF social data collection framework. As a result, social indicators for the Netherlands should be interpreted as indicative of workforce structure and long-term trends rather than precise measurements of the aquaculture labour force.

10.17 Poland

10.17.1 Short description of the aquaculture sector

According to the STECF's Aquaculture Economic Report 2024, Polish aquaculture covers only onshore, freshwater activities. Short set of data from Poland (2020-2021) caused by the launch of the DCF program in 2021. Aquaculture production is based on two main segments: traditional, low-intensity pond farming, (carp) and intensive production, where trout (mainly rainbow trout) is the dominant species. On a smaller scale other species (sturgeon, African catfish) are also farmed in intensive aquaculture. In 2023 sturgeon accounted more than 5% of the total value or volume and incorporated to the survey in 2024. The data form 2021-2023 refer only to enterprises where carp or trout were the dominant species.

Table 333. Production and sales, industry structure and employment for Poland: 2017-2022

Variable	2021	2022	Change 2021-22
Sales weight (thousand tonnes)	45.4	46.9	3%
Sales value (million €)	119.8	191.9	60%
Number of enterprises	1,012	1,012	0%
Employment	5,148	5,206	1%
FTE	3,844	3,888	1%

Source: AER 2024

Total fish production in 2022 amounted to 46.9k tons, which represented an increase of 3.0% compared to 2021. On carp farms, total production includes complementary species, which account for a few percentage points of total production. In the case of trout production, production is homogeneous and consists mainly of rainbow trout, with a minimal share of other trout species.

Despite a slight increase in production, sharp price increases in 2022 caused the value of carp and trout production sold to rise to EUR 191.9 million (an increase of 60% compared to 2021). This situation was accompanied by high inflation in 2022. According AER Report the number of enterprises was in 2022 conducted by 894 carp enterprises (pond production system), 104 trout enterprises (raceways) and 14 other intensive produced species (RAS).

10.17.2 Demographics characteristics in Aquaculture

In 2023, total employment in Polish aquaculture oscillated about 3 500 persons annually -without unpaid labour. AVG for period 2021-2023 is 3 555 and it was stable. Due to the large number of small farms in Polish aquaculture (especially in traditional carp farming sector), there are a large number of unpaid workers. In 2023 the average number of unpaid workers was about next 1 000 people.

Because of lack of information about the structure of this unpaid group (age, gender, education, nationality) -all presented below data and analyses refers to employment.

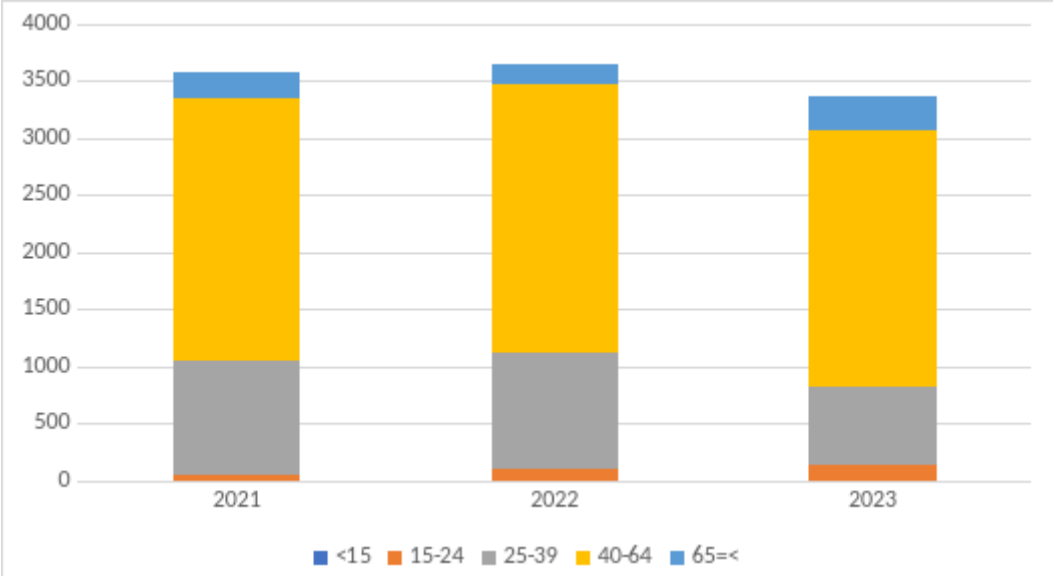
10.17.3 Employment in Aquaculture

Total Employment

The collection of social data in Polish aquaculture is carried out on a administrative basis and random sampling at the **enterprise level.** The survey covering pond and raceways production segment. This approach ensures representativeness across freshwater aquaculture in Poland. Most jobs in aquaculture require physical aptitude, which is why men predominate among employees as indicates chart below.

The productivity per capita of the workforce is relatively low I relation to different sectors. The income per capita in 2022 amounted 53k Euro annually.

Figure 167. Poland: Total Employment



Data source: Polish data submissions under the 2024 Aquaculture Data Call

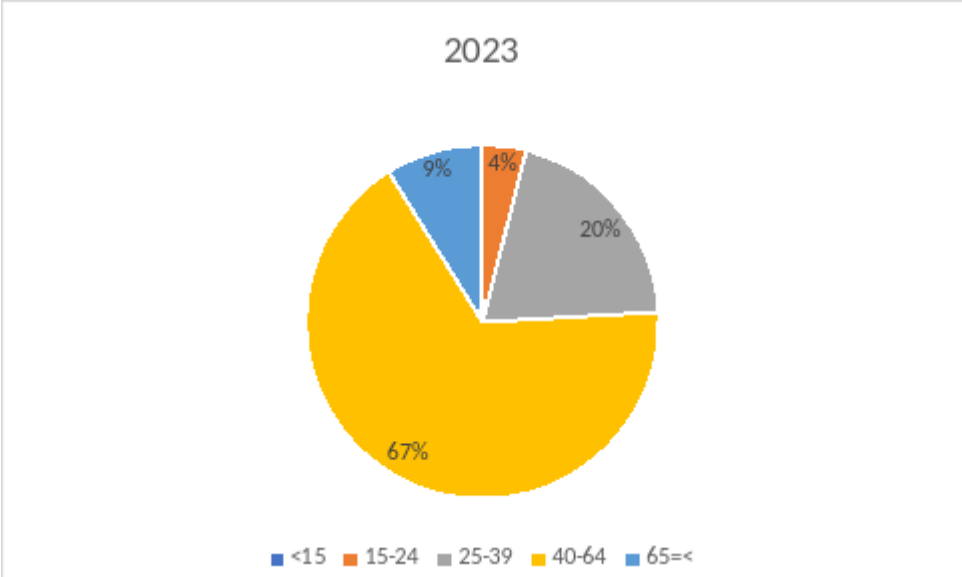
Age

The Polish aquaculture workforce is predominantly middle-aged. The trend from 2021 to 2023 is very short and indicates no major demographic changes.

In 2023, the largest group of employees (around 67%) belonged to the 40–64 age range, followed by workers aged 25–39 years (approximately 20%). which proves the employees' good experience.

Younger age groups are few in number: employees under the age of 25 account for less than 13%, which indicates low generational replacement.

Figure 168. Poland: Employment in aquaculture by age



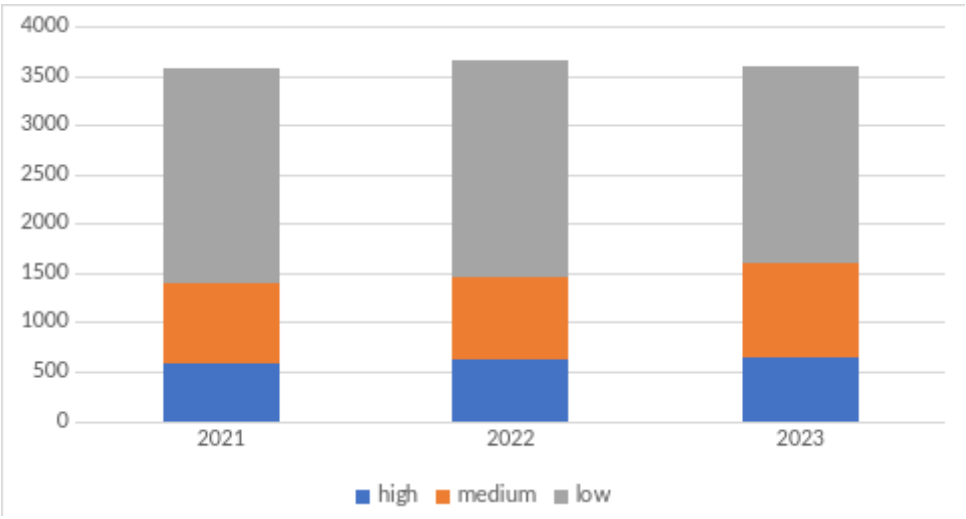
Data source: Polish data submissions under the 2024 Aquaculture Data Call

10.17.4 Workforce education and training

Education The overall structure of education from 2021 to 2023 remains stable, with light improvement in formal education structure. The work performed in aquaculture is largely simple and repetitive, and high qualifications are required of personnel managing processes and entire farms what corresponds with the structure of education. At the same time, problems with local labour markets and recruiting employees are intensifying, especially in rural areas.

In 2023, about 55% of aquaculture employees held a low education level, while 27% had a medium level (secondary or vocational education) and 18% a high level of qualification. This structure meets the needs of the aquaculture sector.

Figure 169. Poland: Employment in aquaculture by education



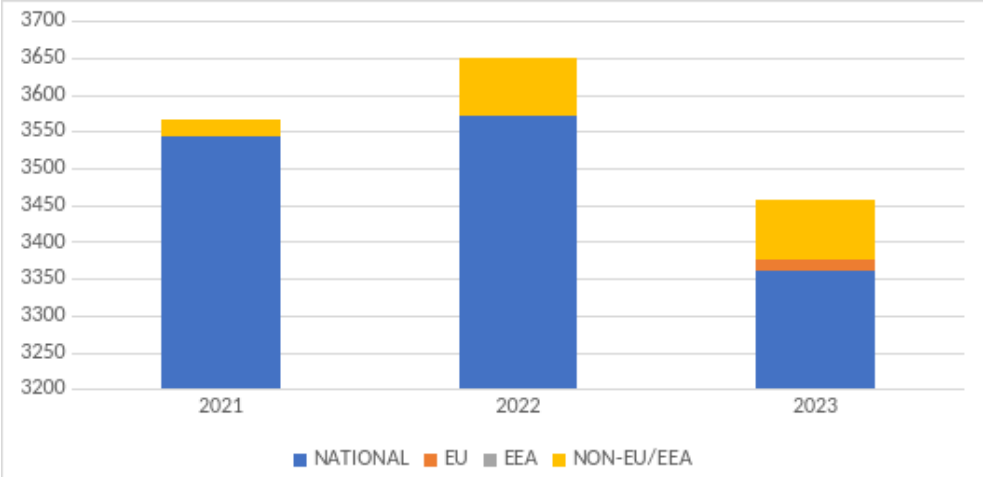
Data source: Polish data submissions under the 2024 Aquaculture Data Call

Nationality

From 2021 to 2023, the composition of the aquaculture workforce by nationality in Poland has remained largely stable. The sector continues to be dominated by Polish nationals, who consistently represent more than 97% of total employment. Only small variations are observed across those three years, with a slight increase in the presence of non-EU/EEA workers, particularly after the aggression of Russian Federation to Ukraine.

In 2023, Polish nationals still accounted for the dominant group of employees, while foreign workers—both from the EEA and non-EU/EEA countries—represented a minor but essential share of the workforce.

Figure 170. Poland: Employment in aquaculture by nationality

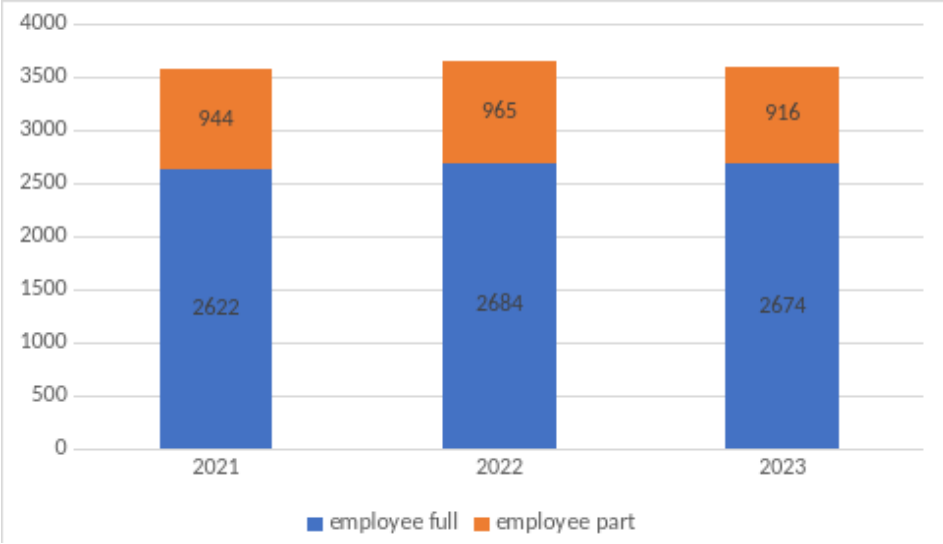


Data source: Polish data submissions under the 2024 Aquaculture Data Call

Employment status

Employment varies spatially and seasonally. Intensive production is mainly located in northern Poland, while traditional production is concentrated in the south. Traditional aquaculture accounts for nearly 80% of employment in the sector in 2023. Traditional aquaculture is also more seasonal, with an increase in the number of workers between October and December.

Figure 171. Poland: Total employment status in aquaculture

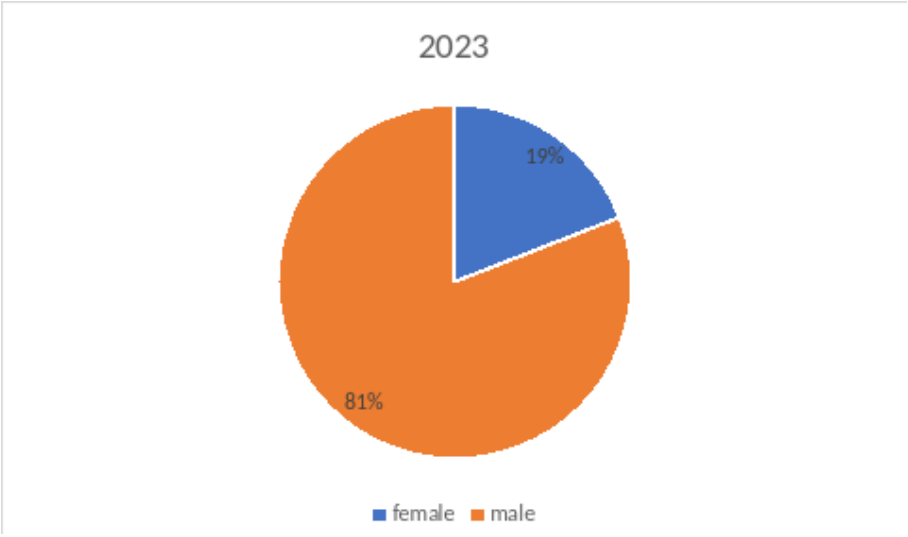


Data source: Polish data submissions under the 2024 Aquaculture Data Call

10.17.5 Gender

Between 2021 and 2023, total employment in the Polish aquaculture sector has remained relatively stable. In 2023 men represent around 94% of the workforce, while women account for 26%. Female participation is typically concentrated in administration, sales or small processing. These proportions have been relatively stable over recent three years. The searched period was not referenced what caused launching DCF programme on aquaculture in 2021. No major structural changes are detected in the workforce structure, dynamics and quality. However, an aging workforce and a shortage of young people entering the aquaculture industry highlight the need for greater efforts to improve working conditions and automate processes in the coming years.

Figure 172. Poland: Employment in aquaculture by gender



Data source: Polish data submissions under the 2024 Aquaculture Data Call

10.17.6 Methodological considerations and data issues

The social data for aquaculture were collected under the DCF Social Data Call (reference year 2023), in accordance with the Polish **Work Plan 2022–2024**,– Economic and Social Data in Aquaculture.

The data for the DCF are collected using a questionnaire-based method on a randomly selected sample of aquaculture entities. Data collection of social and economic aspects of Polish aquaculture took place for the first time in 2021. In 2022 and 2023, there was significant progress in data collection. So far, the data have been obtained from a relatively small sample of farms (n = 50), which is why some figures were subject to additional verification through in-depth individual interviews with typical farms.

The quality of the data is generally good, and validation and control procedures show that the data are consistent with other national statistics. Due to the random sample, particular attention is paid to providing the quality of the data collected and the way the interviews are conducted.

Despite these achievements, there are minor limitations, including:

- insufficient records of employment issues in small entities (broken down by age and education)
- qualification of seasonal workers
- estimating the scale of seasonal employment.

The 2023 data set provides a reliable and representative picture of Polish aquaculture and complies with EU statistical and methodological standards to ensure comparability between Member States.

10.18 Romania

10.18.1 Short description of the aquaculture sector

Aquaculture in Romania is entirely freshwater based, with production concentrated in rainbow trout, carp, and other freshwater species. In 2022, no marine aquaculture activity was reported. The sector is characterised by a relatively large number of small and medium sized freshwater units, reflecting Romania's inland geography and long tradition of pond based aquaculture.

The total number of aquaculture enterprises remained broadly stable in 2022, with 463 active farms, all operating in freshwater systems. This stability in enterprise numbers contrasts with more pronounced changes observed in production volumes and employment, indicating ongoing structural adjustment within the sector.

Aquaculture production and sales in Romania showed significant volatility over the period 2017–2022. Sales weight remained relatively stable between 2017 and 2019, declined sharply in 2020 and 2021, and then increased markedly in 2022, reaching 48.3 thousand tonnes. This represented a substantial year on year increase compared to 2021 and a strong recovery relative to the multiannual average for the period.

Sales value followed a different trajectory. After peaking in 2019, value declined sharply in 2020, recovered partially in 2021, and increased further to EUR 49.9 million in 2022. While the increase in value between 2021 and 2022 was modest compared to the surge in volumes, overall sales value in 2022 was higher than the 2017–2021 average, suggesting some improvement in market conditions despite continued price or cost pressures.

The number of enterprises declined slightly in 2022 compared to the previous year and was marginally lower than the 2017–2021 average. This indicates a degree of consolidation within the sector, although the overall structure remains dominated by freshwater farms.

Table 334. Romania - Production and sales, industry structure and employment for Romania: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	13.6	13.6	17.9	11.5	11.7	48.3	312%	253%
Sales value (million €)	30.0	51.8	65.1	30.3	47.0	49.9	6%	11%
Number of enterprises	440	456	474	470	490	463	-6%	-1%
Employment	2,230	1,965	2,295	2,055	2,274	1,956	-14%	-10%
FTE	2,230	1,965	2,295	2,055	874	1,956	124%	4%

Source: Own elaboration from EU Member States DCF data submission 2024, (European Commission, 2025).

Demographics characteristics in Aquaculture

10.18.2 Employment in Aquaculture

Total Employment

Employment in Romanian aquaculture shows a clear pattern of contraction over the period 2017-2023, alongside notable year to year volatility. Total employment declined from 2 230 persons in 2017 to 1 652 in 2023, representing an overall reduction of approximately 26%. While employment increased temporarily in 2021, reaching 2 274 persons, this was followed by a sharp decline in subsequent years, indicating that the increase was not sustained.

No FTE data were reported for 2023, limiting direct assessment of employment intensity in the most recent year but FTE also matches full time employment, so the same trends hold.

Overall, the employment data point to a sector undergoing structural adjustment, characterised by a declining workforce and episodic changes in employment intensity. From a social perspective, the sustained reduction in employment since 2017 suggests decreasing labour demand in freshwater aquaculture, while fluctuations in FTEs indicate changes in work organisation, reporting practices, or the balance between seasonal and full-time employment.

Table 335. Romania: Total employment and Full Time Equivalents (FTEs)

	2017	2022	2023	% Δ 2023-2017
Employment	2 230	1 956	1 652	-26%
FTE	2 223	1 956	-	

Data source: MS data submissions under the 2025 Social Data Call.

10.18.3 Demographics of the Workforce

Age

The age structure of employment in Romanian aquaculture between 2017 and 2023 shows a rebalancing within the working-age population, alongside a marked decline in older workers. The 40–64 age group remained the largest cohort throughout the period, but employment declined from 1 262 in 2017 to 1 053 in 2023, a reduction of 17%, reflecting both overall employment contraction and gradual exit of older mid-career workers. In contrast, employment among those aged 25–39 increased substantially, rising from 210 to 365 (+74%), despite peaking in 2021. This indicates a strengthening of the core working-age cohort and suggests some capacity for mid-career entry or retention within the freshwater aquaculture sector.

The most pronounced change occurred in the 65+ age group, where employment fell sharply by 73%, from 700 in 2017 to 190 in 2023. This reflects a significant withdrawal of older workers from the sector and suggests delayed

but now accelerating retirement. Overall, the age profile in 2023 points to a more concentrated workforce centred on middle working ages, with reduced reliance on older labour but persistent constraints in youth recruitment, raising questions around long-term labour renewal and skills transfer in Romania's aquaculture sector.

Table 336. Romania: Employment by age

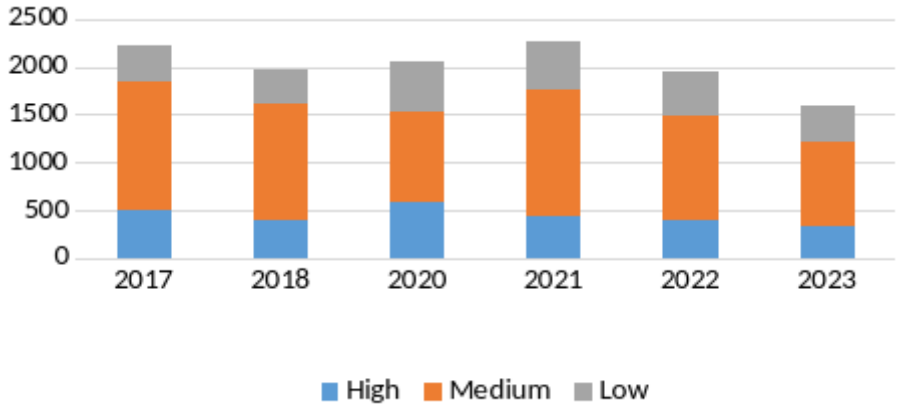
Age	2017	2018	2020	2021	2022	2023	% Δ 2023-2017
15-24	50	36	46	69	68	44	-12%
25-39	210	214	489	552	470	365	74%
40-64	1 262	1 116	1 284	1 413	1 238	1 053	-17%
65+	700	598	236	240	180	190	-73%

10.18.4 Workforce education and training

Education

The education profile of employment in Romanian aquaculture between 2017 and 2023 indicates a general contraction across all reported education levels, broadly in line with the overall decline in employment over the period. Workers with medium education levels continued to represent the largest share of the workforce, reflecting the technical and operational nature of freshwater aquaculture. However, employment in this group declined substantially from 1 339 in 2017 to 899 in 2023, a reduction of 33%, indicating a narrowing of the sector's core skills base.

Figure 173. Romania: Employment by education group



Data source: MS data submissions under the 2025 Social Data Call.

Employment among workers with high education levels declined more sharply, falling by 36% from 504 to 322, suggesting reduced demand for highly qualified roles or limited retention of graduates within the sector. In contrast, employment among those with low education levels remained relatively stable, decreasing

by only 6% over the period. As a result, the relative importance of lower-skilled roles increased within the remaining workforce. Overall, the 2023 profile points to a more compressed skills structure, with fewer medium- and high-qualified positions and a persistent reliance on lower-skilled labour, which may have implications for productivity, innovation, and the sector's capacity to adapt to future regulatory, environmental, and technological challenges.

Table 337. Romania: Employment by education level

Education Level	2017	2018	2020	2021	2022	2023	% Δ 2023-2017
High	504	399	591	441	387	322	-36%
Medium	1 339	1 224	946	1 320	1 093	899	-33%
Low	387	341	518	513	476	365	-6%

Data source: MS data submissions under the 2025 Social Data Call.

Nationality

The figures related to nationality should be read with caution. The pilot study to assess the existing social situation began in 2020 and the first reporting was carried out in 2022. Therefore, during the period 2017-2023, data on the nationality of the workforce in the aquaculture sector in Romania are fragmented and incomplete.

Data on the nationality of employment in Romanian aquaculture are highly fragmented and incomplete over the period 2017–2023, which significantly limits the scope for trend analysis. Coverage varies markedly by year, with some nationality categories not reported at all in earlier years and substantial fluctuations in reported values thereafter. As a result, the figures should be interpreted with caution and are best viewed as indicative of reporting patterns rather than underlying structural change.

Where data are available, employment appears to be predominantly national, particularly in the most recent year. In 2023, national workers accounted for the majority of reported employment (96%), while the number of EU and non-EU/EEA workers remained low in absolute terms. However, the sharp changes observed between years, including large shifts in reported national employment and intermittent reporting of EU workers, suggest that these variations are likely influenced by changes in data collection, classification, or reporting practices rather than by genuine changes in workforce composition. Given these limitations, it is not possible to draw firm conclusions regarding trends in labour mobility, reliance on non-national workers, or changes in nationality composition within the Romanian aquaculture sector.

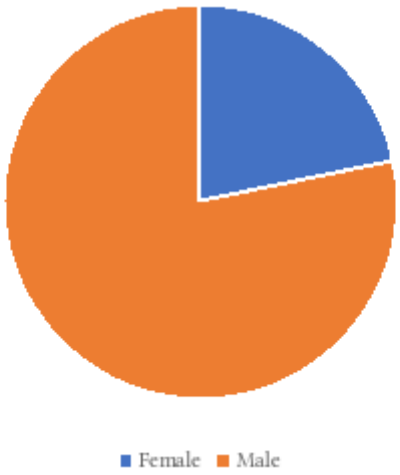
10.18.5 Employment by gender

Gender composition in Romanian aquaculture shows year-to-year fluctuation, which limits the scope for identifying clear structural trends over time. As a result, the most recent year, 2023, provides the most reliable basis for describing the current gender profile of the sector.

In 2023, aquaculture employment remained predominantly male, with 1 295 men compared to 357 women. While female employment in 2023 was slightly higher than in 2017 (+9%), male employment declined more substantially over the same period (-32%), reflecting the broader contraction in total employment rather than a targeted shift in gender balance.

Overall, the 2023 snapshot suggests that, despite some variation over time, no major structural change in gender composition has occurred. Aquaculture in Romania continues to be male dominated, with female participation remaining relatively stable in absolute terms.

Figure 174. Romania: Employment distribution by gender in 2023



Data source: MS data submissions under the 2025 Social Data Call.

10.19 Sweden

10.19.1 Short description of the aquaculture sector

In Sweden, the aquaculture industry is based mostly on the production of rainbow trout in open net cages from which around 80% are set in freshwater environments and the rest in brackish waters or in the ocean. In the marine environment, it is mainly blue mussels that are farmed; and to a lesser extent oysters. Small amounts of crayfish are farmed in various freshwater systems. Blue mussels together with oysters are the second most important aquaculture production in terms of volume. Cage farming in power plant reservoirs accounts for over 95% of the total volume produced. Farming in ponds is decreasing. A few RAS farms breed species such as rainbow trout, perch, pikeperch, sturgeon, tilapia and African catfish (Kiesssling et al. 2024).

The primary and most economically significant species farmed in aquaculture are trout and char. Approximately 85% of the fish farmed in Sweden is rainbow trout, with char in second place. Char is mainly farmed in northern Sweden. In 2022, the production of these species was 10 300 tonnes, generating an estimated sales value of EUR 66 million. However, rainbow trout and char produced in Sweden are exported eastwards, while Sweden instead import farmed salmon from Norway.

Table 338. Production and sales, industry structure and employment for Sweden: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**15.8**	**13.8**	**12.1**	**12.8**	**16.2**	**12.6**	-22%	-11%
Freshwater	13.8	11.8	10.2	10.5	12.7	10.3	-19%	-13%
Shellfish	2.0	2.0	2.0	2.3	3.5	2.3	-32%	0%
Sales value (million €)	**63.1**	**63.5**	**45.2**	**48.6**	**62.2**	**68.8**	11%	22%
Freshwater	61.8	62.9	43.5	46.7	58.6	65.9	12%	20%
Shellfish	1.3	0.6	1.7	1.9	3.5	2.9	-18%	61%
Number of enterprises	**105**	**93**	**85**	**98**	**105**	**91**	-13%	-6%
Freshwater	87	79	71	79	86	78	-9%	-3%
Shellfish	18	14	14	19	19	13	-32%	-23%
Employment	**559**	**478**	**444**	**639**	**531**	**433**	-18%	-18%
Freshwater	487	441	379	561	438	364	-17%	-21%
Shellfish	72	37	65	78	93	69	-26%	0%
FTE	**335**	**284**	**325**	**348**	**237**	**269**	13%	-12%
Freshwater	310	263	268	295	166	226	37%	-13%
Shellfish	26	21	57	53	71	43	-40%	-7%

Source: STECF 24-14.

In 2022, the Swedish aquaculture sector produced 12.6 thousand tonnes of products for both human consumption and for restocking (release in nature or farming). Freshwater aquaculture accounted for 82% of the production while

shellfish accounted for the remaining 18%. Between 2017 and 2022, the annual yields of freshwater aquaculture (trout and char) have decreased while mussels and oysters' production have remained relatively stable, with annual yields oscillating between 2 000 and 3 500 tonnes since 2017 but showing also a decreasing trend after a peak in 2021. Production in 2022 decreased significantly compared to the previous year. Total production of food fish and fry is estimated at just under 10 400 tonnes, which represents a decrease of 18% since 2021. Production is now back at roughly the same levels as in 2019-2020. Production of food fish is estimated at 9 500 tonnes in estimated whole fresh weight, which corresponds to a decrease of 20% or 2 300 tonnes since the previous year. Rainbow trout continues to account for the largest share of food fish production, amounting to 8 100 tonnes, which corresponds to approximately 85% of total food fish production. After rainbow trout, char is the most common food fish, followed by eel and other food fish (salmon and trout, etc.). Mussel production (not counted as edible fish) amounts to just over 2 300 tonnes. Total fish stocking production is estimated at just over 850 tonnes, which is a slight decrease of ten tonnes since the previous year. As with edible fish production, rainbow trout is the most common species but also accounts for approximately 55% of total fish stocking production (Kiessling et al. 2024)

In 2023, total value of the aquaculture production of fish for consumption, including crayfish and mussels, amounted to about SEK 566 million in 2023. The total value of the aquaculture production of fish for stocking amounted to SEK 72 million. The number of persons employed in Swedish aquaculture was estimated at 523 (Jordbruksverket, 2023).

10.19.2 Demographic characteristics in Aquaculture

Employment in Aquaculture

According to the SJV's statistical database, the number of people employed in aquaculture in Sweden was approximately 530 in 2021 (Kiessling et al., 2024). The number of people employed in aquaculture fell to 416 in 2022. This represents a decrease of 22% since the previous year. The statistics also show that the largest number of people are employed by companies that farm fish in cages and that the second largest number of employees (101 people) work at companies that farm fish in tanks, basins and recirculating systems. Furthermore, 86 people are employed by companies that farm mussels or oysters. Thirty-four people are employed by companies that farm fish in ponds, and 34 people are employed by companies with hatcheries and fry facilities. Seven people work in the crustacean segment. Of the total number of people employed, approximately one quarter are entrepreneurs/owners of the businesses where they work (Kiessling et al., .2024).

Demographics of the Workforce

Trends in the characteristics of employees in the Swedish aquaculture sector for the period 2017 to 2023 are reported as follows:

Age

Around 50% of the people employed in Swedish aquaculture are between 40 and 64 years old. This percentage has stayed relatively constant since 2017. A similar trend can be observed for the +65 years cohort which corresponds to around 5% of the workforce. On the other hand, a decrease in the proportion of youngsters (between 15 and 24 years) from around 15% to 5% can be observed since the year 2022.

Table 339. Employment by age in Swedish aquaculture for the period 2017-2023.

Age	2017	2018	2020	2021	2022	2023
≤14	5		0	0	0	0
15-24	63	50	69	70	20	25
25-39	85	108	156	165	133	182
40-64	232	211	242	211	198	252
65+	47	27	25	15	16	29
Total	**432**	**396**	**492**	**461**	**367**	**488**

Data source: MS data submissions under the 2025 Social Data Call

Workforce education

Between 2017 and 2023, around 50% of the people employed in Swedish aquaculture reported to have a medium level education. This percentage was the lowest in 2021 (47%) when both total employment number and the percentage of people with low education level peaked. These numbers show that with a higher demand of workforce, it is low educated people who are hired suggesting a lack of enough trained (high education) people.

Table 340. Employment by education level in Swedish aquaculture for the period 2017-2023**.**

Education	2017	2018	2020	2021	2022	2023
high	99	56	111	120	62	83
low	93	49	147	73	59	37
medium	239	282	254	282	256	310
Total	**431**	**387**	**512**	**475**	**377**	**430**

Data source: MS data submissions under the 2025 Social Data Call

Nationality

The breakdown of employment in the Swedish aquaculture sector by nationalities show that between 90 and 100% of the workforce is Swedish. No correlation exist between larger numbers of people employed and the number of non-Swedish workers (see year 2020).

Table 341. Employment by nationality in Swedish aquaculture for the period 2017-2023**.**

Nationality	2017	2018	2020	2021	2022	2023
EEA	1					
EU	11			15	27	0
EU/EEA			0			
NATIONAL	400	340	426	339	304	304
NON-EU/EEA	19		0	14	7	0
Total	**431**	**340**	**426**	**368**	**338**	**304**

Data Source: MS data submissions under the 2025 Social Data Call

Gender

The workforce is male-dominated. The data reveals a consistent pattern, with the proportion of female employees in Germany's aquaculture sector remaining relatively stable at approximately 36%, indicating no notable changes or trends over time.

Table 342. Employment by gender in Swedish aquaculture for the period 2017-2023.

Gender	2017	2018	2020	2021	2022	2023
female	42	31	134	126	74	100
male	261	266	365	405	309	374
Total	**303**	**297**	**499**	**531**	**383**	**474**

Data source: MS data submissions under the 2025 Social Data Call

Employment by status (owner or employee)

The data show a decrease in the number of owners (of companies) which is also reflected in the slight decrease in production. However, the reduction of companies can be also a result of a slow process of horizontal integration in the industry.

Table 343. Employment by status in Swedish aquaculture for the period 2017-2023.

Employment status	2017	2018	2020	2021	2022	2023
employee			383	368	306	404
owner	162	94	116	129	110	119
unknown	269	281				
Total	**431**	**375**	**499**	**497**	**416**	**523**

Data source: MS data submissions under the 2025 Social Data Call

10.19.3 Social demographics per aquaculture segment

For Sweden, almost 95% of the aquaculture production takes place in cages in power plants reservoirs and the demographics of the workforce reflects the demographics in this segment.

10.19.4 Methodological considerations and data issues

According to Kiessling & Hansen (2024, p. 50), the official statistics available in Sweden are limited and based on surveys sent out to companies annually. According to the Swedish Board of Agriculture, the results contain both systematic and random uncertainties. Statistical users are therefore advised to interpret changes between individual years with caution. The focus should be on long-term trends. Overall, however, the reliability is considered to be relatively good.

10.20 Slovenia

10.20.1 Short description of the aquaculture sector

Aquaculture in Slovenia comprises freshwater aquaculture (cold-water fish farming of salmonids and warm-water fish farming of cyprinids) and mariculture (fish and shellfish farming). Warm-water and cold-water fish farming has been practiced since the end of nineteenth century, while mariculture has a shorter history: it started at the end of the twentieth century. The major species contributing most of the production value in freshwater fish farming are rainbow trout (Oncorhynchus mykiss) and common carp (Cyprinus carpio), whilst in mariculture it is Mediterranean mussel (Mytilus galloprovincialis) and European seabass (Dicentrarchus labrax).

Mariculture practice is traditional. Fish farming takes place in cages submerged into the sea, while mussel farming takes place in a standard manner in lines of floating buoys linked together, with longline nets hung from them. In 2007, three larger areas were designated for marine aquaculture in Slovenian territorial waters that were subsequently separated into 22 plots, for which concessions were granted for the use of marine water in 2009. It is expected that these plots will not be able to expand, due to the use of Slovenian territorial waters for other purposes. Currently, all the concessions for using marine water for the breeding of marine organisms have been granted, two of them for breeding marine fish and 20 for breeding shellfish. The total area for breeding fish at sea (excluding shellfish farming) in 2020 was 5 663 m2 (two plots). The area of the 20 plots at sea that are used for shellfish farming was 45.1 ha.

Due to natural circumstances, the development of marine fish farming in Slovenia is limited. Mariculture takes place in the Bay of Strunjan, the Bay of Debeli rtič (shellfish farming) and in the Bay of Piran (fish and shellfish farming).

DCF data on the Slovenian aquaculture were collected only for the marine fish species and shellfish, so economic data in the report are presented only for marine aquaculture. The data collection of freshwater aquaculture is not mandatory under the DCF and EU-MAP programmes of the EU data collection, therefore, regarding freshwater aquaculture, the data from FAO were used.

The main segments in the Slovenian marine aquaculture sector are Sea bass & Sea bream cages (seg3.6) and Mussel rafts (seg10.9). In 2022 were five companies in Slovenia dealing with shellfish farming, primarily with mussel farming (Mediterranean mussel). The shellfish are farmed using hanging ropes that are attached to rafts. In the same year, there was only one company that was engaged in breeding of fish. A main species for breeding is sea bass. Main farming techniques is breeding in cages. In 2021, the marine aquaculture turnover was EUR 0.8 million, in 2022 the same turnover increased by 83% and amounted EUR 1.5 million. The total sales volume, on the other hand, increase by 7% from 2021 to 2022 and it was 544 tonnes in 2021 and 581 tonnes in 2022. In 2021, the freshwater aquaculture turnover was EUR 5.3 million, in 2022 the same turnover increased by 6% and amounted EUR 5.6 million (FAO data). The total sales volume, on the other hand, decrease by 13% from 2021 to

2022 and it was 1175 tonnes in 2021 and 1022 tonnes in 2022, according to FAO data.

The amount of GVA, EBIT and Net profit generated by the Slovenian aquaculture sector in 2022 was EUR -0.1 million, EUR -1.3 million and EUR -1.4 million respectively. The economic situation regarding turnover in marine aquaculture in Slovenia has improved mainly due to higher purchase prices, which increased after the Covid-19 period. During the pandemic, sales dropped significantly due to the closure of Restaurants and disruptions in supply chains. This recovery in prices has played a key role in stabilizing the sector post-pandemic. The main segments in the Slovenian marine aquaculture sector are Sea bass & Sea bream cages (seg3.6) and Mussel rafts (seg10.9).

Table 344. Production, sales and employment for Slovenia: 2017-2022.

Variable	2017	2018	2019	2020	2021	2022	Change 2021-22	Develop. 2022/(17-21)
Sales weight (thousand tonnes)	**0.7**	**0.7**	**0.8**	**0.6**	**0.5**	**0.6**	7%	-13%
Marine	0.1	0.1	0.1	0.1	0.1	0.1	49%	24%
Freshwater	1.0	1.3	1.2	1.2	1.2	1.0	-13%	-12%
Shellfish	0.7	0.6	0.7	0.4	0.5	0.5	1%	-18%
Sales value (million €)	**1.3**	**1.4**	**1.4**	**1.2**	**0.8**	**1.5**	83%	27%
Marine	0.3	0.4	0.4	0.5	0.3	0.9	195%	146%
Freshwater	3.6	5.2	5.1	4.8	5.3	5.6	6%	17%
Shellfish	1.0	1.0	1.0	0.7	0.5	0.6	15%	-27%
Number of enterprises	**7**	**7**	**6**	**6**	**6**	**6**	0%	-6%
Marine	1	1	1	1	1	1	0%	0%
Shellfish	6	6	5	5	5	5	0%	-7%
Employment	**27**	**29**	**29**	**30**	**30**	**30**	0%	3%
Marine	10	12	12	12	12	13	8%	12%
Shellfish	17	17	17	18	18	17	-6%	-2%
FTE	**23**	**26**	**25**	**26**	**27**	**26**	-4%	2%
Marine	10	12	12	12	11	12	8%	8%
Shellfish	13	14	13	14	15	13	-13%	-3%

Source: EU Member States DCF data submission and FAO data

Demographics characteristics in Aquaculture

10.20.2 Employment in Aquaculture

Total Employment

In 2022, Slovenia had four companies with five or less employees, one company with six to ten employees and also one company with more than ten employees. The status in employment reflects the situation in the aquaculture sector whereby the majority of small family farms operates with self-employed people, mostly one employee. Total employment in 2022 was estimated at 30 jobs, corresponding to 26 FTEs. The level of employment increased between 2017 and 2022, with total employed increasing by 3% while the numbers of

FTEs increase by 2% over the period. Average salary per FTE employees in 2017 was EUR 20.3 thousand. In 2022 average salary per FTE employees increase for approximately 30% regarding 2017 and amounted EUR 26.8 thousand (average Slovenian salary in 2022, amounted to EUR 24 287).

10.20.3 Demographics of the Workforce

Age

The age distribution data for Slovenian marine aquaculture in the years 2017, 2020, and 2023 highlights a clear dominance of older age groups in the sector, with a noticeable absence of younger workers. Throughout the entire period, there were no employees in the 15–24 age group, indicating a lack of interest or entry of young people into this field.

The number of workers aged 25–39 declined over time, from 4 in 2017 to 2 in 2020, and dropped to zero by 2023. This suggests a decreasing involvement of younger adults in marine aquaculture, which may point to issues such as low attractiveness of the profession or limited recruitment.

In contrast, the 40–64 age group consistently made up the majority of the workforce. Their number increased from 22 in 2017 to 28 in 2020, and then slightly decreased to 26 in 2023, but still remained dominant. This trend underscores a heavy reliance on middle-aged workers in the industry. The oldest age group, 65 and over, was represented only in 2017 with one worker, and none were recorded in the following years. Overall, the data suggests an aging workforce in Slovenian marine aquaculture, with little to no generational renewal. The lack of younger workers could pose long-term sustainability challenges for the sector if not addressed.

10.20.4 Workforce education and training

Between 2017 and 2023, Slovenian marine aquaculture was dominated by workers with medium education, though their numbers declined from 18 in 2017 to 13 in 2023. In contrast, the number of workers with low education rose from 6 to 9, especially in the last recorded year. Highly educated workers remained the smallest group throughout, with a slight increase from 3 in 2017 to 5 in 2020, then a small drop to 4 in 2023. Overall, the sector relies mainly on medium-educated workers, with a growing share of those with lower education and limited involvement of highly educated professionals.

Nationality

The data on nationality in Slovenian marine aquaculture from 2017 to 2023 shows that the workforce has been predominantly composed of Slovenian nationals. Their numbers peaked at 27 in 2020 and slightly declined to 22 in 2023. Workers from other EU countries were present in small numbers in 2017 and 2020 (2 and 3 respectively), but none were recorded in 2023. Meanwhile,

2023 saw the first inclusion of workers from non-EU/EEA countries, with 4 employed. This shift suggests a gradual diversification of the workforce, with a growing reliance on non-EU labour in recent years.

10.20.5 Gender

The data on gender representation in Slovenian marine aquaculture for the years 2017, 2020, and 2023 reveals a consistent gender imbalance, with men significantly outnumbering women throughout the observed period. In 2017, there were 9 women and 18 men employed in this sector. By 2020, the number of women increased slightly to 11, while the number of men also rose to 19. However, by 2023, the number of women decreased to 8, whereas the number of men remained relatively stable at 18. This trend shows that while there was a brief increase in female participation in 2020, it did not sustain, and female representation declined again by 2023. On the other hand, male employment in marine aquaculture remained consistently high across all three years. Overall, the data suggests that Slovenian marine aquaculture remains a male-dominated field, with no clear long-term progress toward gender balance during this period.

FTE by gender

In Slovenian marine aquaculture, Full-Time Equivalent (FTE) figures by gender show that men consistently hold a larger share of full-time work. From 2017 to 2023, male FTEs remained relatively stable, around 15 to 16. In contrast, female FTEs were much lower, starting at 7.8 in 2017, increasing slightly to 9.7 in 2020, then decreasing again to 6.8 in 2023. This highlights a persistent gender gap in full-time employment within the sector, with men maintaining a stronger presence in full-time roles compared to women.

10.20.6 Social demographics per aquaculture segment

Although Slovenian marine aquaculture includes two sectors, Sea bass & Sea bream cages (seg3.6) and Mussel rafts (seg10.9), the data for these segments are combined due to confidentiality concerns. Specifically, segment 3.6 consists of only one entity, which makes it impossible to present separate statistics without revealing sensitive information. As a result, the demographic and gender data presented in sections above apply to the entire Slovenian marine aquaculture sector as a whole, rather than to each segment individually.

10.20.7 Methodological considerations and data issues

DCF data were collected only for the marine fish species. Regards to the data base “The central register of aquaculture and commercial ponds” from MAFF, in 2023, there were five operators in Slovenia dealing with shellfish farming and one subject that was engaged in breeding of fish. The data for the operators

mentioned were collected from multiple sources (The Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES), questionnaire, MAFF)), allowing for cross checking. The accounting data, which are collected by the AJPES public agency, are already checked and verified. The data were collected for all six subjects.

In June 2024 the questionnaires for 2023 were sent to all operators and all of them also returned the questionnaire. Therefore, the response was 100%. Economic and social data on the aquaculture sector were collected from accounting records – AJPES and through questionnaires. The national program for collection of economic data for the aquaculture sector combines information from three main resources:

1. Questionnaire information returned from the aquaculture sector on a voluntary basis,

2. Data base: ‘The central register of aquaculture and commercial ponds’ from MAFF,

3. The annual accounts of business enterprises.

The data collected from all sources are combined in such a way that a complete set of accounting items is compared for each business enterprise. In cases where a questionnaire, as the only source, was used the response rate was 100%. In cases where the data from annual accounts of business enterprises was used the response rate was also 100%, because we have economic reports for all investigated companies. In case of Slovenian data, there are differences between Eurostat/FAO and DCF data. The difference is because the Eurostat data also contain data from freshwater aquaculture and also because of better coverage of DCF data for marine sector.

11. PROCESSING

11.1 Belgium

11.1.1 Short description of the processing sector

In 2020, the fish processing industry in Belgium consisted of about 65 enterprises with fish processing as their main activity, and of 143 seafood companies exerting fish processing not as main activity. The total turnover for the 64 main enterprises was estimated at around EUR 941 million, employing a total of 1 395 people (1 350 full-time equivalents, FTE). Activity of the Belgian fish processing industry includes the production of fresh and frozen fillets, smoked fish (salmon, halibut, haring, rainbow trout and others), pickled seafood and prepared dishes. For 2021, preliminary figures indicate that the number of fishing industries with main activity, compared to 2020, declined slightly to 64, but with a slight increase of turnover (EUR 951 million). The segment of companies with ≥ 250 employees increased in 2020 to 4, compared to 1 in the previous years (2016-20219). From the preliminary numbers, this segment decreases in 2021 to 1 company (REF from Economic Report on the EU Fish Processing Industry, 2024).

Table 345. Overview, Belgium, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021*	Δ (2019-20)
Structure (number)										
Total enterprises	60	66	66	62	65	66	65	65	64	0%
≤ 10 employees	37	38	37	35	36	37	35	35	34	0%
11-49 employees	19	24	26	23	24	24	25	25	23	0%
50-249 employees	4	4	3	3	4	4	4	4	6	0%
≥ 250 employees	0	0	0	1	1	1	1	4	1	300%
Employment (number)										
Total employees	1,489	1,487	1,529	1,469	1,369	1,424	1,426	1,395	1,328	-2%
FTE	1,385	1,377	1,423	1,373	1,269	1,335	1,378	1,350	1,315	-2%
Indicators										
Turnover (million €)	660	701	710	762	866	953	961	941	951	-2%
FTE per enterprise	23.1	20.9	21.6	22.2	19.5	20.2	21.2	20.8	20.5	-2%
Average wage (thousand €)	42.3	44.4	42.7	42.8	49.0	48.7	46.8	46.9	51.0	0%
Unpaid work (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%
Enterprises doing fish processing not as main activity										
Number of entreprises	194	195	193	218	181	180	148	143	172	-3%
Turnover attributed to fish processing (million €)										

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.

2021*: The data for 2021 are preliminary and not taken into account for the trend calculations.

Δ (2019-2020)*: The trends in the evolution is between 2020 and 2019, as the data for 2021 are preliminary.

Demographics characteristics in Processing

11.1.2 Employment in Processing

Total Employment

Total employment in the processing industry varied since 2018 around 2000 people, with the highest employment in 2023 (Table 347). In 2016 and 2017, employment was remarkably lower. However, the reason for these differences

are unclear. Note that these numbers deviate from the numbers reported in the Economic Report on the EU Fish processing Industry (2024). It is unclear for EWG25-13 what the reason is for these deviations.

Note that in 2022, no companies were reported in the category ≥250 employees. The EWG notes that such company was present in the data in 2021 and 2023, and that it is likely that data of this company is missing. If this is the case, this could explain the drop in employment in 2022.

Table 346. Belgium: Total employment in the fish processing industry.

	2016	2017	2018	2019	2020	2021	2022	2023
employment	1439	1277	1955	1998	2013	2166	1885	2227

Full-Time Equivalent

The number of FTEs is close to the total employment, and exceeds the total employment in 2021. The numbers vary around 2000 FTEs with the lowest number reported in 2022 and the highest in 2023. The numbers deviate from the numbers reported in the Economic Report on the EU Fish processing Industry (2024). It is unclear for EWG25-13 what the reason is for these deviations.

Table 347. Belgium: Employment expressed as FTEs in the fish processing industry.

	2018	2019	2020	2021	2022	2023
FTEs	1942.5	1986.7	2011.6	2185.3	1864.4	2101.9

11.1.3 Demographics of the Workforce

Age

No information on age was available.

11.1.4 Workforce education and training

Education

The majority of the workforce in the fish processing industry has a medium education level (57%-60%), followed by a low education level and a high education level. From 2018 until 2022, the relative share of the education level in the workforce was relatively constant. In 2023, there appeared to be a shift from the low to the high education level.

Table 348. Employment by education level and year. Percentage education level in each year is given between brackets. No data was available for 2017.

education	2018	2019	2020	2021	2022	2023
high	172 (9%)	188 (9%)	206 (10%)	208 (10%)	181 (10%)	360 (16%)
medium	1133 (58%)	1130 (57%)	1195 (59%)	1301 (60%)	1068 (57%)	1261 (57%)
low	650 (33%)	680 (34%)	612 (30%)	657 (30%)	636 (34%)	606 (27%)

Nationality

No information on nationality was available.

11.1.5 Gender

Women represented about 34% to 39% of the workforce over the period 2016-2023. The numbers are quite stable over time, however, a slight decline can be denoted over the last 3 years.

Table 349. Belgium: Employment by gender. Relative percentages by year are given between brackets.

gender	2016	2017	2018	2019	2020	2021	2022	2023
female	539 (37%)	497.3 (39%)	733 (37%)	748 (37%)	758 (38%)	789 (36%)	665 (35%)	758 (34%)
male	788 (55%)	761 (60%)	1222 (63%)	1250 (63%)	1255 (62%)	1377 (64%)	1220 (65%)	1469 (66%)
unknown	112 (8%)	19 (1%)						

11.1.6 Social demographics per processing segment (choose the one applicable)

Employment is highest in the size category 11-49, followed by the category 50-250, ≥250 and ≤10. Male workers dominate in each of the size categories, and there is a higher share of women with a high education level in the company size of 11-49 and 50-250, compared to male workers.

Table 350. Social demographics disaggregated by company size.

Company size category	gender	education	2017	2018	2019	2020	2021	2022	2023
≤10	female	high		0	0	2	2	1	2
		low		12	4	6	7	8	12
		medium		12	16	16	14	16	11
		(blank)	25.1						
	male	high		0	1	1	0	1	3
		low		47	31	24	31	28	33
		medium		39	34	26	28	36	29
		(blank)	77.9						
	unknown	(blank)	19						
11-49	female	high		68	76	79	81	88	81
		low		99	104	90	94	120	117
		medium		257	263	277	294	274	281
		(blank)	196.8						
	male	high		30	30	32	35	45	132
		low		268	291	251	297	358	297
		medium		485	502	554	615	581	598
		(blank)	339.5						
	unknown	(blank)	0						
50-249	female	(blank)	149.5						
	male	(blank)	168.2						
	unknown	(blank)	0						
50-250	female	high		23	23	23	26	28	28
		low		82	94	93	100	66	58
		medium		55	45	45	49	64	54
	male	high		6	7	7	7	18	26
		low		87	102	96	80	56	51
		medium		88	75	78	101	97	99
≥250	female	high		20	26	30	30		33
		low		23	18	19	15		13
		medium		82	79	78	77		68
		(blank)	125.9						
	male	high		25	25	32	27		55
		low		32	36	33	33		25
		medium		115	116	121	123		121
		(blank)	175.4						
	unknown	(blank)	0						
Grand Total			1277.3	1955	1998	2013	2166	1885	2227

11.1.7 Methodological considerations and data issues

Data source used for the DCF Social Data Call

The Belgian data collected on the processing industry is based on a census approach. This approach is preferred due to the variability of activities withing the processing industry and the fact that there are still unknown elements. According to the WP, the main data sources include the annual financial accounts and the questionnaires to collect additional information. The MS notes that the list of fish processing companies has recently been updated. Further, a lack of respondence to the questionnaires has been reported, especially for small sized enterprises.

Data quality issues related to your MS

Missing variables include age and nationality of the workforce.

11.2 Bulgaria

11.2.1 Short description of the processing sector

The growth of the Bulgarian processing sector continues and in 2021, the number of registered enterprises grew up to 70. In 2021, the number of enterprises increased by 9% compared to 2020 and by 27% compared to 2019. All of the enterprises are processing fish as their main activity. Based on the number of employees the units from the Bulgarian fish processing sector are in the three categories – less than 10 employees, 11-49 employees and 50-249 employees. For the period 2008-2021, there were no enterprises with more than 250 employees. The total number of employees in 2021 increased by 17% compared to 2020 and 16% compared to 2019. Compared to the period 2008-2020 the total number of employees in 2020 increased by 39%. In 2021, FTEs also increased by 11% compared to 2020 and 9% compared to 2019, probably because of the general increase of the processing sector in the country for the last two years. The average wage in 2021 reached EUR 6.2 thousand and compared to 2020 increased by 5%. The wages in the last three years are almost stable compared to the period 2008-2018 and after the small decrease in 2020 compared to 2019 the average wage in 2021 increased by 51% compared to the period 2008-2020. In 2021, the turnover and total income respectively continued the growth from last two years and compared to the period 2008-2018, the increase is almost twice higher than to the comparison with the years before 2019. The structure of the costs remains the same for all years – the largest proportion is for the purchase of fish and other raw materials, followed by other operational costs and wages and salaries of staff. (Economic Report on the EU Fish Processing Industry (STECF 23-14), 2024).

Table 351. Overview, Bulgaria, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	46	44	45	45	46	49	55	64	70	9%
≤ 10 employees	12	10	11	11	14	18	17	25	31	24%
11-49 employees	22	22	24	24	20	20	25	29	25	-14%
50-249 employees	12	12	10	10	12	11	13	10	14	40%
≥ 250 employees	0	0	0	0	0	0	0	0	0	0%
Employment (number)										
Total employees	1,725	1,879	1,907	1,904	1,756	1,715	2,177	2,161	2,534	17%
FTE	1,653	1,744	1,671	1,618	1,490	1,427	1,814	1,773	1,975	11%
Indicators										
Turnover (million €)	64	69	85	78	85	83	122	116	133	15%
FTE per enterprise	35.9	39.6	37.1	36.0	32.4	29.1	33.0	27.7	28.2	2%
Average wage (thousand €)	3.1	3.1	4.2	4.5	5.8	5.3	6.2	5.9	6.2	5%
Unpaid work (%)	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72%
Enterprises doing fish processing not as main activity										
Number of entreprises	0	0	0	0	0	0	0	0	0	0%
Turnover attributed to fish processing (million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.

The collection of social indicators for the Bulgarian processing sector started in 2017. The provided data during the 2025 data call covered the whore period. The variables are included in the annual economic survey, which gave the opportunity of collecting Census data. All of the mandatory variables – gender, age, nationality, education and employment status were collected at enterprise level, so they were available also by size categories.

Demographics characteristics in Processing

11.2.2 Employment in Processing

Total Employment

Total employment in the fish processing industry has shown a generally increasing trend from 2017 to 2023. Starting at 1 756 employees in 2017, the number rose significantly to a peak of 2 534 in 2021. Although there was a slight decline in the following years, employment remained relatively high, with 2 290 people working in the sector in 2023. This overall growth suggests a stable and expanding processing industry, likely driven by increased production, export opportunities, or investment in processing capacity.

Table 352. Bulgaria: Total employment

	2017	2018	2019	2020	2021	2022	2023
Total employment	1 756	1 715	2 177	2 161	2 534	2 384	2 290

Full-Time Equivalent

The Full-Time Equivalent employment data in Bulgaria's fish processing industry from 2017 to 2023 indicates a steady overall increase, reflecting sectoral growth and possibly improved production capacity or market demand. Total FTE rose from 1 492 in 2017 to 2 125 in 2023, marking an increase of over 600 FTEs during the period. Throughout these years, women consistently represented the majority of the workforce in FTE terms. In 2023, for example, female FTEs accounted for approximately 58% of total employment (1 230 out of 2 125), highlighting the significant role of women in the fish processing sector. This gender distribution has remained relatively stable.

Table 353. Bulgaria: FTE employment

gender	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
female	868	847	1 039	1 018	1 118	1 153	1 229
male	625.	580	777	755	857	916	896
Grand Total	**1 493**	**1 428**	**1 816**	**1 773**	**1 975**	**2 070**	**2 125**

Data source: MS data submissions under the 2025 Social Data Call

11.2.3 Demographics of the Workforce

Age

The distribution of employment in the fish processing industry in Bulgaria by age group from 2017 to 2023 reveals several key trends related to workforce demographics and generational shifts.

In the earlier years (2017–2019), the age group 40–64 was reported as a single category and consistently represented the largest portion of the workforce—937 employees in both 2017 and 2018, increasing to 1 208 in 2019. Starting in 2020, following improved data collection aligned with EU recommendations, this broad group was separated into 40–54 and 55–64 age classes. The data show that the 40–54 group continues to hold the highest share, peaking at 1 050 in 2022 and slightly declining to 948 in 2023. The 55–64 group also shows a gradual increase, reaching 469 in 2022 and slightly decreasing to 414 in 2023, indicating an aging workforce that is remaining active in the sector.

The 25–39 age group has maintained a stable and significant presence throughout the years, ranging between 595 and 868 employees, suggesting that mid-career individuals form a key part of the labor force. Meanwhile, the 15–24 age group, although relatively small, showed a notable spike in 2021 (337 employees), possibly due to seasonal hiring, short-term contracts, or targeted youth employment initiatives, but declined again in subsequent years.

The 65 and older age group remains small, with slight fluctuations, reaching 100 employees in 2023. This reflects limited but ongoing participation of older workers, possibly in part-time or supervisory roles.

Overall, the data indicate that the fish processing sector relies heavily on workers aged 40–54, with a noticeable but smaller presence of younger and older employees. The gradual aging of the workforce highlights the importance of attracting and retaining younger workers to ensure long-term sustainability of labour in the sector.

Table 354. Bulgaria: Employment is processing by age

age	2017	2018	2019	2020	2021	2022	2023
15-24	83	85	93	155	337	141	163
25-39	689	595	799	667	868	645	665
40-54				977	864	1050	948
40-64	937	937	1208				
55-64				307	376	469	414
>=65	47	98	77	55	89	79	100
Grand Total	**1 756**	**1 715**	**2 177**	**2 161**	**2 534**	**2 384**	**2 290**

Data source: MS data submissions under the 2025 Social Data Call

11.2.4 Workforce education and training

Education

Employment data based on education levels in the fish processing industry from 2017 to 2023 highlights a clear dominance of workers with medium-level education. Their number has steadily increased from 937 in 2017 to 1 390 in 2023, indicating the sector's reliance on vocationally trained staff. At the same time, the number of employees with higher education has also grown—from 169 in 2017 to 261 in 2023—suggesting a rising demand for more qualified professionals. Although workers with low education still represent a part of the workforce, their share has gradually declined in recent years. This shift may be due to both evolving industry needs and better access to education. Various high schools, vocational schools and universities across Bulgaria offer specialized programs in the field of food and beverage processing, helping to develop a skilled workforce tailored to the sector's demands.

Table 355. Bulgaria: Employment by Education Level

	2017	2018	2019	2020	2021	2022	2023
high	169	142	205	186	220	270	261
medium	937	1 020	1 084	1 140	1 231	1 397	1 390
low	650	553	888	835	1 083	717	639

Data source: MS data submissions under the 2025 Social Data Call

Nationality

As in the other two sectors (fisheries and aquaculture), the fish processing industry in Bulgaria is predominantly composed by workers of Bulgarian nationality. Throughout the period from 2017 to 2023, they consistently represent the vast majority of employees—2 206 out of 2 290 in 2023, for example. While employment of EU and EEA nationals remains minimal, a notable development is the recent increase in workers from non-EU/EEA countries. In 2023, their number rose to 63, marking the beginning of a trend toward hiring third-country nationals. This shift is supported by the emergence of specialized agencies in Bulgaria that offer services for recruiting and hiring workers from non-EU countries, both for seasonal work and full-time year-round employment.

Table 356. Bulgaria: Employment by Nationality

nationality	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
NATIONAL	1 754	1 713	2 097	2 158	2 527	2 370	2 206
EU	2	2	80	3	4	2	21
EEA	0	0	0	0	0	9	0
NON-EU/EEA	0	0	0	0	3	3	63
Total	**1 756**	**1 715**	**2 177**	**2 161**	**2 534**	**2 384**	**2 290**

Data source: MS data submissions under the 2025 Social Data Call

11.2.5 Gender

Employment in the fish processing sector shows a clear predominance of women throughout the period 2017–2023. Female employment consistently accounts for around 60% of the total workforce, reflecting the traditionally higher participation of women in processing activities. The total number of employees increased overall from 1 756 in 2017 to 2 290 in 2023, despite some year-to-year fluctuations. The most notable growth occurred between 2019 and 2021, when total employment rose sharply, mainly driven by an increase in female workers. After peaking in 2021, employment slightly declined in 2022–2023, stabilizing at levels still well above those observed at the beginning of the period.

Table 357. Bulgaria: Employment by gender

gender	2017	2018	2019	2020	2021	2022	2023
female	1 044	1 057	1 321	1 328	1 533	1 377	1 343
male	712	658	856	833	1 001	1 007	947
Grand Total	**1 756**	**1 715**	**2 177**	**2 161**	**2 534**	**2 384**	**2 290**

Data source: MS data submissions under the 2025 Social Data Call

11.2.6 Social demographics per processing segment

Employment by enterprise size in the fish processing sector shows that the majority of workers are employed in medium-sized enterprises (50–249 employees), which consistently account for the largest share of total employment during 2017–2023. Women represent the dominant share across all enterprise size categories, particularly in medium-sized companies, where their number almost doubles that of men. The smallest enterprises (≤10 employees) show the lowest employment levels but a slight upward trend for both genders toward 2023, while employment in small (11–49) and medium enterprises fluctuates over time, peaking around 2021 and slightly declining afterward.

Regarding the age distribution, employment is concentrated in the 25–54 and 40–64 age classes across all enterprise sizes, reflecting a mature workforce profile. The youngest age groups (≤14 and 15–24) account for a marginal share, though a slight increase is observed in the 15–24 category in recent years, especially in larger enterprises. The share of older workers (≥65) remains low but relatively stable. Overall, the data show that fish processing employment is dominated by experienced middle-aged workers, with medium-sized enterprises playing a key role in sustaining sectoral employment.

Table 358. Bulgaria: Enterprise size in fishing processing sector by age and gender

		2017	2018	2019	2020	2021	2022	2023
≤ 10	female	28	37	43	54	50	42	64
	male	19	28	32	59	79	62	68
11-49	female	318	321	401	445	354	307	281
	male	243	229	335	349	284	325	299
50-249	female	698	699	877	829	1 129	1 028	998
	male	450	401	489	425	638	620	580

Data source: MS data submissions under the 2025 Social Data Call

Table 359. Bulgaria: Enterprise size in fishing processing sector by year

size_category	age	2017	2018	2019	2020	2021	2022	2023
≤ 10	<=14							
≤ 10	>=65	1	3	7	5	12	4	10
≤ 10	15-24	0	1	0	5	5	2	5
≤ 10	25-39	20	32	26	23	30	32	50
≤ 10	40-54				60	67	56	53
≤ 10	40-64	26	29	42				
≤ 10	55-64				20	15	10	14
11-49	<=14							
11-49	>=65	9	8	19	24	25	22	31
11-49	15-24	25	20	22	63	40	36	35
11-49	25-39	224	221	267	268	171	178	151
11-49	40-54				334	289	296	265
11-49	40-64	303	301	428				
11-49	55-64				105	113	100	98
50-249	<=14							
50-249	>=65	37	87	51	26	52	53	59
50-249	15-24	58	64	71	87	292	103	123
50-249	25-39	445	342	506	376	667	435	464
50-249	40-54				583	508	698	630
50-249	40-64	608	607	738				
50-249	55-64				182	248	359	302

Data source: MS data submissions under the 2025 Social Data Call

11.2.7 Methodological considerations and data issues

Data source used for the DCF Social Data Call

The data used for the DCF Social Data Call are collected through an annual survey conducted by the Executive Agency for Fisheries and Aquaculture (EAFA). Each year, the Executive Director of EAFA approves the content and type of questionnaire, which is prepared by the relevant data collection experts. The questionnaire is updated annually in accordance with recommendations agreed at the regional level and/or the needs of end-users.

The survey questionnaire is made publicly available on the EAFA website, while printed copies are distributed to all regional offices. Each inspector from the agency also possesses a copy of the questionnaire to facilitate data collection. The questionnaire can be completed manually by the enterprise owner or their representative (e.g. accountant) in the presence of a trained EAFA employee familiar with the economic and social indicators, or it can be submitted electronically via email or by post. Upon completion, the questionnaire is entered into the electronic record-keeping system of the agency, where it is assigned a unique identification number. The finalized dataset is the official source of social data for the DCF Social Data Call.

Data quality issues related to your MS

There are no data quality issues related to the data provided by Bulgaria.

All questionnaires go through a two-step verification process carried out by EAFA staff. The first check is done by the employee who receives the questionnaire and focuses on whether all sections are filled in and if the figures appear realistic. The second check is performed by the person entering the data into the database, who also reviews the internal consistency of the information – for example, the relationship between production volume, number of employees, and income. If any inconsistency or value that does not correspond to the enterprise’s profile is found, the enterprise owner is contacted for clarification. In cases where no reasonable explanation can be given, the data must be corrected. Since each enterprise fills in only one questionnaire per year, the risk of double counting, duplication, or respondent error is minimal. Upload errors are also ruled out, as scanned copies of the questionnaires are uploaded directly into the agency’s document management system. Finally, after data entry, another expert reviews the records to correct possible typos or minor inconsistencies.

11.3 Germany

11.3.1 Short description of the processing sector

In contrast to the relatively small size of the German fleet within the European context, the German processing industry holds a more prominent position in the EU, ranking fifth in terms of processing volume. In certain key sub-segments, such as fish finger production, Germany is of global significance. Geographically, the highest turnover and employment in processing are concentrated along the North Sea coast: in Bremerhaven, three of the five largest employers operate in fish processing, and in Cuxhaven, fish processing represents one of the main economic sectors. In 2021, the German processing sector comprised 210 enterprises for which fish processing was the primary activity. The segment with the highest number of enterprises—those with up to 10 employees—accounted for only 2% of the industry's turnover. In contrast, the small number of large enterprises with more than 250 employees (7 enterprises) accounted for 47% of total employment and 60% of the sector's turnover. (REF from Economic Report on the EU Fish Processing Industry, 2024).

Table 360. Overview, Germany, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	253	258	248	247	244	223	210	208	210	1%
≤ 10 employees	176	178	164	157	154	137	118	108	112	4%
11-49 employees	54	56	54	60	61	59	65	73	71	-3%
50-249 employees	15	16	22	23	22	20	20	22	20	-9%
≥ 250 employees	8	8	8	7	7	7	7	5	7	40%
Employment (number)										
Total employees	6,751	6,561	6,665	6,255	6,141	6,653	6,633	6,095	6,143	1%
FTE	6,476	6,251	6,373	5,876	5,885	6,324	6,305	5,509	5,556	1%
Indicators										0%
Turnover (million €)	2,060	1,983	2,091	2,080	2,173	2,130	2,196	2,309	1,906	-17%
FTE per enterprise	25.6	24.2	25.7	23.8	24.1	28.4	30.0	26.5	26.5	0%
Average wage (thousand €)	36.0	38.4	37.6	39.7	40.8	40.4	41.5	48.2	48.5	0%
Unpaid work (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%
Enterprises doing fish processing not as main activity										
Number of entreprises								202	202	0%
Turnover attributed to fish processing (million €)								361.5	307.7	-15%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.

Given the structure of the industry and the fact that, under the Structural Business Statistics Regulation, data are collected only for enterprises with 20 or more employees, Germany reports economic data solely for the aggregated segment comprising enterprises of this size and above (REF from Economic Report on the EU Fish Processing Industry, 2024).

In 2022, according to the Federal Statistical Office, 55 German companies with 20 or more employees were primarily engaged in fish processing. These enterprises employed 6 320 people and generated revenues of EUR 2.6 billion.

Between 2019 and 2023, they produced an average of 405 kt of fisheries and aquaculture products annually, valued at approximately EUR 2.2 billion. Over this period, production volume declined by 7%. Fish fingers accounted for around 52% of total output, followed by prepared herring (canned and marinated) at 12%, the latter showing a marked 33% decrease in production weight (Barz et al., 2025). Since the beginning of the series, the total number of processing enterprises in Germany has declined by 25%. The number of firms with more than 250 employees has remained stable in recent years, except in 2020, when it decreased by 5%. In absolute terms, the decline was most pronounced among microenterprises, which lost a total of 79 enterprises since the start of the series. (REF from Economic Report on the EU Fish Processing Industry, 2024).

11.3.2 Demographics characteristics in Processing

Please note that the DCF social data is from 2023 instead of from the reference year 2022.

Table 361. Germany: Demographics characteristics in Processing

	2023
Gender	
female	2 552
male	3 164
Education	
high	452
medium	2 741
low	2 523
Nationality	
NATIONAL	3 715
EU	1 339
EEA	4
NON-EU/EEA	658
Age	
≤14	2
0-15	0
15-24	276
25-39	1 745
40-54	1 690
40-64	0
55-64	1 684
65+	319

11.3.3 Employment in Processing

Total Employment

Table 362. Germany: Total employment

2017	2020	2023	Trend 2017-2023
6 141	7 332	5 716	-7%

Full-Time Equivalent

Table 363. Germany: Full-Time Equivalent

	2020	2023
female	3 012	2 251
male	3 796	3 066

There is no data available for 2017.

11.3.4 Demographics of the Workforce

Age

Table 364. Germany: Total employment by age

	2017	2020	2023
≤14	0	0	2
0-15	0	0	0
15-24	466	378	276
25-39	1 790	2 321	1 745
40-54	0	0	1 690
40-64	3 763	4 499	0
55-64	0	0	1 684
65+	122	134	319

11.3.5 Workforce education and training

Education

In 2023 almost half of workers (48%) in processing did an apprenticeship or graduated from high school, their education level is categorized as “medium”. Another 44% obtained a secondary education or no qualification, shown as “low” education. The remaining 8% have a “high” education level, which includes university studies, and also professional qualifications. It is noticeable that the education level in general is following a downward trend, with high educated workers in the sector strongly declining and at the same time, the number of employees with a low formal education almost doubled.

Table 365. Germany: Education

	2017		2020		2023	
high	3 404	55%	797	11%	452	8%
medium	1 259	21%	4 070	56%	2 741	48%
low	1 478	24%	2 465	33%	2 523	44%

Nationality

Table 366. Germany: Nationality

	2017	2020	2023
NATIONAL	5152	5284	3715
EU	1 049	1 338	1 339
EEA	3	5	4
NON-EU/EEA	572	705	658

11.3.6 Gender

Table 367. Germany: Gender

	2017	2020	2023
female	2 624	3 416	2 552
male	3 517	3 916	3 164

11.3.7 Social demographics per processing segment

Germany has not provided the data by segment.

11.3.8 Methodological considerations and data issues

Germany has not provided data on processing by segment. If that should be included in the future, the data needs to be collected.

11.4 Denmark

11.4.1 Short description of the processing sector

According to data submitted under the EU Data Collection Framework, the Danish fish processing sector consisted of 90 enterprises in 2021. Over time the number of enterprises in Denmark decreased with 23% from 117 in 2008. The sector is dominated by small and middle-sized enterprises, with 46% of the companies having less than 10 employees. There are no large-scale (≤250 employees) companies in Denmark. In total, the Danish fish processing sector employed 3 196 persons in 2021, corresponding to 2 638 full time equivalents (FTEs). From 2008 to 2021, the numbers employed decreased by 27%.

Turnover was 2.3 billion in 2021 which was an increase of 1% with 2020, but a 9% decrease compared to 2019. Economic performance in the Danish fish processing industry showed variability over the period 2013–2021, fluctuating between the 2.2 (2013) and 2.7 (2016) billion euro's. Average wage was highest in 2019, but came slightly down to 69.2 thousand Euro in 2021.

Table 368. Processing overview, Denmark, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	103	100	108	100	99	97	92	91	90	-1%
≤ 10 employees	53	47	54	48	45	43	42	40	41	2%
11-49 employees	29	28	31	29	32	32	31	31	30	-3%
50-249 employees	21	25	23	23	22	22	19	20	19	-5%
≥ 250 employees	0	0	0	0	0	0	0	0	0	0%
Employment (number)										0%
Total employees	3,453	3,613	3,614	3,761	3,757	3,731	3,510	3,220	3,196	-1%
FTE	3,039	3,028	3,054	3,212	3,153	3,083	2,832	2,707	2,638	-3%
Indicators										0%
Turnover (million €)	2,230	2,269	2,489	2,726	2,610	2,549	2,503	2,319	2,347	1%
FTE per enterprise	29.5	30.3	28.3	32.1	31.8	31.8	30.8	29.7	29.3	-1%
Average wage (thousand €)	61.3	62.9	65.6	63.1	65.0	66.7	70.0	69.7	69.2	-1%
Unpaid work (%)	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	3%
Enterprises doing fish processing not as main activity										0%
Number of entreprises	5	4	5	7	6	5	4	4	5	25%
Turnover attributed to fish processing (million €)										0%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG (STECF 23-14).

Demographics characteristics in Processing

11.4.2 Employment in Processing

Total Employment

Total employment in the Danish fish processing sector declined over the period 2018–2022, yet increased again in 2023. Employment fell from 3 731 persons in 2018 to 3 064 in 2023, representing an overall decrease of 17%. Yet 2023 did show an increase of 133 people compared to 2022.

Table 369. Denmark: Total employment in the fish processing industry

	2018	2019	2020	2021	2022	2023	% Δ 2023-2018
Total employment	3731	3510	3220	3196	2931	3064	-17%

There was no data available by FTE.

11.4.3 Demographics of the Workforce

Age

Overall decrease of employees (between 2018 and 2023) was relatively evenly spread between the different age cohorts (between 23 and 17%). Notable exception being the oldest age category which showed an increase. Over time the nr of people in the above 65 year category increased slowly, between 2018 it increased with 38%.

Age-disaggregated employment data for the Danish fish processing sector show that the increase of employment between 2022 and 2023 was mainly visible in the 15-24 (66 people) and the 40-64 (64) cohorts.

In general employment is concentrated in the 40-64 age category. In 2023 this accounted for the largest share of workers with 60% (1846 persons). Employees aged 25–39 represented the second largest group (804 persons), followed by the younger workers aged 15–24 (298 persons), with another 116 people aged ≥65.

Table 370. Denmark: Total Employment by Age

Age	2018	2019	2020	2021	2022	2023	**% Δ 2023-2018**
15-24	361	285	216	232	232	298	-17%
25-39	1053	1015	884	854	807	804	-23%
40-64	2234	2126	2044	1999	1782	1846	-17%
≥65	84	83	77	111	110	116	38%

Education

Most people working in processing in Denmark have a medium level education. Comparing the percentage of people with a high level of education between 2018 (20%) and 2023 (22%) we see a slight increase. And for a low level this is the opposite trend: 2018 (32%) and 2023 (27%). This change is visible in the %Δ which is higher for low (29%) than for high (9%), with medium in between. Thus overall the educational level is increasing. Data uncertainties are on the rise however, with 204 unknowns in 2023, compared to 77 in 2018.

Table 371. Denmark: Employment by Education Level

Education level	2018	2019	2020	2021	2022	2023	% Δ 2023-2018
high	763	706	689	703	683	688	-9%
medium	1695	1598	1429	1407	1296	1323	-21%
low	1196	1120	1013	985	864	849	-29%
unknown	77	86	89	102	88	204	+164%

Nationality

Most people working in processing in Denmark have the Danish nationality – 59% in 2023. Looking at the long term trend, this share is declining with 30% between 2018 and 2023. As this also reflects the total decline of the workforce, we can look at the share of nationals in the workforce in 2018 we see that this was 69%. The share on non-EU/EEA employees is on the rise, with 29% between 2018 and 2023.

Table 372. Denmark: Employment by Nationality

Nationality	2018	2019	2020	2021	2022	2023	% Δ 2023-2018
NATIONAL	2607	2444	2226	2188	1846	1799	-30%
EU	676	655	603	610	636	707	4%
EEA	28	26	21	25	20	19	-32%
NON-EU/EEA	419	384	369	374	429	539	29%

11.4.4 Gender

In 2023 the workforce is relatively in balance with 1441 women (47%) and 1623 men (53%). The percentage of women in the workforce declined with 15% if we look at the long-term trend (between 2018 and 2023). In 2018 the balance the tipped towards the women (54%).

Table 373. Denmark: Employment by gender

Gender	2018	2019	2020	2021	2022	2023	% Δ 2023-2018
female	2026	1907	1475	1514	1430	1441	-15%
male	1705	1603	1745	1682	1501	1623	12%

11.4.5 Methodological considerations and data issues

There was no Danish expert available to write this chapter.

Data collected by Statistics Denmark according to the European Business Statistics Regulation and Regulation (EC) No 223/2009 are used as the foundation for the additional data collection of socioeconomic data for the fish processing sector. The type of data collection used for collection of the economic and social data is all based on census (Danish workplan).

11.5 Greece

11.5.1 Short description of the processing sector

The Greek fish processing sector includes a variety of activities such as freezing, filleting, salting, drying, smoking, marinating, cooking, and canning, along with shellfish processing, mainly of mussels. Many companies also combine these operations with fish trading or the production of ready-to-eat and canned seafood products. Between 2016 and 2021, the number of active enterprises fluctuated, largely reflecting changes in raw material supply and market demand. In 2021, there were 169 demonstrating a rise from the 155 companies in 2019. Between 2020 and 2021, the Greek fish processing industry showed signs of solid growth. The turnover rose by 12%, increasing from EUR 240 million to EUR 269 million, reflecting higher demand for processed products. At the same time, employment also expanded, with the total number of workers rising from 2 463 to 2 500 in 2021.

The COVID-19 pandemic in 2020 brought notable shifts. Much of the unsold fish was redirected to processing plants, which boosted production levels. By 2021, activity had increased further, supported by the return of tourism and a shortage of fresh fish due to algal blooms, which drove prices upward. Out of the 169 enterprises, 129 were very small (< 10 employees), 32 were medium-sized (11 - 49), and 8 were larger firms (50 - 249).

Table 374. Production and sales, industry structure and employment for Greece: 2017-2022.

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ(2020-21)
Structure (number)										
Total enterprises	144	133	145	159	169	168	155	170	169	-1%
≤ 10 employees	111	100	112	121	129	130	119	130	130	0%
11-49 employees	27	29	29	31	32	30	28	32	31	-3%
50-249 employees	6	4	4	7	8	8	8	8	8	0%
≥ 250 employees	0	0	0	0	0	0	0	0	0	0%
Employment (number)										0%
Total employees	2,183	1,964	2,062	2,277	2,392	2,292	2,357	2,463	2,500	2%
FTE	1,763	1,606	1,690	2,033	2,130	2,048	2,144	2,231	2,263	1%
Indicators										0%
Turnover (million €)	195	214	239	251	296	254	235	240	269	12%
FTE per enterprise	12.2	12.1	11.7	12.8	12.6	12.2	13.8	13.1	13.4	2%
Average wage (thousand €)	12.8	13.2	15.8	13.2	15.9	16.4	13.9	18.1	18.8	4%
Unpaid work (%)	4.5	4.4	4.4	4.6	3.1	3.8	3.6	3.6	3.5	-5%
Enterprises doing fish processing not as main activity										0%
Number of entreprises	10	9	10	10	11	11	13	14	13	-7%
Turnover attributed to fish processing (million €)	0.7	0.7	0.7	0.8	0.9	0.9	1.1	2.6	2.5	-7%

Source: STECF 23-14, p. 120

Demographics characteristics in Processing

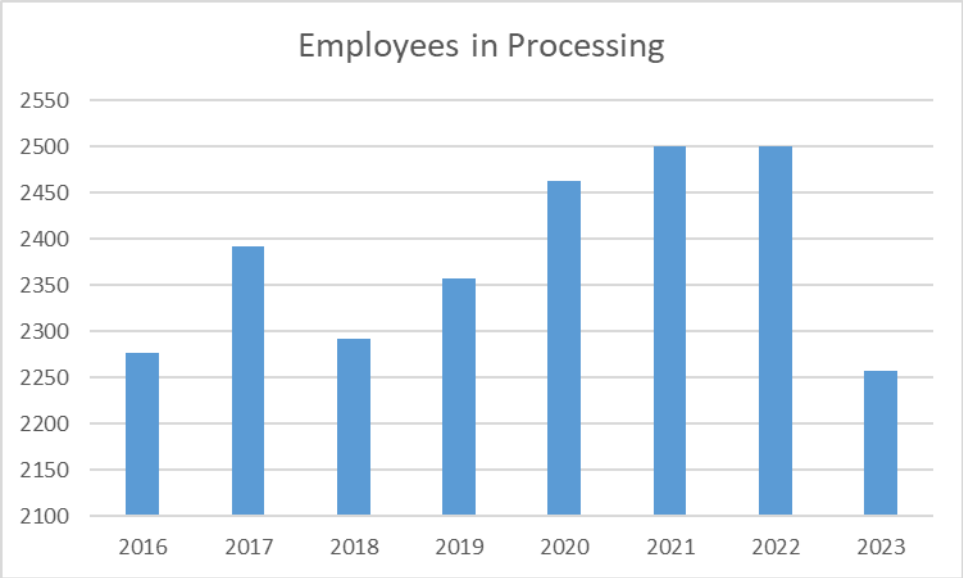
The last available social data on demographics in the Greek Processing sector to date of this report is 2023, covering employment in total and FTE terms.

11.5.2 Employment in Processing

Total Employment

Employment in Greece's fish processing sector remained stable at high levels during 2021 and 2022, reaching around 2 500 employees, the highest figures recorded over the observed period. This stability reflected a period of strong market demand and increased production activity. However, in 2023, the number of employees declined noticeably to about 2 260, marking an approximate 10% decrease compared to the previous two years. The decrease reflects job losses caused by the closure of a large fish processing company in Greece in 2023. While the sector is mostly composed of small firms, the larger processing companies play a decisive role. Given their economic scale and employment share, any closure or interruption of their activity can substantially affect the sector's overall performance.

Figure 175. Total employment for Greece in Processing: 2016-2023.



Data source: MS data submissions under the 2025 Social Data Call.

Full-Time Equivalent

Regarding employment in FTE terms, the available 2022-2023 data show an 11% drop in 2023, from 2 263 to 2 016 workers.

11.5.3 Demographics of the Workforce

Age

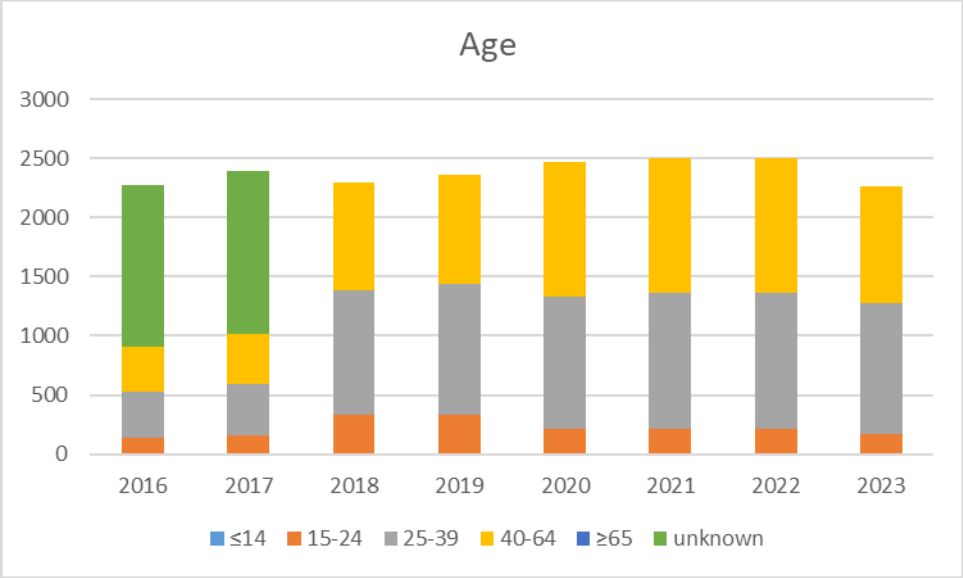
Regarding the age categorization of workforce in the Greek processing industry, data shows that it is concentrated in the 25–64 age range, with a strong presence of experienced and middle-aged employees. The 25–39 group demonstrated a significant rise from 395 workers in 2016 to over 1 100 by 2023,

while the 40–64 group followed a similar trend, rising from 378 to 982 during the same period.

On the other hand, participation of workers in the 15–24 category remains low and even declined in recent years, falling from 218 in 2022 to 175 in 2023, a drop of around 20%. No employment was recorded for those aged 65 or older or under 14. Data from the first social survey in the sector (2016–2017) included many workers with “unknown” age, but due to better data reporting these cases were eliminated in later years.

Overall, the data indicates a stable but aging workforce, with limited number of young workers.

Figure 176. Distribution of individuals’ age per class in Greek Processing from 2016 to 2023

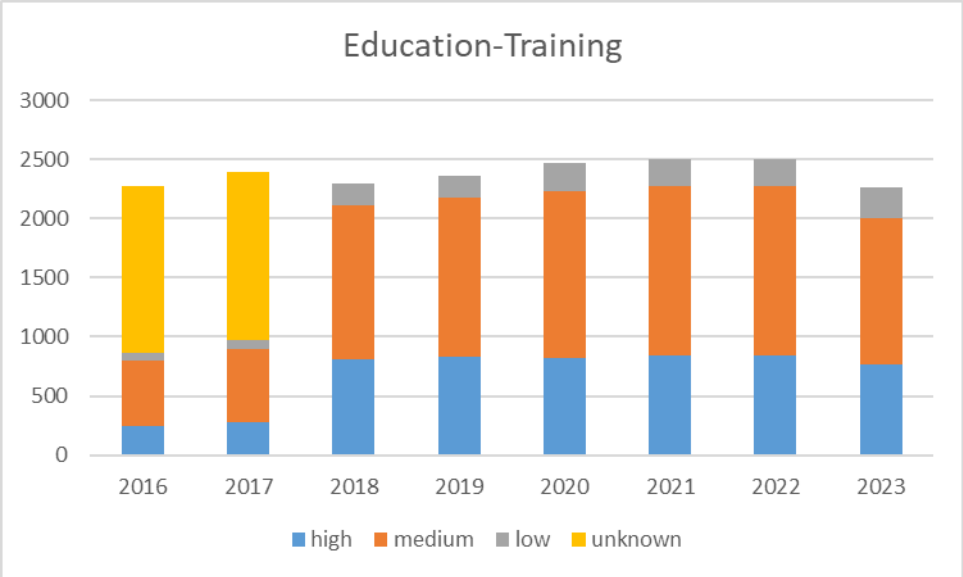


Data source: MS data submissions under the 2025 Social Data Call.

11.5.4 Workforce education and training

For the 2016–2023 period, data shows that employment in the Greek fish processing industry was dominated by workers with a medium level of education, whose values rose from 551 in 2016 to a peak of 1 427 in 2021–2022, before a small decline to 1 239 in 2023 (13% drop). This can be attributed to the fact that the first social data call of 2016–2017, demonstrated many employees with unknown education levels, but better data collection practices led to their distribution mainly to the medium education category. Employees with higher education also incr eased significantly during the same period, from 247 in 2016 to 843 in 2021–2022, though their number slightly decreased to 763 in 2023 (9% drop). Workers with lower educational levels showed a smaller but steady rise, from 70 in 2016 to 255 in 2023.

Figure 177. Distribution of individuals' education level in Greek Processing 2016-2023.



Data source: MS data submissions under the 2025 Social Data Call.

Overall, the data show a consistent shift toward a more skilled workforce, while the decline in 2023 appears to be linked to the closure of a major fish processing company that affected employment across the sector.

Nationality

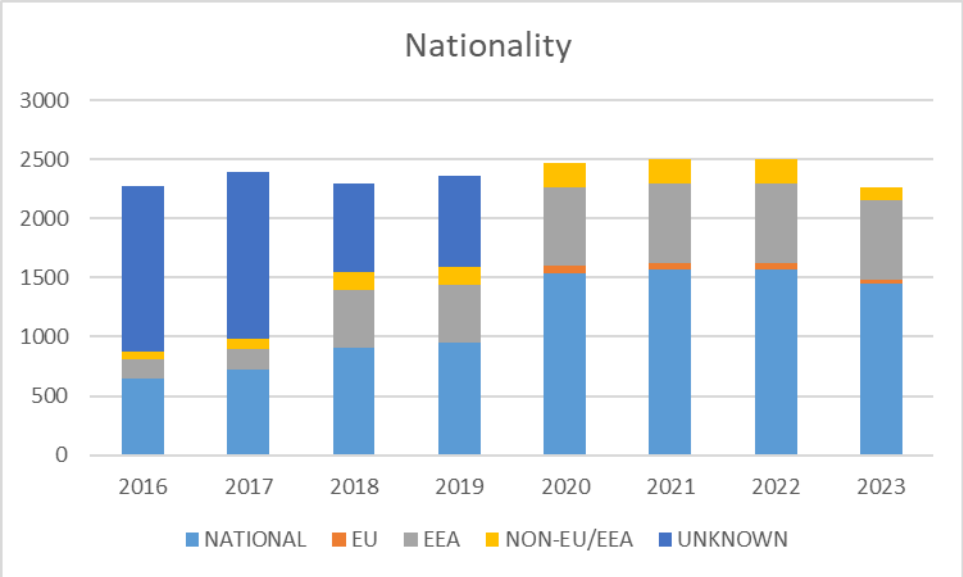
In 2023, the fish processing workforce in Greece remained largely national, with Greek employees numbering 1 444, which represents about 64% of total employment. Workers from EEA countries formed the second largest group, with 672 employees (30%), showing a stable presence since 2020. EU citizens accounted for 42 workers (around 2%), while non-EU/EEA nationals made up 99 workers (roughly 4%).

Over time, the number of Greek employees increased sharply from 643 in 2016 to a high of 1 568 in 2021–2022, before an 8% decline in 2023. The presence of EEA workers also grew steadily from 165 in 2016, reaching a plateau after 2020. Conversely, the number of non-EU/EEA employees fell by about 50% between 2021 and 2023.

The value of unknown nationality of workers in the earlier social data for 2016–2019 does not appear 2020, reflecting better data reporting. Overall, the sector continues to depend primarily on Greek and EEA workers, with foreign participation remaining limited but stable. The Greek fish processing sector often struggles to attract enough local workers due to demanding working conditions. Therefore, companies turn to foreign labour to fill vacancies. Foreign workers especially from EEA countries (e.g., Bulgaria, Romania) or non-EEA countries (e.g., Albania, Egypt) often accept short-term or seasonal contracts, giving firms the flexibility they need. Also, for physically demanding job tasks such as sorting, deshelling, and packaging, foreign workers are often more

available and may accept lower wages than local workers, especially in remote coastal areas. Furthermore, Greece's aging rural population trend has reduced the number of domestic workers who were traditionally employed in agricultural food processing, creating a gap that foreign labour fills.

Figure 178. Distribution of Nationality in Greek Processing 2016-2023.



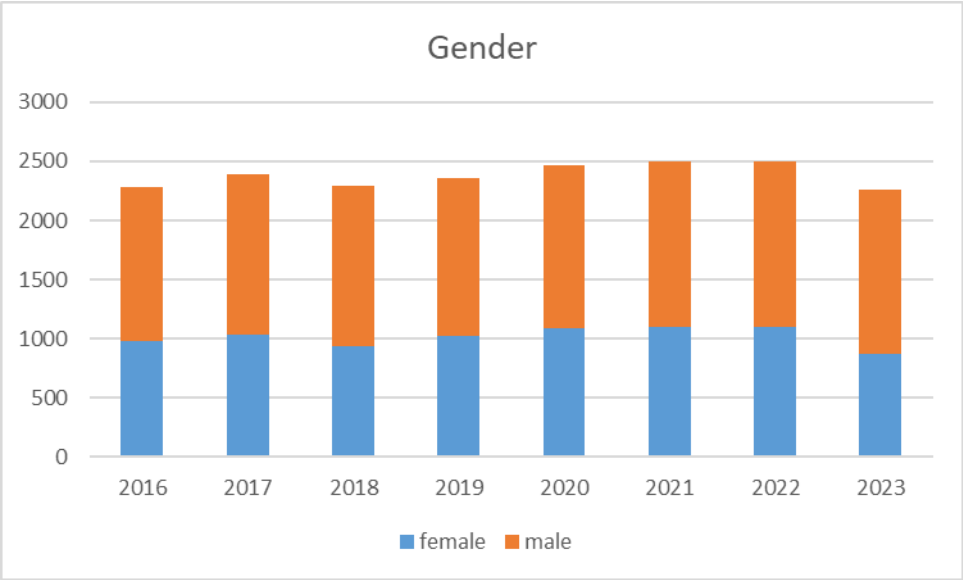
Data source: MS data submissions under the 2025 Social Data Call.

11.5.5 Gender

Employment in the Greek fish processing sector shows continuously a majority in male workers, though women maintain a consistent and important presence. In 2023, there were 875 female employees, representing about 39% of the total workforce, while men numbered 1 382 (61%).

Over the period 2016–2022, the number of women in the sector increased gradually from 981 in 2016 to 1 102 in both 2021 and 2022, but their number dropped by almost 21% in 2023. Male employment remained relatively stable, especially during 2021-2023 period. This significant drop is attributed to the closure of specific processing units where women play a significant role in processing and packaging.

Figure 179. Distribution of Employment by age and education in Greek Processing 2016-2023.



Data source: MS data submissions under the 2025 Social Data Call.

11.5.6 Social demographics per processing segment

The following tables depict the distribution of employment by age and education according to enterprise size.

Table 375. Distribution of Employment by age and education in Greek Processing 2016-2023.

Sum of value									
size_category	age	2016	2017	2018	2019	2020	2021	2022	2023
≤10	≤14	0	0	0	0	0	0	0	0
	15-24	28	31	121	121	61	61	61	52
	25-39	83	86	308	311	332	337	337	310
	40-64	83	88	288	288	293	293	293	277
	unknown	430	454	0	0	0	0	0	0
11-49	≤14	0	0	0	0	0	0	0	0
	15-24	9	27	85	86	64	65	65	50
	25-39	63	109	324	332	352	366	366	308
	40-64	53	85	295	303	359	361	361	303
	unknown	592	526	0	0	0	0	0	0
50-249	≤14	0	0	0	0	0	0	0	0
	15-24	96	96	122	122	92	92	92	73
	25-39	249	249	427	464	431	441	441	483
	40-64	242	242	322	330	479	484	484	402
	unknown	349	399	0	0	0	0	0	0

size_category	education	2016	2017	2018	2019	2020	2021	2022	2023
≤10	high	41	42	215	215	221	223	223	187
	low	17	17	65	65	82	82	82	89
	medium	125	135	437	440	383	386	386	363
	unknown	441	465	0	0	0	0	0	0
11-49	high	29	58	254	258	194	204	204	169
	low	13	14	56	56	73	74	74	83
	medium	73	134	394	407	508	514	514	409
	unknown	602	541	0	0	0	0	0	0
50-249	high	177	177	341	355	409	416	416	407
	low	40	40	60	60	73	74	74	83
	medium	353	353	470	501	520	527	527	467
	unknown	366	416	0	0	0	0	0	0

Data source: MS data submissions under the 2025 Social Data Call.

11.5.7 Methodological considerations and data issues

The methodology for the data collection of the fish processing sector for 2020 was census. Estimation procedure was applied for the energy cost and unpaid labour variables, using the NonProbability Sample Survey (NPS), according to National Work Plan. For the data collection of 2021 and on, the Non-Probability Sample Survey (NPS) sampling scheme was applied for all variables according to the Greek National Work Plan 2022-2024, with planned sample rates reaching up to 70%.

11.6 Spain

11.6.1 Short description of the processing sector

The Spanish seafood processing industry is the largest in the EU and a key socio-economic pillar in coastal areas. It underpins the fishing and aquaculture value chains, supporting employment and value creation, and plays a vital economic, social, and cultural role while contributing to innovation, youth employment, and population retention. The industry includes processing, preservation, boiling and canning of fish, crustacean, molluscs and other aquatic invertebrates, as well as other products for non human consumption, waste and other services. In 2021, the Spanish seafood processing industry comprised 604 enterprises and employed a total of 26 042 people. They recorded a turnover of EUR 7.49 billion, 9% higher than in 2020 and the highest in the period considered, despite a 2% decline in the number of firms. The industry remains highly fragmented, with 83% of enterprises employing fewer than 50 workers—45% fewer than 10—while since 2013 micro-enterprises have declined and small, medium, and large firms have increased.

In recent years, the industry has shown a generally positive trajectory in terms of the number of firms, employment, turnover, and value added, highlighting the competitiveness and resilience of the Spanish industry despite the Covid-19 shock. While 2020 data reflect a short-term contraction in activity, income, and production due to the pandemic, government support measures led to a substantial increase in subsidies in 2021. Medium-term evidence indicates a slight decline in small enterprises, offset by growth in medium and large firms, alongside a recovery in employment and turnover. However, this recovery was accompanied by a proportionally larger rise in production costs, which constrained profitability and overall economic performance.

Table 376. Overview, Spain Seafood processing industry.

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	640	542	598	600	606	648	584	614	604	-2%
≤ 10 employees	356	258	320	310	301	352	267	294	277	-6%
11-49 employees	203	201	196	202	219	206	221	222	227	2%
50-249 employees	72	74	71	76	75	79	82	82	82	0%
≥ 250 employees	9	9	11	12	11	11	14	16	18	13%
Employment (number)										0%
Total employees	18,448	18,340	19,033	20,497	20,367	21,984	23,781	24,325	26,042	7%
FTE	17,592	17,564	18,052	19,873	19,826	21,674	23,064	22,405	25,471	14%
Indicators										0%
Turnover (million €)	4,634	4,605	4,944	5,752	6,050	6,520	6,930	6,871	7,498	9%
FTE per enterprise	27.5	32.4	30.2	33.1	32.7	33.4	39.5	36.5	42.2	16%
Average wage (thousand €)	25.6	26.2	25.3	26.4	27.1	29.5	29.9	32.4	31.3	-3%
Unpaid work (%)	2.8	5.3	1.0	1.5	2.1	3.5	1.6	1.6	5.3	237%
Enterprises doing fish processing not as main activity										0%
Number of entreprises	0	0	0	0	0	0	0	0	0	0%
Turnover attributed to fish processing (million €)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%

Source: STECF 23-14, p. 192

11.6.2 Demographics characteristics in Processing

The most recent available social data on demographics in the Spanish Processing sector, as of the date of this report, is from 2023, covering total employment and FTE terms.

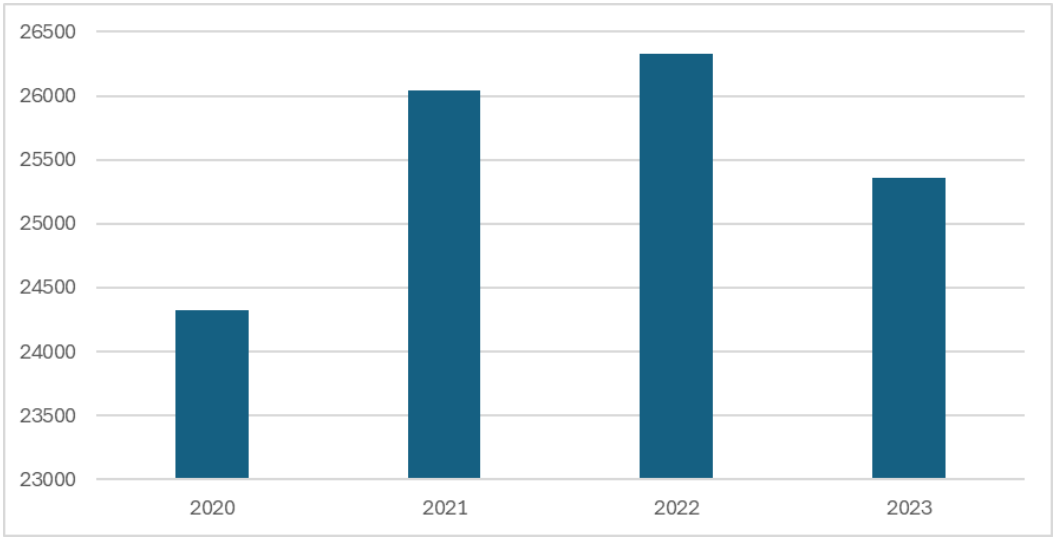
11.6.3 Employment in Processing

Total Employment

Employment in Spanish's fish processing sector increased markedly from 2020 to 2021 and continued to growth slightly in 2022. However, this upward trend reversed in 2023 to about 25 534 employees, remained nevertheless above the 2020 and suggesting a partial adjustment.

According to the Economic Report on the EU fishing processing industry (STECF 23-14), although small companies are still predominant, the traditional industry based on small firms has evolved into a more diverse industry. Increasingly, a greater part of the activity is concentrated in medium and large companies, which are more technologically advanced, more vertically integrated (fisheries and aquaculture production activities), and internationalized, both in import and export activities. As a result, the main companies account for a large part of the activity. In 2021, the 18 largest companies generated more than EUR 4 billion in turnover, 53% of the industry total.

Figure 180. Spain: total employment Processing (2020-2023).



Data source: MS data submissions under the 2025 Social Data Call.

Full-Time Equivalent

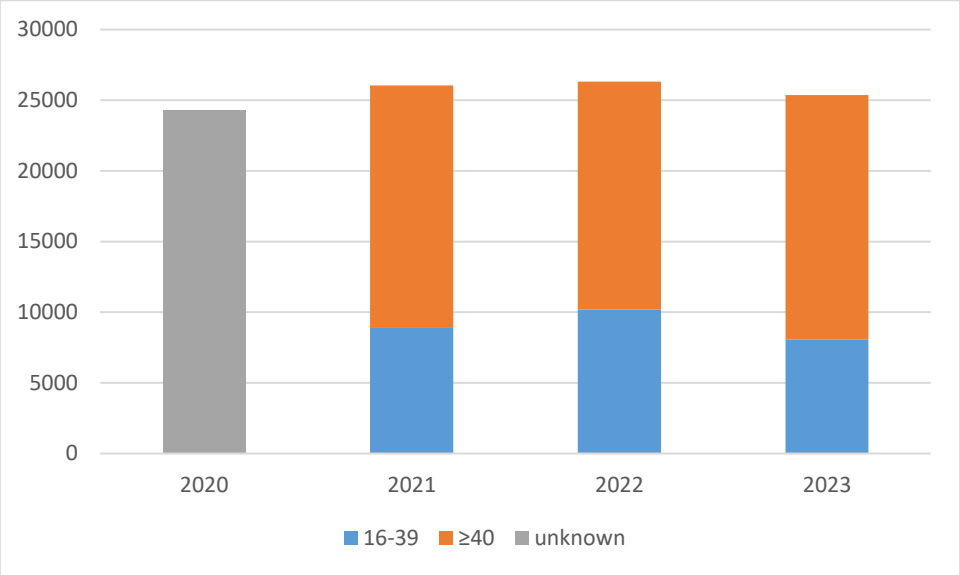
Regarding employment in FTE terms, the available 2022-2023 data show a 7% drop in 2023, from 25 999 to 24 283 workers. The STECF 24-23 report highlights that the industry still suffers from a high degree of temporary contracts linked to the seasonality of employment in this industry.

11.6.4 Demographics of the Workforce

Age

Regarding the age categorization of the workforce in the Spanish processing industry, data indicate a stable core workforce concentrated in the >=40 age range. From 2021 onward, younger workers (16–39 group) increased sharply to a peak in 2022 of 10 193 workers, before falling in 2023 to 8 091. Data available regarding the contracted people and employment seeker profiles (STECF 24-03) point to generational replacement as one of the strategic aspects in the industry.

Figure 181. Spain: individuals' age per class in Spanish Processing (2021- 2023)



Data source: MS data submissions under the 2025 Social Data Call.

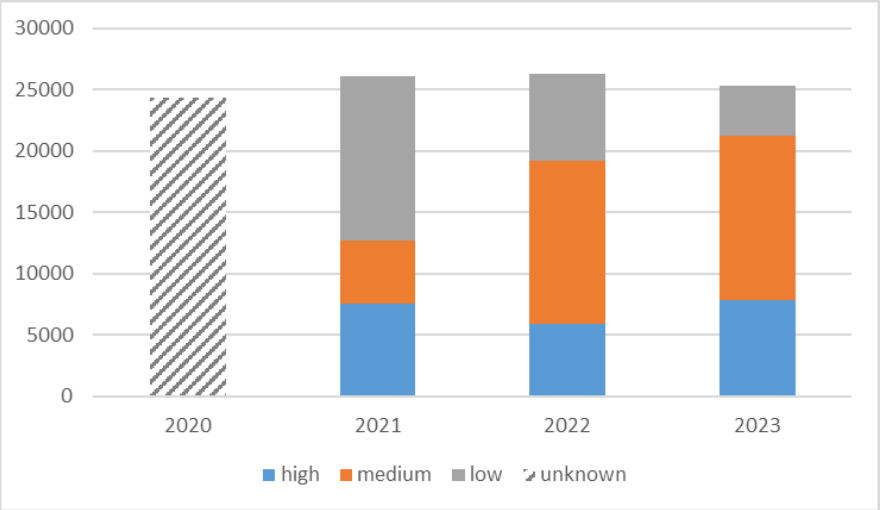
Note: employment data for 2020 did not provide age group.

11.6.5 Workforce education and training

Education

For the 2020–2023 period, data shows that employment in the Spanish fish processing industry presents a shift in the distribution of education levels. Between 2021 and 2023, the high education group increased slightly by 3%, reaching its highest value in 2023 after a dip in 2022. The low education group remained relatively stable, with only a 1% increase over the period. In contrast, the medium education group declined sharply by 19%, suggesting a movement away from this category

Figure 182. Spain: Education level of the processing workforce 2016-2023.



Data source: MS data submissions under the 2025 Social Data Call.

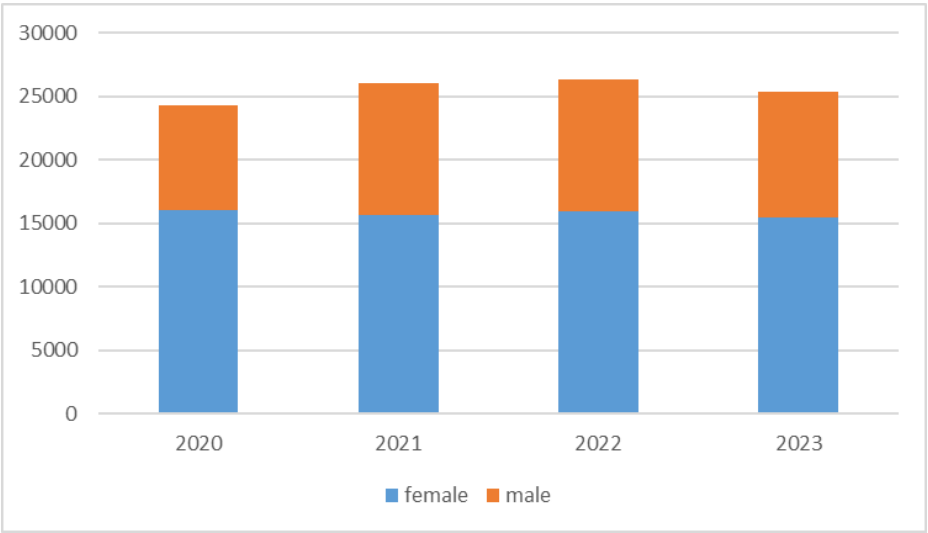
Nationality

Nationality of the processing industry workforce is not reported.

11.6.6 Gender

The workforce is predominantly female with women accounting for approximately 60 to 66% of the total workforce across the 2020 - 2023 period. Female counts remained relatively stable overall but showed a gradual decline from 16 035 in 2020 to 15 443 in 2023.

Figure 183. Spain: Distribution of Employment by gender (2020-2023)



Data source: MS data submissions under the 2025 Social Data Call.

In contrast male counts increased markedly from 8 290 in 2020 to a peak of 10 409 in 2022 before declining to 9 911 in 2023. Overall the data indicate modest year to year variability with a partial convergence in workforce composition driven primarily by changes in the male workforce.

11.6.7 Social demographics per processing segment

The following tables depict the distribution of employment by age and education according to enterprise size.

Table 377. Spain: total employment by age and education according to the enterprise size (2020-2023).

Enterprise size	Age	2020	2021	2022	2023
≤10	≥40	-	547	540	529
	16-39	-	287	341	247
	unknown	938	0	0	0
11-49	≥40	-	3 751	3 247	3 299
	16-39	-	1 960	2 052	1 547
	unknown	4 843	0	0	0
50-249	≥40	-	5 136	4 951	5 463
	16-39	-	2 684	3 129	2 560
	unknown	8 046	0	0	0
≥250	≥40	-	7 668	7 393	7 972
	16-39	-	4 009	4 671	3 737
	unknown	10 498	0	0	0
Total		**24 325**	**26 042**	**26 324**	**25 354**

Enterprise size	education	2020	2021	2022	2023
≤10	high	-	426	199	239
	low	-	243	443	410
	medium	-	165	239	127
	unknown	938	-	-	-
11-49	high	-	2 920	1 191	1 495
	low	-	1 661	2 668	2 558
	medium	-	1 130	1 440	793
	unknown	4 843	-	-	-
50-249	high	-	3 998	1 817	2 476
	low	-	2 276	4 067	4 235
	medium	-	1 546	2 196	1 312
	unknown	8 046	-	-	-
≥250	high	-	5 969	2 712	3 613
	low	-	3 399	6 072	6 181
	medium	-	2 309	3 280	1 915
	unknown	10 498	-	-	-
Total		**24 325**	**26 042**	**26 324**	**25 354**

Data source: MS data submissions under the 2025 Social Data Call.

11.6.8 Methodological considerations and data issues

The methodology for the data collection of the fish processing sector is census. Fish processing industry data comes from the Spanish National Institute of Statistics (Instituto Nacional de Estadística, INE).

For the fish processing sector, employment data is missing for 2017 and FTE data is missing for 2017 and 2020. Education level and age is not reported for 2020. Regarding age, for the rest of the years it is only reported for two groups: 16-39 and ≥40. Finally, no nationality is reported for any year.

11.7 Croatia

11.7.1 Short description of the processing sector

Based on the Economic Report on the EU Fish Processing Industry 2024, the Croatian fish processing sector has undergone growth in recent years. The industry consists of 33 companies (2021) with processing as their main activity, employing 2 229 workers and generating a total income of EUR 245.1 million. The sector is predominantly export-oriented, with Croatia being one of the few EU Member States that exports more fish than it imports, reaching 66 thousand tonnes and EUR 274 million in exports in 2021.

The Croatian processing industry is heavily dependent on domestic catches of small pelagic fish, with sardines and anchovies representing 70% of processed products. The sector has experienced steady growth since Croatia's EU accession in 2013, driven by access to EU markets and funding instruments (EMFF, ERDF, EMFAF), foreign investments, and technological improvements. A notable shift has occurred with processing plants relocating from coastal islands to business zones in the hinterlands of major fishing harbours, facilitated by infrastructure improvements including the construction of highway A1.

Table 378. Croatia summary table

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	37	38	35	31	34	32	34	34	33	-3%
≤ 10 employees	20	20	18	11	12	9	10	11	9	-18%
11-49 employees	4	6	3	5	6	5	7	8	8	0%
50-249 employees	10	11	13	15	16	18	17	14	14	0%
≥ 250 employees	3	1	1	0	0	0	0	1	2	100%
Employment (number)										
Total employees	1,953	1,815	1,800	2,031	2,186	2,219	2,239	2,250	2,229	-1%
FTE	1,572	1,819	1,466	1,618	1,838	1,494	1,615	1,712	1,885	10%
Indicators										
Turnover (million €)	58	72	76	82	92	95	116	133	139	5%
FTE per enterprise	42.5	47.9	41.9	52.2	54.1	46.7	47.5	50.4	57.1	13%
Average wage (thousand €)	8.2	9.0	10.7	11.0	10.5	14.4	15.2	17.5	16.3	-7%
Unpaid work (%)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0%
Enterprises doing fish processing not as main activity										
Number of entreprises	21	21	24	0	0	0	0	25	28	12%
Turnover attributed to fish processing (million €)	11.5	18.6	20.3	0.0	0.0	0.0	0.0	24.9	23.9	-4%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.

The most dynamic segment comprises companies with 50-249 employees, representing 14 enterprises in 2021 and accounting for the largest share of income, assets, and employment. The sector demonstrated resilience during the COVID-19 pandemic, maintaining growth trajectories in exports and investments. Net profit gradually increased from EUR 13.6 million in 2019 to EUR 19.1 million in 2021, while investments rose significantly to EUR 13.2

million in 2021. However, the industry faces ongoing challenges including ensuring stable raw material supply due to seasonal fishing cessations, labour shortages leading to increased foreign worker recruitment (5% in 2020), and rising energy costs.

Demographics characteristics in Processing

11.7.2 Employment in Processing

Total Employment

The Croatian fish processing sector employed 2 547 workers in 2023, demonstrating consistent growth over the 2017-2023 period. Total employment increased from 2 131 employees in 2017 to 2 250 employees in 2020, representing growth of 119 workers (+5.6%), before experiencing a slight decline during the early pandemic period. The sector then rebounded strongly between 2020 and 2023, adding 297 employees (+13.2%) and surpassing pre-pandemic employment levels. Overall, the sector achieved net growth of 416 employees (+19.5%) over the six-year period, reflecting the processing industry's expansion, consolidation of operations into larger facilities, and increasing competitiveness in both domestic and export markets. The employment growth occurred despite ongoing challenges including seasonal raw material supply, labour shortages, and the need to recruit foreign workers, which increased from 0.5% of the workforce in 2017 to 8.0% in 2023.

Full-Time Equivalent

Full-time equivalent (FTE) employment in the Croatian fish processing sector reached 2 099 FTE in 2023, representing substantial growth of 25.5% over the 2017-2023 period. The sector demonstrated modest growth from 1 672 FTE in 2017 to 1 711 FTE in 2020 (+2.3%), followed by a strong post-pandemic expansion that added 387 FTE between 2020 and 2023, an increase of 22.6%. This acceleration in FTE growth outpaced the increase in total employment (19.5% growth 2017-2023), indicating a shift from part-time and seasonal contracts toward more stable, full-time positions. The FTE-to-employment ratio improved to 82.4% in 2023, up from approximately 78% in earlier years, reflecting the sector's move toward greater workforce stability and formalization of employment relationships. The gender composition of FTE employment shifted notably over the period, with female workers comprising 62.9% of FTE in 2017, rising to 70.5% in 2020, then declining to 54.5% in 2023, while male FTE increased from 35.8% in 2017 to 45.5% in 2023, a trend consistent with the overall employment gender shifts observed in the sector. The strong FTE growth, particularly post-2020, reflects the processing industry's expansion through modernization, relocation to business zones with better infrastructure, foreign investments, and technological improvements that have enabled larger-scale operations requiring more full-time staff. The positive FTE trend, coupled with increasing labor productivity and improving working conditions, positions

Croatian fish processing as an increasingly stable and formalized employment sector, though challenges remain in attracting sufficient domestic labor, particularly for assembly-line positions.

11.7.3 Demographics of the Workforce

Age

The age structure of the Croatian fish processing workforce between 2017 and 2023 showed significant shifts while maintaining a predominantly mature profile. In 2023, workers aged 40-64 comprised 1 510 employees (59.3% of the workforce), representing the largest age bracket but declining from 68.9% in 2020 and 57.4% in 2017, with an absolute increase of 288 workers (+23.5%) over the period. The 25-39 age category demonstrated the strongest growth, rising from 620 employees (29.1%) in 2017 to 847 employees (33.2%) in 2023, an increase of 227 workers (+36.6%), indicating growing success in attracting mid-career workers to the processing sector. Young workers aged 15-24 showed modest growth from 123 employees (5.8%) in 2017 to 141 employees (5.6%) in 2023, adding 18 workers (+14.8%), though their relative share remained consistently low, suggesting ongoing challenges in attracting youth to processing work. The elderly worker category (≥65) declined from 13 employees (0.6%) in 2017 through 30 employees (1.4%) in 2020 to zero in 2023.

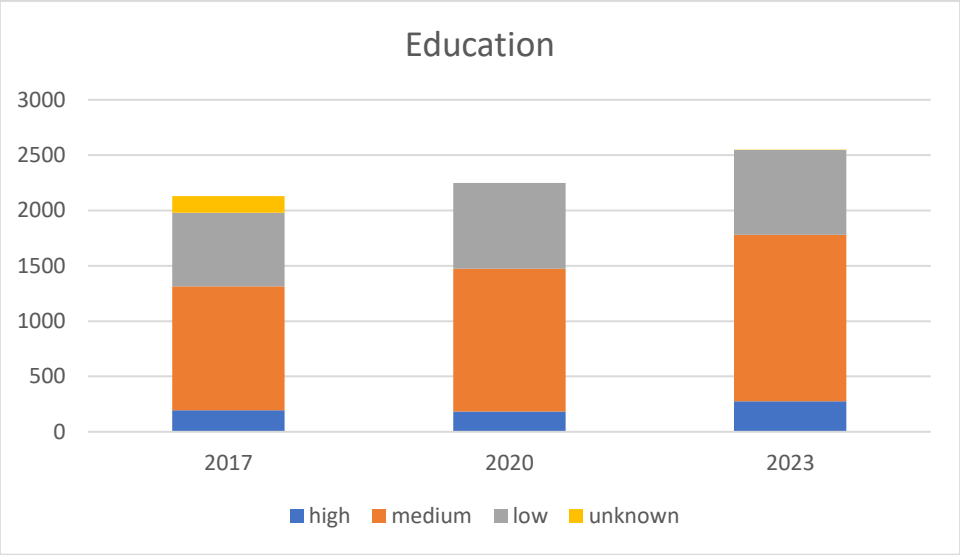
The age distribution reveals a workforce increasingly concentrated in the prime working ages (25-64), which together comprised 92.5% of employment in 2023, though the relatively low and stable share of young workers (5.6%) raises concerns about long-term workforce renewal and succession planning, particularly given the physically demanding nature of processing work and ongoing labor shortages that have prompted increased foreign worker recruitment.

11.7.4 Workforce education and training

Education

The educational profile of the Croatian fish processing workforce between 2017 and 2023 was dominated by workers with medium-level (secondary school) education, though all education levels experienced absolute growth alongside the sector's expansion from 2 131 to 2 547 employees (+19.5%).

Figure 184. Croatia: Employment in processing by education, 2017-2023



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

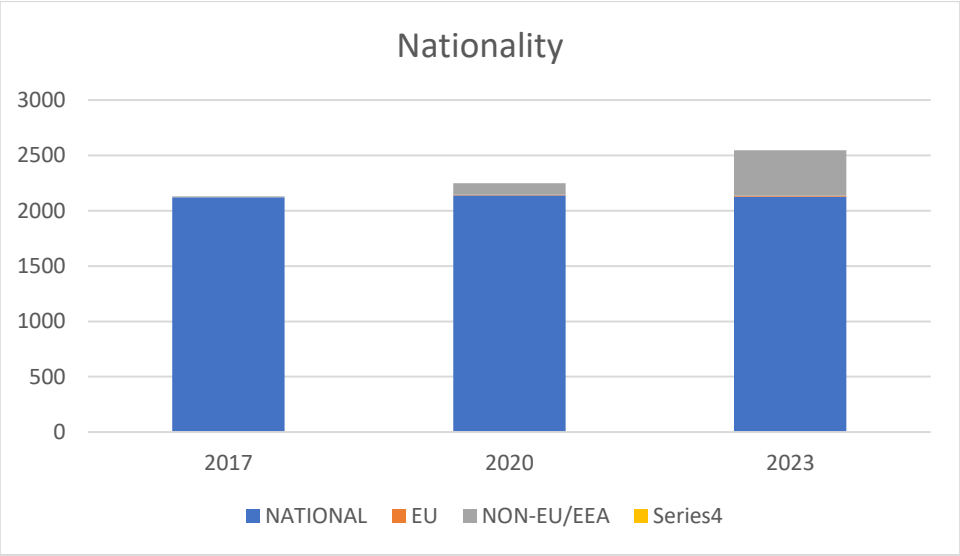
Workers with medium education represented the largest share, increasing from 1 119 employees (52.5%) in 2017 to 1 505 employees (59.1%) in 2023, an increase of 387 workers (+34.6%), reflecting both the sector's growth and its preference for secondary-educated workers capable of operating modern processing equipment. High-educated workers (tertiary education) demonstrated the strongest relative growth, rising from 195 employees (9.2%) in 2017 to 276 employees (10.8%) in 2023, an increase of 41.0%, indicating the sector's gradual upskilling and the growing importance of specialized technical knowledge for value-added production, quality control, and management functions. Low-educated workers (primary education) increased in absolute numbers from 665 (31.2%) in 2017 to 765 (30.0%) in 2023, a gain of 100 workers (+15.0%), but their share of total employment declined by 1.2 percentage points, suggesting a slow but steady shift toward a more educated workforce.

The 2020 data showed a temporary spike in the low-educated share (34.5%), likely reflecting rapid expansion and labour shortages during the pandemic that necessitated hiring less-qualified workers. The overall trend toward higher educational attainment aligns with the sector's technological modernization, product diversification, and emphasis on creating high value-added products, though the continued reliance on workers with only primary education (30% in 2023) reflects the persistent need for manual labour in processing operations and the challenges of attracting highly qualified personnel to this traditionally labour-intensive industry.

Nationality

The Croatian fish processing workforce remained predominantly national throughout the 2017-2023 period, though the sector experienced a notable increase in foreign worker recruitment driven by persistent labour shortages.

Figure 185. Croatia: Employment in processing by nationality, 2017-2023



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

In 2023, Croatian nationals comprised 2 287 employees (91.8% of the workforce), while foreign workers totalled 200 employees (8.0%), exclusively from non-EU/EEA countries with no EU/EEA workers recorded. This represents a significant shift from 2020, when nationals accounted for approximately 95% of employment (2 138 employees) and foreign workers comprised 5% (112 employees), also predominantly non-EU/EEA workers. The growth in foreign employment from 112 to 200 workers between 2020 and 2023 represents a 78.6% increase, reflecting the sector's intensifying struggle to attract domestic labour for processing work.

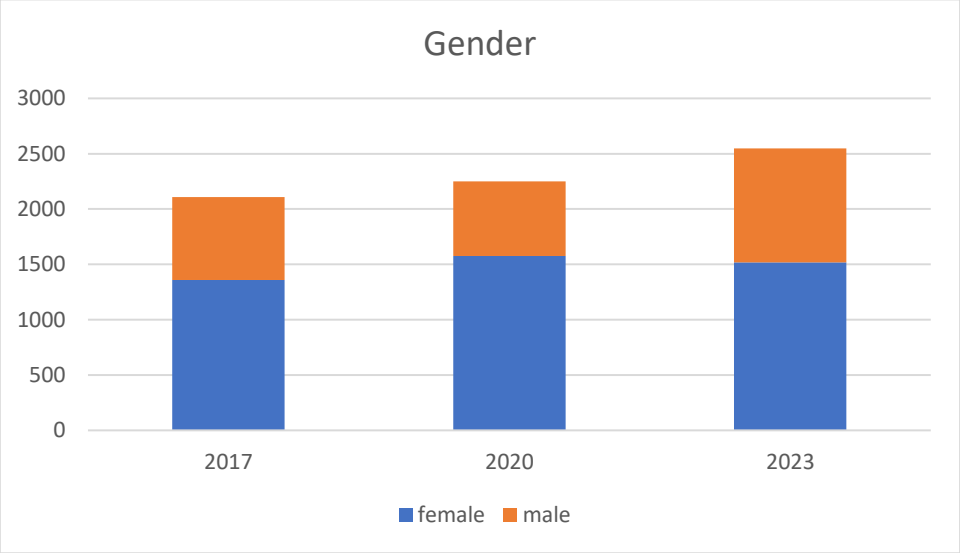
The STECF 23-14 Report notes that in 2017, foreign workers represented only 0.5% of the workforce, highlighting the rapid acceleration of foreign recruitment over the six-year period. The increasing dependence on foreign labour, predominantly female workers employed in medium-sized companies (50-249 employees), reflects structural challenges in the Croatian labour market including demographic aging, migration of Croatian workers to other EU countries, and the unattractive working conditions associated with seasonal, physically demanding assembly line jobs. The trend toward greater workforce internationalization is expected to continue and accelerate, fundamentally altering the sector's demographic composition and raising questions about long-term labour supply sustainability and integration policies.

11.7.5 Gender

The Croatian fish processing sector maintained a female-dominated workforce throughout the 2017-2023 period, though with fluctuations in gender composition. In 2023, female workers totalled 1 517 employees (59.6% of the workforce), while male workers comprised 1 030 employees (40.4%). The sector experienced a shift in gender balance over the period: female representation peaked at 1 575 employees (70.0%) in 2020, up from 1 360 employees (63.8%) in 2017, before declining to 1 517 employees in 2023. Conversely, male employment dropped from 749 employees (35.2%) in 2017 to 675 employees (30.0%) in 2020, then surged to 1 030 employees (40.4%) in 2023, an increase of 355 male workers (+52.6%) between 2020 and 2023.

Overall from 2017 to 2023, female employment increased by 157 workers (+11.5%) while male employment grew by 281 workers (+37.5%), resulting in a more balanced, though still female-majority, workforce.

Figure 186. Croatia: Employment in processing by gender



Source: Member States data submissions under the 2025 Social Data Call and Fleet Economic data call.

11.7.6 Social demographics per processing segment

The Croatian fish processing sector in 2023 was dominated by medium-sized enterprises (50-249 employees), which employed with low education, 57.3% with medium education, and 11.2% with high education among those with reported data.

The large enterprise segment (≥250 employees) employed 688 workers (27.0% of the sector), representing a significant presence with two major companies that re-emerged after 2020 following years of absence, often resulting from foreign investments and vertical integration combining aquaculture, processing, and trade activities. This segment showed similar educational patterns to the

50-249 category, with 30.7% low education, 59.7% medium education, and 9.6% high education. Small and medium enterprises (11-49 employees) accounted for 208 workers (8.2%), traditionally concentrated in regions like Istria and Zadar, oriented toward frozen fish production, particularly sardine and anchovy.

Micro-enterprises (≤10 employees) employed only 44 workers (1.7%), down dramatically from 20 such enterprises in 2013 to 9 in 2021. These smallest enterprises, often family-run operations combining processing with other activities like fishing or tourism, play important social roles in preserving traditional processing methods and supporting local communities, though their economic impact is limited. The distribution by size reveals that while small enterprises maintain cultural and social significance, the medium-sized and large companies (50-249 and ≥250 categories) together account for 90.1% of processing employment, driving the sector's economic performance, technological innovation, exports, and modernization efforts that have characterized Croatian fish processing growth since EU accession in 2013.

11.7.7 Methodological considerations and data issues

No methodological issues were reported.

11.8 Italy

11.8.1 Short description of the processing sector

The Italian fish processing sector represents one of the most structured components of the national seafood value chain, largely dominated by canning industries, which account for about 67% of total enterprises. According to data reported by STECF Report 23-14 (pag.135), the number of companies whose main activity is fish processing (NACE 10.20) reached 467 units in 2021, showing a 9% increase compared to 2019. In addition, around 204 enterprises process fish products as a secondary activity. Employment in the sector amounted to 6 585 persons in 2021 (+5% compared to 2020), corresponding to 5 251 FTEs. The average wage per FTE was just under EUR 50 000, confirming a gradual recovery after the 2020 slowdown. The total turnover reached EUR 2.48 billion, increasing by 18% compared to 2020 and by 15% compared to 2019, supported by higher domestic consumption and improved market conditions after the pandemic period. Small enterprises (≤10 employees) represent the majority of the sector (around 68%), although medium-sized companies (11–49 employees) showed the strongest relative growth (+7% in 2021). Conversely, the number of larger companies (50–249 employees) declined by 12%. Overall, the Italian fish processing industry showed resilience and positive performance during 2020–2021. The sector benefited from strong domestic demand – Italy ranks sixth in the EU for per capita seafood consumption (around 30 kg in 2021) – and from continued investments in modernization and technological innovation supported by public funding.

Table 379. Overview, Italy, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ(2020-21)
Structure (number)										
Total enterprises	587	574	577	445	433	434	427	452	467	3%
≤10 employees	444	430	447	321	295	291	268	307	317	3%
11-49 employees	127	126	112	106	117	121	124	120	128	7%
50-249 employees	16	18	18	18	21	20	30	25	22	-12%
≥250 employees	0	0	0	0	0	2	5	0	0	0%
Employment (number)										
Total employees	6,292	5,628	5,926	5,905	5,968	6,101	6,037	6,258	6,585	5%
FTE	5,426	4,422	4,778	4,572	4,568	4,859	4,804	4,990	5,251	5%
Indicators										
Turnover (million €)	2,287	2,235	2,243	2,196	2,109	2,077	2,165	2,105	2,482	18%
FTE per enterprise	9.2	7.7	8.3	10.3	10.6	11.2	11.2	11.0	11.2	2%
Average wage (thousand €)	40.3	47.0	43.1	50.0	49.8	46.7	50.0	47.5	49.9	5%
Unpaid work (%)	8.0	8.1	8.2	7.4	5.4	5.3	5.3	4.9	4.9	-1%
Enterprises doing fish processing not as main activity										
Number of entreprises	185	205	208	208	214	207	206	210	204	-3%
Turnover attributed to fish processing (million €)	383.8	501.8	550.6	552.0	583.3	563.5	555.8	570.2	566.1	-1%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.
In 2020 and 2021, enterprises with ≥ 250 employees have been included in the class of enterprises with 50-≥ 249 for confidential issues.

Source Report STECF 23-14

11.8.2 Demographics characteristics in Processing

Employment data refer to the population of processing enterprises, rather than to individual employees, and are collected through a survey-based sample conducted by the National Statistical System (NSS) and validated by the JRC/STEFC Data Check 2023 Report (pp. 208–210). The survey includes firms of all size categories (<10, 11–49, and 50–249 employees), with enterprises of 250 or more employees aggregated into the 50–249 class for confidentiality reasons.

11.8.3 Employment in Processing

Total Employment

In 2023, total reported employment in the Italian fish processing sector reached 24 200 persons, showing a modest but consistent increase compared with 2016 (23 600) and 2019 (24 148). This confirms a stable employment structure, with moderate growth linked to gradual sectoral consolidation and limited new entries.

Full-Time Equivalent

When expressed in Full-Time Equivalents (FTEs), employment trends remain stable, indicating that the rise in headcount is not associated with substantial changes in working time. In general, the Italian processing sector exhibits strong employment continuity and structural resilience, maintaining stable workforce levels. Nevertheless, limited firm scaling and the persistence of traditional, labour-intensive structures continue to characterise the sector’s employment profile.

11.8.4 Demographics of the Workforce

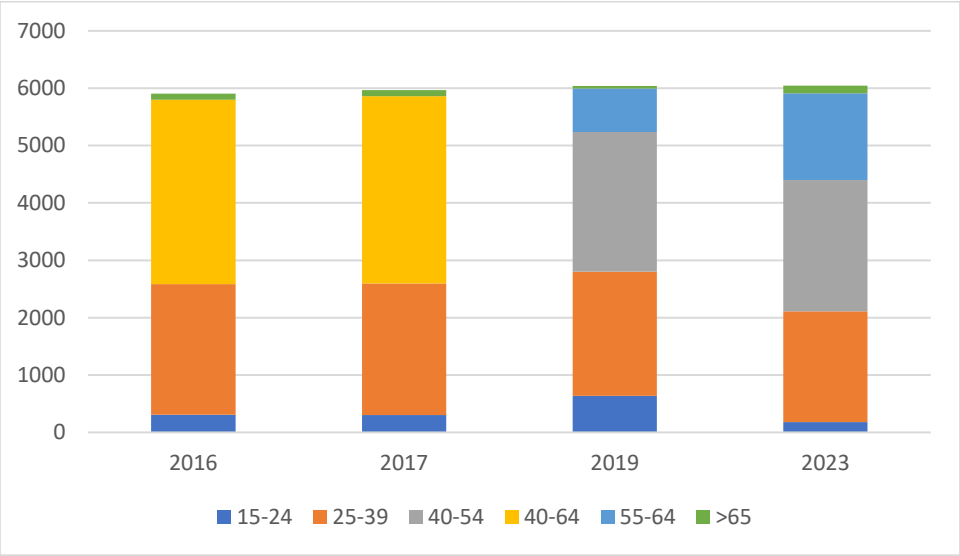
Age

Between 2016 and 2023, data show a progressive ageing of the workforce in the Italian fish processing sector. In 2016–2017, most employees were aged 40–64 (about 3 200), followed by 25–39 (around 2 280). Young workers (15–24) represented only a small share (around 300).

By 2019, employment shifted towards the 40–54 group (2 435), while older cohorts (55–64) began to grow, reflecting the gradual ageing of the active workforce. In 2023, the 40–54 and 25–39 groups remained dominant (2 286 and 1 934 workers), while the share of older employees (55–64 and >65) increased further (around 1 650 combined). Youth participation dropped sharply to fewer than 200 workers. Thus, the sector is largely composed of middle-aged and ageing workers, with limited generational renewal and a declining presence of young employees. This demographic imbalance may hinder future workforce

sustainability and the effective transfer of skills within a predominantly traditional and labour-intensive industry.

Figure 187. Italy: Employment in the fish processing sector by age



Source Italy data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

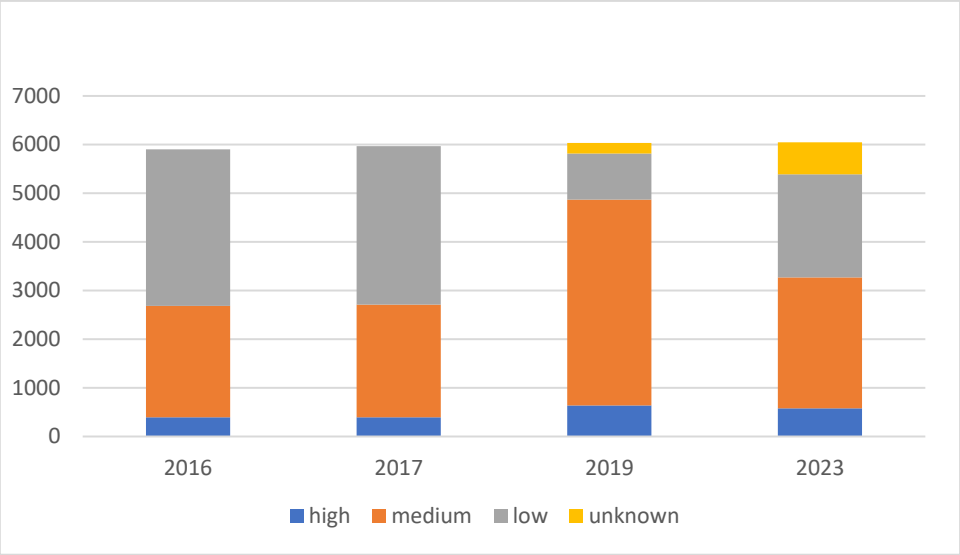
11.8.5 Workforce education and training

Education

Education data show a predominance of medium and low education levels among employees in the Italian fish processing sector, consistent with the industry's operational profile and manual labour requirements. In 2016–2017, workers with low education formed the largest group (around 3 200), followed by those with medium education (about 2 300). Employees with higher education represented a limited share (around 390), mainly in administrative, quality control, and management positions. By 2019, the share of medium-educated workers increased significantly to over 4 200, reflecting a moderate upskilling trend, while low-educated employment dropped to fewer than 1 000, likely due to automation and restructuring in smaller firms.

In 2023, the distribution remained relatively stable: medium education continued to dominate (around 2 700 workers), low education accounted for around 2 100, and high education remained stable at 575. The category "unknown" rose slightly, likely due to incomplete survey responses.The data indicate a gradual shift toward medium-skilled employment, though the sector still relies heavily on workers with basic education. This suggests that training and skill development programmes remain essential to sustain productivity, innovation, and adaptation to technological and market changes.

Figure 188. Italy: Employment in the fish processing sector by education

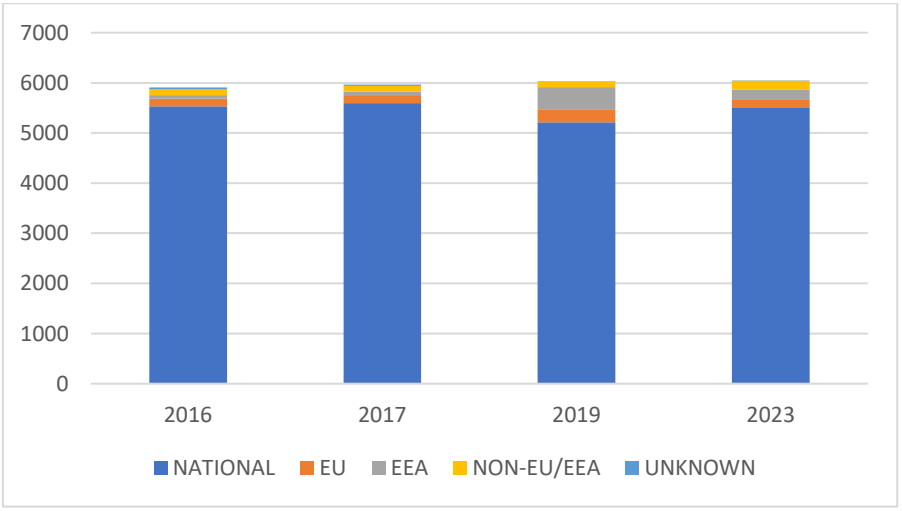


Source Italy data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

Nationality

The nationality breakdown reveals a strong predominance of national workers in the Italian fish processing sector throughout the 2016–2023 period. Italian nationals consistently accounted for over 90% of total employment, with figures ranging from 5 531 in 2016 to about 5 515 in 2023. This stability underscores the domestic character of the workforce, particularly in small and medium-sized enterprises where local, family-based employment remains the norm.

Figure 189. Italy: Employment in the fish processing sector by nationality



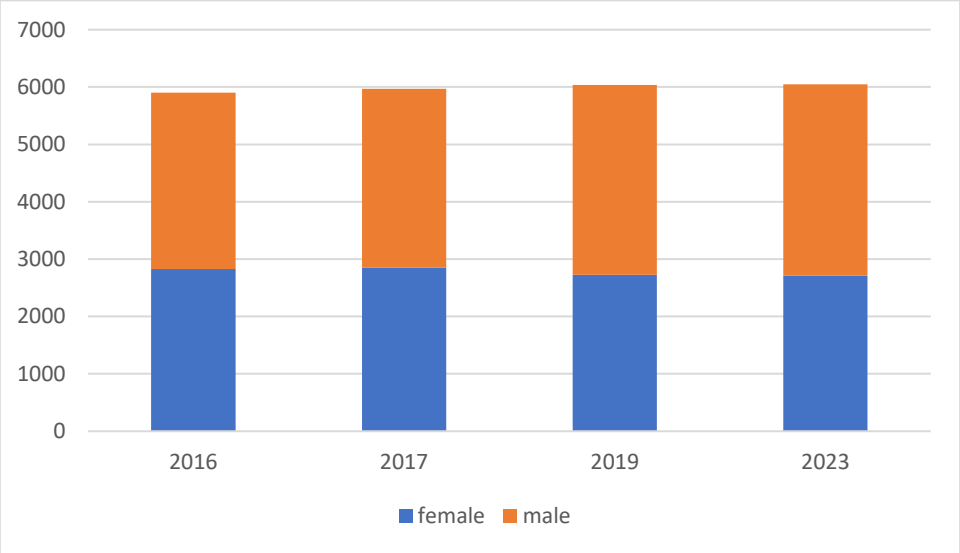
Source Italy data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

Employment of foreign workers, mainly from the EU, EEA, and non-EU/EEA countries, remains limited but shows moderate diversification. EU and EEA workers increased between 2016 and 2019 (from 156 and 68 to 250 and 456, respectively), followed by a partial decline in 2023. Non-EU/EEA workers, often engaged in manual or seasonal roles, grew from 116 in 2016 to around 182 in 2023, indicating slight internationalisation of the labour force. According to this, the data suggest that while the Italian processing sector is overwhelmingly national in composition, the foreign labour component is gradually expanding, particularly in operational and low-skilled positions, reflecting the sector's increasing dependence on migrant labour for workforce flexibility.

11.8.6 Gender

Gender-disaggregated data show a balanced but slightly male-dominated workforce in the Italian fish processing sector. Between 2016 and 2023, male employment increased from 3 079 to about 3 337, while female employment remained stable at around 2 710. Women are predominantly employed in micro and small enterprises, mainly in manual processing and packaging tasks, whereas men are more concentrated in medium and larger establishments, often in technical, maintenance, and logistics roles. This pattern reflects the traditional gender segmentation of labour within the processing industry.

Figure 190. Italy: Employment in the fish processing sector by gender



Source Italy data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14).

11.8.7 Social demographics per canning/preserves processing segment

In Italy, the canned food and preserves sector represents one of the most significant branches of food processing, integrating traditional and industrial techniques, especially in northern and central regions. The Italian canning

industry is renowned for its quality, tradition, and strong export orientation62.Many canning firms remain small or medium-sized enterprises, often embedded in regional clusters. The Italian canned and preserved fish processing segment is dominated by medium-sized enterprises (11–49 employees), which account for the largest share of employment and represent the structural core of the industry. These firms combine traditional processing practices with semi-industrial operations, while micro-enterprises contribute mainly to artisanal and ancillary activities. Educational levels are generally low to medium, though a gradual shift toward higher qualifications is emerging in technical and quality-control roles. Larger firms tend to employ more men due to higher mechanisation, whereas women remain more concentrated in smaller units engaged in manual processing and packaging. Overall, the segment displays a stable but ageing and moderately upskilling workforce, consistent with the sector's traditional and labour-intensive profile.

11.8.8 Methodological considerations and data issues

Social data for fish processing sector are collected through a sample survey, as specified in the Italian DCF Work Plan 2022–2024. The survey collects socio-economic and demographic information from processing enterprises of different size classes, using primary data supported by administrative sources for validation. The Italian methodology follows the EU DCF standards and applies representative sampling to reflect the high number of small enterprises in the sector. According to the STECF 23-14 Report (2023, p. 208), Italy did not provide data for 2020 because the national work plan scheduled data collection only for 2019. For the processing sector, Italy provides data on full-time equivalents (FTE) only, as the Work Plan does not include the collection of social variables by FTE but reports the total FTE in the economic data module. The dataset ensures consistency over time.

62 https://pulsepod.globalpulses.com/trade-talk/post/anicav-giovanni-di-angeli-on-the-canning-industry-in-italy-and-abroad

11.9 Lithuania

11.9.1 Short description of the processing sector

According to AER data, the Lithuanian fish processing sector comprised 45 enterprises in 2021, representing an 8% decline compared with 2020, with reductions concentrated among the smallest and largest enterprise size classes. Despite this contraction, total employment and FTE increased marginally between 2020 and 2021. Economic indicators showed modest improvement, with turnover rising by 2% to EUR 571 million and average wages increasing by 10%, continuing a longer-term upward trend in labour costs. Productivity, measured as FTE per enterprise, also improved, while unpaid work remained negligible. Enterprises engaged in fish processing as a secondary activity increased in economic importance, with turnover attributed to processing rising by 40%, despite a slight decline in the number of such enterprises.

Table 380. Processing overview, Lithuania, 2013-2021.

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	30	34	51	42	39	42	40	49	45	-8%
≤ 10 employees	0	3	20	14	12	17	13	17	14	-18%
11-49 employees	14	14	12	11	11	10	11	16	15	-6%
50-249 employees	11	11	12	11	10	9	10	10	11	10%
≥ 250 employees	5	6	7	6	6	6	6	6	5	-17%
Employment (number)										
Total employees	4,471	5,165	5,373	4,743	4,855	4,815	5,115	5,106	5,153	1%
FTE	3,502	3,868	4,132	3,673	3,744	3,870	3,706	3,861	3,946	2%
Indicators										
Turnover (million €)	319	419	443	457	504	512	570	561	571	2%
FTE per enterprise	116.7	113.8	81.0	87.5	96.0	92.1	92.6	78.8	87.7	11%
Average wage (thousand €)	10.4	10.7	9.0	13.1	14.0	15.1	17.4	16.4	18.1	10%
Unpaid work (%)	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	-59%
Enterprises doing fish processing not as main activity										
Number of entreprises	6	6	21	31	23	33	33	43	42	-2%
Turnover attributed to fish processing (million €)	5.3	7.2	9.7	10.7	3.9	4.8	9.2	10.9	15.3	40%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG (STECF 23-14).

Demographics characteristics in Processing

11.9.2 Employment in Processing

Total Employment

Employment in the Lithuanian fish processing sector increased between 2017 and 2023. Total employment increased from 4 921 in 2017 to a peak of 5 175 in 2020, representing a growth of approximately (5.2%). By 2023, employment declined to 5 033, a decrease of (2.7%) from 2020. Despite this recent reduction, total employment in 2023 remained higher than in 2017, indicating

modest net growth over the full period alongside short-term fluctuations. The increase is particularly evident among male workers, whose numbers rise by 8.3% over the period, while female employment remaining almost stable (-0.4%). Nevertheless, the sector continues to display a strongly female dominated workforce structure (67.6% females in 2023).

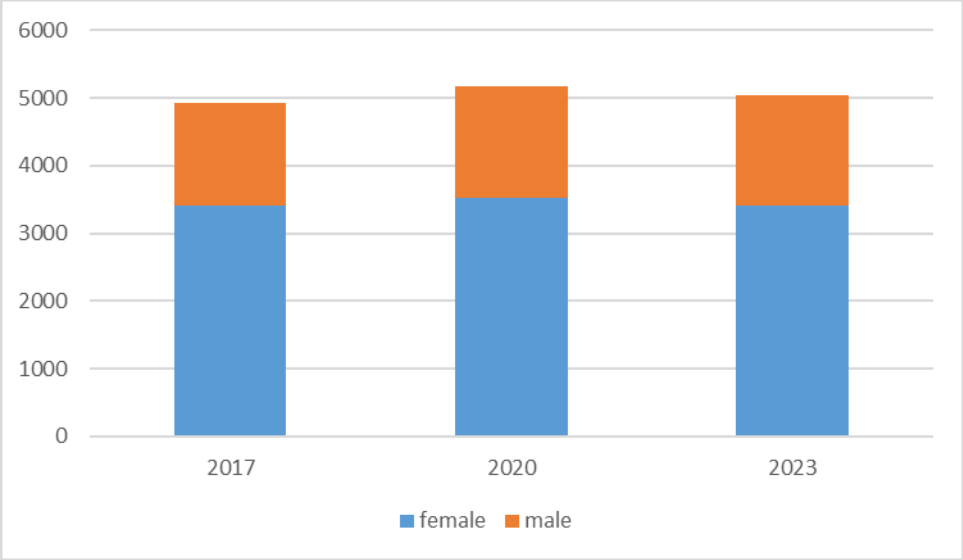
Employment was predominantly full-time throughout the period, accounting for the vast majority of jobs. Full-time jobs increased from 4 857 in 2017 to 4 930 in 2023, remaining slightly above 2017 levels. Part-time employment (from 57 to 83 in 2023) and other forms of employment are minimal in comparison and do not affect the trend.

Table 381. Lithuania. Employment by gender (2017-2023)

	2017	2020	2023	% Δ 2023-2017
female	3 415	3 524	3 402	-0.4%
male	1 506	1 651	1 631	8.3%

Source: Member States data submissions under the 2025 Social Data Call.

Figure 191. Lithuania: employment by gender (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call.

Age

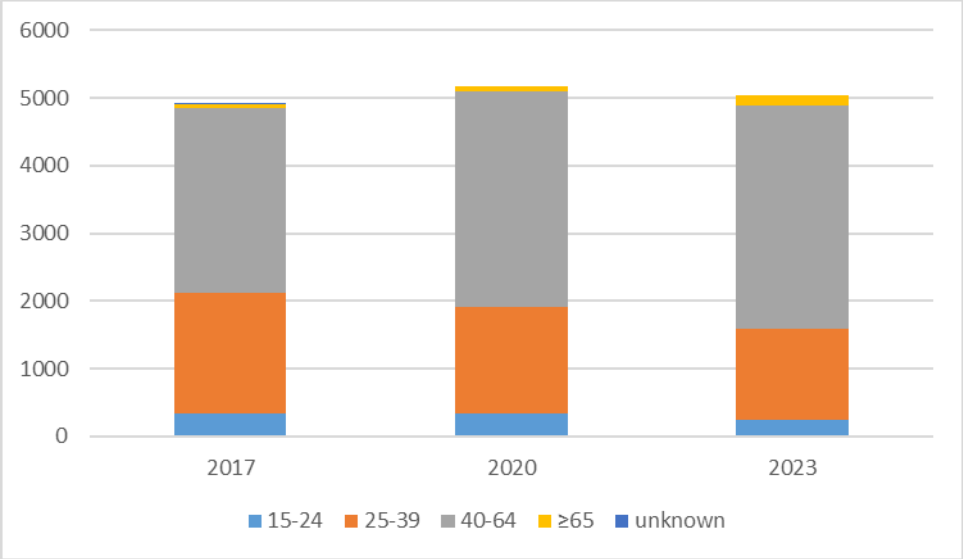
The age profile of the Lithuanian processing workforce shows an ageing employment structure. Jobs held by younger age groups—already at a low base—declined, slightly among those aged 15–24 (from 6.7% to 4.8% of the total) and notably among those aged 25–39 (from 36.5% to 26.8%). In contrast, older workers increased their share: the 40–64 age group rose from 55.4% to 65.6%, while those aged 65 and over grew from 1.3% to 2.8%.

Table 382. Lithuania. Employment by age structure (2017-2023)

	2017	2020	2023	% Δ 2023-2017
15-24	330	332	239	-27.6%
25-39	1 794	1 574	1 349	-24.8%
40-64	2 725	3 189	3 303	21.2%
≥65	65	80	142	118.5%
unknown	7	0	0	-100%

Source: Member States data submissions under the 2025 Social Data Call.

Figure 192. Lithuania: employment by age group (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call.

11.9.3 Workforce education and training

Education

Educational attainment within the sector shifted over the period analysed. Employment among workers with high educational increased slightly, while medium-education -already the largest group, rose from 38.3% to 61.3%. Employment among those with low education grew more modestly. Overall, employment growth was medium education, reflecting a gradual upskilling of the workforce.

Table 383. Lithuania. Employment by education level (2017-2023)

Education Level	2017	2020	2023	% Δ 2023-2017
High	663	1 037	819	24%
Medium	1 885	2 895	3 084	64%
Low	944	1 243	1 130	20%
Unknown	1 429	0	0	-100%

Source: Member States data submissions under the 2025 Social Data Call.

Nationality

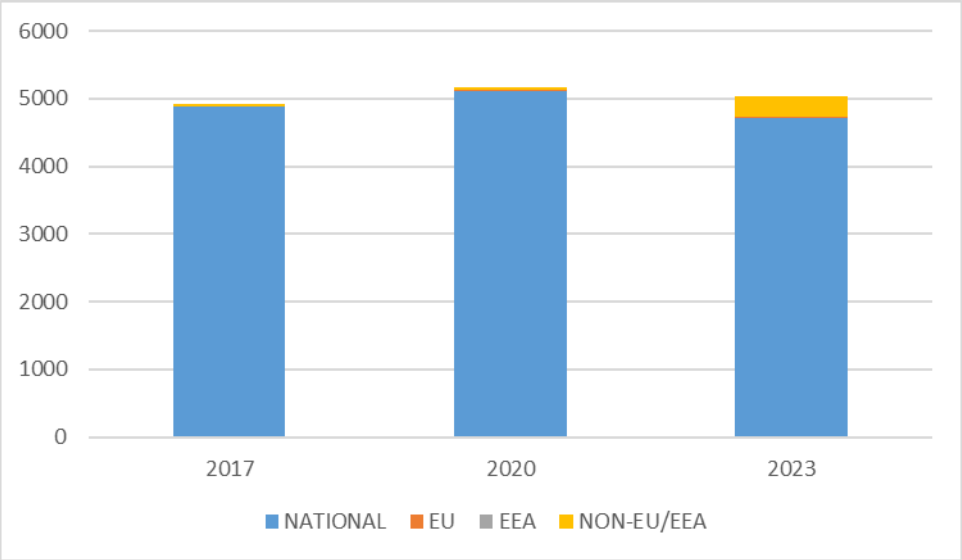
The vast majority of the workforce are national employees (99% of the workforce since 2017). Workers from the EU represented a very small share. Employment of non-EU/EEA workers increased noticeably, from 0.7% in 2017 to 6.4% in 2023, reflecting growing participation of foreign workers outside the EU/EEA. These shifts suggest increasing reliance on third country labour, although definitional changes and data gaps limit direct comparability across years.

Table 384. Lithuania. Employment by nationality (2017-2023)

Nationality	2017	2020	2023	% Δ 2023-2017
NATIONAL	4 875	5 117	4 715	-3%
EU	11	12	14	27%
EEA	2	1	0	-100%
NON-EU/EEA	33	45	304	821%
UNKNOWN	4 921	5 175		-100%

Source: Member States data submissions under the 2025 Social Data Call.

Figure 193. Lithuania. Employment by nationality (2017-2023)



Source: Member States data submissions under the 2025 Social Data Call.

11.9.4 Methodological considerations and data issues

No issues were mentioned.

11.10 Latvia

11.10.1 Short description of the processing sector

In 2021, there were 96 enterprises whose main activity was fish processing in Latvia (Table 385). Compared to the previous year the total number of enterprises increased by 5 (5%). The total number of persons employed in the Latvian fish processing industry was 2 776, corresponding to 2 567 FTEs. Compared to 2020, the total number of persons employed, and FTEs increased 5% and 9% in 2021, respectively.

The total income was EUR 238.2 million in 2021, increasing 5% compared to 2020. The value of total purchases of goods and services increased 6% to EUR 189.3 million. The personnel costs were EUR 34.9 million increasing 16% compared to previous year.

Comparing the economic performance indicators between 2020 and 2021, then GVA increased by 1% to EUR 50.6 million in 2021. Gross profit underwent a fall (29%) and reached to EUR 15.7 million (STECF Economic Report on the EU Fish Processing Industry, 2024).

Table 385. Processing overview, Latvia, 2013-2021.

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ(2020-21)
Structure (number)										
Total enterprises	111	111	112	115	112	108	106	91	96	5%
Total persons employed	6,225	5,756	4,258	3,804	3,521	3,249	2,921	2,643	2,776	5%
Unpaid labour	8	44	88	63	43	63	33	18	33	83%
FTE	4,791	5,282	3,588	3,258	3,125	2,911	2,507	2,360	2,406	2%
Income, expenditure and investments (million €)										
Production value	224.0	209.7	156.0	148.8	173.9	188.3	195.8	220.5	233.4	6%
Turnover										
Total income	254.6	228.1	169.0	153.0	183.2	198.5	209.4	225.8	238.2	5%
Total purchases of goods and services	201.8	182.8	131.4	121.7	152.6	160.9	170.3	179.0	189.3	6%
Personnel costs	36.5	36.1	27.3	25.5	27.8	29.8	28.7	30.0	34.9	16%
Gross investment in tangible goods	17.1	10.1	8.7	4.4	4.8	7.7	10.3	6.3	5.4	-14%
Economic performance (million €)										
Gross Value Added	59.7	52.6	44.5	39.3	34.8	41.3	44.4	50.3	50.6	1%
Gross profit	23.2	16.5	17.2	13.8	7.0	11.5	15.7	20.3	15.7	-23%

Source: Eurostat, 2023

Demographics characteristics in Processing

11.10.2 Employment in Processing

Total Employment and Full-Time Equivalent

Between 2008 and 2019, the Latvian aquaculture sector experienced a steady decline in both employment and FTEs. The number of people employed fell from 5 792 to 2 907, while FTEs decreased from 5 592 to 2 521. This downward

trend reflects a reduction in workforce size of almost 50% over 12 years. The decline was particularly pronounced after 2013, with sharp drops in total employment and FTEs suggesting sector consolidation, increased mechanisation or reduced production activity. Overall, the data indicate a significant contraction in the labour force, highlighting the challenges of maintaining employment levels in the Latvian aquaculture sector during this period.

Table 386. The number of FTEs and persons employed in Latvia from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
FTE National	5 592	4 174	4 681	4 992	5 357	5 285	5 132	3 580	3 273	3 125	2 911	2 521
Number of persons employed	5 792	4 684	5 015	5 399	5 781	6 223	5 558	4 169	3 783	3 522	3 252	2 907

11.10.3 Demographics of the Workforce

Age

Between 2017 and 2020, notable shifts occurred in the age structure of the workforce. The younger age groups experienced modest growth: the 15–24 age group increased by 8% (from 71 to 77), and the 25–39 age group grew by 5% (from 493 to 518). This suggests an influx of younger workers into the sector. In contrast, substantial declines were seen in the middle-aged groups, with the 40–54 and 55–64 age groups falling by 23% each. This suggests early retirement, workforce restructuring, or reclassification of employment. The 65+ category also declined by 12%, suggesting that fewer older workers remained active. Overall, the data suggest that the workforce is gradually shifting towards younger employees, with the core middle-aged segment shrinking significantly.

Table 387. Latvia: Total number of employments by age in Latvia from 2017 to 2023 and the relative change between 2023 and 2017 (in %)

Age categories	**2017**	**2020**	**∆ 17-23**
15-24	71	77	▲8%
25-39	493	518	▲5%
40-54	2747	1007	▼-23%
55-64		1120	▼-23%
65+	211	185	▼-12%

11.10.4 Workforce education and training

Education

Between 2017 and 2020, substantial changes occurred in the educational composition of the workforce. The number of highly qualified workers fell by 38%, from 352 to 217. This suggests either a reduction in highly skilled roles or a shift in workers with these qualifications away from the sector. Conversely, the

number of workers with intermediate qualifications almost doubled, surging by 91% from 1 233 to 2 349. This suggests that intermediate qualifications had become the most prevalent among the workforces. The group with the lowest levels of education experienced the most dramatic decline, dropping by 82%, from 1 937 to 341. This may reflect a reduction in unskilled roles, or efforts to professionalise the sector. Overall, these trends suggest an increasingly concentrated workforce in medium-skilled positions, with fewer employees at either end of the educational spectrum.

Table 388. Total number of employments by education level in Latvia from 2017 to 2020 and the relative change between 2020 and 2017 (in %)

Education	2017	2020	Δ 17-20
high	352	217	▼-38%
medium	1 233	2 349	▲91%
low	1 937	341	▼-82%

Nationality

Between 2017 and 2020, the Latvian aquaculture workforce remained predominantly national, although some diversification occurred. Nationals accounted for 99% of employees in 2017, falling slightly to 96% by 2020. By 2020, a small number of EU nationals (28, accounting for 1% of the workforce) had entered the sector, while the number of non-EU/EEA workers had declined from 35 (also accounting for 1%) in 2017 to zero in 2020. Additionally, a new 'unknown' category emerged in 2020, accounting for 3% of the workforce and likely reflecting unclassified or unreported data. Overall, the sector continues to rely mainly on domestic labour, with only limited international participation.

Table 389. Employment composition by nationality in Latvia from 2017 to 2020 is shown as numbers and percentages.

Nationality	2017	2020
NATIONAL	3487 (99%)	2790 (96%)
EU	-	28 (1%)
EEA	-	-
NON-EU/EEA	35 (1%)	-
UNKNOWN	-	89 (3%)

11.10.5 Gender

Between 2017 and 2020, the proportion of men and women in the Latvian aquaculture workforce declined. The number of female workers fell by 13%, from 951 to 824, while the number of male workers decreased by 19%, from 2 571 to 2 083. This overall reduction reflects a shrinking workforce during this period, with men experiencing a slightly larger proportional decline than women. However, males continued to constitute the majority of employees.

Table 390. Composition of the labour force by gender in Latvia from 2017 to 2020 and the relative change between 2020 and 2017 (in %)

Gender	2017	2020	Δ 17-20
female	951	824	▼ -13%
male	2 571	2 083	▼-19%

11.10.6 Social demographics per processing segment

Between 2017 and 2020, the size of the overall workforce in Latvian aquaculture decreased, accompanied by shifts in its demographic and educational composition. In terms of gender, employment of both women and men declined, with the number of female employees dropping from 951 to 824 and the number of male employees falling from 2 571 to 2 083. However, men continued to dominate the sector. While the workforce remained predominantly national, a small number of EU nationals were present (28), and the number of non-EU/EEA workers decreased to zero, with 89 individuals classified as 'unknown'.

Table 391. Latvia: Overall social variables for fish processing sector

	Overall		
	2017	**2020**	**2023***
Gender			
female	951	824	
male	2571	2083	
Nationality			
NATIONAL	3487	2790	
EU	0	28	
EEA	0	0	
NON-EU/EEA	35	0	
UNKNOWN	0	89	
Age			
15-24	71	77	
25-39	493	518	
40-54	2747	1007	
55-64		1120	
65+	211	185	
Education			
high	352	217	
medium	1233	2349	
low	1937	341	

* Latvia does not collect data relating to fish processing

The age distribution revealed a significant decline in the 40–54 age group, dropping from 2 747 to 1 007, while the younger groups (15–24 and 25–39) exhibited modest growth. The 55–64 and 65+ age groups remained substantial, reflecting a continued reliance on experienced workers. Educational trends showed a significant shift towards medium-level qualifications, with the number of workers with medium-level qualifications almost doubling from 1 233 to 2 349. Conversely, the number of highly educated employees fell from 352 to 217, and the number of workers with a low level of education dropped sharply from 1 937 to 341. Overall, these data suggest that the size of the Latvian aquaculture workforce has shrunk, but its composition is shifting towards a more medium-skilled and slightly younger profile. There is still a reliance on national labour, and the gender balance remains modest.

11.10.7 Methodological considerations and data issues

Data source used for the DCF Social Data Call

Latvia does not collect social data relating to fish processing after 2020. For this chapter, data submitted up to 2020 was used.

Data quality issues related to your MS

No specific quality issues have been identified.

11.11 Malta

11.11.1 Short description of the processing sector

Malta's fish processing industry is small and concentrated, with activity focused mainly on the preservation and processing of tuna, sardines, and other marine fish. A limited number of specialised firms form the core of the sector, while a small additional group of enterprises contributes on a secondary basis where fish processing is not their main operation. The industry structure is dominated by micro-enterprises, with around 60% of firms employing 10 workers or fewer, underscoring its limited scale and capacity. The number of enterprises remained stable at five in 2018 and 2019 (and broadly unchanged since 2015), while turnover was relatively steady during 2015–2018 (around EUR 23–24 million), followed by a marked expansion in 2019 when turnover increased by 19% (to around EUR 28 million). Employment and FTE also remained broadly stable over 2015–2019, and the fact that FTE held constant even when headcount declined in 2018 suggests that the sector relies largely on full-time employment relationships. In 2019, both headcount and FTE increased moderately, indicating some labour expansion alongside higher activity. Unpaid labour is consistently reported as absent, aligning with the sector's formal enterprise model.

Table 392. Processing overview, Malta, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	6	6	5	5	5	5	5	7	7	0%
	3	3	3	3	3	3	3	5	5	0%
11-49 employees	3	3	2	2	2	2	2	2	2	0%
50-249 employees	0	0	0	0	0	0	0	0	0	0%
	0	0	0	0	0	0	0	0	0	0%
Employment (number)										
Total employees	114	114	82	85	85	74	80	97	112	15%
FTE	109	109	71	72	72	72	77	94	110	17%
Indicators										
Turnover (million €)	46	36	23	23	24	24	28	40	47	19%
FTE per enterprise	18.2	18.2	14.2	14.4	14.4	14.4	15.4	13.4	15.7	17%
sand €)	22.9	26.2	31.8	32.4	33.0	25.3	25.3	20.7	22.1	7%
Unpaid work (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%
Enterprises doing fish processing not as main activity										
Number of entreprises	0	2	2	2	2	4	4	4	4	0%
Turnover attributed to fish processing (million €)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	38%

Source: Malta data submissions under the 2023 Processing Data Call (STECF 2023-14)

From an economic-performance perspective, the industry's cost structure is heavily shaped by raw material purchases, which consistently represent the dominant cost component (around 85–87%), followed by wages, energy, and other operating costs. Despite recurring net losses through most of the post-2013 period (including continued losses in 2018), the sector experienced a

turnaround in 2019, registering net profits and generating a GVA of €3.8 million, its highest level since 2014. This improvement appears consistent with the strong turnover growth in 2019 and relatively contained cost movements, which supported a broader recovery across profitability and performance indicators (including margins, labour and capital productivity, and ROI). Overall, the processing sector remains structurally small and input-cost sensitive, but the 2019 performance suggests that market conditions and operational efficiency can materially shift outcomes even without expansion in enterprise numbers.

Demographics characteristics in Processing

11.11.2 Employment in Processing

Total Employment

The fish processing workforce shows a rebound in 2021 after the expansion observed in 2020. Headcount employment increased from 97 to 112 (+15.5%), while FTE rose from 94 to 110 (+17.0%), indicating that the recovery was not only in persons employed but also in full-time equivalent labour input. Relative to the 2013–2020 average, 2021 employment levels were materially higher (+22.6% for persons; +30.2% for FTE), bringing the sector closer to the higher employment levels recorded in the early 2010s. The FTE-to-headcount ratio in 2021 (≈0.98) suggests a workforce that is predominantly full-time or near full-time in effective labour terms, reinforcing earlier evidence that processing employment is largely formalised rather than casual or family-based. Labour utilisation also strengthened in 2021: total hours worked increased substantially compared to 2020 (+23.8%). It is important to note that the hours series is only available from 2016 onwards, so a “2013–2020 average” comparison cannot be calculated on a like-for-like basis; against the 2016–2020 average, hours in 2021 were higher by ~41.5%, consistent with a return to higher operational intensity. On remuneration, personnel costs increased by 25.0% between 2020 and 2021, outpacing the growth in headcount and broadly aligning with the increase in hours worked, suggesting a combination of higher labour input and cost pressures. Average wage per FTE rose by 7.0% year-on-year but remained below the 2013–2020 average (–18.8%), implying that the 2021 recovery in employment and labour input did not translate into a return to earlier wage-per-FTE levels. Finally, the sector continues to report no unpaid labour, consistent with an enterprise-based employment model rather than owner-operator or unpaid family labour arrangements.

11.11.3 Demographics of the Workforce

Age

The age profile of Malta’s fish processing workforce is concentrated in prime working ages, with 25–39 consistently the largest cohort and 40–64 the second largest. The 15–24 group remains small but stable in relative terms, while both ≤14 and ≥65 are recorded as zero throughout, suggesting limited presence of

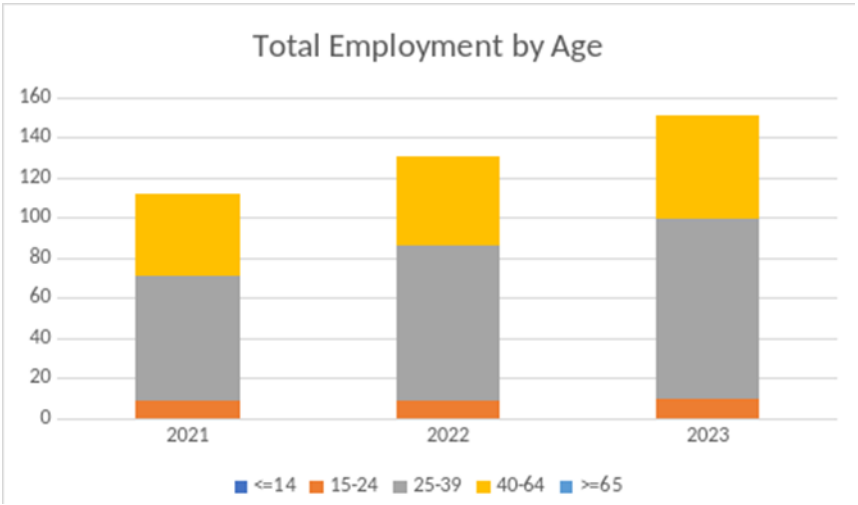
older workers within the observed series (or that older participation is not captured under this variable). Notably, the headcounts across age groups increase year-on-year, implying that the sector's employment expansion over 2021–2023 is reflected across the main working-age cohorts rather than being driven by a single age group. In proportional terms, the distribution is broadly stable: in 2023, workers aged 25–39 account for ~59% of the age-profile total, 40–64 ~34%, and 15–24 ~7%, indicating that growth occurred without a major shift in the age structure.

Table 393. Malta: Employment in processing by age

Age group	2021	2022	2023	Δ 2023 vs 2022
≤14	0	0	0	n.a.
15–24	9	9	10	11.1%
25–39	62	77	89	15.6%
40–64	41	44	52	18.2%
≥65	0	0	0	n.a.

Source: Member States data submissions under the 2025 Social Data Call.

Figure 194. Malta: Employment by age



Source: Member States data submissions under the 2025 Social Data Call.

11.11.4 Workforce education and training

Education

The education profile points to a marked compositional shift after 2020, alongside a clear expansion in the total workforce captured in the table. The most prominent pattern is the sharp reduction of the "unknown" category from 2020 onward (from 27 in 2020 to zero from 2021), which strongly suggests a reporting/coding improvement or a change in data-collection practice rather than an abrupt real-world change in educational attainment. In parallel, the workforce becomes increasingly concentrated in the medium attainment category, which rises steadily each year and remains the dominant category by

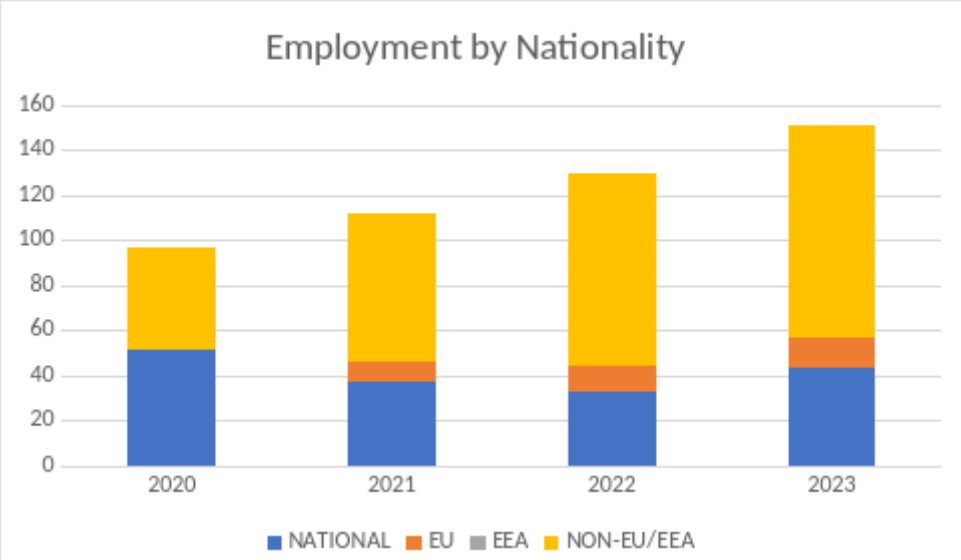
2023. “High” attainment remains small but stable in absolute terms, while “low” attainment falls substantially relative to 2020 and stays low thereafter. Overall, the series is most credibly interpreted as indicating better classification and a growing workforce, with the post-2020 structure suggesting that processing employment is increasingly recorded as medium-skilled while recognising that part of the shift may reflect reallocation from previously “unknown” rather than genuine upgrading.

Table 394. Malta: Employment by education

Education level	2020	2021	2022	2023	Δ 2023 vs 2022
High	6	6	6	7	**+16.7%**
Medium	48	102	119	139	**+16.8%**
Low	16	4	4	5	**+25.0%**
Unknown	27	0	0	0	n.a.
Grand total	**97**	**112**	**129**	**151**	**+17.1%**

Source: Member States data submissions under the 2025 Social Data Call.

Figure 195. Malta: Employment by education



Source: Member States data submissions under the 2025 Social Data Call.

By 2023, the workforce is overwhelmingly recorded under medium attainment (around **92%** of the table total), with high attainment remaining limited and low attainment a small residual group. The disappearance of “unknown” from 2021 onwards improves interpretability, but it also means that 2020 is not fully comparable with later years; changes between 2020 and 2021 should therefore be treated cautiously, as they likely combine real shifts with reclassification effects.

Nationality

The nationality breakdown indicates a clear structural shift toward a larger foreign workforce, driven primarily by non-EU/EEA workers, alongside overall expansion in total employment captured by the table. Between 2020 and 2023, nationals decline in both absolute and relative terms (from 51 to 43; from ~53% to ~29%), while non-EU/EEA workers increase substantially (from 46 to 94; from ~47% to ~62%). EU employment emerges from zero in 2020 and rises steadily to 14 by 2023 (~9%), suggesting that the sector's recruitment increasingly draws on both EU and third-country labour, but with the strongest growth concentrated among non-EU/EEA workers. From a social perspective, this points to a processing workforce that is becoming more dependent on migrant labour inputs, which raises the importance of consistent onboarding, language-accessible occupational health and safety procedures, and effective implementation of contracts and social protection registration particularly in a sector often characterised by time-sensitive handling and production schedules.

While nationals increase year-on-year in 2023, the overall expansion is still largely carried by non-EU/EEA workers, and the sector's nationality structure in 2023 remains substantially more internationalised than the 2020–2022 baseline.

Table 395. Malta: Employment in fish processing by nationality

Nationality	2020	2021	2022	2023	Δ 2023 vs 2022
National	51	37	33	43	**+30.3%**
EU	0	9	11	14	**+27.3%**
EEA	0	0	0	0	n.a.
Non-EU/EEA	46	66	85	94	**+10.6%**
Unknown	0	0	0	0	n.a.
Grand total	**97**	**112**	**129**	**151**	**+17.1%**

Source: Member States data submissions under the 2025 Social Data Call.

11.11.5 Gender

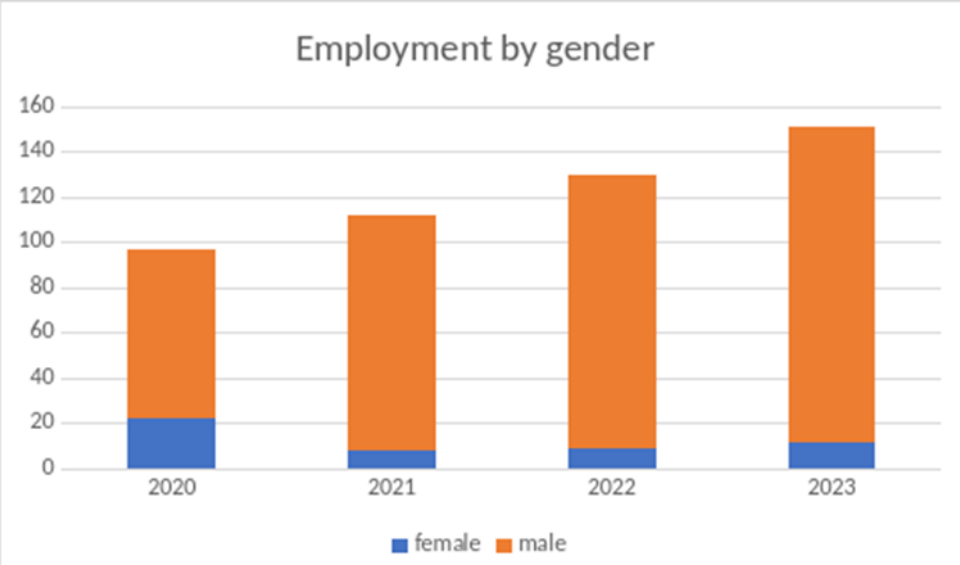
The gender distribution indicates that Malta's fish processing employment is consistently male-dominated, and unlike aquaculture female participation appears both low and volatile. In absolute terms, male employment increases steadily from 2020 to 2023, tracking overall sector expansion, whereas female employment drops sharply between 2020 and 2021 and only partially recovers thereafter. As a result, the female share falls from ~22.7% in 2020 (22 of 97) to ~7.1% in 2021 (8 of 112) and remains below 10% in 2022–2023 (about 7.0% and 7.3%, respectively). This suggests that the post-2020 growth phase in processing has been absorbed predominantly through male recruitment, implying either a shift in the occupational mix toward roles more typically held by men (e.g., handling, logistics, cold-store operations) and/or constraints on female participation linked to working-time arrangements, job design, or recruitment pipelines. Given that the "unknown" category is consistently zero, the observed movements likely reflect genuine changes in recorded workforce composition rather than classification completeness.

Table 396. Malta: Employment in processing by gender

Gender	2020	2021	2022	2023	Δ 2023 vs 2022
Female	22	8	9	11	**+22.2%**
Male	75	104	120	140	**+16.7%**
Unknown	0	0	0	0	n.a.

Source: Member States data submissions under the 2025 Social Data Call.

Figure 196. Malta: Employment in processing by gender



Source: Member States data submissions under the 2025 Social Data Call.

The pattern suggests that women's employment in processing is not expanding proportionately with total employment growth. Even though female headcount rises in 2023, it remains below the 2020–2022 average, indicating that female participation has not returned to earlier levels and that recent labour demand has been met primarily through male labour. This has implications for inclusion and job access, particularly if growth is concentrated in operational roles with physical demands, shiftwork, or less flexible arrangements.

11.11.6 Social demographics per processing segment

Unfortunately, data allows only a limited "segment" analysis for the processing industry, because the only explicit segmentation present is enterprise size category (≤10 employees; 11–49 employees) and it is only populated for 2020. No product/technology segments (e.g., tuna vs sardine processing), nor firm-type segments (e.g., primary processors vs secondary/ancillary processors), are identifiable in the dataset. As such, the most defensible approach is to treat size class as a proxy for processing "segment" and interpret socio-demographic composition accordingly, while clearly flagging the constraints.

≤10 employees segment (micro-enterprises, 2020 snapshot)

Micro-enterprises appear male-dominated but with a somewhat higher female presence than the larger size class. The age profile is concentrated in prime working ages, especially 25–39 and 40–54, with very limited representation in older age bands and minimal dispersion across categories. Nationality composition is predominantly Maltese nationals, with a meaningful but smaller non-EU/EEA component; EU and EEA are effectively absent. This structure is consistent with a more locally rooted segment that may draw on domestic labour networks and potentially family/community ties, while still relying on some third-country workers. Education in micro firms is recorded primarily as medium and low, with very small high attainment and a small “unknown” residue. From a social perspective, the profile suggests micro processing units are likely to be operationally hands-on, with staffing built around practical skills and relatively stable prime-age labour.

11–49 employees segment (small/medium establishments, 2020 snapshot)

The 11–49 segment is also strongly male-dominated. The age profile is noticeably more weighted toward older working-age cohorts, with 40–54 clearly dominant and a larger presence of 55–64 compared with micro firms, suggesting a more “experienced” workforce structure and potentially longer tenure. The most striking differentiator is nationality: the segment shows a majority non-EU/EEA workforce in 2020, with Maltese nationals a minority, implying that larger establishments may have a stronger dependence on third-country recruitment to meet staffing needs and maintain production schedules. This has direct implications for working conditions and integration requirements (clear contracts, OSH induction, language-accessible procedures, and consistent social protection registration). Education is the weakest dimension for interpretation in this segment because the “unknown” category is very large, making it difficult to infer whether the workforce is predominantly low- or medium-attainment, or whether the unknown values reflect reporting failures concentrated in certain occupations or firms.

Cross-segment comparison and sectoral reading (what can and cannot be inferred)

Taken together, the 2020 snapshot suggests that processing size class is associated with different labour compositions: micro firms appear more nationally anchored, whereas larger establishments appear more migrant-labour intensive, and the age structure in larger establishments appears older. Gender imbalances persist across both segments. However, the dataset does not allow robust statements about how these segment differences evolved after 2020, because 2021–2023 figures are provided only at aggregate level (no size split). The aggregate totals for 2021–2023 nonetheless indicate continued growth, an increasing reliance on non-EU/EEA workers, and a workforce concentrated in 25–39 and 40–64patterns that are directionally consistent with the 2020 size-based contrast, but not attributable to a specific size segment.

11.11.7 Methodological considerations and data issues

Social data are collected in line with the methodology defined in Malta's DCF Work Plan. Primary information is gathered through targeted electronic questionnaires issued on an ad hoc basis to all fish processing enterprises (main activity and non-main); A census-based approach is used to compile the core variables under the economic and social data calls.

Data quality issues related to your MS

Several data-quality and comparability issues affect the interpretation of Malta's fish processing industry. Most importantly, segmentation is only available for a single year: size-based socio-demographics are provided only for 2020, which prevents trend analysis by segment and limits any attempt to attribute the sector's subsequent changes (2021–2023) to micro firms (≤10) versus larger establishments (11–49). Education data show a further weakness: the segmented extract for 2020 contains a very large "unknown" education category, particularly in the 11–49 size class, indicating systematic non-response or coding gaps and making segment-level conclusions on skills structure unreliable. Although an employment-status dimension is referenced in the segmented table structure, it is not meaningfully populated by size class, preventing analysis of contractual patterns (e.g., full-time/part-time/seasonal) by segment and weakening any assessment of working conditions via employment form.

Beyond these structural issues, there are broader concerns around coverage and internal consistency. The size-class table does not clarify whether it reflects the full population of processing enterprises or only responding/selected units, nor whether it includes ancillary firms for whom fish processing is a secondary activity an ambiguity that affects representativeness and could bias composition (e.g., nationality or education) if certain firm types are under-represented. Relatedly, the processing social series reviewed (gender, nationality, education, and age) are reported for 2020–2023 but do not explicitly confirm that they refer to the same statistical population and observation method across years; the abrupt disappearance of "unknown" education from 2021 onwards suggests improvements in reporting, but also implies a break in comparability between 2020 and later years. Finally, the dataset does not provide processing-activity segmentation (e.g., tuna-focused vs other species; cold storage vs filleting/canning; export-oriented vs domestic sales), which would be more informative for analysis than size alone. Taken together, these limitations mean the data are best used to describe overall direction and broad structure, while segmented and skills-related findings should be presented cautiously and framed as indicative where classification or coverage limitations are evident.

11.12 Poland

11.12.1 Short description of the processing sector

According Economic Report on the EU fish processing industry (STECF 23-14), Poland is one of the most important fish processors in the European Union. According to EUROSTAT data, the production value of this sector in the EU-27 amounted to EUR 25.8 billion in 2020. Total turnover of Polish processing companies amounted from 2.1 billion in 2013 (DCF) to in to 4.9 billion euro in 2023 (Eurostat Prodcom). When turnover in this period was more than doubled the number of employees raised from 13 to around 19 thousand. Poland is the leader in the EU in labour and energy consuming production focused mostly on smoked salmon (45% of the total volume), fresh fillets (32%), as well as processed and canned products (51%). Processing plants located mostly in Northern Poland (Pomorskie I Zachodnipomorskie Region). Most of the production is exported, as domestic demand for fish products remains stable in the long term.

According to the STECF fish processing report, in 2021, there were 198 companies conducting fish processing in Poland; 159 of them declared the primary production under the NACE Code 10.20. In the period 2013-2021, a downward trend can be observed in the number of enterprises dealing with fish processing, which is mainly a consequence of mergers and acquisitions, but also liquidation, bankruptcy or market reorientation. The structure of Polish fish processing industry was highly concentrated. In 2021, most of production value (69% of value) was processed in large fish processing companies with more than 250 employees. In 2021, the total number of employees increased to 19.5 thousand persons by an increase of 3% to previous year and an increase of 32% compared to 2013. Most employees worked fulltime and FTE amounted to 19 198 FTE demonstrated an increasing tendency from 2013. The average size of the enterprises measured by FTE was 121 employees and increased by 58% FTE from 2013. The average salary per employee (in FTE) per year reached EUR 17.2 thousand and increased 1% year on year and almost 41% compared to 2013.

Due to shortages of supply on domestic labour market, staffing agencies are a very popular form of employment in the fish processing industry. This is a form in which a foreign entity employs workers (e.g., from Asia) and their work is not recorded in the processing industry as employment but as external services. In addition, there are no wages in costs, only the cost of external services. This causes problems with recording, estimating, structuring and analyzing social processes. This workers are not detected in DCF programme.

For this reason, statistics from recent years (2022 -2023) clearly show downward trends in the total number of employees (17 thousand and 16.5 thousand employees) despite an increase in the volume and value of production. This situation requires correction and estimation of this new phenomenon.

Table 397. Processing overview, Poland, 2013-2021

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	183	180	185	181	170	164	163	156	159	2%
≤ 10 employees	49	51	52	35	31	35	35	31	33	6%
11-49 employees	78	65	68	77	72	63	63	61	62	2%
50-249 employees	43	50	53	57	53	51	51	50	52	4%
≥ 250 employees	13	14	12	12	14	15	14	14	12	-14%
Employment (number)										
Total employees	14,783	16,775	17,743	18,947	18,633	19,503	19,850	19,030	19,561	3%
FTE	13,974	16,042	16,937	17,873	17,578	18,845	19,180	18,678	19,198	3%
Indicators										
Turnover (million €)	2,128	2,252	2,503	2,514	2,760	3,346	3,326	3,312	3,423	3%
FTE per enterprise	76.4	89.1	91.6	98.7	103.4	114.9	117.7	119.7	120.7	1%
Average wage (thousand €)	12.2	12.0	12.7	13.1	14.2	14.7	15.1	17.0	17.2	1%
Unpaid work (%)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	-16%
Enterprises doing fish processing not as main activity										
Number of entreprises	38	45	42	41	42	40	38	32	39	22%
Turnover attributed to fish processing (million €)	100.5	93.4	70.3	66.3	80.8	60.5	142.8	262.5	280.8	7%

MS data submissions under the 2023 Fish processing data call and elaboration by the EWG.

Source STECF Report 23-14

Demographics characteristics in Processing

Employment data refer to the population of processing enterprises, rather than to individual employees, and are collected through a census survey conducted by Polish Ministry of Agriculture and Rural Development. The survey includes entities of all size categories (<10, 11–49, and 50–249 employees).

11.12.2 Employment in Processing

Total Employment

In 2023, total reported employment in the Polish fish processing sector reached 16.4 thousand persons, showing a important decrease compared with other years (from 18.6 to 19.9 thousand). This confirms a stable employment structure, but changes in legal form of employment.

Table 398. Poland: Total employment in processing in fishing sector

	2016	2017	2018	2019	2020	2021	2022	2023
Total	18 947	18 633	19 503	19 850	19 030	19 561	16 936	16 420

Source: Polish data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

11.12.3 Demographics of the Workforce

Age

Between 2016 and 2023, data show a progressive ageing of the workforce in the Polish fish processing sector. The segment is dominated by employees aged 40-55 years old. In 2026, they accounted for 53% of the total workforce, and in 2023, 41%. The reduction in middle-aged employees was offset by an increase in the share of older employees (or they moved to the older group) — in 2016, they accounted for only 1%, and in 2023, already 17%. During the period under review (2016-2023), there was also a downward trend in the share of the youngest employee groups - (15-24) from 7% in 2016 to 5% in 2023 of the total, and (25-39) from 40% to 36% in the corresponding periods.

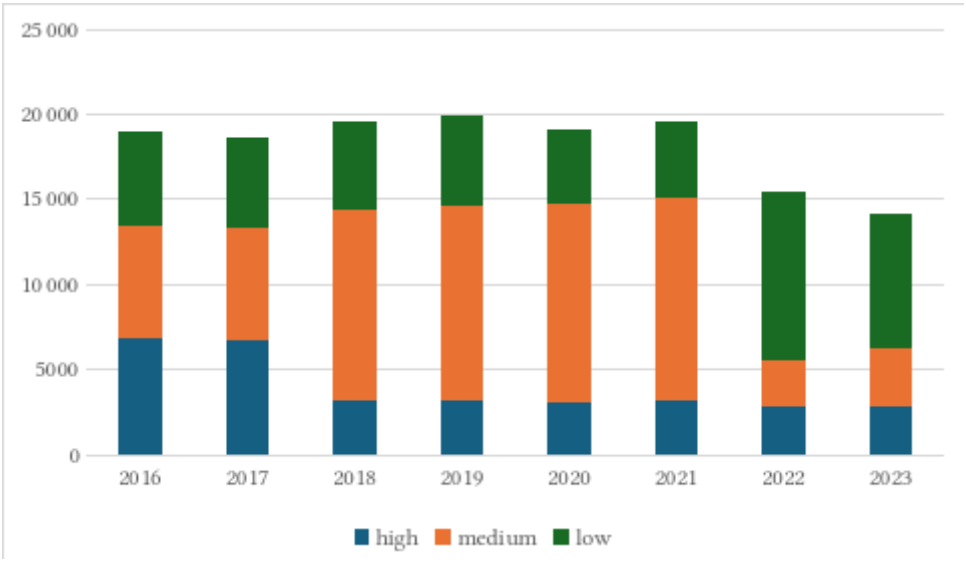
11.12.4 Workforce education and training

Education

Due to the nature of work in manufacturing (repetitive processes), the industry's main demand is for low and medium education levels. These education levels dominated in the period under review, accounting for 64% (2026) to 80% in 2023.

Higher education was represented by managerial and technical staff. Their share gradually decreased from almost 36% in 2016 to 16% in 2022. This was related to the mechanization and automation of production processes and a decrease in the demand for staff directly monitoring the processes.

Figure 197. Poland: Employment by education

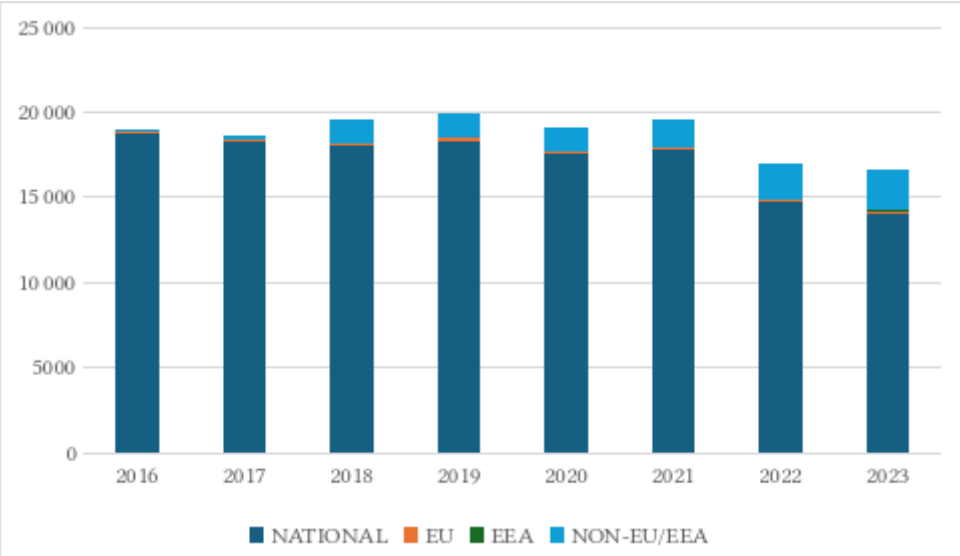


Source: Polish data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

Nationality

The breakdown by nationality shows a clear predominance of domestic workers in the Polish fish processing sector in 2016–2023 period. However, due to changes in the labor market, the share of Polish citizens has steadily declined from 99% in 2016 to 85% in 2023. The decline in the number of domestic workers was offset by the number of workers from outside the EU (NonEU/EEA). During the period, their share increased from 1% in 2016 to 14% in 2023. However, in the opinion of the authors of the study, this number is significantly underestimated due to the previously described new legal form of employment (staffing agencies large production plants). The number of workers from the EU was marginal in the period under review. It averaged 1% of the workforce.

Figure 198. Poland: Employment by nationality



Source Polish data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14)

The Polish manufacturing sector is predominantly mass-oriented and focused on low production costs, hence the share of foreign workers is gradually increasing, especially in operational and low-skilled positions, reflecting the sector's growing dependence on migrant workers to ensure workforce flexibility.

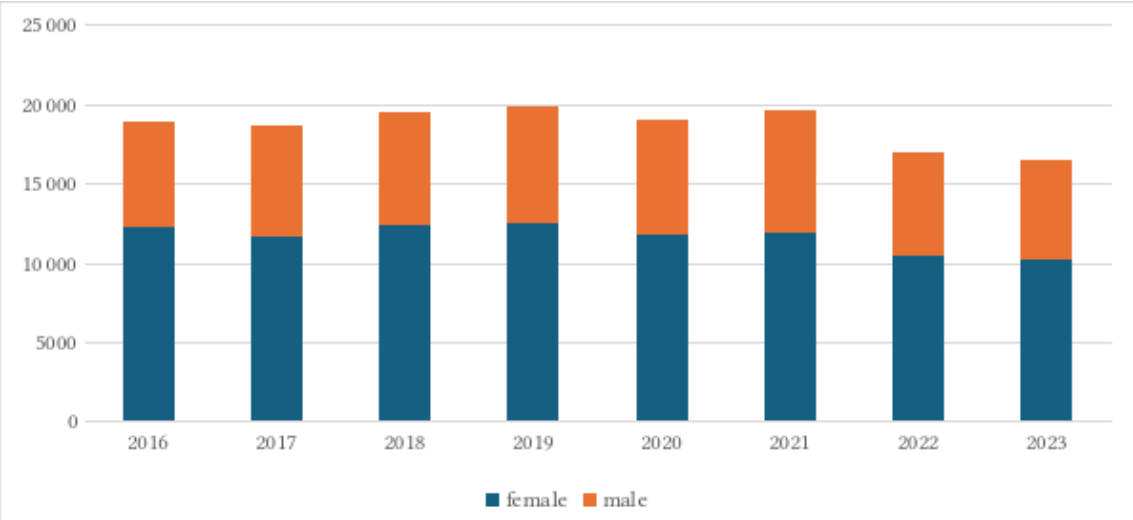
11.12.5 Gender

Employment by gender

The gender breakdown shows that employment in the Polish fish processing sector is balanced, but with a clear predominance of men. Between 2016 and 2023, female employment fluctuated around two-thirds of total employment (61 to 65%). Women are mainly employed in manual processing and packaging, while men are more concentrated in technical, maintenance, and logistics

positions. This pattern reflects the traditional gender division of labor in the processing industry.

Figure 199. Poland: Employment by gender



Source Polish data submissions under the 2025 Social Data Call and Processing Economic data call (STECF 23-14).

11.12.6 Methodological considerations and data issues

Social data on the fish processing sector are collected in accordance with the Polish DCF work plan for 2022–2024. The survey collects socio-economic and demographic information from processing enterprises of various sizes, using primary data cross-checked with administrative sources for validation purposes. The Polish methodology applies EU DCF census standards, covering a large number of enterprises of various sizes in this sector. As part of the data upload for 2022-2023, due to the underestimation of total employment due to the functioning of the staff agency, a request was made for a re-estimation taking this factor into account, and new data was uploaded to the JRC after the report. The data set implemented under the DCF ensures consistency over time. In the near future, there is a need to develop a consistent methodology for estimating the number of people working through staff agencies.

11.13 Romania

11.13.1 Short description of the processing sector

According to data submitted under the EU Data Collection Framework, the Romanian fish processing sector consisted of 18 enterprises in 2021. The structure of the sector by company size shows a predominance of small and medium sized enterprises, with changes observed across size classes over time. Between 2020 and 2021, the number of enterprises employing fewer than 10 workers increased, while the number of enterprises in the 11–49 employee category declined. At the same time, the number of enterprises employing 50–249 workers increased, indicating some consolidation towards medium sized operations. No enterprises employing 250 or more workers were reported in the 2021 DCF submissions.

Employment in the Romanian fish processing sector amounted to 1 182 persons in 2021, corresponding to 1 071 full time equivalents (FTEs). Employment levels have fluctuated over the period analysed, without a clear relationship to changes in the number of enterprises, suggesting that adjustments in labour use may reflect changes in production intensity, reporting coverage, or business organisation rather than structural expansion or contraction alone.

Table 399. Processing overview, Romania, 2013-2021.

Variable	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)										
Total enterprises	7	10	8	19	17	18	13	18	18	0%
≤ 10 employees	0	0	1	5	2	1	3	3	4	33%
11-49 employees	5	7	4	7	11	9	5	10	9	-10%
50-249 employees	2	3	3	7	4	8	4	4	5	25%
≥ 250 employees	0	0	0	0	0	0	1	1	0	-100%
Employment (number)										
Total employees	438	510	483	1,203	1,015	1,255	1,038	1,182	1,182	0%
FTE	438	510	483	1,203	1,006	1,211	1,025	1,160	1,071	-8%
Indicators										
Turnover (million €)	20	16	15	32	99	99	88	102	135	33%
FTE per enterprise	62.6	51.0	60.4	63.3	59.2	67.3	78.8	64.5	59.5	-8%
Average wage (thousand €)	1.7	2.8	4.0	3.7	7.1	8.3	6.5	9.0	12.2	35%
Unpaid work (%)	11.1	4.0	1.7	4.6	4.2	4.2	6.1	4.6	4.3	-6%
Enterprises doing fish processing not as main activity										
Number of entreprises	24	14	18	12	15	13	12	19	19	0%
Turnover attributed to fish processing (million €)	0.0	3.6	0.5	6.6	6.8	7.7	5.3	10.0	14.3	42%

Source: MS data submissions under the 2023 Fish processing data call and elaboration by the EWG (STECF 23-14).

Economic performance in the Romanian fish processing industry showed variability over the period 2013–2021, with a marked improvement reported in 2021. Turnover increased to EUR 135 million, representing a 33% increase

compared to 2020, while the average annual wage rose by 35% to EUR 12.2 thousand. At the same time, labour intensity declined, with FTEs per enterprise decreasing by 8% to 59.5, and the share of unpaid work falling to 4.3%, indicating a modest improvement in employment quality indicators.

In addition to enterprises for which fish processing is the main activity, a number of companies engage in fish processing as a secondary activity. In 2021, 19 such enterprises were reported, with turnover attributed to fish processing increasing by 42% to EUR 14.3 million compared to 2020. This highlights the importance of diversified business models within the wider processing sector.

It should be noted that differences exist between DCF submissions and other statistical sources. According to Eurostat data, 37 fish processing enterprises were active in Romania in 2020, generating EUR 109.5 million in sales and employing 1 223 persons. The sector generated EUR 14.2 million in value added, accounting for 0.8% of total value added in food manufacturing. The main products sold included prepared or preserved fish, smoked fish, and preserved crustaceans, molluscs, and other aquatic invertebrates. These differences underline the need for caution when comparing sources and reinforce the importance of interpreting structural and social indicators in the context of data coverage and methodology.

Demographics characteristics in Processing

11.13.2 Employment in Processing

Total Employment

Total employment in the Romanian fish processing sector declined over the period 2018–2023, although with notable year-to-year fluctuation. Employment fell from 1 255 persons in 2018 to 1 042 in 2023, representing an overall decrease of 17%. Following a low point in 2019, employment recovered in 2020 and remained relatively stable between 2020 and 2022, before declining again in 2023. Overall, the 2023 employment level indicates a moderate contraction of the workforce compared to the start of the period, but the observed volatility means that these figures should be interpreted with caution. There was no data available by FTE.

Table 400. Romania: Total employment in the fish processing industry.

	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**% Δ 2023-2018**
Total Employment	1 255	1 038	1 203	1 182	1 177	1 042	-17%

11.13.3 Demographics of the Workforce

Age

Age-disaggregated employment data for the Romanian fish processing sector show substantial variability over time, which limits the scope for trend-based interpretation. As a result, the most recent year, 2023, provides the most

appropriate reference point for describing the current age structure of the workforce.

In 2023, employment in fish processing was concentrated in the 40–64 age group, which accounted for the largest share of workers (697 persons). This reflects the experience-based nature of processing activities and the continued reliance on established workers within the sector. Employees aged 25–39 represented the second largest group (278 persons), while employment among younger workers aged 15–24 remained relatively limited (45 persons), despite sharp year-to-year changes observed in earlier years. Employment of workers aged 65 and over was low (22 persons), indicating limited participation of older workers in the processing workforce.

Table 401. Romania: Total employment in the fish processing industry by age

Age	2019	2020	2021	2022	2023	% Δ 2023-2019
15-24	4	9	121	128	45	1025%
25-39	401	433	311	347	278	-31%
40-64	633	761	655	680	697	10%
65+	0	0	95	22	22	

11.13.4 Workforce education and training

Nationality

Nationality-disaggregated employment data for the Romanian fish processing sector show significant inconsistencies across years, which strongly limit the ability to conduct trend analysis. In particular, the data suggest that, in earlier years, national workers may have been reported under the broader EU category, while in later years nationality categories appear to have been more clearly distinguished. As a result, changes observed over time are likely driven primarily by classification and reporting practices rather than underlying shifts in workforce composition.

Table 402. Romania: Total employment in the fish processing industry by nationality

Nationality	2018	2019	2020	2021	2022	2023
NATIONAL	0	0	1 122	1 101	1 016	941
EU	1 233	965	1	1	2	4
NON-EU/EEA	0	0	80	80	159	97
UNKNOWN	22	73	0	0	0	0

Focusing on 2023, which provides the most coherent snapshot, employment in the processing sector appears to be predominantly national, with 941 national workers reported. Employment of EU nationals other than Romanians was very limited (4 persons), while non-EU/EEA workers accounted for a small but visible share of employment (97 persons). No workers were reported under the “unknown” category in 2023, suggesting improved data completeness compared to earlier years.

Given the breaks in series and the apparent reclassification of nationality categories over time, it is not possible to draw robust conclusions regarding changes in labour mobility or reliance on foreign labour in the Romanian fish processing sector.

11.13.5 Gender

Gender data for the Romanian fish processing sector show substantial year-to-year volatility, which limits the scope for identifying clear structural trends over time. Additionally the total data for 2022 by gender does not match the overall employment reported. As a result, the most recent year, 2023, provides the most appropriate reference point for describing the current gender composition of the workforce.

In 2023, employment in fish processing was relatively balanced by gender, with 594 women and 448 men reported. Women therefore accounted for a slightly larger share of employment, consistent with patterns observed in parts of the EU processing sector where manual, packaging, and quality control roles are more frequently filled by female workers. Compared with earlier years, both female and male employment declined in 2023, reflecting the broader contraction in reported employment rather than a targeted shift in gender participation.

Table 403. Romania. Employment by gender. Relative percentages by year are given between brackets.

Gender	2018	2019	2020	2021	2022	2023	% Δ 2023-2017
Female	705	532	675	665	1 293	594	-16%
Male	550	506	528	517	1 052	448	-19%
Total	**1 255**	**1 038**	**1 203**	**1 182**	**2 345**	**1 042**	

11.13.6 Methodological considerations and data issues

Age data categories for 2017 were not in the same age cohorts as all other years and had to be excluded.

The total employment reports for 2022 does not match the sum of total employment for gender.

Fluctuations in employment, age, gender, and nationality data may indicate changes in reporting coverage and classification, rather than structural shifts, are driving much of the observed variation.

Clear breaks in time series are evident, particularly for nationality, where national workers appear to have been reported under the EU category in earlier years.

As a result, the data are best interpreted as providing a snapshot of recent conditions, with 2023 offering the most coherent reference point. Improved

consistency in definitions, coverage, and reporting would strengthen future social assessments of Romania’s fish processing sector.

11.14 Sweden

11.14.1 Short description of the processing sector

Sweden produces only around 2% of total landings within the EU but is nevertheless an important player in the European seafood market due to large quantities of seafood being both imported and exported. Of the imported seafood, 45% comes from Norway, while the most important export partners are Denmark, Poland and France. Salmon accounts for 65% and 63% of Swedish imports and exports respectively, making it the most important seafood product from a trade perspective. This also makes Sweden the largest importer and exporter of salmon among EU countries. The vast majority (99%) is imported from Norway. Fresh and whole/cleaned salmon account for around 90% of both imports and exports. Sweden does not process any significant quantities of salmon, but rather functions as a transit country between Norway and the rest of the EU (Ziegler et al., 2023).

Swedish seafood processing companies are primarily located on the west coast. About half of the employees are in Västra Götaland, which also accounts for half of the industry's turnover. EUMOFA (2023) reports that in 2020, there were 175 companies in the Swedish fishing processing industry. These companies employed 1 487 persons. The sector provided a value added of EUR 84.2 million (Arias Schreiber and Waldo, 2025).

Table 404. Characteristics of the seafood processing sector in Sweden between 2008 and 2017.

Variable	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Structure (number)										
Total enterprises	214	217	219	219	223	222	224	224	213	209
≤10 employees	181	186	183	186	190	185	188	183	177	171
11-49 employees	26	26	30	26	25	29	28	33	28	33
50-249 employees	7	5	6	7	8	8	8	8	8	5
≥250 employees	0	0	0	0	0	0	0	0	0	0
Employment (number)										
Total employees	2,165	1,991	2,007	2,126	2,135	2,199	2,174	2,171	2,113	2,022
FTE	1,773	1,736	1,807	1,837	1,831	1,658	1,587	1,662	1,650	1,591
Indicators										
Turnover (million €)	520	467	568	599	613	542	500	512	565	590
FTE per enterprise	8.3	8.0	8.3	8.4	8.2	7.5	7.1	7.4	7.7	7.6
Average wage (thousand €)	43.9	39.3	45.4	48.3	50.2	48.5	45.8	45.0	44.9	47.2
Unpaid work (%)	1.3	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enterprises doing fish processing not as main activity										
Number of entreprises	87	98	95	108	120	125	126	132	132	134
Turnover attributed to fish processing (million €)	73	80	97	97	112	238	238	223	245	212

Data Source: STECF (2019).

11.14.2 Demographics characteristics in Processing

Employment in Processing

Total Employment

Total employment in the seafood processing sector has notably decreased between 2017 and 2023. People employed in processing companies decreased over this period in -20%.

Table 405. Sweden: Total employment

Employment	2017	2018	2019	2020	2021	2022	2023
	2022	2015	1894	1853	1740	1637	1602

Age

Around 50% of the workforce in the processing sector is between 40 and 65 years old. People older that 65 years has entered this force only during the last two years (2022 and 2023). In general, the age structure of the workforce - as it is currently recorded - does not show signs of generational recruitment problems.

Table 406. Sweden: Total employment by age

Age	2017	2018	2019	2020	2021	2022	2023
16-24	344	347	257	257	226	236	227
25-39	595	635	605	588	569	516	495
40-65	1032	987	976	958	898	830	834
>65	51	46	56	50	47	48	46
Total	**2022**	**2015**	**1894**	**1853**	**1740**	**1630**	**1602**

Workforce education

In 2023, 56% of workers in processing did an apprenticeship or graduated from high school, their education level is categorized as “medium”. Another 23% obtained a secondary education or no qualification, shown as “low” education. The remaining 18% have a “high” education level, which includes university studies, and also professional qualifications. It is noticeable that the education level in general is following a stable trend with the exception of data collected in 2017.

Table 407. Sweden: Education

Education	2017	2018	2019	2020	2021	2022	2023
High	2	221	216	293	303	286	291
Medium	210	1251	1163	1054	993	936	893
Low	1784	513	474	466	403	376	370
Unknown	26	30	41	40	41	42	49
Total	**2022**	**2015**	**1894**	**1853**	**1740**	**1640**	**1603**

Nationality

Almost 90% of the workforce in the seafood processing sector has a Swedish nationality or citizenship. The nationality of the workforce does not show significant variations between the period 2017 and 2023.

Table 408. Sweden: Nationality

Nationality	2017	2018	2019	2020	2021	2022	2023
NATIONAL	1841	1814	1665	1625	1527	1448	1414
EU	68	66	67	59	57	49	56
EEA	8	8	7	4	6	8	4
NON-EU/EEA	105	127	155	165	150	133	127
Total	**2022**	**2015**	**1894**	**1853**	**1740**	**1638**	**1601**

Gender

In contrast to the fisheries production sector (vessel owners and crews) the gender distribution in the seafood processing sector shows a higher participation of women in the workforce and a positive trend. Between 2017 and 2023, 38% to 40% of the workforce were women.

Table 409. Sweden: Gender

Gender	2017	2018	2019	2020	2021	2022	2023
Female	814	766	727	728	679	623	615
Male	1208	1249	1167	1125	1061	1014	987
Total	**2022**	**2015**	**1894**	**1853**	**1740**	**1637**	**1602**

11.14.3 Social demographics per processing segment

Sweden has not provided the data by segment.

11.14.4 Methodological considerations and data issues

Sweden has not provided data on processing by FTE and employment status.

11.15 Slovenia

11.15.1 Short description of the processing sector

In 2021, there were 17 companies in the Slovenian fish processing sector. According to the number of employees, that suggest 13 companies with less than 10 employees and four companies with 11-49 employees. Among them are 11 companies with fish processing as not main activity. These companies generate EUR 14.1 million of turnover from fish processing (an increase of 4% according to 2020), which representing almost 35% of the whole turnover from fish processing activities.

In 2021, the turnover was EUR 41.7 million. Between 2008 and 2021, the turnover of Slovenian fish processing industry increased by 45% (Table 410), while an increase of 33% is recorded in the period 2020-21.

The value of raw material decreased by 30% from 2008 to 2021 and amounted EUR 11.3 million in 2021 (increase of 18% from 2020 to 2021).

Table 410. Overview, Slovenia, 2008-2021

Variable	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Δ (2020-21)
Structure (number)															
Total enterprises	12	13	13	14	15	14	13	12	16	18	17	15	15	17	13%
≤ 10 employees	7	9	8	8	10	9	7	7	11	14	13	11	10	13	30%
11-49 employees	4	3	3	3	2	2	4	3	5	4	4	4	5	4	-20%
50-249 employees	1	1	2	3	3	3	2	2	0	0	0	0	0	0	0%
≥ 250 employees	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
Employment (number)															
Total employees	250	223	266	379	354	351	221	209	122	132	129	126	118	116	-2%
FTE	211	210	234	351	306	325	211	209	112	130	117	111	85	91	7%
Indicators															
Turnover (million €)	29	26	29	35	32	30	24	26	31	33	34	33	31	42	33%
FTE per enterprise	17.6	16.2	18.0	25.1	20.4	23.2	16.2	17.4	7.0	7.2	6.9	7.4	5.7	5.3	-5%
Average wage (thousand €)	21.4	21.5	26.4	22.8	17.1	22.4	26.9	24.9	26.6	24.9	28.3	32.1	36.3	33.9	-7%
Unpaid work (%)	4.2	3.6	1.1	0.7	0.4	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0%
Enterprises doing fish processing not as main activity															
Number of entreprises	8	8	9	8	7	6	6	4	6	8	8	8	10	11	10%
Turnover attributed to fish processing (million €)	14.4	12.9	16.0	9.8	8.0	7.0	6.8	7.0	12.8	14.4	16.2	16.6	13.6	14.2	4%

Source: MS data submissions under the 2021 Fish processing data call and elaboration by the EWG.

In the Slovenian fish processing sector, there were 116 employees in 2021. According to the FTE there were 91 FTE employees in 2021. The level of employment decreased between 2008 and 2021, with total employed decreasing by more than 50% whiles the number of FTEs decreased by 57% over the period.

Mean wage per employee in the Slovenian fishing processing industry amounted EUR 33.9 thousand in 2021 and it was 44% higher from average wage in Slovenia in the same year, which was EUR 23.6 thousand. Mean wage

in fish processing sector increased by 58% from 2008 to 2021, while a decrease of 7% was recorded in last period 2020-2021.

Slovenian fish processing industry mainly depends on imports of raw materials. The raw material for fish processing industry is traded from all over the world, but most of the raw material comes from the EU (Italy and Croatia), Vietnam and Indonesia and from Iceland and the Faroe Islands.

The main products in Slovenian fish processing industry are various fish cans, Tuna pate, dried cod spread, and products from cephalopods, Atlantic salmon and hake filet. Turnover from the Fish cans and tuna pate represents more than 60% of all turnovers from Slovenian fish processing sector.

In the period 2010-2021, especially from 2010-2013, Slovenian fisheries processing sector underwent major structural changes. Small businesses are brought together in larger companies which have more impact on the market. Some of the larger companies that are dealing with different types of processing activities, separated fish processing from other activities formed a new smaller company which are exclusively engaged in the processing of fish and other marine organisms. Consequently, the share of other costs (packing costs, insurance costs etc.) in total costs has increased significantly in the period 2008-2021 (+450%). The structural changes made in Slovenian fish processing sector had impact also in Slovenian employment trends in period 2008-2021.

Most of the Slovenian fish processing companies were located on the Slovenian coast before structural changes was made in the period 2010-2013. Now we can notice even distribution of fish processing companies throughout the country.

Demographics characteristics in Processing

11.15.2 Employment in Processing

Total Employment

In the Slovenian fish processing industry, total employment has fluctuated over the years. In 2017, there were 132 employees, followed by a decline to 118 in 2020. However, by 2023, employment rose significantly to 179. This increase suggests a period of growth or recovery in the sector after 2020, possibly due to rising demand, expanded production, or other economic factors supporting job creation in fish processing.

Full-Time Equivalent

The Full-Time Equivalent (FTE) data for the Slovenian fish processing industry shows a similar trend to total employment figures, but with some notable differences in intensity. In 2017, the FTE was 130.46, dropping sharply to 84.8 in 2020, indicating a significant reduction in workload or shift towards part-time employment during that period. By 2023, the FTE rebounded to 167.4, surpassing 2017 levels. This suggests not only a recovery in employment

numbers but also a return to more full-time or higher workload positions, reflecting increased activity and possibly improved stability in the industry.

11.15.3 Demographics of the Workforce

Age

The age distribution in the Slovenian fish processing industry from 2017 to 2023 shows a workforce largely concentrated in the 40–64 age group, which consistently represents the majority. Their numbers increased from 95 in 2017 to 123 in 2023, indicating a continued reliance on experienced, older workers.

The 25–39 age group also grew over the period, from 34 in 2017 to 49 in 2023, suggesting a positive trend in attracting younger adults to the industry. Meanwhile, the youngest group (15–24) remained small but grew slightly from three in 2017 to six in 2023, showing limited but rising interest among youth.

Workers aged 65 and over were absent in 2017 and 2020 but appeared in 2023 with just one individual. Overall, while the sector is still dominated by older workers, there are signs of gradual generational renewal, especially among those aged 25–39.

11.15.4 Workforce education and training

Education

The educational structure of the workforce in the Slovenian fish processing industry from 2017 to 2023 reveals a strong dominance of medium education levels. The number of workers in this group increased steadily from 74 in 2017 to 111 in 2023, highlighting their key role in the industry.

Workers with low education also saw a notable rise, from 22 in 2017 to 41 in 2023, suggesting that the sector increasingly attracts or requires labour with fewer formal qualifications.

In contrast, the number of highly educated workers decreased from 36 in 2017 to 25 in 2020, and only slightly increased to 27 by 2023. This points to a limited role of higher education in this industry segment.

Nationality

In the Slovenian fish processing industry, the workforce is predominantly made up of nationals, with their numbers increasing from 118 in 2017 to 154 in 2023. Workers from EU countries remained very few, with just two employees in both 2020 and 2023. The number of employees from EEA countries stayed constant at two throughout the period.

Notably, the number of workers from non-EU/EEA countries fluctuated, starting at 12 in 2017, dropping to three in 2020, then rising sharply to 21 in 2023. This

indicates a growing reliance on non-EU/EEA labour in recent years, likely reflecting changing labour market demands within the sector.

11.15.5 Gender

In the Slovenian fish processing industry, the gender balance has shifted noticeably between 2017 and 2023. In 2017, the workforce was almost evenly split, with 64 females and 68 males. By 2020, both numbers slightly decreased to 57 females and 61 males. However, in 2023, female employment saw a significant increase to 97, surpassing the number of males, which rose more modestly to 82. This shift suggests a growing presence of women in the industry, changing the traditional gender dynamics toward a more female-dominated workforce.

FTE by gender

The Full-Time Equivalent (FTE) data by gender in the Slovenian fish processing industry reflects the trends seen in total employment. In 2017, FTEs were fairly balanced, with 63.3 for females and 67.16 for males. By 2020, both dropped significantly to 41.3 for females and 43.5 for males, indicating reduced full-time work or more part-time roles during that period.

In 2023, female FTEs surged to 93.6, surpassing male FTEs, which increased more moderately to 73.8. This confirms not only a rise in female employment but also a stronger engagement in full-time or higher workload positions among women, further highlighting their growing role in the industry.

11.15.6 Social demographics per processing segment

The key distinctions between the two segments are evident. Medium-sized enterprises are expanding and diversifying their workforce, employing more women and foreign workers, while small firms remain largely stagnant and domestically oriented. Both are dominated by middle-aged, medium-educated employees, but only larger companies show signs of generational and structural renewal.

For enterprises with ≤10 employees in the Slovenian fish processing industry, the workforce shows moderate fluctuations between 2017 and 2023. In terms of gender, both female and male employment declined notably in 2020, most likely due to the impact of the COVID-19 pandemic, but partially recovered by 2023. The gender structure remains relatively balanced, with no major shift in the ratio of men to women. Regarding nationality, these small enterprises rely almost entirely on Slovenian nationals. The number of national workers decreased in 2020 but increased again by 2023, while the share of non-EU/EEA workers dropped sharply and later slightly recovered. Employees from the EU or EEA remain almost absent. This indicates that smaller firms continue to depend

almost exclusively on domestic labour, with very limited internationalisation of the workforce.

The age structure shows that the 40–64 age group dominates across all years, confirming the prevalence of middle-aged workers. There is only a minimal presence of young workers aged 15–24 and almost no employees above 65. This pattern suggests an ageing workforce with limited generational renewal. In terms of education, workers with medium education represent the largest and most stable group. The share of highly educated employees declined significantly after 2017, while low-educated workers remained relatively constant. The data point to a gradual shift from higher to medium education levels, possibly reflecting reduced demand for specialised or managerial skills in very small companies.

For enterprises with 11–49 employees, a clear expansion of the workforce is evident between 2017 and 2023. Female employment grew substantially, while male employment increased more moderately, indicating a pronounced feminisation of the workforce in medium-sized companies. In terms of nationality, Slovenian nationals remain the majority, but there is a marked rise in the number of non-EU/EEA workers, suggesting a growing reliance on foreign labour to meet production needs. EU and EEA citizens continue to represent only a marginal share.

Table 411. Slovenia: Social variables by size category

	≤10 employees			11-49 employees		
	2017	2020	2023	2017	2020	2023
Gender						
female	30	16	22	34	41	75
male	30	15	27	38	46	55
Nationality						
EEA	0	0	0	2	2	2
EU	0	0	1	0	2	1
NATIONAL	51	30	45	67	81	109
NON-EU/EEA	9	1	3	3	2	18
Age						
≥65	0	0	1	0	0	0
15-24	2	3	1	1	1	5
25-39	10	4	12	24	24	37
40-64	48	24	35	47	62	88
Education						
high	20	5	5	16	20	22
low	5	6	6	17	17	35
medium	35	20	38	39	50	73

Source: Member States data submissions under the 2025 Social Data Call.

The age profile is similar to that of smaller firms, with the 40–64 group dominating and showing steady growth over time. However, there is a modest increase in both younger age categories (15–24 and 25–39), indicating gradual rejuvenation of the workforce. No employees aged 65 or more are recorded. Regarding education, workers with medium education are the largest group and show strong growth by 2023. The number of low-educated workers also rises, while highly educated workers increase only slightly. This demonstrates a broadening of the educational profile, with a core of medium-educated employees and a growing share of less-educated workers.

11.15.7 Methodological considerations and data issues

Slovenia reported data also from companies with fish processing not as main activity to avoid confidentiality issues and because these companies are of great importance for Slovenian processing industry. In this case there is a high proportion of other income.

Because of the large differences between turnover and total income, mainly because of high value of other income, only other income from companies which fish processing is the main activity and turnover was used in calculating the economic performance indicators (GVA, OCF, labour productivity etc.).

Target populations in Slovenia for collecting economic data are all companies who have, according to the data from Veterinary Administration of the Republic of Slovenia (VURS), a license for the processing of maritime organisms and the processing involved in practice. The number of such enterprises in Slovenia in 2023 was 15. In June 2024, the questionnaires for 2023 were sent to all enterprises.

In cases where a questionnaire, as the only source, was used the response rate was 100%. In cases where the data from annual accounts of business enterprises was used the response rate was also 100%, because we have economic reports for all investigated companies.

Slovenia has a few processing companies that are entirely committed to fishery products. Most companies do have different types of processing activities, of which fish may be one, but not necessarily the most important one. This was taken into account when putting together the questionnaires and in the subsequent analysis of the data provided. Therefore, all the provided data refers just to fish processing part of all companies' activities.

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ANNEXES

Annex 1. Abbreviations

AER	Annual Economic Report
AGG	*Allgemeines Gleichbehandlungsgesetz*
AGRERI	Agricultural Economics Research Institute
ALB	Albacore
ASOR	Annual Social Report
BAR	Brexit Adjustment Reserve
BBL	Vocational training learning pathway (Netherlands)n*Beroepsbegeleidende Leerweg*
BFT	Bluefin Tuna
BIM	Ireland's Seafood Development Agency *Bord Iascaigh Mhara*
BOL	Professional training courses (Netherlands) *Beroepsopleidende Leerweg*
CAP	*Certificat Aptitude Professionnel*
CBS	Statistics Netherlands *Centraal Bureau voor de Statistiek*
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CFP	Common Fishery Policy
DaS	Days at Sea
DCF	Data Collection Framework
DETE	Department of Enterprise, Trade and Employment
DFN®	Delhi Fishing Nets (gillnets)
DG MARE	Directorate-General for Maritime Affairs and Fisheries
DRB	Bivalve Towed Dredges
DTMT	Data Transmission Monitoring Tool
DTS	Demersal Trawl
DWF	Distant Water Fleet
EAFA	Executive Agency for Fisheries and Aquaculture (Bulgaria)
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EMCIP	European Marine Casualty Information Platform

EMFF	European Maritime and Fisheries Fun
EMFAF	European Maritime, Fisheries and Aquaculture Fund
EMSA	European Maritime Security Agency
ENIM	*Établissement national des invalides de la marine*
ESF	European Social Fund
EU	European Union
EU-MAP or EUMAP	EU Multi-Annual Plan
EUMOFA	European Market Observatory for fisheries and aquaculture product
EUROSTAT	Statistical office of the European Union
EWG	Expert Working Group
FAO	Food and Agriculture Organization
FAOLEX	Food and Agriculture Organization Legal Database
FCPs	Fisheries Community Profiles
FLAG	Fisheries Local Action Group
FOR-MAR	Professional Training Centre for Fisheries and the Sea (Portugal) *Centro de Formação Profissional das Pescas e do Mar*
FRG	Federal Republic of Germany
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GDR	German Democratic Republic
GISCO	Geographic Information System of the Commission
GNP	Gross National product
GT	Gross Tonnage
GVA	Gross Value Added
HD	Heavy Duty
HOK	Hooks and lines
HSA	Ireland's Health and Safety Authority
ICES	International Council for the Exploration of the Sea
IFREMER	*Institut Français de Recherche pour l'Exploitation de la Mer*
IIU	Illegal Unreported Unregulated fishing
IKE	Individual Retirement Account (Poland) *Indywidualne Konto Emerytalne*
IKZE	Individual Retirement Security Account (Poland) *Indywidualne Konto Zabezpieczenia Emerytalnego*

ILO	International Labour Organisation
IMAGE	Interactive map generator
IMO	International Maritime Organisation
INAIL	National Institute for Insurance against Accidents at Work (Italy) *Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro*
INPS	National Institute for Social Security (Italy) *Istituto Nazionale della Previdenza Sociale*
IPSEMA	Social security institute for the maritime sector (Italy) *Istituto di previdenza per il settore marittimo*
ITQ	Individual Transferable Quota
L12AG	Specific vessel length and gear category used in the European Union (EU) for vessels of less than 12 meters using non-towing gears
LFS	Labour Force Survey
LOA	Length Overall
LSF	Large-Scale Fleet
LWE	Live Weight Equivalent
MAROF	Maritime Officer
MBS	Mediterranean and Black Seas
MCAST	Malta College of Arts, Science and Technology
MPAs	Marine Protected Areas
MS	Member State
MSA	*Mutualité Sociale Agricole*
MSFD	Marine Strategy Framework Directive
MSP	Maritime Spatial Planning
NAT	Greek Seamen's Pension Fund (Greece) *Ναυτικό Απομαχικό Ταμείο*
NACE	Statistical classification of economic activities in the European Community
NAFO	North-West Atlantic Fisheries Organisation
NAO	North Atlantic Ocean
NCP	National Contact Points
NEAFC	North-East Atlantic Fisheries Commission
NFPs	National Fisheries Profiles
NSAC	North Sea Advisory Council
NWWAC	North-Western Waters Advisory Council

OECD	Organisation for Economic Co-operation and Development
OFE	Open Pension Fund *Otwarty Fundusz Emerytalny*
OFR	Other Fishing Regions
OIPE	Pan-European Personal Pension Product (Poland) *Ogólnoeuropejskie Indywidualne Produkt Emerytalne*
OMR	EU Outermost Regions
PAYE	Pay-As-You-Earn
PGECON	Planning Group on Economics Issues
PG	Passive Gears
PGP	Polyvalent Passive Gear (fishing technique)
PGO	Polyvalent Gears/Other Gears
PITA	Portuguese National Fisheries Profile
PPE	Employee Pension Schemes (Poland) *Pracownicze Programy Emerytalne*
PPK	Employee Capital Plans (Poland) *Pracownicze Plany Kapitałowe*
PPS	Purchasing Power Standards
PS	Purse Seines
RCG ECONl	Regional Coordination Group on Economic Issues
SBS	Structural Business Statistics
SCF	Small-Scale Coastal Fishing
SFPA	Ireland's Sea Fisheries Protection Authority
SSCF	Small Scale Coastal Fleet
SSF	Small Scale Fisheries
SSN	National Health Service *Servizio Sanitario Nazionale*
STCW 1978	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
STCW-F	International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel
STECF	Scientific, Technical and Economic Committee for Fisheries
SWO	Swordfish
TM	Pelagic Trawls
ToR	Terms of Reference

UNCLOS	United Nations Convention on the Law of the Sea
WFD	Water Framework Directive
VET	Vocational Educational Training
VL0612	Vessel between 6 meters and 12 meters in length
VL1218	Vessel between 12 meters and 18 meters in length
VL2440	Vessel between 24 meters and 40 meters in length
VL40XX	Vessel greater than 40 meters in length
VME	Vulnerable Marine Ecosystems
ZUS	Social Insurance Institution (Poland) *Zakład Ubezpieczeń Społecznych*

European Member States

BEL	BE	Belgium	IRL	IR	Ireland
BGR	BG	Bulgaria	ITA	IT	Italy
CYP	CY	Cyprus	LTU	LT	Lithuania
DEU	DE	Germany	LVA	LV	Latvia
DNK	DK	Denmark	MLT	MT	Malta
ESP	ES	Spain	NLD	NL	Netherlands
EST	EE	Estonia	POL	PL	Poland
EU	EU	European Union	PRT	PT	Portugal
FIN	FI	Finland	ROU	RO	Romania
FRA	FR	France	SVN	SV	Slovenia
GRC	EL	Greece	SWE	SE	Sweden
HRV	HR	Croatia			

Fishing Technologies – DCF categories

DFN Drift and/or fixed netters

DRB Dredgers

DTS Demersal trawlers and/or demersal seiners

FPO Vessels using pots and/or traps

HOK Vessels using hooks

MGO Vessel using other active gears

MGP Vessels using polyvalent active gears only

PG Vessels using passive gears only for vessels < 12m

PGO Vessels using other passive gears

PGP Vessels using polyvalent passive gears only

PMP Vessels using active and passive gears

PS Purse seiners

TM Pelagic trawlers

TBB Beam trawlers

Fishing activity – scale of fishing operations

SSCF Small-scale coastal fleet

L12AG Vessels under 12 metres using active gears

LSF Large-scale fleet

DWF Distant water fleet

Fishing regions

BS Baltic Sea

BKS Black Sea

MED Mediterranean Sea

NSEA North Sea & Eastern Arctic North Atlantic

NWW North Western Waters

OFR Other fishing regions

SWW South Western Waters

Regional fisheries

ABNJ Areas Beyond National Jurisdiction

CECAF Fishery Committee for the Eastern Central Atlantic

GFCM General Fisheries Commission for the Mediterranean

ICCAT International Commission for the Conservation of Atlantic Tunas

IOTC Indian Ocean Tuna Commission

LDF Long Distant Fisheries

NAFO Northwest Atlantic Fisheries Organization

NEAFC	North-East Atlantic Fisheries Commission
OMR	EU Outermost Regions
RFB	Regional Fisheries Bodies
RFMO	Regional Fisheries Management Organisations
SFPAs	EU Sustainable Fisheries Partnership Agreements

Food and Agriculture Organization of the United Nations (FAO) Major Fishing Areas

FAO area 18 Arctic Sea FAO area 57 Indian Ocean. Eastern

FAO area 21 Atlantic. Northwest FAO area 58 Indian Ocean. Antarctic and Southern

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 Central

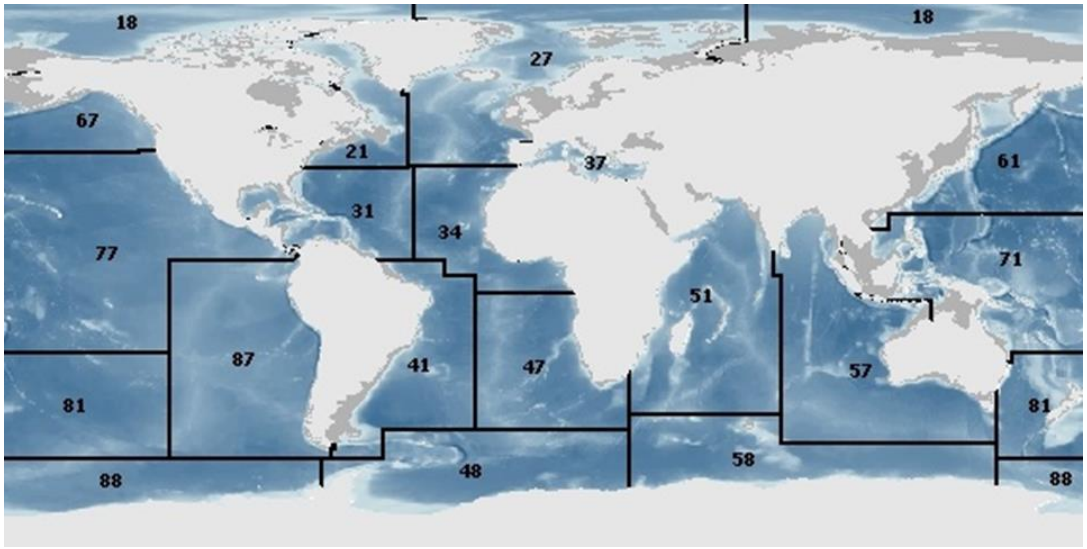
FAO area 37 Mediterranean and Black Sea FAO area 77 Pacific. Eastern Central

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

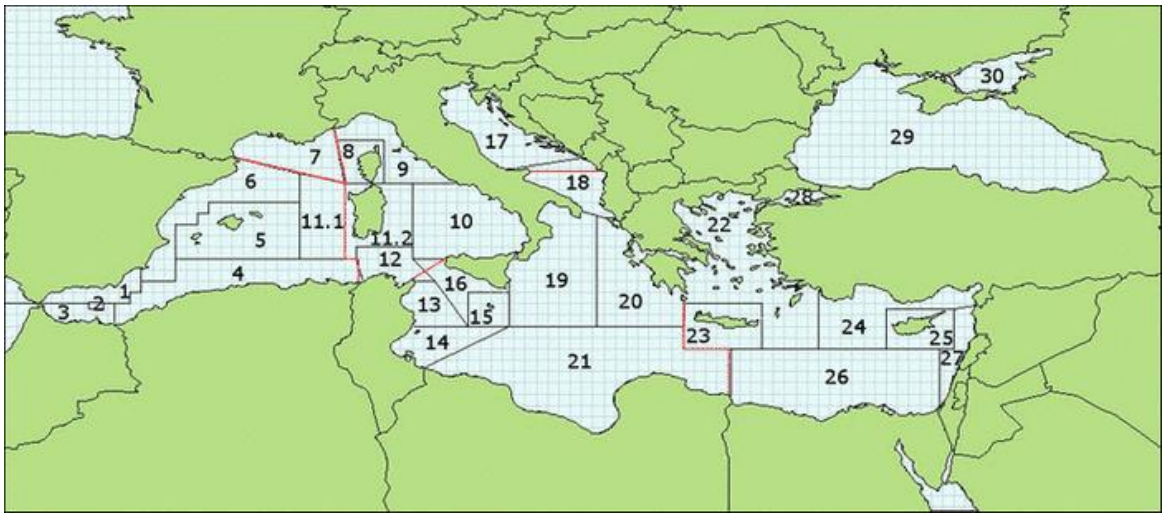
FAO area 51 Indian Ocean. Western



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

Annex 2. Glossary

Total employment: Total number of persons who have received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind: - people working onboard the vessel, irrespective of the total number of hours. - people working only onshore and paid from vessels should be included if their activity has a direct link with the fishing operations. Employment on shore should include those activities, which directly relate to smallscale fisheries and mostly carried out by fishers and their family members, but not entirely related to other economic sectors and specialties.

Full Time Equivalent (FTE): Unit expressing the number of employees converted into full-time workers. The estimation of FTEs uses a threshold representing the total number of hours worked on a standard and yearly basis, by a full-time worker in the sector.

A full-time equivalent is a unit to measure employed persons in a way that makes them comparable although they may work a different number of hours per week. A full-time person is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours he or she works. For example, a part-time worker employed for 20 hours a week where full-time work consists of 40 hours, is counted as 0.5 FTE. Note that in the EU there are differences in the weekly work hours across Member States and across sectors within a country.

FTE by gender. The number of employees converted into full time equivalent jobs (FTE) by gender. For fisheries: People working only onshore and paid from vessels should be included if their activity has a direct link with the fishing operations. Employment on shore should include those activities, which directly related to small-scale fisheries and mostly carried out by fishers and their family members, but not entirely related to other economic sectors and specialties.

Unpaid labour: Number of engaged persons that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. People working only onshore, not receiving any kind of compensation, should be included if their activity has a direct link with the fishing operations.

Employment status: Employee, Employee full, Employee part, Owner, Unknown

Nationality: EEA, EU, National, non-EU/EEA, Unknown

Gross Value Added (GVA)

GVA - net output of a sector after deducting intermediate inputs from all outputs. It is a measure of the contribution to GDP made by an individual producer, industry or sector. The GVA indicator calculated in this report is similar but does not fully correspond to the Value added at factor cost of the Structural Business Statistics.

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' and 'active and passive gears'.

Vessels under 12 metres using active gears (L12AG) - includes all vessels under 12 metres using active gears. 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' and 'pelagic trawlers'.

Large-scale fleet (LSF) - segment includes all vessels over 12 metres operating predominately in EU waters.

Distant-water fleet (DWF) - includes fishing vessels flying the flag of an EU Member State and fishing predominantly in non-EU waters.

Demographic balance: describes the change in the size of the population due to the flows of live births, deaths, immigration and emigration that occur in the reference year.

Gross Domestic Product (GDP) per capita in Purchasing Power Standards (PPS): Gross domestic product is a measure of the total economic activiy taking place on an economic territoryts). The purchasing power standard (PPS) convert values expressed in national currencies into an artificial currency, creating a common unit that neutralizes differences in price leves across countries and allows for meaningful volume comparasion in a given year.

Fertility rate (Total Fertility Rate): it is computed by adding the age-specific fertility rates for women in a given year. It can be interpreted as the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility rates by age of a given year, and surviving.

Average household size: the average number of persons living in private households. Private households are either a one-person household or a multi-person household, i.e. a group of two or more persons who jointly occupy the whole part or part of a housing unit and who provide themselves with food and possibly other essentials for living.

Seafood consumption: Apparent consumption of seafood including caches, aquaculture, and imports and excluding expressed in in kilograms per capita (live-weigth equivalent, LWE).

Unemployment rate: Unemployed persons -all persons 15 to 74 years of age (16 to 74 years in ES and IT) who were not employed during the reference year as a percentage of the labour force. The labour force, or in other terms active population, is the total number of persons employed and unemployed.

Aging force: percentage of the fleet workforce population under segments 40-64 + the 65+ /total work force.

Annex 3. Overview of the Social security systems and Labour agreements for fishers

Colours are used to facilitate a rapid assessment of whether Member States have a special social security regime for fishers (green), a regime for seafarers—including fishers (yellow), or no special regime (red). Where no information was available at the time of reporting, this is indicated in grey. The level of detail available varied across Member States, partly reflecting differences in data availability and the absence of expert input for some countries, which affected both the availability and interpretation of information on national social security systems. The table therefore reflects the information available at the time of reporting and is expected to be updated and improved as additional information becomes available

Country	Social Security Schemes and Labour agreements for fishers (owners on board and crew)							
	Health	Unemployment	Work place accident	Retirement	Legal minimum wage for crew (yes or not)	Legal age for retirement	Collective bargaining agreement	Legal regime for partners of owners / EU directive 2010/41
Belgium (crew)	Special regime	Special regime Extra payment by day for fishers with recognized status as sea fisher	Special regime Absence days due to accident count as working days for fishers with recognized status as sea fisher. Special premiums for severe	Special regime year can be reduced from 67 to 55 years old of fishers having the recognize status as sea fisher with compensation. Extra pension bonus through premium by year for recognized fishers.	Yes	67 years	Yes	Not applicable

			accidents and fatalities					
Belgium (self-employed owners)	System of self employed	No information	Similar to other self-employed people	Yes	No	66 years	Signed between owners and crew	Not applicable in fisheries
Bulgaria	System of employees and self employed	Contributions are the same as for other employed and self-employed persons.	Same regime as all other employees and self-employed	Same regime as other employees and self-employed.	Yes.	2025: Men: 64 years and 8 months and with 39 years and 8 months contribution. Women: 61 years and 8 months and have 35 years and 4 months	Not applicable	Not applicable
Croatia	General system for all	General system for all	General system for all	Special regime with early retirement (1 year onboard = 1.25 years credit) for employed crew only, not self-employed owners	Yes (€700/month or €8 400/year in 2023)	Men: 65 years (men); Women: gradual increase to approach 65	Not applicable	EU directive 2010/41 EU is applicable
Cyprus	General regime for employees and self-employed including SSF	Similar regime as all employees. Self-employed don't access to	Similar regime as all employees and self-employed.	Similar regime as all employees and self-employee	No	65	Not Applicable	Not applicable in fisheries

		unemployment scheme.						
Denmark	No information	No information	No information	No information	No information	No information	No information	No information
Estonia	Similar system as all employees and self-employed.	Similar system as all employees and self-employed	Similar system as all employees and self-employed	Masters in fishing and fish processing may receive a superannuation pension regardless of age if they have worked full-time onboard for at least 25 years and lose working capacity before retirement age.	Yes	No information	Similar system as all employees and self-employed	Not applicable in fisheries
Finland	No information	No information	No information	No information	No Information	No information	No information	No information
France	Special regime for owners and crew on board (ENIM) including foreigners crew -Owners not on board are in the self-	Yes For LSF crew accounting 182 days of work in the past 24 months manages from France Travail (unemployment agency)	Special regime for owners and crew on board (ENIM) including foreigners' crew	Special regime for owners and crew on board (ENIM) -Owners not on board are in the self-employed scheme including foreigners	Yes/ for LSF	55 years According the number of navigation years	Yes	Collaborative partner status manages from ENIM according to EU directive 2010/41 EU (limited for 5 years since 2022)

	employed scheme							
Germany	Similar system as all employees and self-employed.	Similar system as all employees and self-employed Special regime of "seafarers' pension" a bridging benefit can be used to top up unemployment benefits	No special regime, but covered by the BG Verkehr: employers' liability insurance association in Germany	Seafaring persons both employed and self-employed, are subject to statutory pension insurance. Special regime for seafarers in general, where retirement possible age 56, if seafarers paid into the "seafarers' pension".	General minimum wage in Germany applies: EURO 12.82	67 In case of insurance in seafarers' a transitional allowance is possible at 56 years until achieving the regular age of retirement	Not applicable	German Civil Code "Bürgerliches Gesetzbuch" BGB; Commercial Code "Handelsgesetzbuch (HGB)"; Limited Liability Companies Act "GmbH-Gesetz"; Cooperative Act "Genossenschaftsgesetz" and others
Greece	Special regime for LSF owners and crew under the Greek Seamen's Pension Fund (NAT)	Special regime for LSF Seafarers Other are under the general Greek unemployment	No information	Special regime for LSF owners and crew (NAT) For others similar to all employees.	Yes. Regulated by the National labour collective agreement according to their status onboard	67 years for those born after 1960. Special regime for 52 years for LSF under the NAT special regime	Yes LSF-special agreement for crew members, SSF – similar system applicable to all sectors	Not applicable in fisheries

	SSF owners moved from Agricultural Insurance scheme to EFKA. Crew (nationals or foreigners) are under the general system	insurance system.						
Ireland	Similar system as all employees and self-employed.	-Similar to all self-employed - Employees are eligible for jobseekers benefit under certain conditions	No information	No information	Yes, General minimum wage in Ireland applies: EURO 14.15 (as of 2025).	66 years is the state pension Irish employment law, there is no set age for retirement.	No information	
Italy	Similar as all citizens (National Health Service -NHS).	No specific unemployment scheme for crew members in the fishing industry.	Shipowners must provide coverage for accidents at work, including both INAIL that insures workers against accidents and	A special regime for the retirement of SSF and inland fishers (Law No. 250/1958). NPS/INAIL schemes cover all employees including foreigners	Apart from the collective agreement (where applicable), there is no specific "statutory minimum wage for fishing crew".	Legal age for receiving an ordinary pension is around 67 for men and 65 for women (for employees in the contribution-based system). However, no specific age limit for fishers;	Yes – national and regional collective bargaining agreements for maritime and fishing sectors regulate wages,	Yes – partners or co-owners participating in fishing activities are covered under Law 250/1958 if working autonomously on vessels ≤

			maritime insurance.				conditions, and social protections	10 GT without subordination
Latvia	The general system applies to all	The general system applies to all	The general system applies to all	The general system applies to all	No	The general system applies to all	The general system applies to all	Not applicable in fisheries
Lithuania	No information	No information	No information	No information	No information	No information	No information	No information
Malta	No information	No information	No Information	No information	No information	No information	No information	No information
Netherlands	Special scheme for self-employed fishers in the demersal fisheries through the Social Fonds Maatschapsvisserij. Pelagic sector (large pelagic trawlers) has a collective bargaining agreement	No special arrangements Pelagic sector has a collective bargaining agreement	See health	No special arrangements Pelagic sector has a collective bargaining agreement	Demersal fisheries, most fishers self-employed so no. Pelagic fishers, yes	67 for pelagic fishers Demersal fishers, no legal age	Demersal fishers not, Pelagic fishers yes.	Not applicable in fisheries
Poland	Similar system as all citizens and residents (National	Yes	Yes	Similar to other citizens and residents	No information	No information	No information	No information

	Health Fund - NFZ.	Through the Social insurance institution -ZUS						
Portugal	Special regime for fishers	No information	Mutua dos Pescadores for fatal accident	Yes	No information	Similar to other jobs	Yes	No information
Romania	No information	No information	No information	No information	No information	No information	No information	No information
Slovenia	Similar systems as all other citizens and residants	Similar system as all others citizens and residents	No information	No information	Similar system as all others citizens and residents	No information	No information	No information
Spain	Special regime for all workers in the fisheries and maritime sectors. Includes crew and self-employed. (*Régimen Especial de la Seguridad Social de los trabajadores del mar*)	Yes, similar to the workers in other sectors, but specific provisions may apply. General rule: -360 days of work - Option for a minimum of 90 days of work. - Specific deadlines adapted to the nature of the job and the	All workers in the fisheries and maritime sectors. Instituto Social de la Marina	Special regime for all workers in the fisheries and maritime sector. Similar rules to the General regime, with reduction coefficients in age (maximum 10 years)	No	55	No	Inclusion in the Law of Autonomous workers (Law 20/2007). Reductions in social security contributions (art.35)

		acquisition of the right. - Minimum and maximum contribution bases can be adjusted. - Benefits for cessation of activity - Specific situations (e.g. shipwreck)						
Sweden	Fishers are all covered by the national social security system	All workers in Sweden need to enrol voluntary in an unemployment insurance. The rule applies also to self-employed. Bad weather conditions and ice in the water can be reasons for applying to unemployment money.	No special regime	Yes 63 years is the minimum age for all people born 1961 or later		63 years is the minimum age for all people born 1961 or later	Yes	No

List of Annexes

Electronic annexes are published on the meeting's web site on:

Link to EWG page

List of electronic annexes documents:

EWG-25-13 – Data annex

List of Background Documents

Background documents are published on the meeting's web site on:
https://stecf.ec.europa.eu/meetings-calendar/past-meetings

List of background documents:

EWG-25-13– Doc 1 - Declarations of invited and JRC experts (see also the section of this report 'Contact details of EWG-25-13 participants')

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