



JRC SCIENCE FOR POLICY REPORT

Scientific, Technical and Economic Committee for Fisheries (STECF)

-

Outermost Regions (OR) (STECF-19-19)

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JRC121427

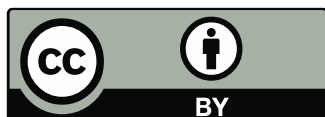
EUR 28359 EN

PDF ISBN 978-92-76-20811-2 ISSN 1831-9424 doi:10.2760/834602

STECF ISSN 2467-0715

Luxembourg: Publications Office of the European Union, 2020

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How to cite this report: Scientific, Technical and Economic Committee for Fisheries (STECF) – Outermost Regions (OR) (STECF-19-19). Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-20811-2, doi:10.2760/834602, JRC121427

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. The STECF Expert Working Group EWG-19-19 met 13-17 January 2020 in Brussels. The EWG was tasked to identify and prioritise specific issues for the nine EU OR within the following four main challenges: data collection, stock assessment, ecosystem knowledge, and social & economic impacts and to develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes. The EWG report was reviewed by the STECF during its virtual plenary meeting 6-10 July 2020.

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) - Outermost Regions (OR) (STECF-19-19)

Request to the STECF

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

STECF observations

The working group was held in Brussels, Belgium, from 13 to 17 January 2020. The meeting was attended by 14 experts in total, including two STECF members and one JRC staff. Two DG MARE representatives also attended the meeting.

The objective of the EWG 19-19 was to identify and prioritise specific issues for each EU Outermost Region (OR) regarding data collection, stock assessment, ecosystem knowledge, and social and economic impacts, and to develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes.

STECF notes that EWG 19-19 constitutes the first dedicated EWG on OR. The report provides a thorough overview of data collection, stock assessment and social and economic impacts of the fisheries of eight of the nine outermost regions of the European Union: Guadeloupe, French Guiana, Martinique, Mayotte and Réunion (France), the Canary Islands (Spain) and the Azores and Madeira (Portugal).

Regarding the ninth region, Saint Martin, STECF observes that this island is the only one among the French overseas collectivities with the status of being an Outermost Region of the EU. In 2007, Saint Martin was broken away from the French overseas department of Guadeloupe to form a new overseas collectivity. Its European status was under discussion for a time, until Saint Martin was officially listed in the Lisbon Treaty as an Outermost Region. Nevertheless, STECF notes that because of its national status of being a collectivity and not a department, Saint Martin is not required to be included in the French Work Plan for data collection. STECF notes therefore that information on fisheries of that region is largely missing in the EWG 19-19 report.

STECF comments

STECF considers that the EWG addressed adequately all the ToRs.

STECF's specific comments on the work carried out for each of the four main challenges and the development of the roadmap are detailed below:

Data Collection

The EWG carried out the evaluation of the Member States (MS) sampling plans and achievements at the OR level, analysing the 2017-2019 Work Plans (WPs) for France, Portugal and Spain, corresponding Annual Reports (ARs), and the evaluation of their implementation through the corresponding dedicated STECF EWGs.

STECF notes that the EWG, as a first step, verified for each OR the entity responsible of the national DCF coordination and identified the organisations participating in biological, social and economic data collection. The list of entities and their contacts can be found in the EWG report.

On specific request from DG-MARE, the available biological information for large pelagics and their specific reporting needs for Regional Fisheries Management Organisations were evaluated.

In the Indian Ocean, catches of *Tetrapturus audax*, *Istiompax indica*, *Makaira nigricans* and *Istiophorus platypterus* should be included in the annual data collection and annually reported to the IOTC Scientific Committee. The France and Spain WPs will need to be revised with these new requirements. In the Atlantic Ocean, due to the new catch limits for *Kajikia albida*, *Makaira nigricans* and *Tetrapturus georgii*, following ICCAT recommendation, data on these three species should be collected from 2020. STECF notes also that in the EU-MAP list of species the white and black marlin are reported under their old scientific names (*Tetrapturus albidus* and *Makaira indica*, respectively). That should be changed to the current accepted names of *Kajikia albida* and *Istiompax indica* (WoRMS, 2020). STECF notes that the issue of data collection for large pelagics fisheries is also specifically investigated and discussed in STECF 20-08 report (ToR 5.3 of this plenary report).

STECF notes that a number of issues and gaps in data collection have been reported by EWG 19-19.

Regarding biological data, the French WP only addresses separately French Guiana. Guadeloupe and Martinique are considered a single area and the same is true for Mayotte and Réunion. Except for length sampling, there is very limited biological sampling. The minimum criteria to select a species to be sampled (catch threshold= 200 t) is not always correctly applied and the justifications for the selection of species to be sampled are not clear. In Madeira and Azores, it was detected that sampling levels are usually low, explained by different difficulties in obtaining samples. The Canary Islands' small scale fisheries targeting demersal and pelagic species are sampled by a programme that combines sampling at-sea with observers on-board with port length sampling. However, biological sampling is limited to small pelagic species (*Scomber colias*, *Sardinella aurita*, *Trachurus* spp. and *Sardina pilchardus*).

STECF considers that the MS-WPs and ARs should be adapted to address the particularities of ORs leading to improvement of the Data Collection. Biological data, fishery-dependent information and economic data should be reported at OR level. The sampling programs for large pelagic fish must be updated according to the new needs of Regional Fisheries Management Organisations and the recreational fisheries could be better addressed in the national WPs.

Regarding economic data, the methodology used for the sampling program to collect information varies across regions. In Reunion logbooks are used for vessels above 12 m. For vessels less than 12 m, in Guadeloupe and French Guiana, the economic indicators are calculated based on an annual socio-economic survey. The economic survey will be updated in 2020 based on a stratified sampling methodology in Guadeloupe and French Guiana. In the Portuguese ORs, economic and social variables are collected through questionnaires addressed to fishing enterprises. For economic variables different sources of data are used: official data, logbooks, sales notes and surveys. In Canary Islands, a stratified random sampling is applied through a representative sample of the total population. Despite their importance, the small scale fisheries are however less represented in the sampling.

STECF considers that these different methodologies and approaches used to obtain economic data could make the results not comparable between ORs. STECF notes that issues and plans for future improvements with OR identification in WPs has also been discussed in STECF EWGs on WPs (EWG 19-18).

Economic Indicators

Data submitted to the STECF-AER 2019 were used to estimate the economic indicators and to evaluate the quality of the data provided by OR. STECF observes that for Martinique, Mayotte and Saint Martin no economic data was provided to DCF, making impossible the economic analysis of these outermost regions.

STECF notes that for some ORs, the estimates for some economic parameters were detected by EWG 19-19 to be away from normally expected values that may require some further analyses. STECF notes however that some of the issues detected for 2017 economic data have already been solved in the STECF-EWG 20-03.

Social indicators

The EWG performed the social analysis by OR following the approach of the EWG 19-03.

STECF considers that an extensive social analysis was carried out, providing a first view of the social context of fisheries in the EU ORs. However, the social analysis is not complete for French ORs, and the information on several social variables required by DCF is missing. In particular for Mayotte, data are almost inexistent. Also, the representativeness of the social data for the Canary Islands is low, where the majority of the fleets and employments are in small scale fisheries, and the surveys cover mostly large scale fisheries.

With the exception of Madeira, there is a predominance of fishers involved in small scale fisheries over large scale fisheries. The registered participation of females in fishing activities is low (< 4%) and in the case of large scale fisheries is practically null. The ageing of fishers is noticeable in most of the regions, with more than 60% of the workers being over 40 years. Except for Canary Island, almost all crews are national workers. The overall level of education is low, finding the worst scenario for large scale fisheries with only 5% of those involved with medium/higher level of education.

STECF considers that these results could be included in the next STECF-EWG on Social data (EWG 20-14).

Stock Assessment

The EWG reviewed the current situation of the species landed per OR based on the total landings in 2017 (per values and volumes) from the AER STECF EWG 19-06 table, and the last available stock assessments. The analysis was carried out on the first 50 species by OR ranked by landing value declared for 2017. The variables analysed for the overview included among others: landings in value and weight, indicators on whether the species is included in AR and EU-MAP, stock assessment method and stock status.

In French Guiana only 2 stocks of the 41 landed are assessed. For Guadeloupe and Martinique, 5 stocks covered by ICCAT are assessed. IOTC assesses 4 stocks landed in Mayotte and 10 species landed in Réunion. Also 6 deep-sea demersal species are assessed at local level of Réunion. Madeira and Azores collect data to report to ICES, CECAF and ICCAT. Six species are assessed by ICCAT in Canary Islands.

STECF notes that most of the assessed stocks in ORs correspond to large pelagic species cover by ICCAT and IOTC. Some local assessments are carried for demersal stocks in Réunion. STECF observes that in French Guiana, Guadeloupe, Mayotte and Martinique, the percentage of landings corresponding to species with assessment is less than 50%. STECF notes that there is a deficiency of appropriate forums/expert groups for the stock assessment in ORs.

Ecosystem Knowledge

Based on the review of literature and on expert knowledge performed by the participants, the EWG identified the IUU Fishing, bycatch (sharks), recreational fishery, and the selective extraction of species as being the main issues affecting stocks and fisheries in all ORs. Specifically, the EWG considered that better knowledge on the amounts of both IUU Fishing and recreational fisheries is a priority to be addressed in future studies.

STECF highlights that in addition to these, the context of global change, considering the projected impact of climate change and pollution on the productivity of fisheries in the inter-tropical zone, should also be taken into account. However, STECF notes the general lack of knowledge on these complex ecosystem issues.

Acknowledging thus that similar knowledge gaps on relevant ecosystem issues are commonly encountered in all the ORs, STECF supports the need to create an EU-wide OR research-net **and/or to develop joint research projects.**

Roadmap

The EWG developed a roadmap for possible future collaborative actions. As results of discussions and analysis performed during the EWG, scientific studies and activities that the group considered necessary were compiled. An overall high priority is to review the EU-MAP and AR with an OR perspective. Also, priorities identified may be the basis to propose future scientific research for ORs.

STECF considers that this EWG has provided an opportunity to share experiences and knowledge among experts from EU-outermost regions. STECF notes that two main outputs of the meeting are the methodologies and data used in each topic. Also, the meeting has allowed planning future scientific research and activities.

STECF observes that of the topics that have been discussed, stock assessment and ecosystem knowledge are the least developed and would require more research.

STECF conclusions

STECF concludes that the EWG addressed all the ToRs appropriately.

In order to address the issues relating to data collection, social and economic indicators, it is concluded that further cooperation between different working groups (EWG 19-19, AER I and II, Balance EWG 20-11, FDI EWG 20-10 and Social EWG 20-14) is needed.

STECF concludes that from the topics that have been discussed, stock assessment and ecosystem knowledge are the subjects that would require more research. Specifically, the EWG considered that better knowledge on the amounts of both IUU Fishing and recreational fisheries is a priority to be addressed in future studies.

Based on the progress made by the EWG and on the opportunity offered by the meeting to share knowledge and experiences, STECF concludes there would be some scope for future outermost EWGs to be held at regular intervals.

References

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EXPERT WORKING GROUP EWG-19-19 REPORT

REPORT TO THE STECF

EXPERT WORKING GROUP ON Outermost Regions (OR) (EWG-19-19)

Brussels, 13-17 January 2020

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

1 EXECUTIVE SUMMARY

The European Union (EU) has nine 'outermost regions' (ORs): Guadeloupe, French Guiana, Martinique, Mayotte, Réunion and Saint Martin (France), the Canary Islands (Spain) and the Azores and Madeira (Portugal). The ORs are distinguished by their remoteness from mainland Europe, insularity, small size (except French Guiana), difficult topography and climate and economic dependence on a few products. As a common issue, fisheries in the ORs are characterised by a wide variety of species and gears, small size vessels and numerous landing places.

The EWG 19-09 was tasked to identify and prioritise specific issues for each EU OR within the following four main challenges: data collection, stock assessment, ecosystem knowledge, and social & economic impacts and to develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes.

For the data collection challenge the EWG 19-09 analysed the EU-MAP Work Programs (WP) and corresponding Annual Reports (AR) for France, Portugal and Spain, as well as the evaluation of their implementation by the relevant STECF EWG through a finer scale analysis by each OR divided between biological (2017-2019 WPs and ARs) and economic & social data (2017-2019 and 2020-2021 WPs and 2017-2019 ARs). In addition, a specific analysis was carried out for available biological data for large pelagic and their specific reporting needs for RFMOs.

For the economic and social impact challenge, the EWG 19-19 performed a similar analysis carried out in the 2019 Annual Economic Report (AER) and the STECF EWG 19-03 on Social Data in the EU Fisheries Sector, calculating economic and social indicators specifically for each OR, identifying discrepancies and discussing trends. EWG 19-19 also went further with the social indicators by providing a focus by sea basin, following the nomenclature established for the Advisory Council for the ORs (AC OR) i.e. West Atlantic, East Atlantic and Indian Ocean.

Regarding the stock assessment challenge, EWG 19-19 prepared an overview of the current situation of the species landed per OR, based on the total landings 2017 (per values and volumes) from the AER STECF EWG 19-06 table and the last available stock advice. As a first approach the analysis was carried out on the first 50 species ranked by landing value for 2017 only by ORs.

In addition to the ToR, the EWG 19-19 also listed the DCF participating entities in each OR responsible for national DCF coordination, biological data collection and economic & social data collection; and also provided a brief analysis of EMFF for ORs.

On the ecosystem challenge, the EWG 19-19 provided a summary of the main issues affecting stocks and fisheries, identified through a literature review and from the expert knowledge of the meeting participants, within the meeting time constraints. EWG 19-19 noted the lack of knowledge on these complex issues and further studies should be conducted, in particular to rank identified impacts in each OR to be able to define management priorities.

Finally, the EWG 19-19 developed a roadmap with a list of all future research that was identified by the group analysis and discussions. The roadmap identifies aspects that can be dealt with in the short-term (through 2020), such as amendments to the EU-MAP, MSs WPs and STECF EWG ToRs. EWG 19-19 encourages the use of the existing Framework Contract EASME/EMFF/2018/011 to improve the knowledge in ORs, namely on IUU, recreational fisheries and ecosystem impacts, among others. EWG 19-19 also recommends the establishment of dedicated EWG on ORs to increase knowledge share between ORs experts on data collection and on calculation of indicators methodologies.

2 INTRODUCTION

The European Union (EU) has nine 'outermost regions' (ORs): Guadeloupe, French Guiana, Martinique, Mayotte, Réunion and Saint Martin (France), the Canary Islands (Spain) and the Azores and Madeira (Portugal). The ORs are distinguished by their remoteness from mainland Europe, insularity, small size (except French Guiana), difficult topography and climate and economic dependence on a few products.

These regions are an integral part of the EU despite their distant locations and hence EU law and all the rights and duties associated with EU membership apply to them. However, in accordance with Article 349 of the Treaty of the Functioning of the European Union (TFEU), specific measures and derogations in EU legislation have been implemented to help these regions address the challenges they face. As a common issue, fisheries in the ORs are characterised by a wide variety of species and gears, small size vessels and numerous landing places.

The STECF Expert Working Group (EWG) 19-09 met in the Borschette Building, Brussels, Belgium, between 13 to 17 January 2020, to i) identify specific issues for each OR within the following four main challenges: data collection, stock assessment, ecosystem knowledge, and social & economic impacts; ii) prioritize common issues within the four main challenges; iii) identify the necessary processes for addressing the issues prioritized; and iv) develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes. The work was conducted by 12 independent experts (see the list of participants) following the Terms of Reference presented below.

The meeting started with two project presentations, one from the ORFISH project (<https://orfish.eu/>) - development of innovative, low-impact offshore fishing practices for small-scale vessels in outermost regions; and another from the MRAG Europe lead consortium OR Project, set-up in response to a DG MARE call for proposals in support of the CFP (EASME/EMFF/2018/011-Lot2 "Scientific advice in support of the CFP in the Atlantic EU western waters and the EU outermost regions"). The ORFISH project was carried out between July 2017 and October 2019, and contributed to the knowledge on small-scale fisheries, among other project deliverables, through the information summarized in the ORs leaflets. The OR project will be carried out from January 2020 till June 2021 and is expected to improved knowledge on fish stocks and ecosystems and fisheries management schemes in place in EU outermost regions.

2.1 Terms of Reference

STECF concluded during the 19-02 plenary that the aim of the EWG should be to identify and prioritize the specific issues, and the necessary processes, for addressing the four challenges: data collection, stock assessment, ecosystem knowledge, and social & economic impacts in order to develop a roadmap that will form the basis for the permanent network of research institutes.

EWG 19-19 was therefore requested to:

1. Identify specific issues for each OR within the following four main challenges: data collection, stock assessment, ecosystem knowledge, and social & economic impacts.
2. Prioritize common issues within the four main challenges.
3. Identify the necessary processes for addressing the issues prioritized:
for example, trough drafting specific ToRs on ORs data collection issues to be investigated in DCF EWGs and STECF EWG Social Data.
4. Develop a roadmap for the subsequent meetings that will form the basis for the permanent network of research institutes.

3 DCF PARTICIPATING ENTITIES

The implementation of the DCF depends in some measure on the organisational structure of the DCF participating entities within each OR, and as such the EWG 19-19 considered it would be important to identify all entities involved in implementing the DCF in each OR.

Table I – DCF participating entities in each OR responsible for national DCF coordination, biological data collection and economic & social data collection.

	National coordination	Biological data	Socio-economic data
Azores	DGRM	DRPA/RAA	DRPA/RAA
Madeira	DGRM	DRPM/RAM	DRPM/RAM
Canary Islands	SGP	IEO	SGP
French Guiana	DPMA	IFREMER	SSP IFREMER
Guadeloupe	DPMA	IFREMER	SSP IFREMER
Martinique	DPMA	IFREMER	SSP
Saint Martin	DPMA		SSP
Mayotte	DPMA	OFB-IFREMER IRD	SSP
La Réunion	DPMA	IFREMER IRD	LEMNA SSP

3.1 FRANCE

National coordination

- Direction des pêches maritimes et de l'aquaculture (DPMA, Ministère de l'agriculture et de l'alimentation) Sous-direction de la ressource halieutique.
The Directorate for Sea Fisheries and Aquaculture operates as a contractor for the collection of biological, ecosystem and activity data.

Participating entities

- Service de la Statistique et de la Prospective (SSP)
SSP contributes to the processing of economic and social data for fisheries and aquaculture.
- Institut français de recherche pour l'exploitation de la mer (IFREMER)
IFREMER is a contributor in the four regions in which France conducts fisheries activities, i.e. the North Sea and Eastern Arctic, North Atlantic, Mediterranean and 'Other Regions' [which refers RFMOs, such as ICCAT, NAFO or SEAFO among others, and includes French ORs]. IFREMER contributes to the collection of economic data, logical data, activity data, research surveys at sea, and ecosystem data.

- Institut de recherche pour le développement (IRD)
IRD contributes to the French National data collection in the tropical Indian and central-east Atlantic regions with regards to tropical tuna fisheries (purse seine, bait boat and pelagic longline). IRD contributes by gathering data for the collection of tuna catch and length frequency data (sampling at landings and transshipments for both purse seine and bait boat fisheries), discards data (at-sea observers for purse seine and pelagic longliners and self-reporting for pelagic longliners) and biological data (sampling at processing factories). The "Observatoire des Ecosystèmes pélagiques tropicaux exploités" in charge of this contribution to DCF has been ISO 9001 certified since January the 12th of 2009.
- Institut d'Économie et de Management de Nantes (LEMNA)
LEMNA contributes through the collection of economic and social data for fisheries and for aquaculture in La Réunion.
- Office français de la Biodiversité (OFB, formerly Agence Française pour la Biodiversité)
OFB operates data collection for Mayotte's marine fisheries through its Natural Marine Park in Mayotte.

3.2 PORTUGAL

National Coordination

- Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (DGRM).
The DGRM ensures the national coordination of the collection and management of scientific data for fisheries management, including socio-economic data.

Participating Entities

- Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (DGRM)
DGRM is responsible for the implementation of the entire National Programme and the analysis of social and economic data on fisheries.
- Direção Regional das Pescas dos Açores (DRPA/RAA)
DRPA is responsible for the collection of biological data on stocks caught by commercial and recreational fisheries in Azores. Data on the activity of the fleet is also collected, as well as social and economic data.
- Direção Regional das Pescas da Madeira (DRPM/RAM)
DRPM is in charge for the collection of biological data on stocks caught by commercial and recreational fisheries in Madeira. Data on the activity of the fleet is also collected, as well as, social and economic data.

3.3 SPAIN

National Coordination

- Secretaria General de Pesca (SGP), del Ministerio de Agricultura Pesca y Alimentación.
The SGP ensures that the activities are implemented on time and provides the national coordinator. Moreover, the SGP is in charge of collecting and analysing the economic and social data relevant to the DCF (including aquaculture and processing industries).

Participating entities

- Instituto Español de Oceanografía (IEO)
IEO is in charge of most of the requirements and activities under EU DCF for Spanish fleets. In particular, IEO is in charge of collecting all relevant information/data concerning the fisheries in EU waters, as well as in the framework of RFMOs (ICCAT, GFCM, CECAF, NAFO, etc.), and the SFPAs between the EU and the coastal states.

4 DATA COLLECTION CHALLENGE

The EU ORs are part of the EU-MAP for MSs data collection and are consequently included in the Work Programs (WP) and Annual Reports (AR) of France, Portugal and Spain. The sampling plans and achievements are also evaluated by the corresponding STECF Experts Working Groups, although a finer scale analysis by each OR is lacking.

4.1 Biological Data

Considering that the data collection foreseen by the DCF in the ORs may be more difficult to achieve given the nature of the fisheries, which involve a great number of operators, exploiting a high diversity of species landed over a large number of landing sites, a more detailed analysis may be needed. For example, although the current EU-MAP establishes a list of species to be covered by the concerned MSs in the different ORs, the list may not be the most applicable in each OR. It may be therefore appropriate to consider the possibility of adapting the DCF provisions in order to address the above particularities of ORs.

For that purpose EWG 19-19 has analysed the content of the 2017-2019 WPs for France, Portugal and Spain (including their annual revisions), the corresponding available ARs, as well as the evaluation of their implementation by the relevant STECF EWG. EWG 19-19 has checked whether these documents contain all the necessary elements provided in the EU-MAP, in order to identify apparent shortcomings in its implementation and propose specific actions to improve it.

EWG 19-19 noted that sometimes it is difficult to identify which fishery management body has jurisdiction for a given species, particularly in the case of some ORs, and therefore if there are specific requirements in addition to the EU-MAP.

EWG 19-19 noted the difficulty to understand whether there are some shortcomings in data collection for ORs. This is because the data is reported at MS level and by stock, and not specifically distinguish ORs. For overcoming the problem, EWG 19-19 recommends that future WPs and ARs should present the ORs separately. EWG 19-19 recommends that data should be provided by métier in the various ORs. This is already the case for large pelagic species in the ICCAT and IOTC areas.

EWG 19-19 noted that recreational fisheries in the ORs could be better addressed in the WPs. For example, in Portugal, data collection on recreational fisheries continues to be conducted under the remit of a pilot study. In France the only recreational fishery sampled is for large pelagic (REC LPF) in Guadeloupe and Martinique. No biological sampling is carried out on any recreational fishery. EWG 19-19 remarks that the socio-economic aspects of the recreational fisheries could be very relevant in the ORs. EWG 19-19 recommends that recreational fisheries should be considered by MSs in their WP and ARs and specifically reported by ORs.

In the analysis of the implementation of the WPs for the different ORs it is often underlined that some of the sampling obligations related to the ORs are not complied with due to staff limitations. EWG 19-19 noted that there is a need to assess the capacities in the different ORs (human and financial resources, facilities, equipment) in order to better respond to the EU-MAP obligations in the particular context of the ORs.

Large Pelagics

EWG 19-19 noted that there are general issues concerning the data collection for large pelagic in the ORs (data to be provided to ICCAT and IOTC, depending on the area). The first one is related to the sampling programme because for species and fisheries lists, the ORs are not specifically mentioned, except for Azores and Madeira, two fisheries in the Canary Islands (bait boats in Table 4A and LHP for MSP in Table 4B for Spain AR 2018), and France specifically identified the ORs in the 2018 AR tables for the large pelagic species (LTL and REC for Guadeloupe and Martinique; and LTL, LHP and LLD for Réunion and Mayotte, Table 4C but not on Table 1C). The

sampling programme for the biological variables was not specifically identified by OR, even when there is a dedicated national quota for a given species (i.e. bluefin tuna in the Canary Islands).

EWG 19-19 also notes that due to the new catch limits for white marlin (*Kajikia albida*), blue marlin (*Makaira nigricans*) and roundscale spearfish (*Tetrapturus georgii*) following ICCAT Recommendation 19-05, data on these three species should be collected from 2020. This ICCAT Recommendation is particularly relevant for the ORs in the Atlantic Ocean (Guadalupe, Martinique, Azores, Madeira and Canary Islands) and therefore should be specifically included in the WPs and in the ARs of the three MSs. EWG 19-19 notes that marlins and spearfish can be important bycatch components in large pelagic commercial fisheries or target species in the recreational and sport fisheries, particularly in the ORs.

According to the latest ARs (2018), white marlin (reported under the old scientific name of *Tetrapturus albidus* on the EU-MAP species list) was not selected for sampling by France and Portugal (Table 1A on 2018 ARs) but was sampled by France (Table 1C), while it was selected for sampling by Spain (Table 1A) including length (Table 1C). Blue marlin was not selected for sampling in the ICCAT area by France but some length samples were collected, it was selected for sampling by Portugal and Spain including length (Tables 1A and 1C). The roundscale spearfish was not included among the ICCAT species in the EU-MAP and therefore there was no data collection for this species, except for Spain, which collected some length samples.

For the IOTC area, and according to IOTC Res. 18/05, catches concerning the striped marlin (*Tetrapturus audax*), the black marlin (*Istiompax indica*), the blue marlin (*Makaira nigricans*) and the Indo-pacific sailfish (*Istiophorus platypterus*) shall be reported according to the requirements in IOTC Res. 15/01 and 15/02. The data should be included in the annual data collection and annually reported to the IOTC Scientific Committee. All four species were already selected for sampling in the IOTC area by both France and Spain in their 2018 WPs and ARs, but the WPs will need to be improved with the new requirements.

Finally, EWG 19-19 notes that the black marlin is reported under the old scientific name of *Makaira indica* in the EU-MAP list of species, while the current correct name is *Istiompax indica* and recommends that the scientific name be corrected in the species list.

4.1.1 France

The text of the French WP does not contain a section addressing the ORs specifically, for example explaining the characteristics of the six French ORs, the obligations in terms of species or type of data to be collected in each one. However, in the accompanying tables there are specifications of the required stocks for sampling, and whether they are actually selected for sampling (according to catch thresholds or other justifications).

The tables in the first version of the WP 2017-19 present inconsistencies between what is required and what is to be sampled, while focusing on French Guiana and omitting all other French ORs. This has been corrected in subsequent revised versions, although for most stocks the WP does not foresee sampling other than collecting length distributions. Consequently, there is a general absence of biological sampling (except for French Guiana prawn for which sex ratio is considered for data collection). There is also an inconsistent application of the catch thresholds provided by the EU-MAP (200 t) when deciding species for sampling, as some species that are caught more than 200 t are not selected for sampling while others species below this figure are selected without further justification.

Although 2017 was the year were all ORs were scheduled to follow the continental data collection protocols and use the same sampling tools, Réunion was the only OR where collection of biological data was compliant with the quality assurance as expressed in the French WP. Moreover, staff turn-overs impacted the monitoring in Mayotte, Martinique and to a lesser extent in French Guiana. However, considerable improvements were achieved in 2018, as a new length sampling programme was put in place in Guadeloupe and a full review of the sampling

programme was carried out in Martinique. ORs sampling is now entirely included in the national sampling plan, with the same tools deployed for monitoring the sampling and populating the information in the central database. Despite these sampling planning improvements, severe difficulties were encountered in the implementation phase, resulting in low numbers of individuals measured for some species, with difficult accessibility to landings points, low landings per trips to what was predicted, tropical weather conditions limiting the manipulation of the fish, low awareness of professionals of the sampling programme.

4.1.2 Portugal

The analysis of the Portuguese WPs and ARs showed a number of difficulties regarding the implementation of the EU-MAP in Azores and Madeira. In particular, some species presented low levels of sampling due to a lower availability at the landing sites which are covered by samplers, difficulties in obtaining samples, e.g.: fish landed gutted or fish too expensive, very low catches/landings which makes sampling difficult. At the same time, there was transference of competencies between DCF participating entities, and as a result, sampling was delayed in 2018.

4.1.3 Spain

In recent years Spain has achieved considerable progress in the collection of information from small scale fleets, by establishing a programme of observers on board vessels targeting small pelagic and demersal stocks. The at-sea sampling scheme examines the retained and discarded catch (concurrent¹ length sampling). This is complemented with port length sampling for the most important species.

Biological sampling is, for the time being, limited to small pelagic species due to staff limitation. Furthermore, this sampling programme is implemented only in the western part of Canary Islands but the intention is to extend it to the eastern part of the archipelago within the next 2 years. Beyond this limited geographical and species coverage, the implementation of the Spanish WP does not present major difficulties.

With regard to the future EU-MAP, it does not seem necessary to enlarge the number of species for sampling in the Canary Islands, although it seems appropriate to envisage the extension of the biological sampling to cover the parrotfish in the WP.

4.2 Economic and Social Data

4.2.1 France

Before 2018, no data was provided for fleet segments less than 12 meters in French ORs, knowing that the context of the ORs is mainly characterized by small scale fleets with one day trips, direct sales to consumers and no logbooks. Economic data collection was implemented through logbooks data collection for the more than 12 meters vessels using hooks in Réunion and for more than 40 meters purse seiners targeting tuna². For French Guiana shrimp trawlers the data collection initially implemented was stopped recently. A new methodology was proposed in the 2018 WP for the less than 12 meters vessels in Guadeloupe and French Guiana. However, the other regions (Saint Martin, Martinique, Réunion and Mayotte) are not covered and no economic data is provided (see Annex II for synthesis of the WPs).

For vessels less than 12 meters in Guadeloupe and French Guiana, a statistical approach was used to estimate economic annual indicators using complementary data sources available at vessel level: effort and landings (quantity and value per species) per vessel and métier. Based on a socioeconomic survey using a questionnaire carried every four years and additional variables

¹ As defined in Chapter I of Annex of Commission Decision No. 2010/93/EU.

² Even if these vessels are registered in Réunion, they are considered in Other Fishing Region (OFR) in the annual economic report.

updated each year (species price, fuel price, etc.), economic indicators are estimated and provided annually. The Perpetual Inventory Method is used to estimate gross capital and depreciation. The economic survey is scheduled to be updated in 2020 (WP 2020-2021 Text Box 3A) based on a stratified sampling methodology implemented for each OR. For the other ORs, no economic data collection is scheduled because the necessary information on effort and landings (quantity and value per species) per vessel and métier are not available. Effort and landings are only available at aggregate fleet segment level and the WP mentions that it is not possible to derive economic indicators from this aggregate information. As mentioned in the WP report, other specific methodologies are used for the calculation of variables. Expected sampling rates are provided in the WP for the geo-indicator “other regions” (see next figure) but it is possible to identify the sampling rates per region and segments.

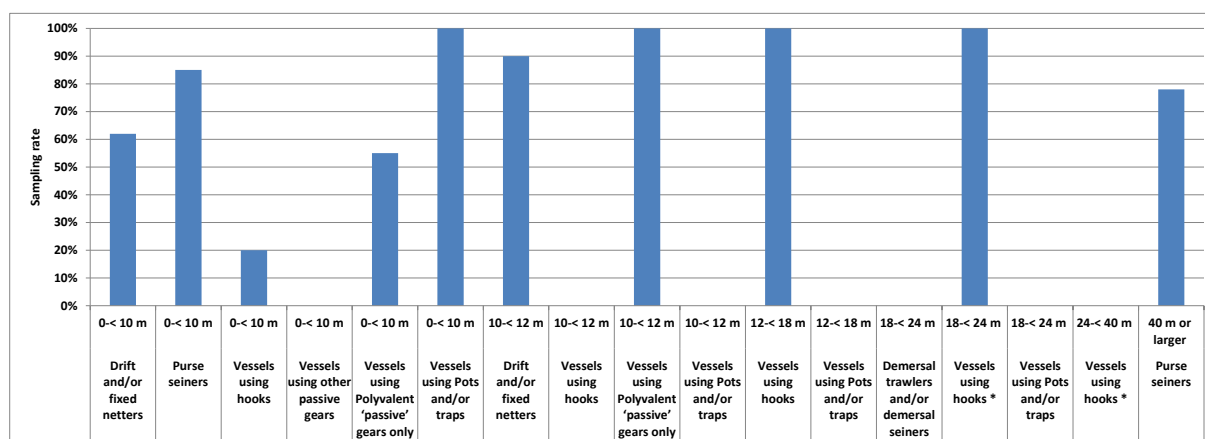


Figure 1 - Sampling rate for economic and social variables for geo-indicator “other regions”(WP 2020-2021)

For social data, a pilot study has been carried out and covers all the ORs. As mentioned in the 2020-2021 WP (Pilot Study 3), employment by nationality has been collected from data from administrative files at the fleet segment level. Employment by level of education will be available in 2021 based on population census data available at national level but not fleet segment level. The 2020-2021 WP also mentions problems with guidelines for data aggregation.

4.2.2 Portugal

In the Portuguese ORs (Azores and Madeira), economic and social variables are collected through questionnaires addressed to the whole population of fishing enterprises. For the 2020-2021 period, the national administrative database will also be used to collect data on social variables. Although data is collected through a census, it is mentioned that it is not possible to get answers from the whole universe (Text Box 3A)³. The WPs do not mention the final sampling rate of the economic and social survey. It is important to note that data sources used for the estimation of economic variables are official data, logbooks, sales notes and surveys available for all vessel owners (see Annex II for synthesis of the WPs). Days at sea, landings and value of landings are derived from logbooks and sales notes (with additional sampling of 5% of the fishing trips in the Azores). These variables are cross-checked. The WP also mentions (Text Box 2A) that for effort, the primary data source is logbooks data and the sales notes are the secondary data source, knowing that in Portugal all vessels landing fresh fish are obliged to sell at first sale by auction. Therefore, data regarding all vessels landing in national ports, including small scale fisheries, are considered census-like.

To deal with non-responses, the methodology used for the estimation of most of the variables is based on the assumption of averages per fleet segment. With the increasing importance of the

³ Portugal WP 2017-2019

economic results, improvements in the methodology are predicted in order to use more of the available administrative data. The objective is to combine administrative data with survey answers to modelling, in order to achieve better quality results with the available data. This approach has been tested with the variable “Energy costs”.

As mentioned in the WP report, other specific methodologies are used for the calculation of variables: capital values, capital costs and FTE. The value of fixed assets and the capital costs are estimated processing data from the vessel register, and according to the methodology suggested by the study on “Evaluation of the capital value, investments and capital costs in the fisheries sector” (No FISH/2005/03). The Perpetual Inventory Method is used to estimate gross capital and depreciation.

4.2.3 Spain

At national level, the statistical operation Marine Fisheries Economic Survey includes pollsters who gather information directly in questionnaires designed ad hoc. There is no specific operation for the collection of economic and social information in the Canary Islands. Data are collected by direct interviews. The questionnaire includes detailed information on the vessel’s owner, vessel information and vessel’s accounts. As mentioned in the WP report, other specific methodologies are used for the calculation of variables. A perpetual inventory method is used to estimate gross capital and depreciation. Social indicators have been collected through the same questionnaire (see Pilot Study 3: data on employment by education level and nationality)⁴. The national administrative database (social security for the sea) seems not to be used for the collection of social variables (see Annex II for synthesis of the WPs).

The data collection method is based on a stratified random sampling through a representative sample of the total population. Stratified random sampling is carried out using economic profitability as the main variable, and size (measured by GT) as an auxiliary variable, a variable of which the population distribution is known. It is important to note that in WP 2020-2021 and contrary to 2017-2019, the Canary Islands are merged with the supra region including Baltic Sea, North Sea, Eastern Arctic, Extended North Westerns waters (ICES areas 5, 6 and 7) and Southern Western waters (the two last ones refers to North Atlantic). As illustrated in the next figure, sampling rate increases with the size categories of vessels. For the WP 2020-2021, expected sampling rate varies from 4% to 19% for the <12 meters vessels. This may constitute a problem considering the importance of small scale vessels in the Canary Islands and the variability of fishing activity and revenues for these types of vessels.

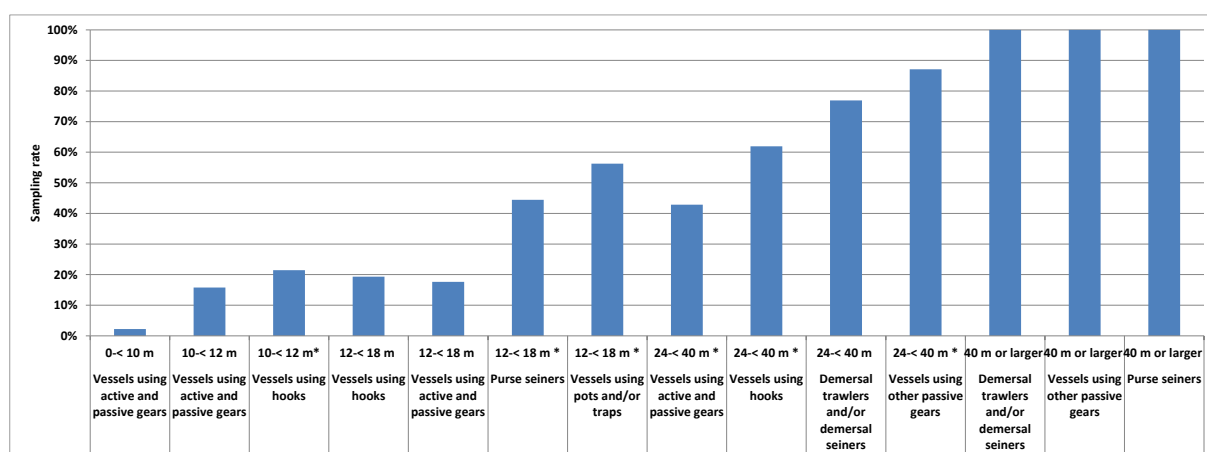


Figure 2 - Sampling rate for economic and social variables for geo-indicator “Other regions” (WP 2017-2019)

⁴ Spanish WP 2020-2021 (p.62)

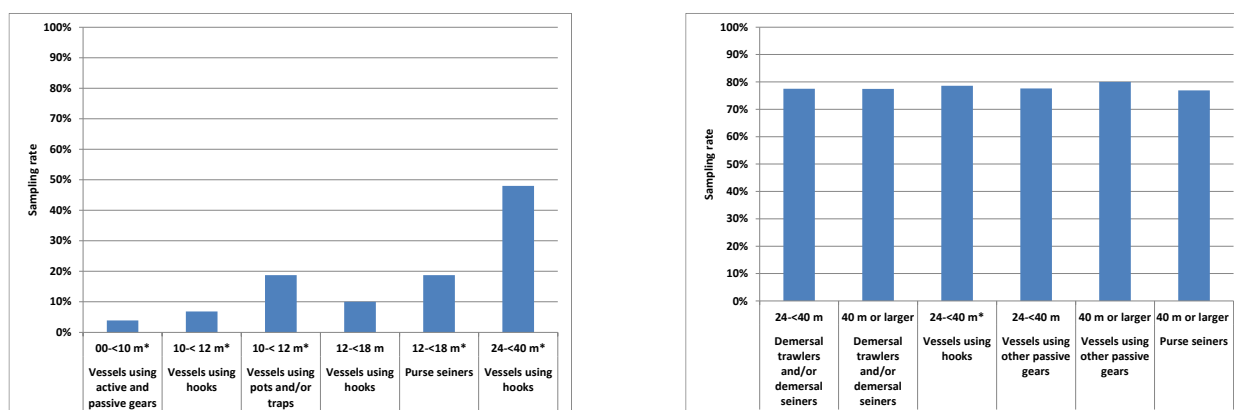


Figure 3 - Sampling rate for economic and social variables for geo-indicator for left: suprago region "Baltic Sea, North Sea, Eastern Arctic, North Atlantic", including Canary Islands.; right: "Other regions" which refers to RFMOs and SFPAs (WP 2020-2021).

From a Canary Islands perspective, it is noted that sales notes are collected daily on all points of first sale, and then the date is processed by the autonomous region authorities and integrated in regional databases, so that there is a full coverage. With established frequency, the sales notes are forwarded to the SGP that incorporates the information into its central database, which guarantees the full coverage in all the national territory⁵.

5 ECONOMIC INDICATORS

Portugal and Spain present data for capacity, effort and economical information for all ORs fleet segments. France provides data for capacity, effort (days at sea), employment and landings also for all fleet segments. However, for Martinique, Mayotte and Saint Martin no economic data was provided to DCF. For the rest of its ORs, France only provided partial information (Table II and

Table III). For the France ORs fuel consumption were only provided for Réunion.

Table II - ORs data presented in the Annual Economic Report 2019 (STECF 19-06)⁶.

	French Guiana	Martinique	Guadeloupe	Saint Martin	Mayotte	Réunion	Azores	Madeira	Canary
Capacity									
Number of vessels	113	658	586	11	122	19	650	108	605
GT	601	1,202	1,750	45	244	1,061	2,791	1,399	4,788
Total vessel power	8,174	100,525	96,517	1,882	4,876	4,918	32,796	8,83	24,328
Effort									
Days at sea	11,238	17,114	45,397		10,460	3,683	73,565	8,475	48,670
Energy consumption						1,486	9,026	1,963	9,258
Employment									
Engaged crew	330	1,097	1,093	16	288	98	2,002	639	1,79
FTE national	65		121	2	39	73	992	429	1,289
Expenditure									
Crew and salaries	3,222		12,456			1,887	11,155	3,140	21,965
Value of unpaid labour	0		0			0	201	1	10,342
Energy costs	427		3,016			803	2,610	1,364	3,294
Other non-variable costs	1,184		3,305			591	1,434	386	2,757
Other variable costs	821		851			2,534	1,639	699	4,837

⁵ Spanish WP 2020-2021 (p.58)

⁶ For French Guiana, Martinique and Réunion the data presented in table was just for the fleet segments with economic data.

	Repair & maintenance costs	439	1,719	846	1,070	493	3,256		
Income	Gross value of landings	5,690	25,683	4,843	27,075	8,636	50,189		
	Other income	1,763	0	322	872	16	0		
Indicator	Average depreciation costs	8	64	87	46	101	60		
	Gross profit	1,359	4,335	- 1,497	9,838	2,567	3,738		
	Gross Value Added	4,582	16,791	391	21,194	5,708	36,045		
	Net profit	1,035	1,304	- 2,126	5,743	1,298	2,174		
	Opportunity cost of capital	- 14	- 71	- 17	1,057	290	- 39		
Landings	Live weight of landings	2,264	732	2,768	1,138	3,128	9,773	3,457	13,168
	Value of landings	5,675	8,251	24,616	5,525	11,719	27,143	8,583	27,418

Table III – Economic data by total number of fleet segments and vessels in French Guiana, Guadeloupe and Réunion.

	Data collected		Lack of data	
	Fleet segments	Number of vessels	Fleet segments	Number of vessels
French Guiana	3	113	2	15
Guadeloupe	6	586	4	25
Réunion	2	19	5	184

Income and value of landings

Some issues were found in the ratio between the gross value of landings and the value of landings for the Canary Islands (ratio equal to 0.55). These discrepancies were observed particularly in small scale fleet segments, PMP0010 which represents 23% of the total landings in weight. This may be related to the source of information, as many first sales point in the Canary Islands do not register the real market value of the catches for different reasons. These values could be estimated to approximate the real market values. In addition, other improvements in fish marketing and in the registering of the value of catches in this area should be pursued.

In opposition, the same ratio observed in Réunion is equal to 2.42 for the two fleet segments which had economic data (HOK1218 and HOK1824). Effort must be done in order to improve the estimation of these two parameters.

Expenditure

Regarding cost breakdowns, one can conclude that expenditure shows some consistency for the major ORs were the crew costs represents the major ones (53% for French Guiana to 70% for Madeira Island) followed by fuel and non-variable costs.

Réunion however presented a value for the other non-variable costs close to the sum of crew and fuel costs that seems to be overestimated. By definition (EU-MAP Guidance document for 2019) this field only includes the costs for: "All purchased inputs (goods and services) related to fishing effort and/or catch/landings excluding energy costs, personnel costs, repair and maintenance costs" i.e. crew provisions, baits, replaced fishing gears, etc.

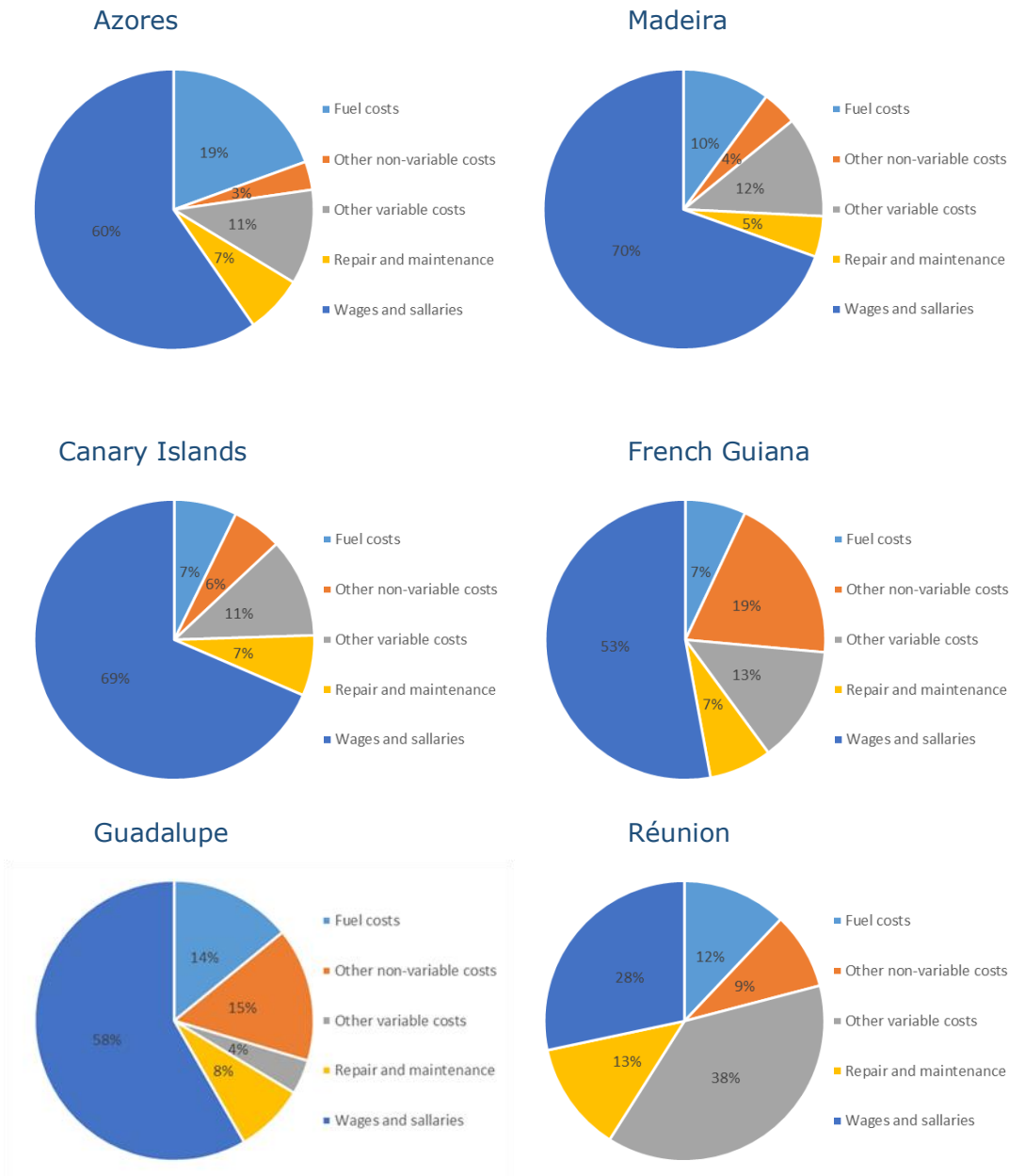


Figure 4 - Cost breakdown for the ORs that presented economic data in the AER 2019.

Effort

Regarding fishing effort, one can conclude that the values are similar for almost all ORs (80-120 sea days per vessel, except for Martinique) and close to the ones expected from fleets which the major segments belongs to small scale coastal fleet. These average figures have however to be used with caution as the variability of vessel activity is generally high in the small scale fleets.

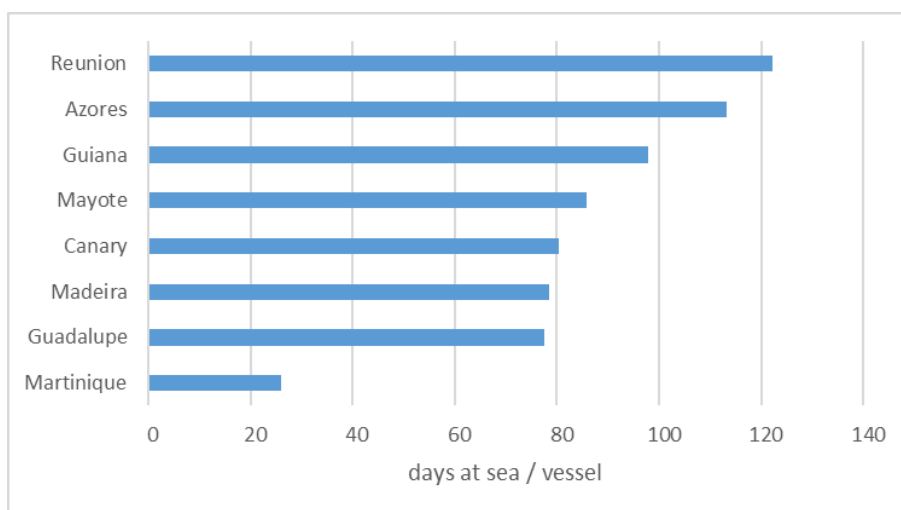


Figure 5 - Mean number of days at sea by vessel for the ORs.

A cross check was performed between fuel consumption and fuel costs in order to find the mean value for the fuel price. Azores and Canary Islands shows some unexpected values for this value (0.29 and 0.36 euro/litre), so some improvement could be done in the data collection for these two parameters.

Employment

Full Time Equivalent (FTE) represents the number of crew converted into full time equivalent jobs unit, expressing the number of employees into full-time workers and usually defined in the national law. FTE considers the total amount of annual working hours by fishers and compares to the Member State (MS) reference level.

From crossing the information of Figure 5 (which represents the mean number of days at sea) and Figure 6, one can see that the value for this ratio can be overestimated for Madeira and Canary Islands and underestimated for Guadalupe and Mayotte.

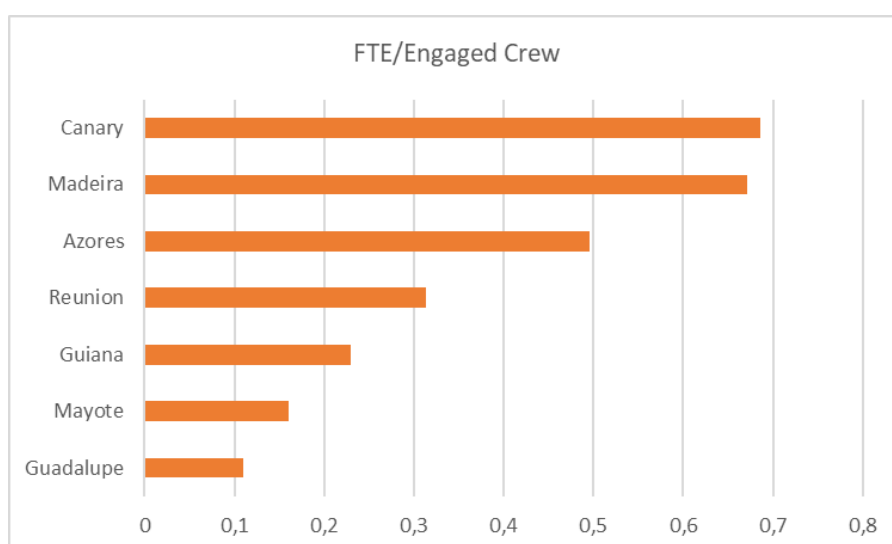


Figure 6 - The ratio between the Full Time Equivalent (FTE) and the Engaged Crew.

Finally, the annual crew costs per unit of FTE for Madeira (7,320 euros) is significantly low (less than the minimum salary in Portugal) and for Guadalupe is too high (103,200 euros; Figure 7).

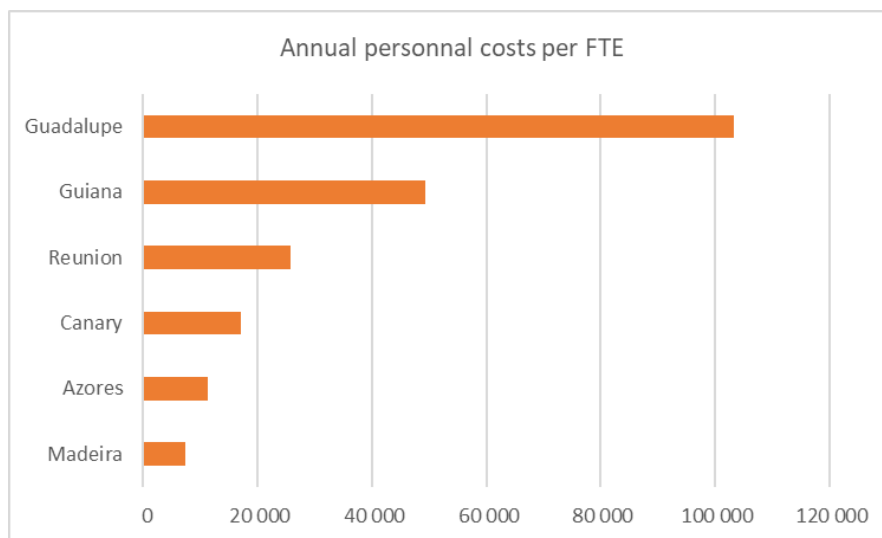


Figure 7 - Annual crew costs per unit of FTE.

6 SOCIAL INDICATORS

The collection of social indicators for the EU fishing fleet, aquaculture and fish processing industry was introduced by Regulation No 2017/1004 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 CFP (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.

EWG 19-03 Social Data in the EU Fisheries Sector provided for the first time a comprehensive overview of the social data collected in 2017 under the EU-MAP for the EU fishing sector. The report provides information on the social and demographic characteristics of the labour force both at EU and Member States level.

PLEN 19-02, that analysed the EWG 19-03 report, recommended that in order to be able to properly analyse and interpret the social data collected, these data should be presented in the adequate national, regional and local context. Taking this recommendation into account, and considering that some of the data analysis was already carried out in the EWG 19-03 under the MS level analysis, the group decided to perform the same analysis as EWG 19-03 but by ORs with a focus by sea basin, following the nomenclature established for the Advisory Council for the ORs (AC OR) i.e. West Atlantic, East Atlantic and Indian Ocean.

For all French ORs it is necessary to highlight the lack of information on several of the social variables required by DCF. Specifically, data about educational level is lacking and the information about professional status looks inadequate (no information about vessel owners at all). Additionally, in Mayotte data looks severely incomplete, as the only variable available is employment (287 fishers) with gender unknown. For the Canary Islands it is relevant to note that the rates of unknown data are much lower in the large scale fisheries (LSF) than in the small scale fisheries (SCF), and this make us think about the potential differences between these two fleets regarding to the sampling methodologies for data collection. Perhaps some further refinement is needed in the sampling methodologies and data sources for SCF in the Canary Islands and in mainland Spain, as the sampling for these fleets can be rather low in comparison with the sampling of LSF as stated in the methodologies of the DCF for Spain. In this sense, the representativeness of the data is limited in the case of the Canary Islands, where the majority of the fleets and employments is SCF.

6.1 West Atlantic

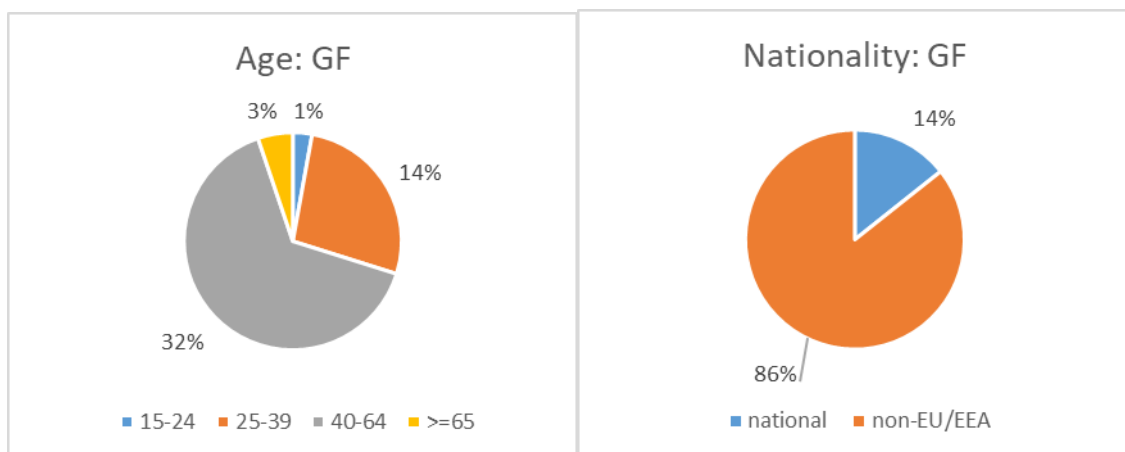
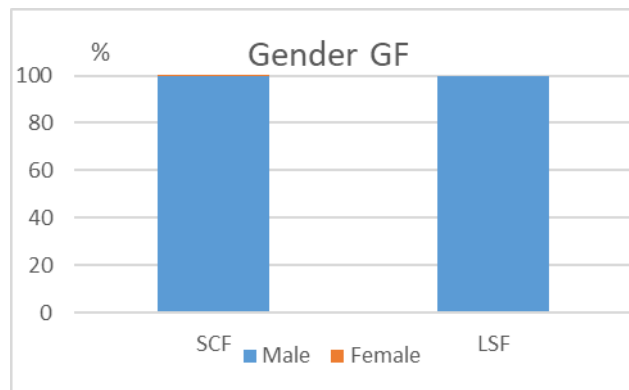
6.1.1 French Guiana

The data in this OR region shows a clear predominance of SCF (330 fishers) over LSF (70) composed of trawlers targeting shrimps. The gender data in French Guiana shows a male dominated activity, with nearly 100% as the male workforce, with only 0,3% of female employment in SCF (probably an owner) and none in LSF. This can be related to some under-registration of the female activity in fisheries. However, no female crew members have been identified according to the expert group.

Table IV - Employment by gender and fleet in French Guiana.

Employment by gender and fleet*		
	Male	Female
SCF	329.6	1.1
LSF	70	0

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).



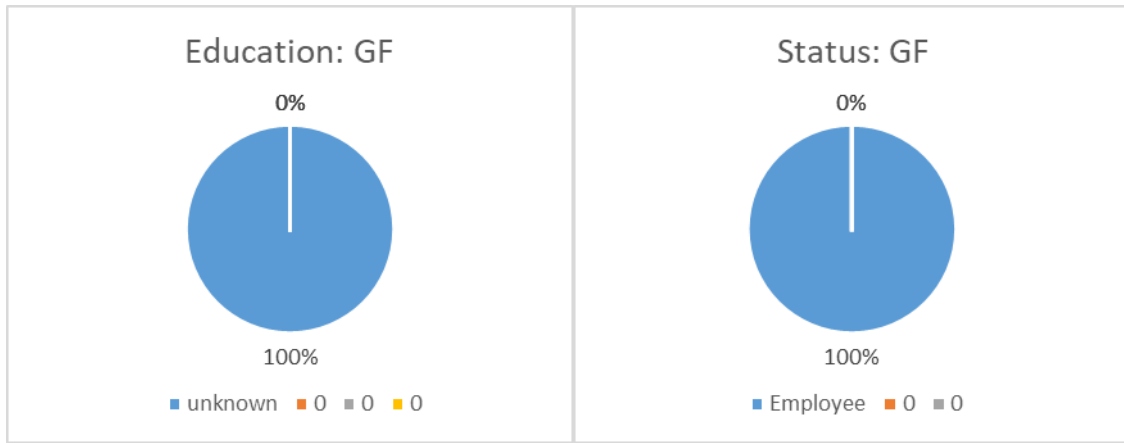


Figure 8 - Employment by gender, age, nationality, education level and employment status in French Guiana (GF).

The general data about social variables shows some lack of data in variables like education (no data available by segment) and employment status. For employment status, data are inconsistent and all the fishers are registered as employees (no ship-owners). This shows that some refinement in data collection is necessary.

Data about age shows that the balance of cohorts shows some predominance of the older age groups (40-64= 65%), and a representation of the cohort 25-39 that amounts to 27%. There are some registered fishers in the group over 65 (5%), and a small percentage under 24 (3%). The age distribution shows clear differences between the SCF and the LSF, as the latter increases clearly the weight of the older age groups. While the percentage over 40 is 65% in the SCF, it reaches 96% in the LSF. Crew changes are frequent in the SCF with younger people. In the LSF, crew mobility is more limited and can explain why the crews are older. The nationality variable indicates that the majority of fishers are not EU national (85% in SCF and 89% in LSF). Actually, most of these non EU fishers involved in the SCF are from Brazil. For LSF, all the crew members are from Brazil and Guiana (see Blanchard, 1996; Cisse & Blanchard, 2010; Cisse et al. 2009, 2014; for a description the fleet and fisheries).

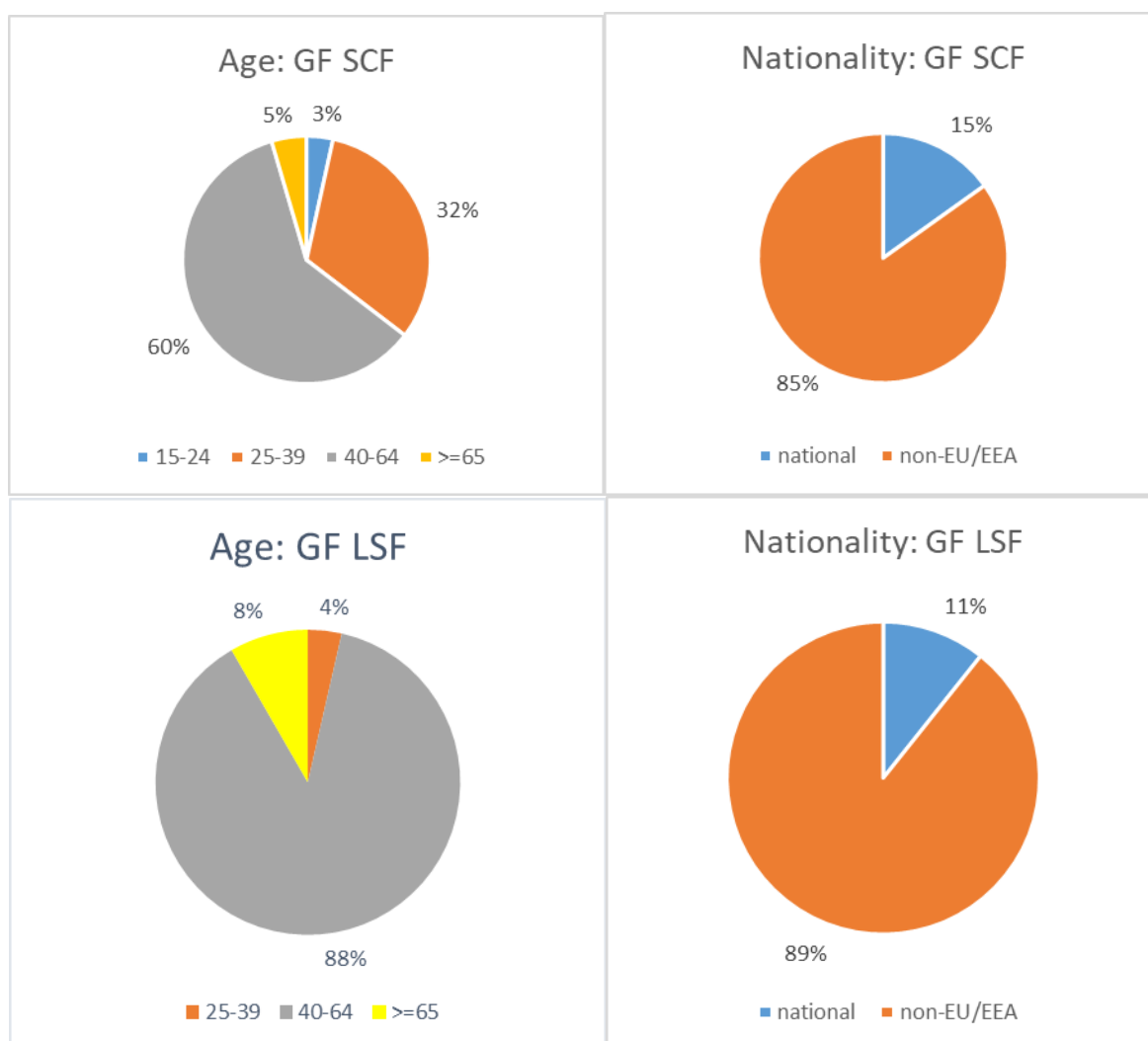


Figure 9 - Employment by age and nationality by fleet segment (small scale fisheries – SCF and large scale fisheries - LSF) in French Guiana (GF).

6.1.2 Guadeloupe

The data in this OR shows a clear predominance of SCF (1055 fishers) over LSF (78). Data in this case shows also a clear dominance of male workforce, with 3.4% of females in SCF and 0% in LSF. According the working group, LSF definition has to be considered carefully as all the vessels are less than 12 meters. Moreover, it is not clear if the data concerns the total fleet or only the active fleet. Another point to note is that few females really go to sea and the majority of the registered females help the males in onshore activities related to vessel activity.

Table V - Employment by gender and fleet in Guadeloupe.

Employment by gender and fleet*		
	Male	Female
SCF	1,019.4	36.1
LSF	78.5	0

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

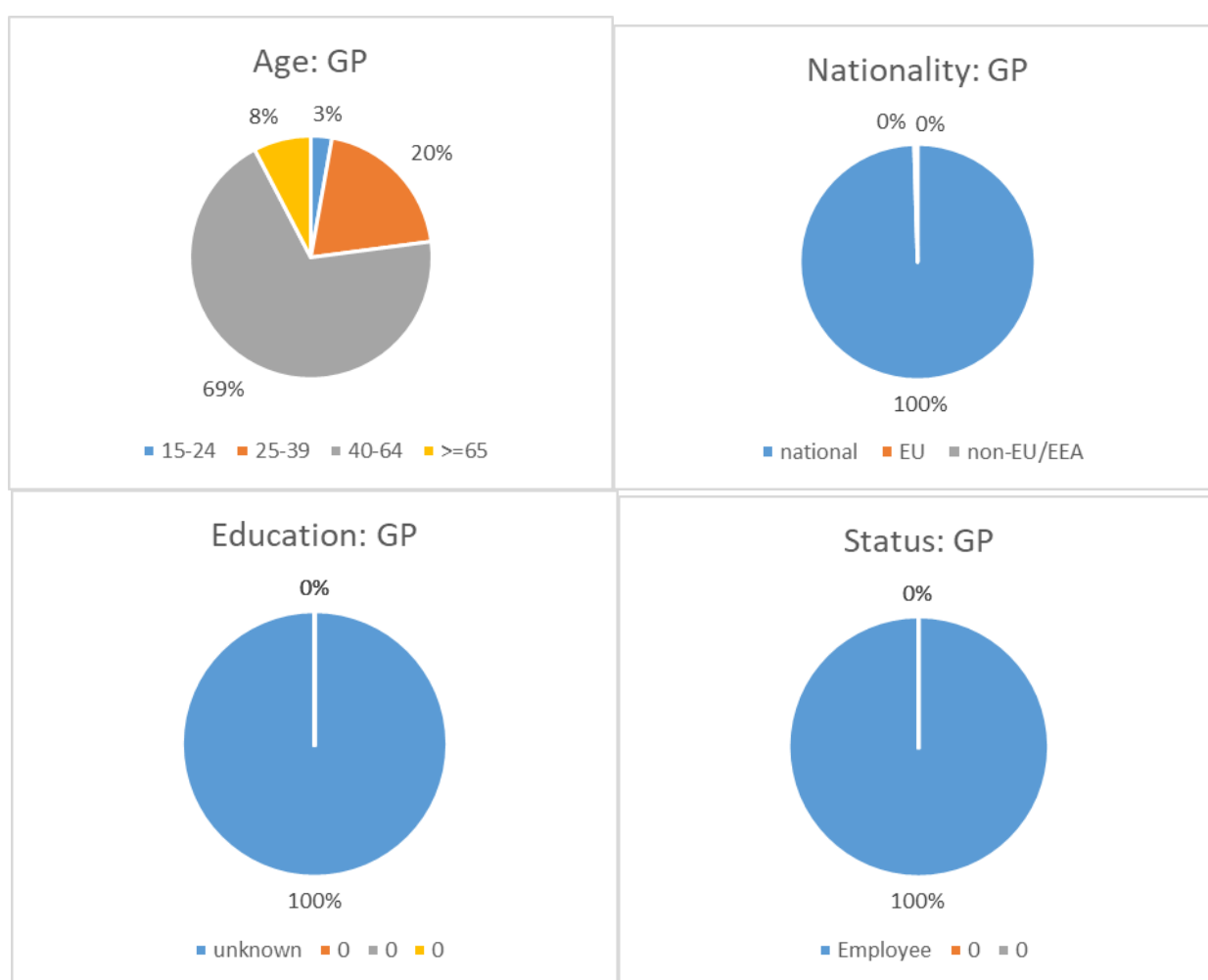
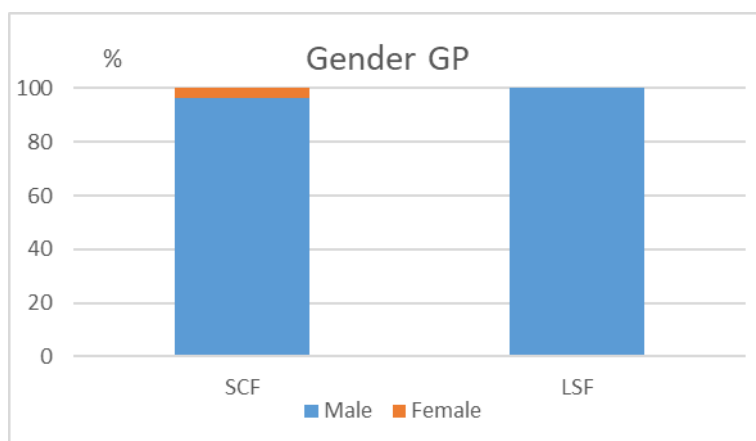


Figure 10 - Employment by gender, age, nationality, education level and employment status in Guadeloupe (GP).

The general data about social variables shows some lack of data in variables like education (no data available by segment). For employment status, data are inconsistent, and all the fishers are registered as employees (no ship-owners). This shows that some refinement in data collection is necessary.

Data about age shows that the balance of cohorts shows some predominance of the older age groups (40-64= 69%), and a representation of the cohort 25-39 that reaches 20%. There are some registered fishers in the group over 65 (8%), and a small percentage under 24 (3%). This

shows a slightly older fishing workforce in comparison with French Guiana. Almost all the fishing workforce is nationals, with a very small percentage (under 0.5% each of EU and non-EU/EEA).

The comparison between SCF and LSF is probably not relevant (see previous comment about LSF).

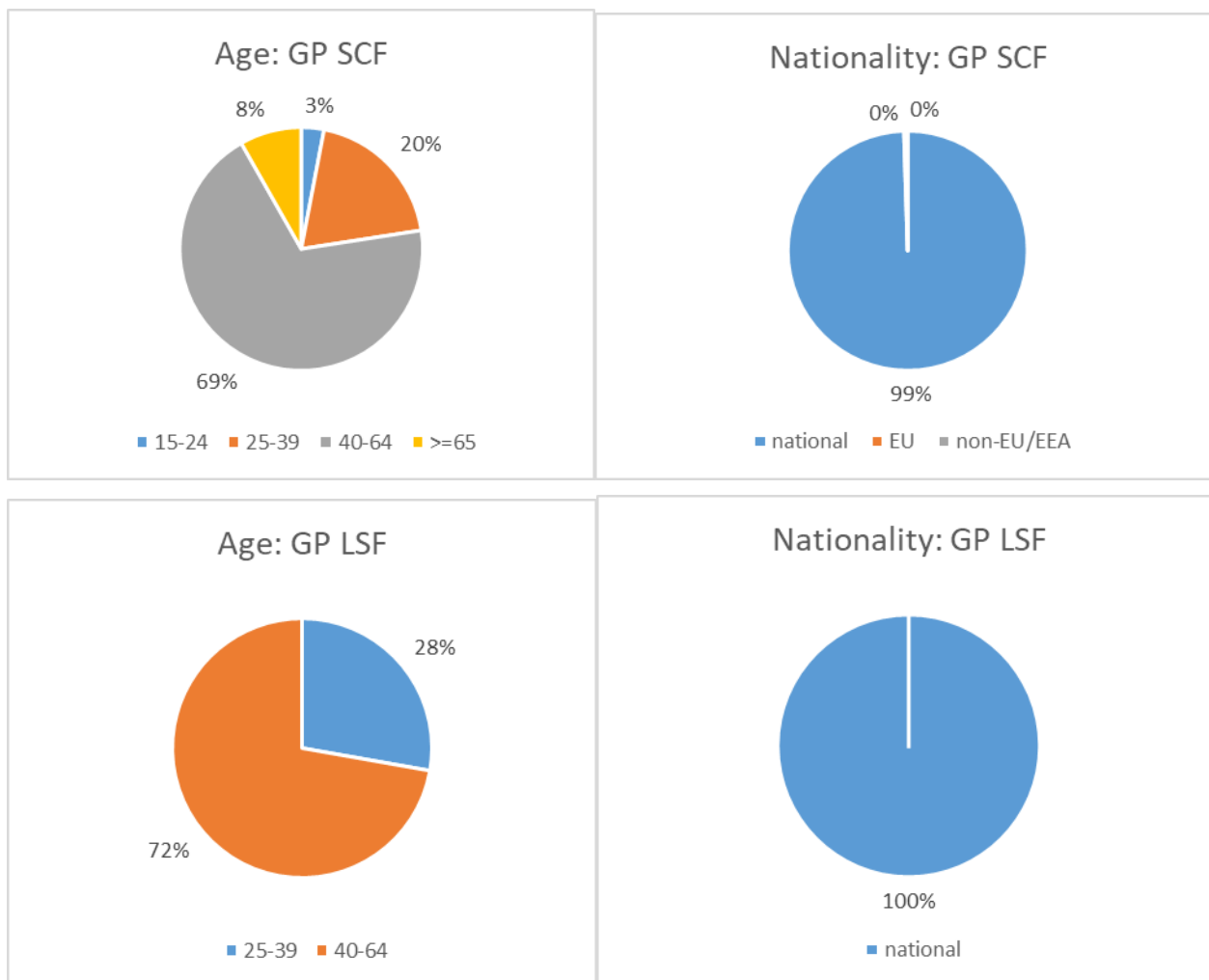


Figure 11 - Employment by age and nationality by fleet segment (small scale fisheries – SCF and large scale fisheries LSF) in Guadeloupe (GP).

6.1.3 Martinique

The data in this OR shows a clear predominance of SCF (1091 fishers) over LSF (23). Data in this case shows also a clear dominance of male workforce, with a 3,1% of females in SCF and 2% in LSF. It is important that the LSF fleet is small and mainly composed of potters targeting snappers in French Guiana areas. As in Guadeloupe, it is not clear if the MQ data concerns the total fleet or only the active fleet.

Table VI - Employment by gender and fleet in Martinique.

Employment by gender and fleet*		
	Male	Female
SCF	1,057.6	33.6
LSF	17	0,5

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

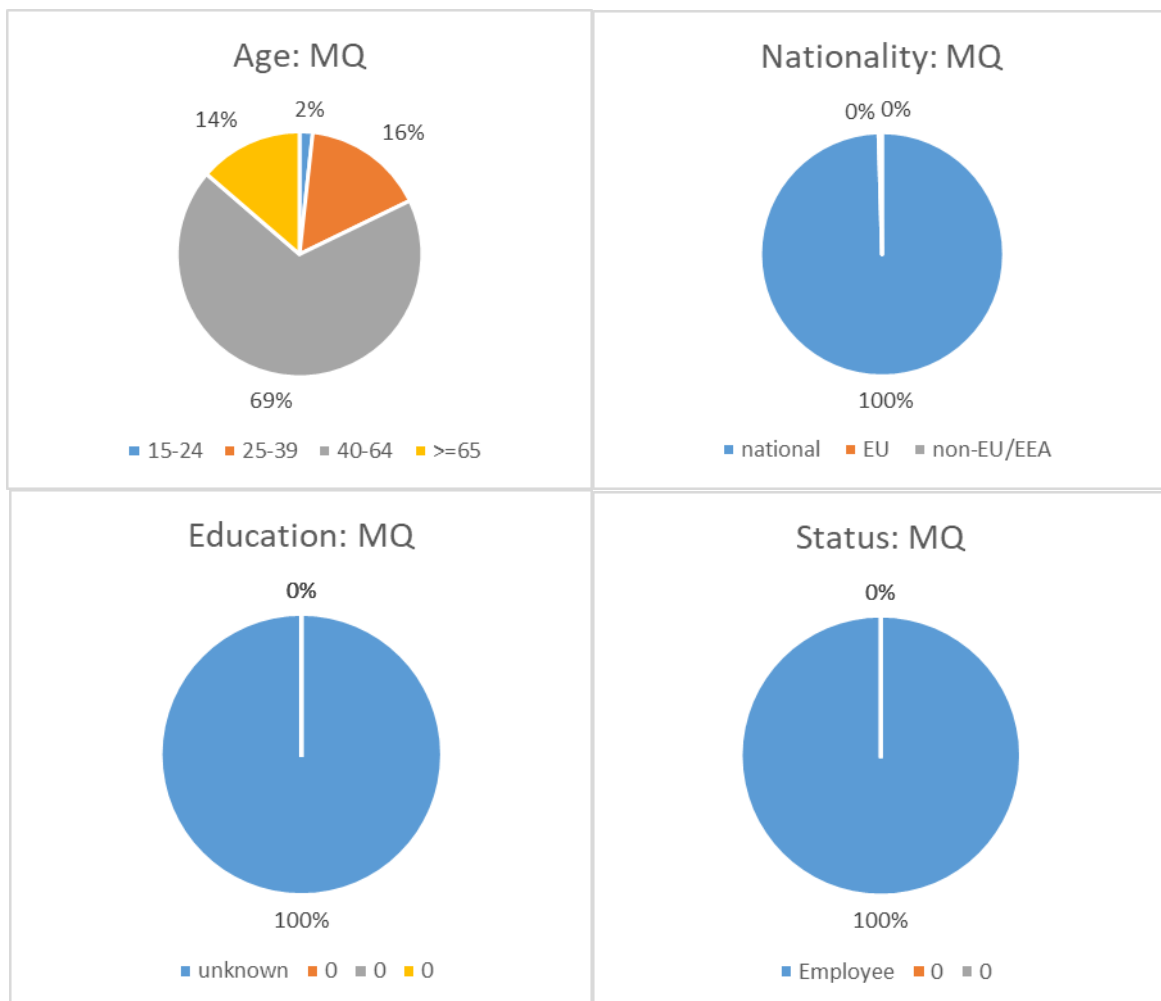
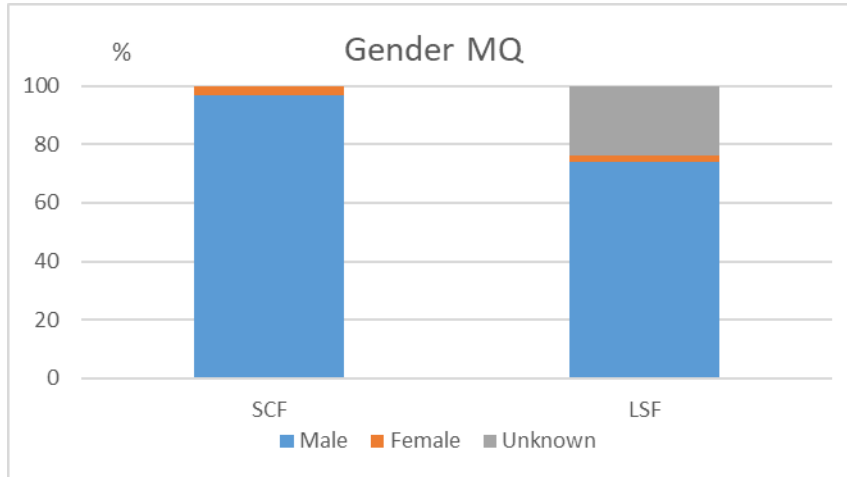


Figure 12 - Employment by gender, age, nationality, education level and employment status in Martinique (MQ).

The general data about social variables shows some lack of data in variables like education (no data available by segment). For employment status, data are inconsistent, and all the fishers are registered as employees (no ship-owners). This shows that some refinement in data collection is necessary.

Data about age shows that the balance of cohorts shows some predominance of the older age groups (40-64= 69%, exactly the same as in Guadeloupe), and a representation of the cohort

25-39 that reaches 16%. There is a significant number of registered fishers in the group over 65 (14%), and a small percentage under 24 (2%). The age cohorts over 40 reaches 83% of the total, showing an aging population linked to the activity. The vast majority of the workforce is nationals with negligible percentages of EU and non-EU/EEA nationals.

The comparison of age composition of the workforce in the SCF and the LSF shows some differences, as the LSF shows a younger composition of the workforce. It is relevant to note that the percentage of the LSF workforce is only around 2% of the total. The comparison of national composition of the workforce between SCF and LSF shows no relevant differences.

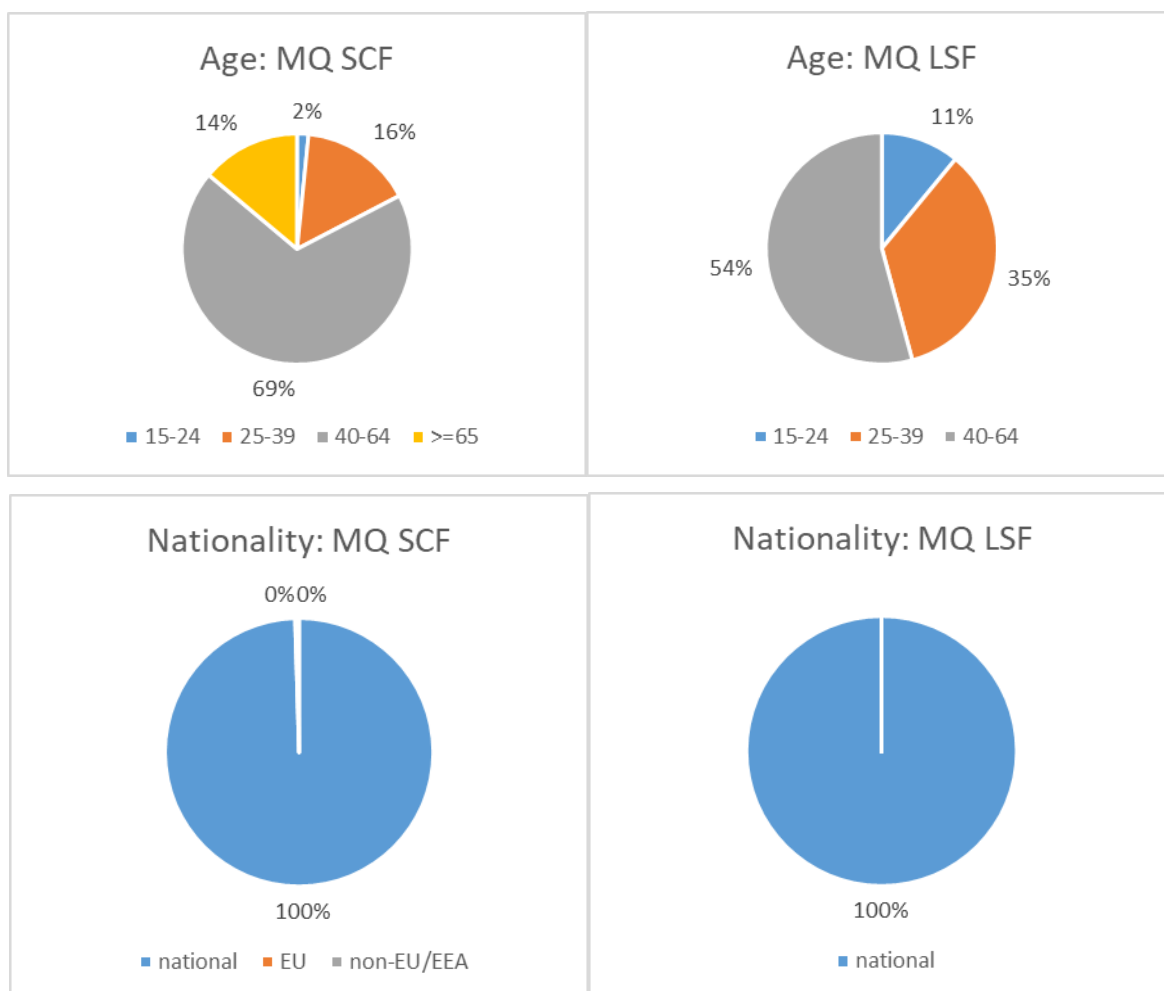


Figure 13 - Employment by age and nationality by fleet segment (small scale fisheries - SCF and large scale fisheries - LSF) in Martinique (MQ).

6.1.4 Saint Martin

The data in this OR shows a small amount of fishing activity, as the total fishing workforce reaches only 16 persons, only male, and with a minimal representation of LSF (1 person).

Table VII - Employment by gender and fleet in Saint Martin.

Employment by gender and fleet*		
	Male	Female
SCF	15.1	0

LSF	1	0
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*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

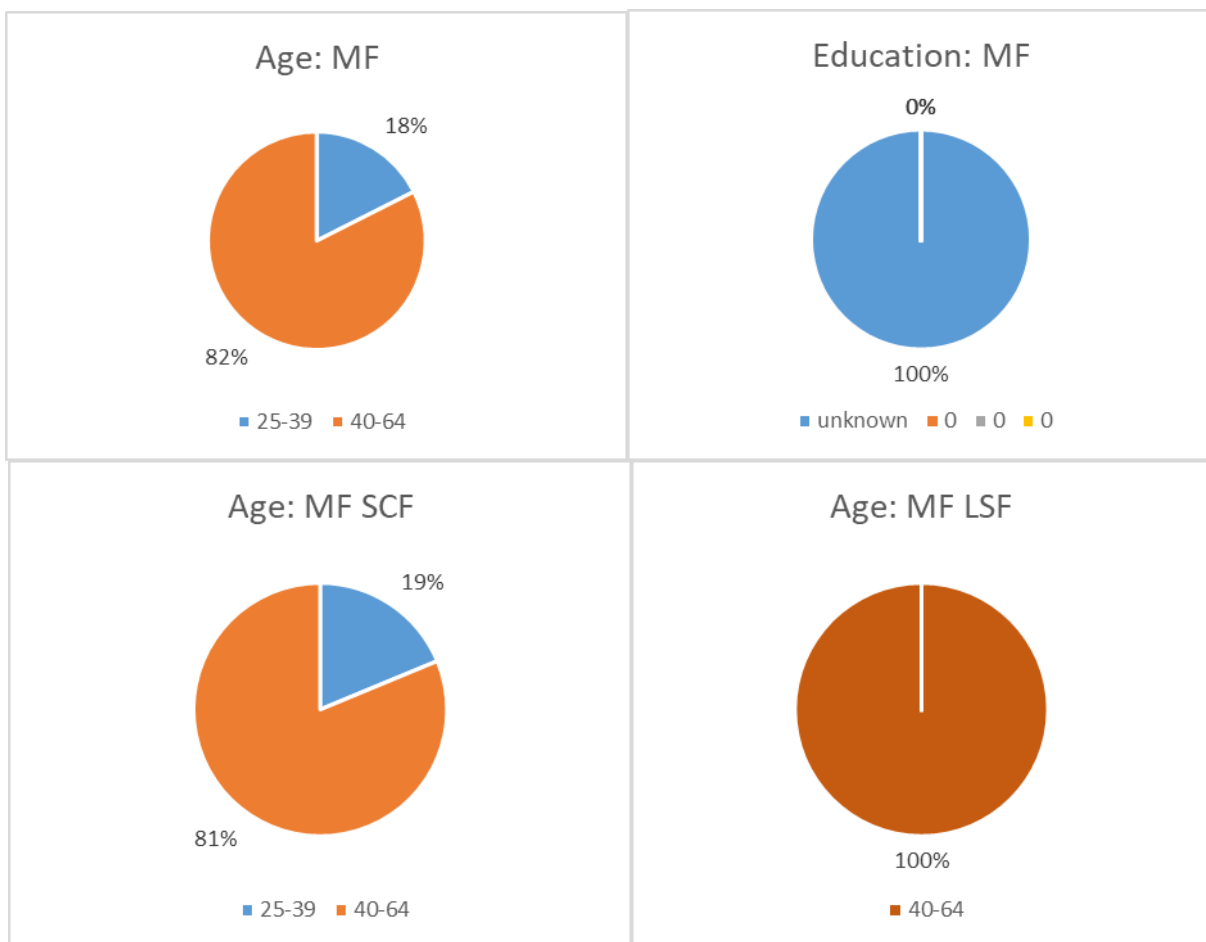
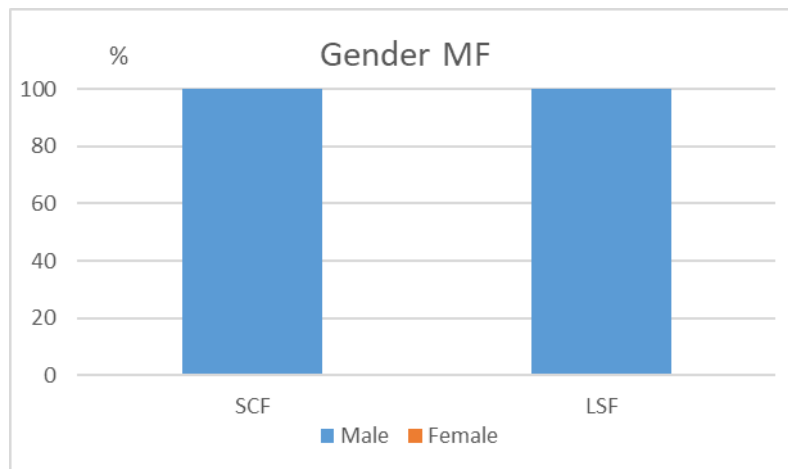


Figure 14 - Employment by gender, age and education level; and age by fleet segment (small scale fisheries – SCF and large scale fisheries - LSF) in Saint Martin (MF).

The data provided for this OR is limited, showing an age structure of the workforce dominated by the age group of 40-64 (82%, with negligible differences between SCF and LSF), and no information about the rest of the social variables.

6.1.1 Discussion

Integrated for all French ORs in section 6.3.3.

6.2 East Atlantic

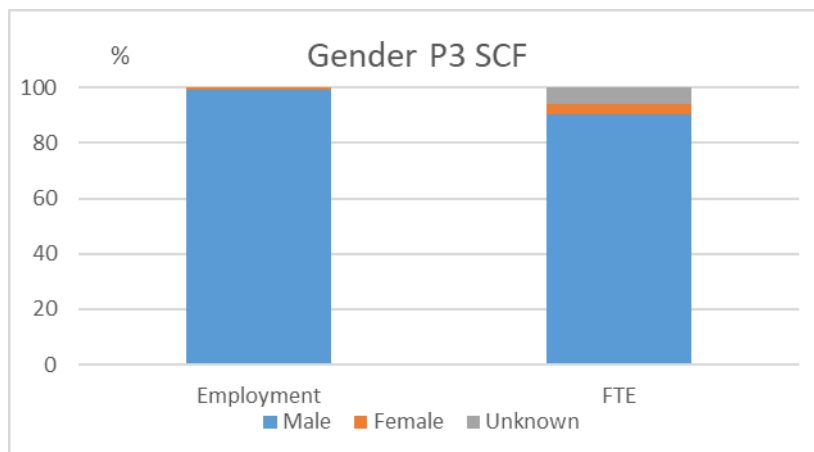
6.2.1 Azores (from EWG 19-03)⁷

In the coastal fleet of the Azores Outermost Region, there is a low female participation in fishing activities (4% of jobs), representing unpaid work 6% of the FTE. Almost all workers are of Portuguese nationality.

Table VIII - Employment by gender and fleet in Azores.

Employment by gender and fleet*						
	Male	Female	Unknown	Male FTE	Female FTE	Unknown FTE
LSF	728.8	4.4	0	560	22	11
Unpaid labour	0	0	19			
SCF	1,28.,1	11.1	0	449	19	29
Unpaid labour	0	0	99			
Total	2,009.9	15.5	118	1,009	41	40

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).



⁷ The text and graphs of this section about Azores have been extracted from this report: STECF Scientific Technical and Economic Committee for Fisheries (2019). *Social data in the EU fisheries sector (STECF-19-03)*. Luxembourg: Publications Office of the European Union. <https://bit.ly/2mGW7FH> Accessed August 17, 2019. The initial table with an overview of the employment in the sector has been added to the document.

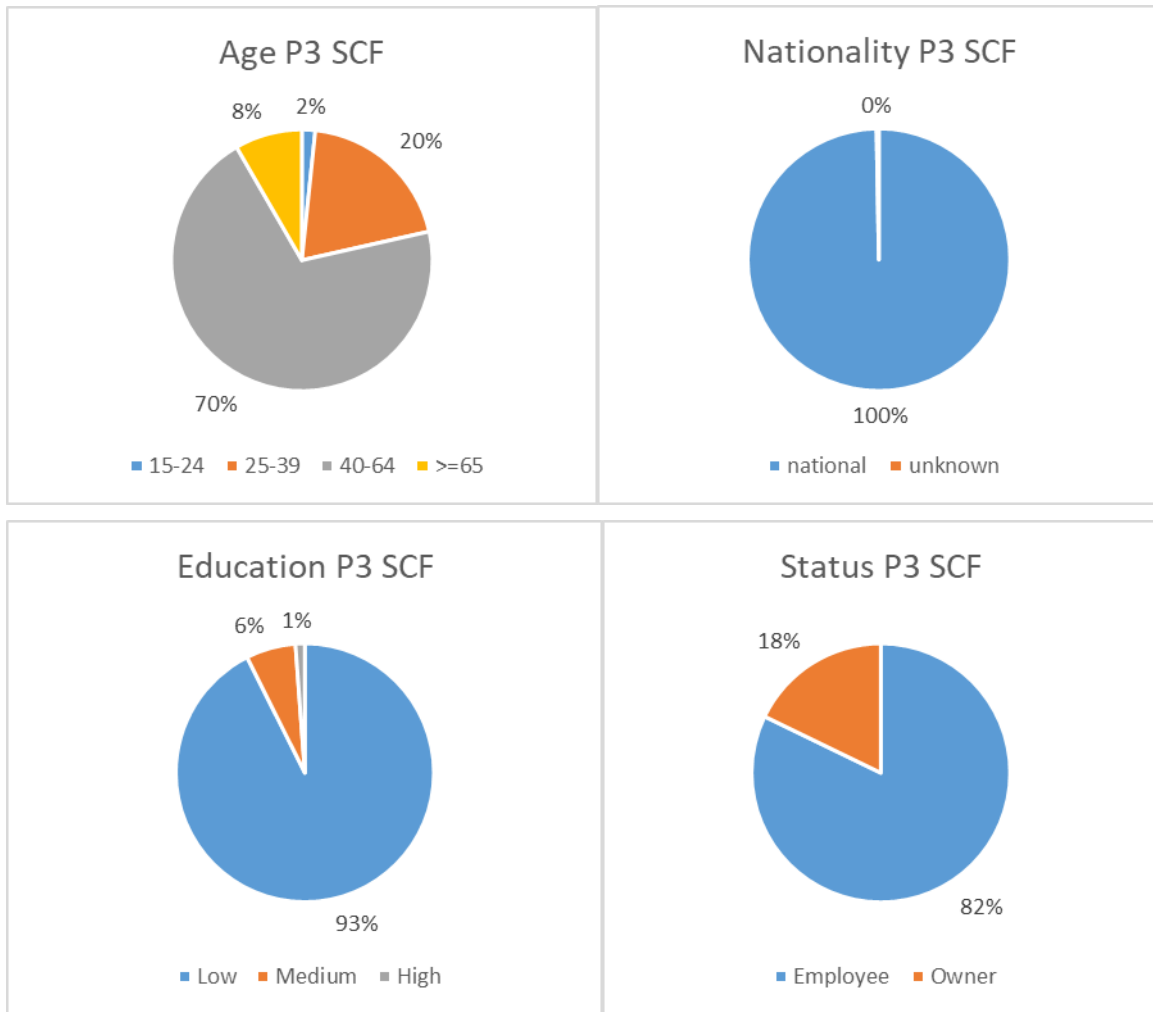


Figure 15 - Employment by gender, age, nationality, education level and employment status in small scale fisheries in Azores (P3).

As regards the demographic structure of fishery workers, there is a somewhat aging population with 78% of workers over 40 years of age, and 8% of workers over 65.

The education level of the SCF workers in the Azores is quite low, since 93% of the population have only the lowest level of education.

With regard to professional status, the owners of the vessels in the fishing activities are less involved, as in the Madeira Outermost Region, when compared with the SCF of the Mainland. Only 18% are the owner of the vessel.

Large Scale Fleet

In the LSF of the Azores Outermost Region there is a female involvement similar to what can be seen in the SCF (4%), however, this activity uses less unpaid labour, which is responsible for only 2% of the FTE. Almost all workers are of Portuguese nationality.

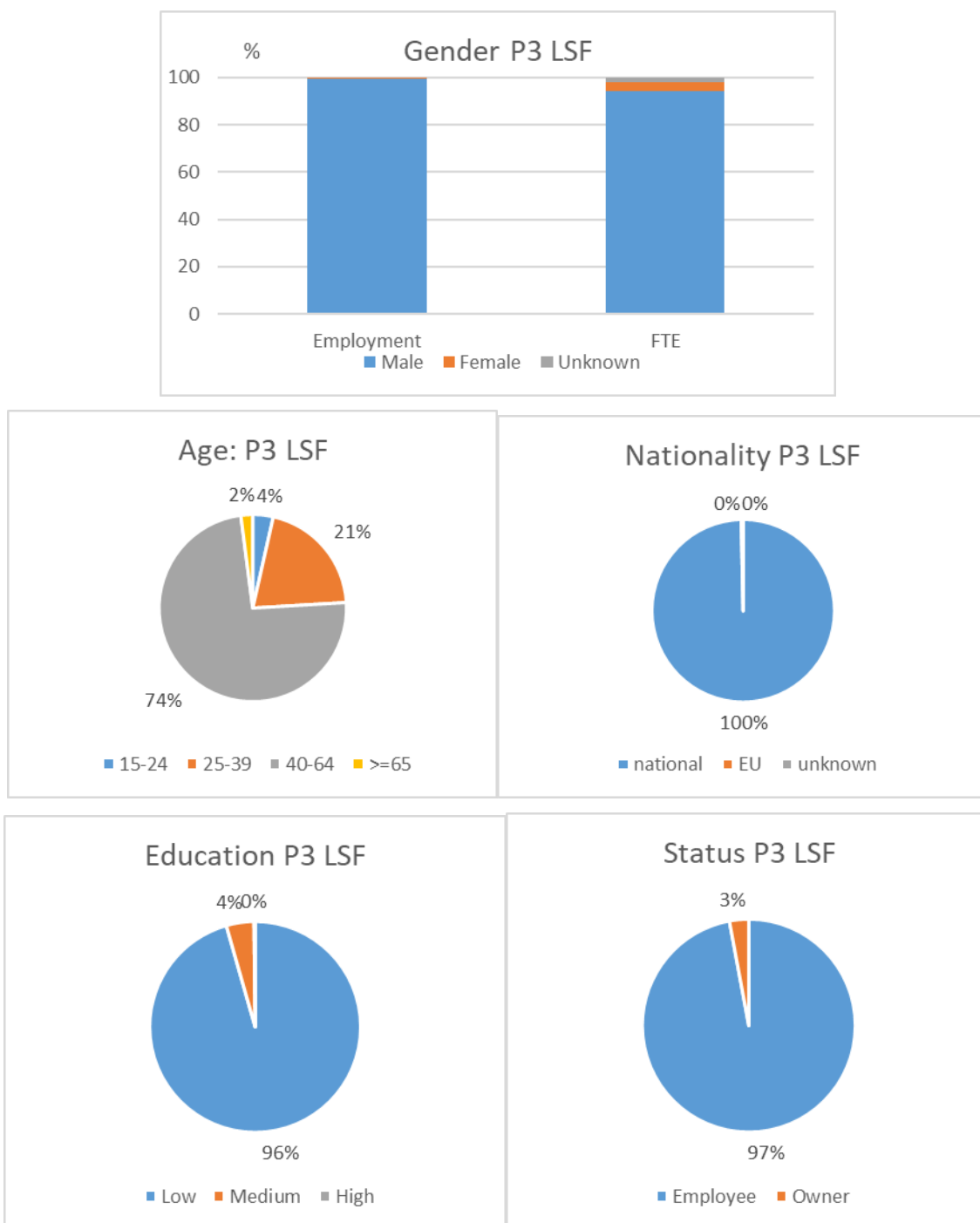


Figure 16 - Employment by gender, age, nationality, education level and employment status in large scale fisheries in Azores (P3).

The academic level is lower when compared to that of the LSF, with 96% of workers having a low level of education. The distribution of LSF's professional status in the Azores is similar to that in Madeira, and is observed that only 3% of the workers are the owners of the vessel.

6.2.2 Madeira (from EWG 19-03)⁸

In the coastal fleet of the Madeira Islands, there is a very low female participation (1%) in fishing activities but a significant amount of unpaid work (10% of the FTE).

⁸ The text and graphs of this section about Madeira have been extracted from this report: STECF Scientific Technical and Economic Committee for Fisheries (2019). *Social data in the EU fisheries sector (STECF-19-03)*. Luxembourg: Publications Office of the European Union. <https://bit.ly/2mGW7FH> Accessed August 17, 2019. The initial table with an overview of the employment in the sector has been added to the document.

Table IX - Employment by gender and fleet in Madeira.

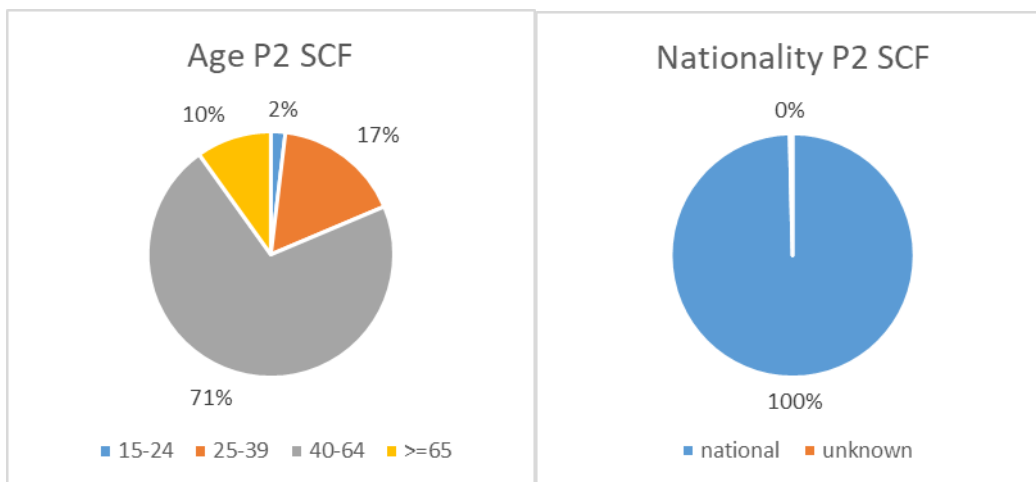
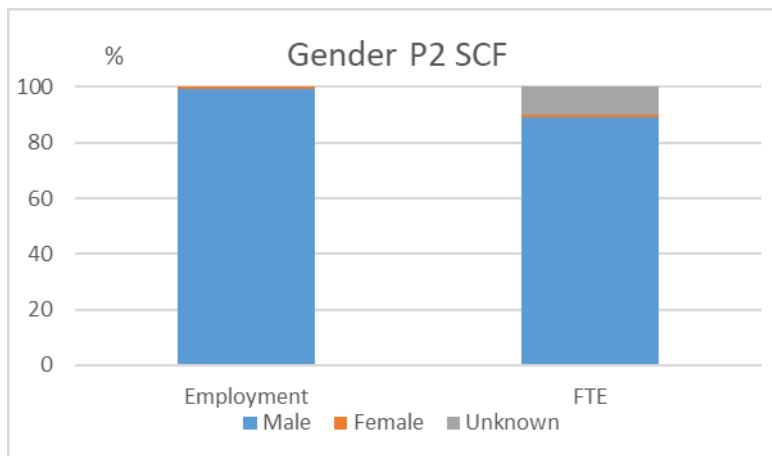
Employment by gender and fleet*						
	Male	Female	Unknown	Male FTE	Female FTE	Unknown FTE
LSF	287.6	3.5	0	356	0	0
Unpaid labour	0	0	1			
SCF	141.1	1.1		98	1	11
Unpaid labour	0	0	27			
Total	428.7	4.6	28	454	1	11

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

Madeira Small Scale Fleet

The population involved in this activity is quite old, with 81% of the workers being over 40 years of age, with the elderly representing 10% of the individuals. Almost all of the individuals are of Portuguese nationality, and their level of academic qualification tends to be low: only 10% at medium or higher level.

With regard to professional status, 20% of jobs are occupied by vessels owners.



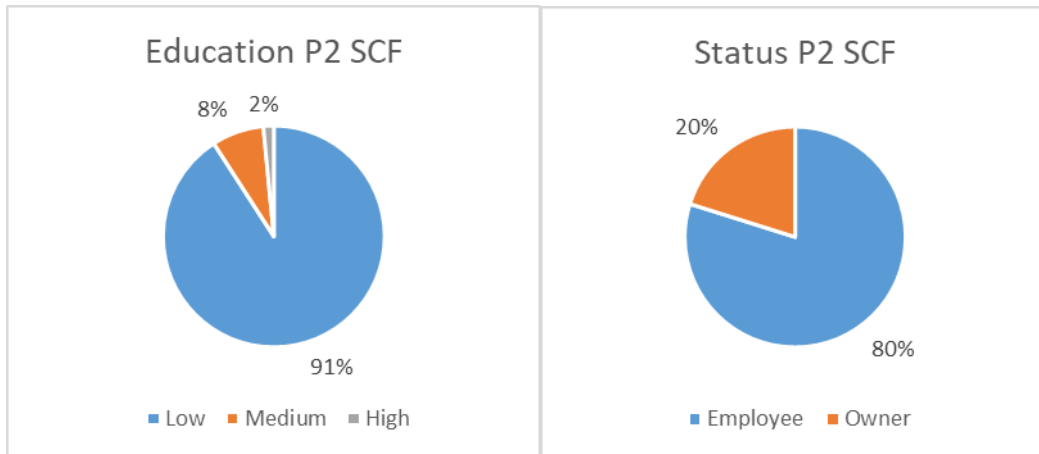


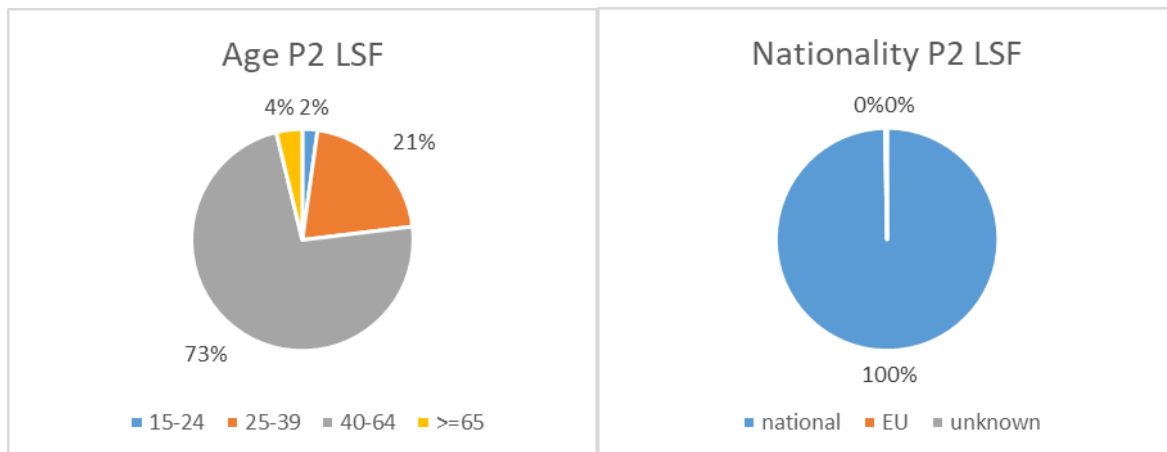
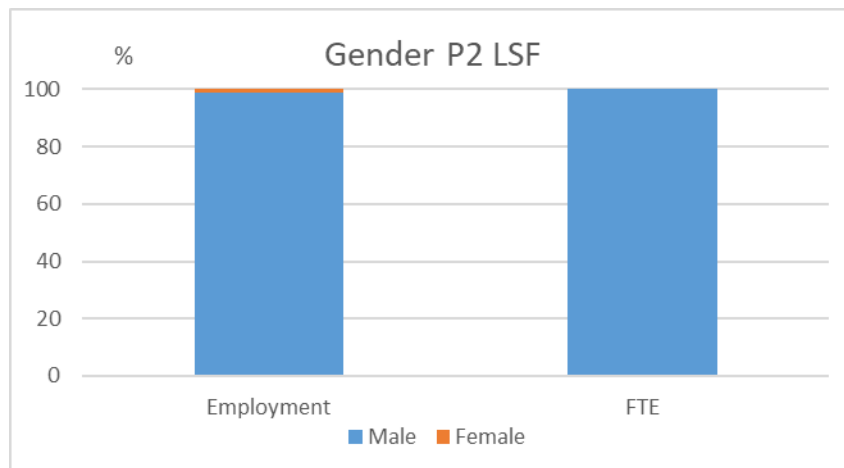
Figure 17 - Employment by gender, age, nationality, education level and employment status in small scale fisheries in Madeira (P2).

Madeira Large Scale Fleet

In the LSF of Madeira almost all workers are male and no use of unpaid work is observed. The population of this segment is slightly less aged, with only 23% of workers under the age of 40.

Regarding the level of education, the figures point to a more negative scenario in this type of activity, with only 5% of those involved with medium or higher level.

With regard to professional status, and as expected, only 2% of workers are vessel owners.



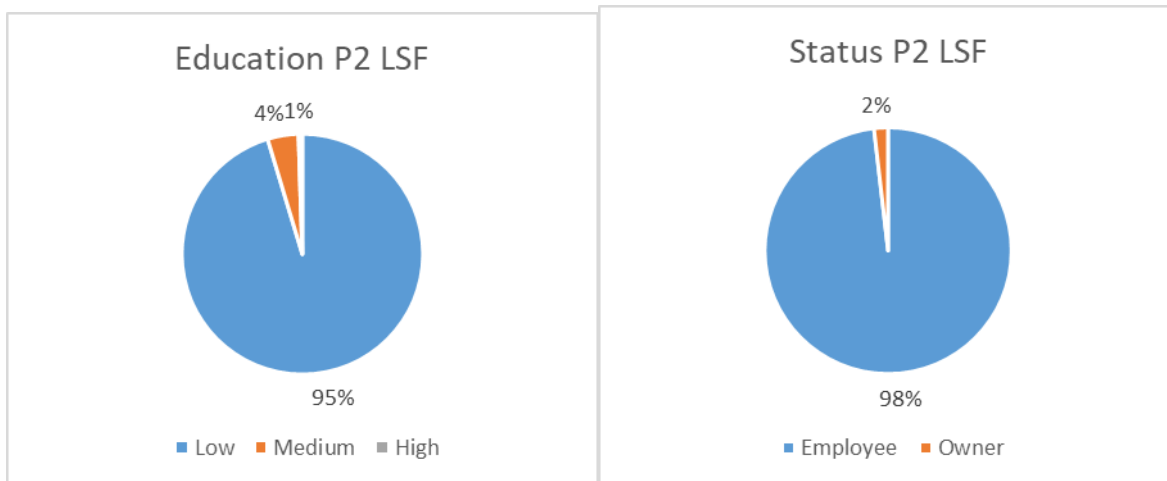


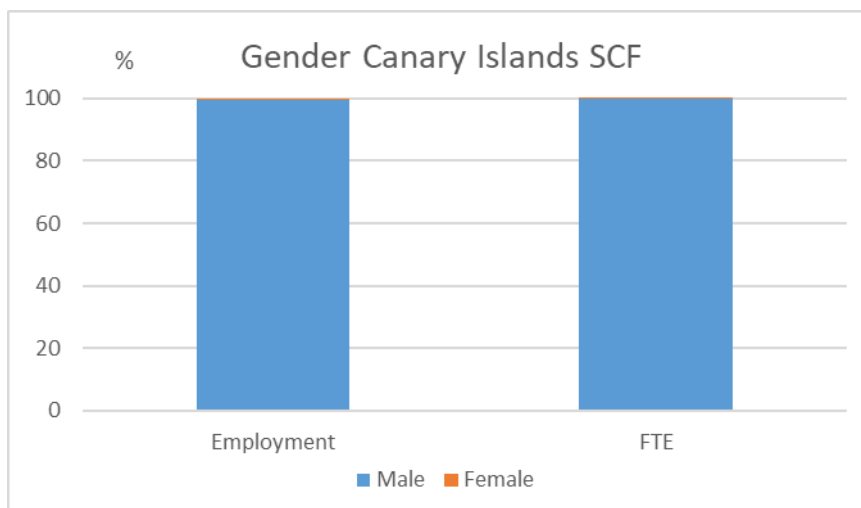
Figure 18 - Employment by gender, age, nationality, education level and employment status in large scale fisheries in Madeira (P2).

6.2.3 Canary Islands

The fisheries in the Canary Islands are mostly small-scale, as this sector comprises most of the fleet and the employment of the fisheries sector. The small-scale fisheries integrate a workforce of 1384 fishers, while the large-scale fisheries of the region comprise 495 fishers. The direct total employment of the fishing sector reaches 1879 persons (FTE 1289). It is relevant to note that the large-scale fisheries in this region share some of the fishing technologies with the small-scale fleet, as longlines and pole and line for tuna fishing. Most of the large-scale boats are focused in pelagic species (small pelagic with purse seines and tuna with pole and line). So, even if the larger boats are classified as LSF, it is not easy to define this fleet as an industrial fleet. It is also relevant to note that no trawling is developed in the Canary Islands, as it has been banned by law for decades, and the number of boats devoted mainly to longlines is rather small.

Table X - Employment by gender and fleet in Canary Islands.

Employment by gender and fleet.				
	Male	Female	Male FTE	Female FTE
LSF	488	7	420.5	6.4
SCF	1,379	5	860	2.2
Total	1,867	12	1,280.5	8.6



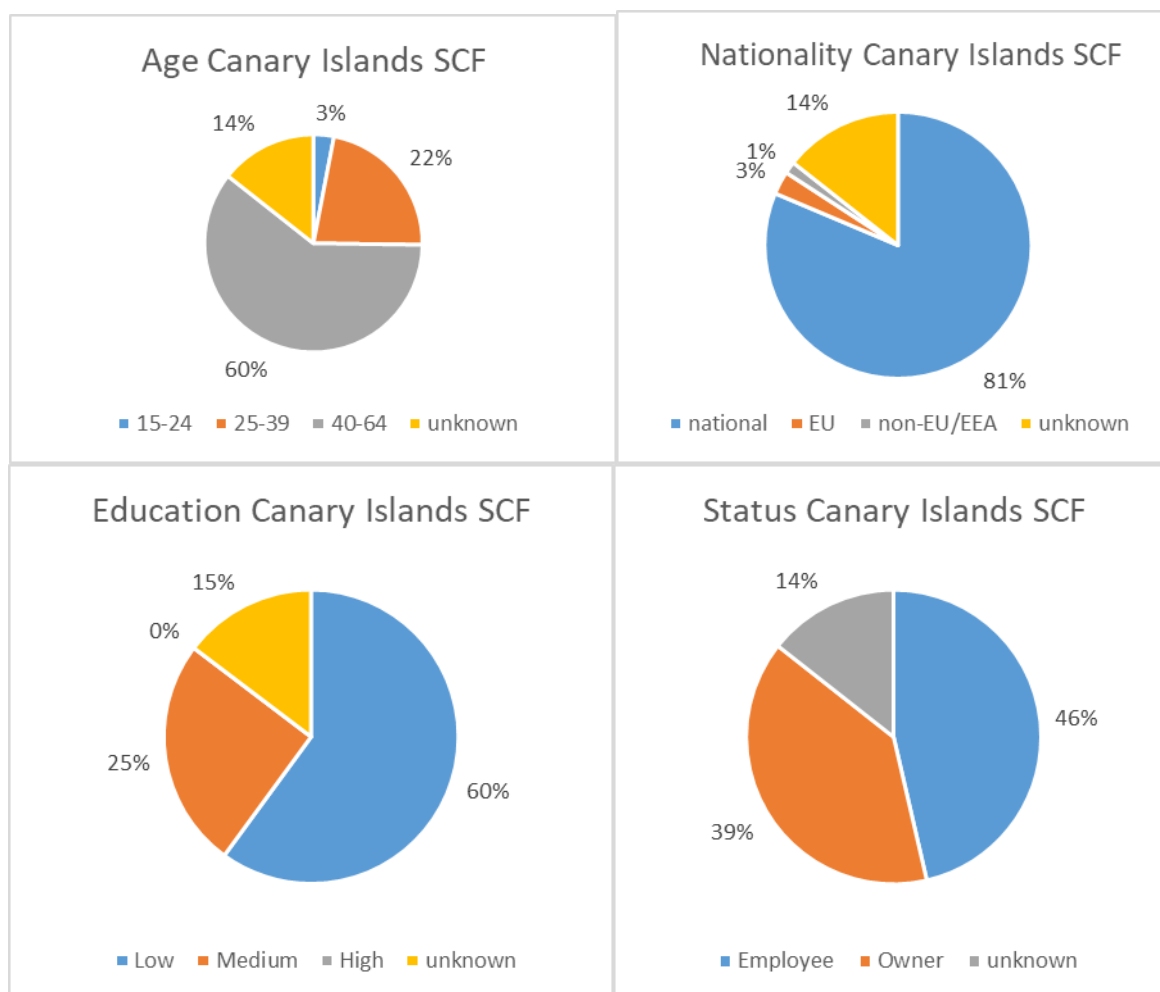


Figure 19 - Employment by gender, age, nationality, education level and employment status in small scale fisheries in Canary Islands.

In the small-scale coastal fleet of the Canary Islands, the registered female participation in fishing activities is very low (under 1% of jobs), even if in reality the activities linked to women in marketing and support of the fishing enterprises are much more relevant than the figures suggest⁹. In this sense, due to the limited profitability of the fishing activities, there is a reluctance to increase the social security expenses in the family enterprise by registering women as workers in the marketing of the fish, which explains these figures.

The demographic structure of workers in the small-scale fishery shows a somewhat aging population with 60% of workers over 40 years of age, and only 25% under 39 years old. The structure of the data does not help in the analysis, as the 40-64 age group is far too wide to show the tendencies. It would be advisable to group the ages in cohorts of 5 or 10 years at the maximum to improve the precision of the analysis. The amount of unknown is rather high (14%), so this does not help in the analysis of tendencies either.

Workers in the SCF sector are mostly of Spanish nationality, only 3% comes from other EU nationalities, and around 1% from non-EU/EEA. The level of education is rather low (60%), with a 25% of medium educational level, and again a high level of unknown data (15%). In relation to professional status, in this segment of the fleet, the ratio of owners (39%) and employees (46%) is rather balanced, showing the relevance of small boats with one or two persons as total crew in the Islands.

⁹ See for instance: De la Cruz Modino, Raquel. 2012. *Turismo, pesca y gestión de recursos. Aportaciones desde La Restinga y L'Estartit*. Madrid: Ministerio de Educación, Cultura y Deporte. Pascual Fernández, José. 1991. *Entre el mar y la tierra. Los pescadores artesanales canarios*. Santa Cruz de Tenerife: Ministerio de Cultura - Interinsular Canaria.

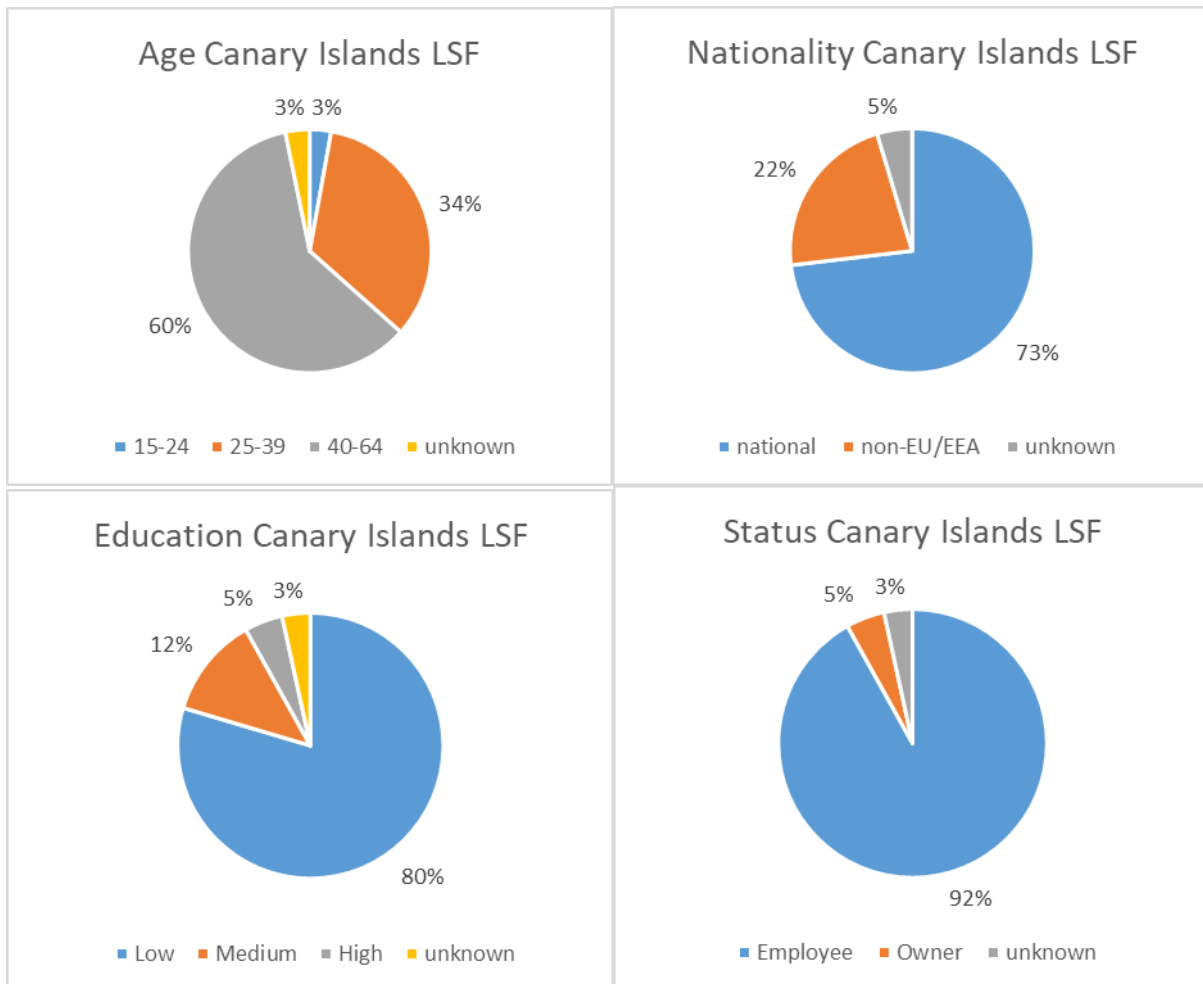
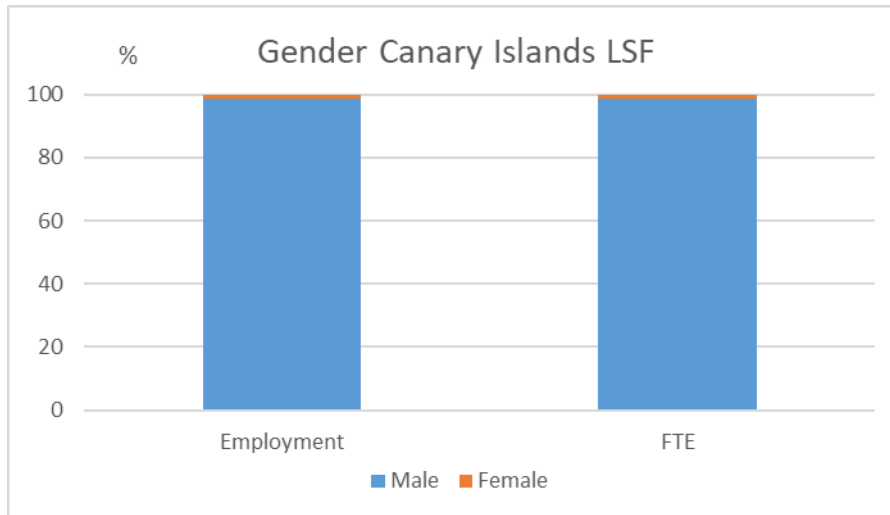


Figure 20 - Employment by gender, age, nationality, education level and employment status in large scale fisheries in Canary Islands.

Male workforce is dominant in the large-scale fisheries in the Canary Islands, as females represent around 1.5% of the total, probably linked to the administration and management of the fishing enterprises. The large-scale fisheries in the Canary Islands show some similarities with the SCF, like in the aging population; exactly the same percentage in this fleet is grouped in the cohort between 40-64 years old, while the percentage of unknown data is much lower (3% instead of 14%), and a higher percentage in the 15-39 cohorts (37%, vs 25% in SCF). Nationality

show very important differences, as in this case the percentage of non-EU/EEA rises to 22% (3% in SCF), and the education show also relevant differences, as in LSF there is a significant percentage of high education 5%, the rate of medium education is lower 12% (vs 25% in SCF) and the low education rises up to 80%. No less different is the rate of professional status, as the employees are up to 92% (vs 46% in SCF) and 5% of owners (vs 39% in SCF). This is coherent with the large crews usual in purse seiners, large boats for tuna fishing that use pole and line gears, or the bigger longliners.

6.2.4 Discussion

The comparison of the variables shows some relevant differences between the three different regions in the East Atlantic area. From an employment perspective, the region with the more relevant LSF in comparison with SCF is Madeira, as the FTE number of LSF (356) almost triples the FTE employment in SCF (110). That is almost the opposite of what happens in the Canary Islands, where the LSF employment (427) is less than half of the SCF in terms of FTE (862), and nearly one third in total employment. This looks more balanced in the case of Azores, where the numbers of FTE of the SCF (497) are around twenty percent lower than the LSF (593). A single explanation to these numbers (for Azores) arises from the fact that only 38,5% of the direct total employment in SCF (1292) are accounted as full-time employment workforce. Crews carry other activities besides fishing (e.g., in the agriculture sector) and, for this reason, are considered as part-time employees. Also for LSF, which is particularly focused on large pelagic fish, many fishers also engage in other activities during the low season. In terms of full-time employment, this shows a difference between the Portuguese regions, where the LSF is comparatively more important than in the Canary Islands.

The figures about female workforce look very small in all the East Atlantic ORs. In some cases in the SCF this may result from under-registration of female activity in support of the fishing enterprises, in selling the fish, etc.

Table XI - Full time equivalent employment by gender and fleet in East Atlantic ORs.

Full time equivalent employment by gender and fleet (East Atlantic ORs)								
	Azores (P3)			Madeira (P2)			Canary Islands (IC)	
	Male	Female	Unknown	Male	Female	Unknown	Male	Female
LSF	560	22	11	356	0	0	420.5	6.4
SCF	449	19	29	98	1	11	860	2,2
Total	1,009	41	40	454	1	11	1,280.5	8.6

In some of the other variables the comparison looks relevant. For instance, regarding nationality, it is in the Canary Islands LSF where it is possible to find a relevant percentage of non-EU/EEA (22%, plus 5% unknown), while in the other regions is almost negligible. Similarly, it is in the Canary Islands SCF where the percentage of non-nationals in SCF looks visible (3% EU, 1% non-EU/EEA, 14% unknown), while in Azores and Madeira this percentage is very slim. Perhaps this may be related to the linkages with the fisheries in Africa, immigration trends, etc.

Age composition of the workforce shows that in general the three regions have an aged population in fisheries. The weight of the older cohorts looks more relevant in Azores and Madeira (more than 70% both in LSF and SCF in the cohort 40-64, vs. around 60% in the Canary Islands), suggesting that the renewal of the workforce may be complicated. Education of the workforce looks clearly higher in the Canary Islands, both in LSF and SCF, according to the data, with similar results in Azores and Madeira. In these cases, it is interesting to note how the level of education may be higher in the SCF than in the LSF. Taking into account the employment status, the differences between LSF and SCF are very clear, and in the former, as usual, the employees dominate. In Azores and Madeira this also happens to a lesser extent in the SCF, suggesting

larger crews in these boats. The most balanced figures between owners and employees appear in the SCF at the Canary Islands (39% owner, 46% employee), suggesting very small crews onboard.

The most relevant challenges for the fisheries between these regions may vary, as the fleet, the characteristics of the workforce and the proportional weight of SCF vs. LSF show relevant differences.

6.3 Indian Ocean

6.3.1 Mayotte

Data about Mayotte looks very incomplete, as the only variable available is employment (287 fishers) with gender unknown. Efforts need to be made to provide the relevant data required by the DCF in the future. This situation is probably explained by the socio-economic context of the fleet in this region.

Table XII - Employment by gender and fleet in Mayotte.

Employment by gender and fleet*			
	Male	Female	Unknown
SCF	0	0	287.56
LSF	0	0	0

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

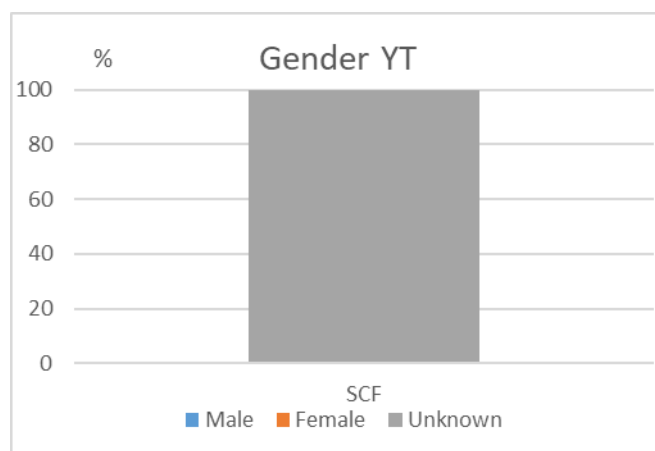


Figure 21 - Employment by gender in small scale fisheries in Mayotte (YT).

6.3.2 Réunion

Fisheries in Réunion show the predominance of the SCF, as the employment in this subsector more than doubles the case of the LSF. However, the LSF in this case is one of the largest of the French OR. Most of the LSF is composed of longliners targeting swordfish. The presence of women activities in the data provided looks very limited, as the percentage over the total is rather slim, and only in the LSF. This probably is related to some under-registration of women activities in fisheries.

Table XIII - Employment by gender and fleet in Réunion.

Employment by gender and fleet*		
	Male	Female

SCF	259.62	0
LSF	97.44	0.97

*EWG 19-03 report, page 207, detected a quality issue on the use of decimals for reporting employment (France and Portugal).

The population involved in this activity looks relatively old, with 72% of the workers being over 40 years of age. The cohort over 65 years old reaches 6%, and is relatively small compared to other regions. Almost all of the individuals are nationals, with 1% of other EU and a 2% of non-EU/EEA. The information provided to the DCF lacks the level of academic qualification and the professional status, as all the workforce appear as employees.

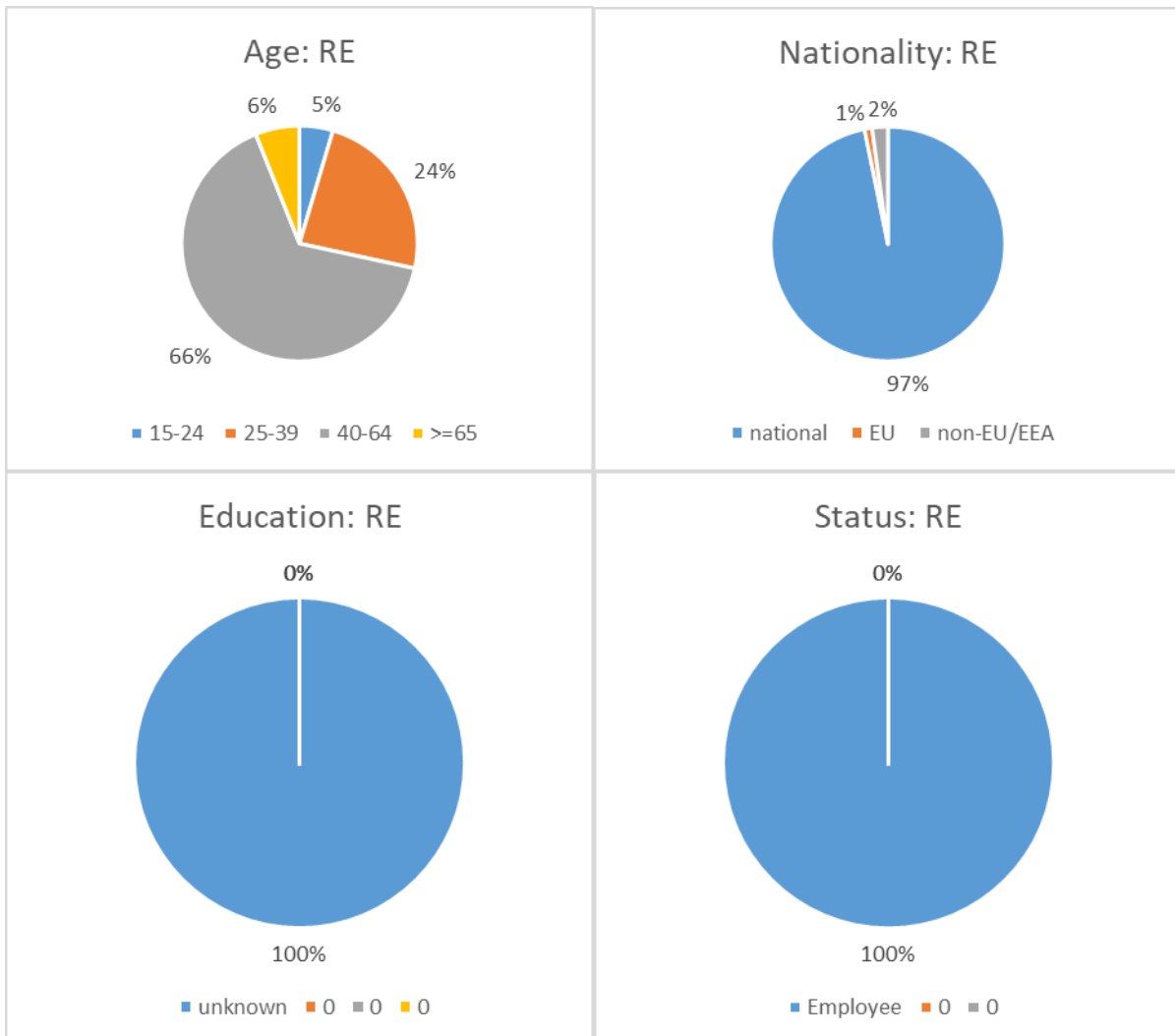
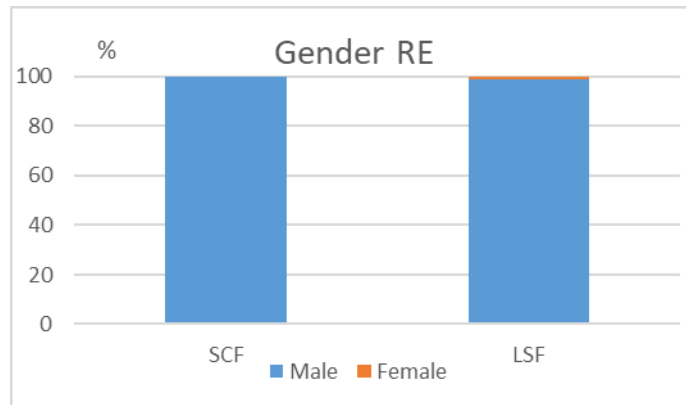


Figure 22 - Employment by gender, age, nationality, education level and employment status in Réunion (RE).

Taking into account the age, it is possible to find some relevant differences between the SCF and the LSF, as in the latter the population under 40 reaches 39% of the total vs 25% for the same cohorts in the SCF. This is further remarked by the presence of 8% over 65 in the SCF and the total absence of this cohort in the LSF. The workforce in the LSF is clearly younger than in the SCF. The differences between fleets related to nationality look also relevant, as in the SCF the presence of non-nationals of non-EU/EEA is very small (1%), while in the LSF the presence of other EU reaches a 4% and from non EU/EEA it reaches a 6% over the total workforce of this fleet.

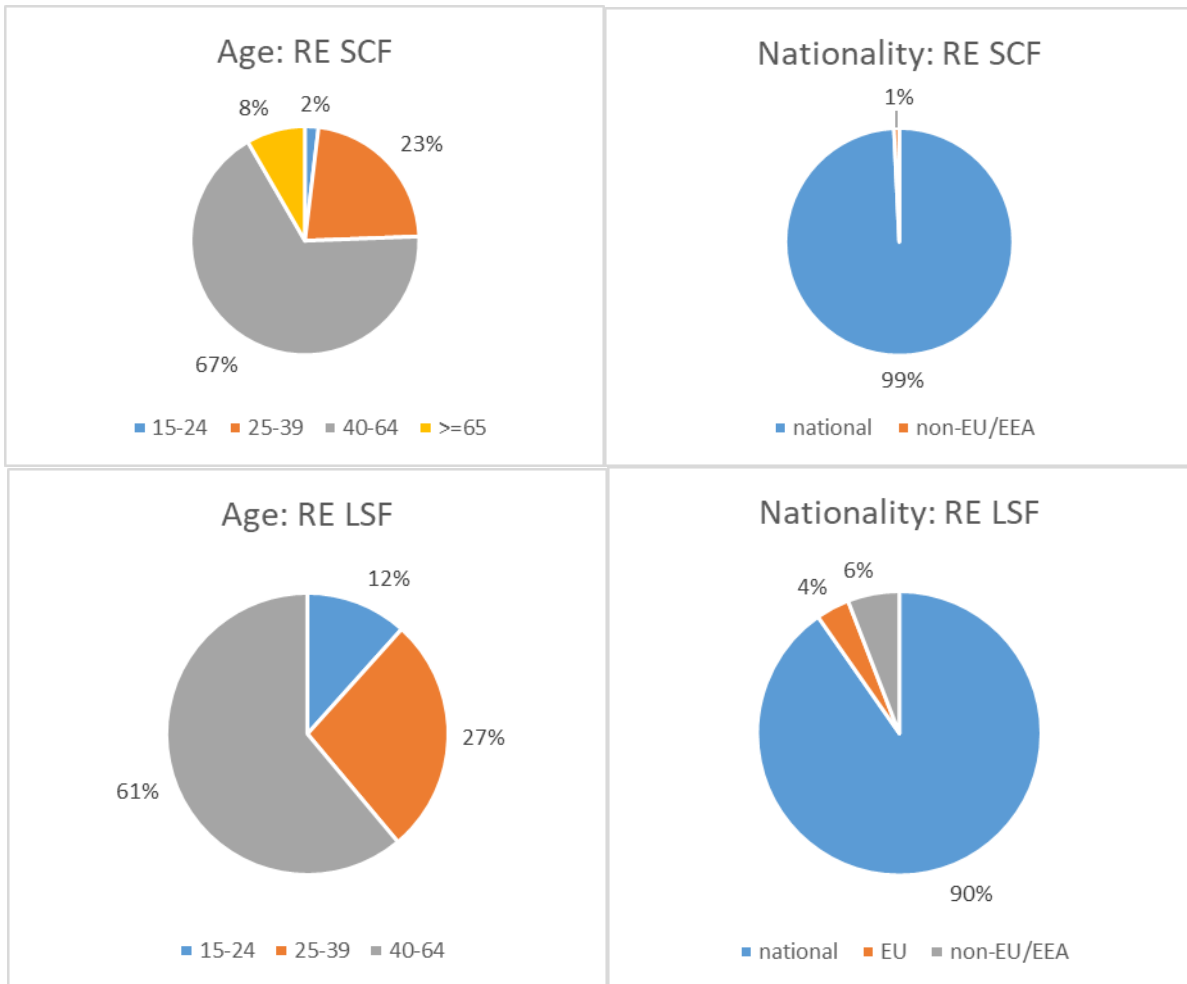


Figure 23 - Employment by age and nationality by fleet segment (small scale fisheries – SCF and large scale fisheries - LSF) in Canary Islands.

6.3.3 Discussion

For the French ORs, 3304 crew members are registered. 80% of the employment is located in the Caribbean and 20% in the Indian Ocean. 94% of the crew members are involved in SCF and this is higher than in mainland France. In Guadeloupe and Mayotte, the data processed shows that all the fishers of these regions operate in SCF. The ratio is also high in Martinique with 98% of SCF fishers. French Guiana and Réunion represent respectively 83% and 73% of SCF fishers. In these regions, the presence of LSF is explained, in French Guiana, by the presence of shrimp trawlers and in Réunion, by the operation of longline vessels targeting swordfish. Non EU crew members are mainly located in French Guiana and Mayotte. Even if it is difficult to interpret the situation with the available information, the ageing of fishers is noticeable in most of the regions and this question the attractiveness of the sectors for young fishers. Attractiveness seems to be less a problem for LSF but this has to be examined in more details. 18% and 23% of the SCF are less than 40 years old in Martinique and Guadeloupe respectively, while this ratio reaches 25% and 29% in Réunion and Mayotte and the maximum is 36% in French Guiana where the turnover in

crews is probably the highest. Moreover, it is important to underline that a noticeable part of the vessels are operated by retired fishers and this may impact the activity of the vessels and the catches.

All the French ORs are characterized by illegal (also called informal) fishing from local people that often compete for the same fishing resources (Guyader et al., 2019)¹⁰ and sometimes illegal international fishing as it is the case in French Guiana. This competition may create adverse effects on commercial fishers. The existence of recreational fisheries is also a common characteristic shared by the French ORs. The context is also the scattering of landings sites, which causes issues to better understand the marketing channels and products valorisation in the context of a dependency of the region to imports and international sea food markets. The governance structure is similar in all the ORs, however, most of fisheries regulations are set at regional level according to CFP rules and regulations. The issue of the efficacy of the rules has to be questioned in the socio-economic context of the ORs.

7 STOCK ASSESSMENT CHALLENGE

On the basis of the information available from different sources (EU-MAP WPs and ARs, STECF Annual Economic Report (AER), and stock assessment reports from MSs institutes and/or international bodies), EWG 19-19 prepared an overview of the current situation of the species landed per OR (Table XIV), based on the total landings in 2017 (per values and volumes) from the AER STECF EWG 19-06 table, and the last available stock advice. As a first approach the analysis was carried out on the first 50 species ranked by landing value declared for 2017 only by ORs. However the totality of the data is available in the electronic Annex Excel workbook (see section 13 of the present report).

10 Guyader, O., Beugin, B., Lebechnech, L., González, Y. P. Alberto Bilbao Sieyro, A. B., Pavon, M. N., Costa, D., Rita, G., Lucas, J. (2019) Governance and management requirements for existing and future off-shore fisheries to become long-term sustainable and contributing to the CFP objectives, final report ORFISH project.

Table XIV - Name and description of the variable used for the OR's stock assessment overview

Column	Variable name	Description of the variable
A	Country	Name of the country
B	Geo-indicator	Geographical indicator of the OR
C	Species code	FAO 3 alpha code of the species
D	Species name	Species common name
E	Landings weight in 2017 (Kg)	Landing weight in kilos for 2017 (AER STECF EWG 19-06)
F	Landings value in 2017 (€)	Landing values in euros for 2017 (AER STECF EWG 19-06)
G	Species in MS 2018-2019 WP	Is the species included in Table 1A of 2018-2019 Member State Work Plan? (Yes/No)
H	Scientific name	Scientific name of the species
I	Species sampled in 2018 AR	Are sampling data on this species mentioned in 2018 Member State Annual Report - Table 1C? (Yes/No)
J	Species included in EU-MAP List	Is the species included in the EU-MAP List - Tables 1A, 1B & 1C of Implementing Decision 2019/910? (Yes/No)
K	Species included in future EU-MAP List	Is the species included in the provisional species list as provided by EWG 19-12 for future EU-MAP? (Yes/No)
L	Stock Assessment	Is the stock present in the OR assessed? (Yes/No)
M	Assessment year	Year of the last assessment available of the stock
O	Assessing organization	Name of the organization in charge of the assessment
P	Assessment method	Method used to run the assessment (CPUE/ Length/ Age model)
Q	Assessment Level	Geographical level for which the assessment is done (Local/Regional/International)
R	Stock status	Status of the stock defined by the last assessment (Overfished/Fully Fished/Underfished for stock biomass - Under Exploited/Fully Exploited/Over Exploited for fishing mortality)
S	Remark	Any comment to highlight some specific situation on the stock status or data collection

7.1 France

7.1.1 French Guiana

In 2017, total landings of French Guiana were estimated to around 4336 tons and 11.6 Million euros for 41 registered species. According to the 2019 EU-MAP list, 9 species (22% of the total) were covered representing respectively 92% and 91% of the landings in tons and euros. In terms of species sampled and reported in the 2018 national report, the number of species is lower with 4 species (10%) covered. The samples concerned the shrimp species (*Farfantepenaeus subtilis*) captured by the shrimp trawling fishery, the red snappers (*Lutjanus purpureus*) captured by the non EU handliners fleet from Venezuela and landed in French Guiana, and the Acoupa (*Cynoscion acoupa*) and Green weakfish (*Cynoscion virescens*) caught by the coastal small-scale fleet of drifting netters. Despite a lower number of species sampled than required by the EU-MAP list, the species sampled represent 80% and 82% of the total in weight and value. The provisional species list (provided by EWG 19-12) for future EU-MAP considers 4 species for French Guiana, the shrimp species (*Farfantepenaeus subtilis*), the red snappers (*Lutjanus purpureus*), the Acoupa weakfish (*Cynoscion acoupa*) but the Green weakfish (*Cynoscion virescens*) has been replaced by the Tripletail (*Lobotes surinamensis*).

Table XV - Overview of biological sampling per species and landings in French Guiana.

		Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€) *
Species sampled in 2018 AR		4	3 465 368	9 480 087
Species included in EU Map List		9	3 995 400	10 517 241
Provisional species list as provided by EWG 19-12 for future EU MAP		4	3 059 304	8 706 811
Stock Assessment		2	1 993 229	5 270 591
Stock status	Overexploited-Overfished	2	1 993 229	5 270 591
	Overexploited-Not overfished			
	Underexploited-overfished			
	Underexploited-Not overfished			
	Fully fished			
	Other			
	Unknwow	39	2 342 519	6 299 248
Landings considered (maximum 50 species)		41	4 335 748	11 569 839
Total landings		41	4 335 748	11 569 839

Table XVI - Overview of biological sampling per species and landings in French Guiana (in percentage of landings).

	Number of species*	Landings weighth in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR	10%	80%	82%
Species included in EU Map List	22%	92%	91%
Provisional species list as provided by EWG 19-12 for future EU MAP	10%	71%	75%
Stock Assessment	5%	46%	46%
Stock status	Overexploited-Overfished	5%	46%
	Overexploited-Not overfished	0%	0%
	Underexploited-overfished	0%	0%
	Underexploited-Not overfished	0%	0%
	Fully fished	0%	0%
	Other	0%	0%
Unknwow	95%	54%	54%
Landings considered (maximum 50 species)	100%	100%	100%

Only 2 stocks are assessed on the 41 that are landed, the Peneid shrimps and the red snapper stocks, but these 2 stocks represent almost half of the total (46%) in weight and value. The stocks exploited by the coastal small-scale fishery are not assessed at all. The biological sampling of the Acoupa weakfish (*Cynoscion acoupa*) main species targeted by this fleet has begun in 2006. A first assessment of this stock was available in 2012, integrating an estimation of the IUU fishing. The diagnostic was an overfishing but not overexploitation. An update of the assessment of the Acoupa weakfish is in progress and should be available in 2020.

7.1.2 Guadeloupe

In 2017, total landings of Guadeloupe were estimated to 2,970 tons and 26.7 Million euros for 53 registered species (see next table). It is important to note that many landed species are not reported with scientific names but in species groups like parrotfishes, snappers, groupers, etc. It means that the number of species in the landings is underestimated and consequently the number of species covered by the EU-MAP list is overestimated compared to the real landings. According to the 2019 EU-MAP list, 20 species (40% of the total) were covered representing respectively 68% and 72% of the landings in tons and euros. Considering the provisional species list, these ratios are slightly improved to 74% and 79% respectively. As mentioned before, the figures have to be interpreted cautiously as only some species are considered in the species categories. Moreover, the following table does not provide information on the number of biological samples collected in the region. The EWG notes that data collection of biological samples in Guadeloupe region has been difficult to carry out. The area is characterized by an absence of auction halls and many landings sites where the vessels landings are directly sold to consumers. Moreover, the landings of demersal species of the small scale fleet are in most of the cases not sorted by species. For the future, it is advised that the sampling strategy should cover a larger spectrum of demersal and benthic species.

Table XVII - Overview of biological sampling per species and landings in Guadeloupe.

		Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR		17	1 956 725	18 703 546
Species included in EU Map List		20	2 020 742	19 074 998
Provisional species list as provided by EWG 19-12 for future EU MAP		20	2 196 628	20 892 542
Stock Assessment		5	243 187	2 071 855
Stock status	Overexploited-Overfished	1	32 587	253 037
	Overexploited-Not overfished	2	185 977	1 611 059
	Underexploited-overfished			
	Not Overexploited-Not Overfished	2	24 624	207 759
	Fully fished			
	Other			
Unknow		45	2 727 040	24 366 972
Landings considered (maximum 50 species)		50	2 970 227	26 438 827
Total landings		53	2 970 346	26 439 145

Table XVIII - Overview of biological sampling per species and landings in Guadeloupe (in percentage of landings).

		Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR		34%	66%	71%
Species included in EU Map List		40%	68%	72%
Provisional species list as provided by EWG 19-12 for future EU MAP		40%	74%	79%
Stock Assessment		10%	8%	8%
Stock status	Overexploited-Overfished	2%	1%	1%
	Overexploited-Not overfished	4%	6%	6%
	Underexploited-overfished	0%	0%	0%
	Not Overexploited-Not Overfished	4%	1%	1%
	Fully fished	0%	0%	0%
	Other	0%	0%	0%
Unknow		90%	92%	92%
Landings considered (maximum 50 species)		100%	100%	100%

Only 10% of the species and 8% of the landings in tons and euros are subject to stock assessment. Among the stocks assessed, these are only stocks covered by the ICCAT like blue marlin (*Makaira nigicans*), Yellowfin tuna (*Thunnus albacares*), Atlantic Sailfish (*Istiophorus albicans*), Tetrapturus albidus and Skipjack tuna (*Katsuwonus pelamis*). Dolphinfish (*Coryphaena hippurus*), the most important large pelagic species representing 30% of the Guadeloupe total landings is not assessed. For *Makaira nigicans*, the stock is "Overexploited-Overfished" while the status of both *Thunnus albacares* and *Tetrapturus albidus* is "Overexploited-Not overfished". Note that the contribution of Guadeloupe to the total fishing mortality of each species is very variable from one species to another. For large pelagic species, it is advised to better report landings per species and not per group of species and increase the number of species sampled.

7.1.3 Martinique

In 2017, total landings in Martinique were estimated to 756 tons and 8.5 Million euros for 60 registered species. It is important to note that many landed species are not reported with scientific names but in species groups like parrotfishes, snappers, groupers, etc. It means that the number of species in the landings is underestimated and consequently the number of species covered by the EU-MAP list is overestimated. According to the 2019 EU-MAP list, 20 species (40% of the total) were covered representing respectively 68% and 71% of the landings in tons and euros. Considering the provisional species list, these ratios decrease to 56% and 50% respectively. In terms of species sampled and reported in the 2018 national report, the number of

species is lower with only 13 species (26%) covered. This is mainly explained by the fact that only large pelagic species were sampled at that time. However and as mentioned before, the figures have to be interpreted cautiously as only some species are considered in the species groups. Moreover, the table does not provide information on the number of biological samples collected in the region. The EWG notes that data collection of biological samples in Martinique region has been difficult to carry out. The area is characterized by an absence of auction halls and many landings sites where the vessels landings are directly sold to consumers. Moreover, the landings of demersal species of the small scale fleet are in most of the cases not sorted by species. For the future, it is advised that the sampling strategy will cover a larger spectrum of demersal and benthic species.

Table XIX - Overview of biological sampling per species and landings in Martinique.

		Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR		13	413 459	4 777 202
Species included in EU Map List		18	513 865	5 997 078
Provisional species list as provided by EWG 19-12 for future EU MAP		20	420 770	5 112 367
Stock Assessment		5	254 763	2 742 588
Stock status	Overexploited-Overfished	1	132 040	1 379 916
	Overexploited-Not overfished	2	115 106	1 290 607
	Underexploited-overfished			
	Not Overexploited-Not Overfished	2	7 617	72 066
	Fully fished			
	Other			
Unknw		45	501 301	5 752 213
Landings considered (maximum 50 species)		50	756 064	8 494 801
Total landings		60	756 636	8 496 733

Table XX - Overview of biological sampling per species and landings in Martinique (in percentage of landings).

		Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR		26%	55%	56%
Species included in EU Map List		36%	68%	71%
Provisional species list as provided by EWG 19-12 for future EU MAP		40%	56%	60%
Stock Assessment		10%	34%	32%
Stock status	Overexploited-Overfished	2%	17%	16%
	Overexploited-Not overfished	4%	15%	15%
	Underexploited-overfished	0%	0%	0%
	Underexploited-Not overfished	4%	1%	1%
	Fully fished	0%	0%	0%
	Other	0%	0%	0%
Unknw		90%	66%	68%
Landings considered (maximum 50 species)		100%	100%	100%

Only 10% of the species and respectively 34% and 32% of the landings in tons and euros are subject to stock assessment. Among the stocks assessed, these are only stocks covered by the ICCAT like blue marlin (*Makaira nigicans*), Yellowfin tuna (*Thunnus albacares*), Atlantic Sailfish (*Istiophorus albicans*), Tetrapturus albidus and Skipjack tuna (*Katsuwonus pelamis*). Dolphinfinch (*Coryphaena hippurus*) which an important large pelagic species in terms of landings is not

assessed. For *Makaira nigicans*, the stock is “Overexploited-Overfished” and both *Thunnus albacares* and *Tetrapturus albidus* are considered “Overexploited-Not overfished”. Note that the contribution of Martinique to the total fishing mortality of each species is very variable from one species to another. For large pelagic species, it is advised as far as it is possible to better report landings per species and not per group of species.

7.1.4 Saint Martin

No landings data is available to allow for an analysis to be carried out. According to FAO estimates, in 2017 90 tonnes of marine fishes were landed, and all were taken in the Western Central Atlantic (FAO area 31).

7.1.5 Mayotte

In 2017, total landings in Mayotte were estimated to around 1,150 tons and 5.6 Million euros for 44 registered species. According to the 2019 EU-MAP list, 17 species (39% of the total) were covered representing respectively 33% and 28% of the landings in tons and euros. In terms of species sampled and reported in the 2018 national report, the number of species is lower 11 species (25%) covered. As indicated in the national report, the samples concerned the large pelagic species and not the demersal and benthic species harvested within the Mayotte lagoon. Actually, data collection of demersal and benthic species has begun recently. In the provisional species list, the number of species is lower than in the current list with only 7 species scheduled (16%). A recommendation is to review this list and to include a larger set of species (as recommended for the other ORs) covering not only the large pelagic species but also the relevant species harvested in the lagoon and at the edge of the lagoon. The EWG notes that data collection of biological samples in Mayotte is difficult due to the landings conditions of the small-scale vessels.

Table XXI - Overview of biological sampling per species and landings in Mayotte.

	Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR	11	263 365	972 386
Species included in EU Map List	17	375 474	1 594 416
Provisional species list as provided by EWG 19-12 for future EU MAP	7	245 331	888 826
Stock Assessment	4	110 759	484 976
Stock status	Overexploited-Overfished	1	100 308
	Overexploited-Not overfished		
	Underexploited-overfished		
	Underexploited-Not overfished	3	10 451
	Fully fished		
	Other		
Unknwow	40	1 027 077	5 121 668
Landings considered (maximum 50 species)	44	1 137 836	5 606 644
Total landings	44	1 137 836	5 606 644

Table XXII - Overview of biological sampling per species and landings in Mayotte (in percentage of landings).

	Number of species*	Landings weight in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR	25%	23%	17%
Species included in EU Map List	39%	33%	28%
Provisional species list as provided by EWG 19-12 for future EU MAP	16%	22%	16%
Stock Assessment	9%	10%	9%
Stock status	Overexploited-Overfished	2%	9%
	Overexploited-Not overfished	0%	0%
	Underexploited-overfished	0%	0%
	Underexploited-Not overfished	7%	1%
	Fully fished	0%	0%
	Other	0%	0%
Unknw	91%	90%	91%
Landings considered (maximum 50 species)	100%	100%	100%

In Mayotte, 9% of the species and 10%/9% of the landings in tons/euros are subject to stock assessment. Among the stocks assessed, 4 species are covered by the IOTC, i.e. Swordfish (*Xiphias gladius*), Yellowfin tuna (*Thunnus albacares*), Bigeye tuna (*Thunnus obesus*) Albacore (*Thunnus alalunga*) and Blue marlin (*Makaira nigricans*).

According to these assessments, 2% of the species and 9% of the landings are considered as "overexploited-overfished". This concerns only one species which is Yellowfin tuna (*Thunnus albacares*). Three other species (7%) representing only 1% in the landings, are estimated as "not overfished-underexploited". It is important to note that most assessments date from 2015/2016 and more recent stock assessments may change the situation for some species. Note that the contribution of Mayotte to the total fishing mortality of each species is limited and variable from one species to another.

7.1.6 Réunion

In 2017, total landings of Réunion were estimated to 2,500 tons and 20.3 Million euros for 76 registered species. According to the 2019 EU-MAP list, 13 species (13% of the total) were covered representing respectively 89% and 85% of the landings in tons and euros. In terms of species sampled and reported in the 2018 national report, the number of species is quite similar with 12 species (24%) covered. The situation is quite good compared to other French ORs. Most of the samples are for large pelagic species which are the main component of the landings in Réunion. However the data are provided with information from Mayotte and Réunion together so the sampling effort cannot be properly evaluate at ORs level. Additionally, deep water species have also been sampled in other projects¹¹ but have not been reported in the EU-MAP until now. Considering the provisional species list, the number of species is increased but the landings ratios decrease to 82% and 79% respectively. This is because dolphinfish (*Coryphaena hippurus*) is no more included in the list. A recommendation is to include this species in the list as well as wahoo and *groupers nei* if necessary. The difference between the 2019 EU-MAP list and the future list is the inclusion of deep water demersal species like brilliant pomfret (*Eumegistus illustris*), deep-water red snapper (*Etelis carbunculus*) and other deep water species. The EWG notes that data collection of biological samples in Réunion region is not so easy for small-scale vessels. Most of

¹¹ Roos, D., Aumond, Y., Huet, J., Bruchon, F. 2015. Projet ANCRE-DMX2 : Indicateurs biologiques et écologiques pour une gestion durable des stocks de poissons DéMersauX profonds (100–700 m) d'intérêt halieutique à La Réunion. RST/RBE-DOI/2015-11. <http://doi.org/10.13155/45812> (campagnes du projet ANCRE-DMX). RST-DOI/2012-12. <http://archimer.ifremer.fr/doc/00089/20049/>

the small scale vessels operate from many landings sites where the vessels landings are directly sold to consumers.

Table XXIII - Overview of biological sampling per species and landings in the Réunion Island

	Number of species*	Landings weigth in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR	12	2 127 693	17 003 116
Species included in EU Map List	13	2 219 776	17 248 839
Provisional species list as provided by EWG 19-12 for future EU MAP	16	2 036 166	16 036 144
Stock Assessment	16	1 945 468	15 794 116
Stock status	Overexploited-Overfished	3	560 271
	Overexploited-Not overfished		
	Underexploited-overfished	2	146 461
	Underexploited-Not overfished	11	1 238 736
	Fully fished		
	Other		
Unknwow	34	544 883	4 497 700
Landings considered (maximum 50 species)	50	2 490 351	20 291 816
Total landings	76	2 493 762	20 302 044

Table XXIV - Overview of biological sampling per species and landings in Réunion Island (in percentage of landings)

	Number of species*	Landings weigth in 2017 (Kg) *	Landing value in 2017 (€)*
Species sampled in 2018 AR	24%	85%	84%
Species included in EU Map List	26%	89%	85%
Provisional species list as provided by EWG 19-12 for future EU MAP	32%	82%	79%
Stock Assessment	32%	78%	78%
Stock status	Overexploited-Overfished	6%	22%
	Overexploited-Not overfished	0%	0%
	Underexploited-overfished	4%	6%
	Underexploited-Not overfished	22%	50%
	Fully fished	0%	0%
	Other	0%	0%
Unknwow	68%	22%	22%
Landings considered (maximum 50 species)	100%	100%	100%

In Réunion, 32% of the species and 78% of the landings in tons and euros are subject to stock assessment. Among the stocks assessed, 10 species are covered by the IOTC, such as Swordfish (*Xiphias gladius*), Yellowfin tuna (*Thunnus albacares*), Bigeye tuna (*Thunnus obesus*) Albacore (*Thunnus alalunga*) and Blue marlin (*Makaira nigricans*). Other deep-sea demersal species are assessed at local level by Ifremer. Additionally, part of the landings data for which assessments are available are provided under generic categories (marlin & sailfishes nei, various shark nei), as well as other species of commercial importance (snapper nei, groupers nei, squirrel fishes nei, spiny lobster nei, carangids nei, etc.).

According to these assessments, 6% of the species and 22% of the landings are considered as “overexploited-overfished”. Yellowfin tuna (*Thunnus albacares*) is concerned as well as deep-water longtail red snapper (*Etelis coruscans*). 22% of the species representing 50% in the landings are estimated as “not overfished-underexploited” and 4% of the species for 6% the landings are overfished but underexploited. 68% of the species are considered as unknown, representing 22% of the landings. It is important to note that most assessments date from 2015/2016 and more recent stock assessments may change the situation for some species. Note that the contribution of Réunion to the total fishing mortality of each species is variable from one species to another.

7.2 Portugal

Portugal’s outermost regions collect data reported to different RFMOs and RFOs (Azores – ICES/ICCAT and Madeira – CECAF/ICES/ICCAT) and several other end-users, being the DCF requirements well specified by outermost region in both the WP and the AR submitted by the Member State.

7.2.1 Azores

The Azorean fleet is mainly composed of small-scale fisheries targeting a great variety of species. Regarding value, the main fishery consists on handliners and bottom longliners targeting demersal and deep-water species, while pole-and-liners targeting large pelagic species (tuna species) usually have greater representation on the total volume caught.

Demersal and deep-water species are in the sphere of ICES, being assessed by the EWG in charge of the advice but also by National scientific bodies. Large pelagic species are within the scope of ICCAT, being assessed by SCRS Working Groups.

Azores Grounds (waters around Azores) are considered part of the North East Atlantic and Western Channel Area – designated as ICES area X – and sampling for biological variables for stocks in Union waters in ICES area X is requested for Table 1A of EU-MAP¹², and not only for Tables 1B (Stocks of Outermost Regions of the Union), and 1C (Stocks in marine regions under RFMOs and SFPAs) as it is for all others ORs.

As for species in Table 1B of the EU-MAP, *S. colias*, *T. picturatus* and *S. cretense* are sampled for biological variables through concurrent schemes of at-market and at-sea sampling. No sampling is being performed for *S. maderensis*, *S. pilchardus* and *Patellidade* due to landings below the threshold.

EWG 19-19 decided to use data reported by MS to Annual Economic Report 2019, which results on landings data for 2017. These values were compared with Azores landings official statistics for year 2017 and significant differences were found between the values referring to landings presented in Table XXV and those of the official statistics of the OR. This issue was raised during the meeting and administration of the Azores (MS representative in this OR) should follow up this issue in the next data requests.

Regarding Annual Economic Report data used, in 2017, total landings of 123 different species were estimated in 10.2 thousand tons with a value of 39.3 Million euros. However, for the analysis only the top 50 species (in value) were considered, although these 50 species represent in number only 41% of total species, they represent 99% of total volume weight and value of landings. A sampling intensity on 18 species for biological sampling represents 82% of the landings in weight and 77% in value from the top 50 landed species in value. Despite the great variety in number of species landed at auction for first sale, the number of species covered by DCF is increasing from 56% into 60%, regarding the present EU-MAP list and the provisional list for future EU-MAP, respectively. These represent 90% of the landings in volume and around 85% in value.

Stock assessment is conducted on 66% of the species representing 87% of the landings in tons and 80% in euros. Besides National bodies providing these analyses, both ICCAT (SCRS) and

¹² COMMISSION DELEGATED DECISION (EU) 2019/910 of 13 March 2019 establishing the multiannual Union programme for the collection and management of biological, environmental, technical and socioeconomic data in the fisheries and aquaculture sectors

ICES (WGDEEP, WGEF, WGHANSA) expert working groups provide advice for the stocks considered in Azores grounds. As the majority of the stocks are considered 'data limited stocks', when trying to apply traditional models, the conclusions are null, ending usually in a stock status of "Unknown". Alternative models, aimed at this type of stocks, are necessary, as data limited stocks (or even data poor stocks) are typical in all ORs.

Table XXV - Overview of biological sampling per species and landings in Azores (in kg, € and in percentage of landings).

	Number of species ¹³	Landings weight in 2017 (Kg) ¹⁹	Landings value in 2017 (€) ¹⁹	Number of species ¹⁴	Landings weight in 2017 (Kg) ²⁰	Landings value in 2017 (€) ²⁰	
Species sampled in 2018 AR	18	8 321 041	29 946 991	36%	82%	77%	
Species included in EU-MAP List	28	8 954 165	32 958 246	56%	89%	84%	
Provisional species list as provided by EWG 19-12 for future EU-MAP	30	9 128 281	33 441 891	60%	90%	86%	
Stock Assessment	33	8 822 108	31 412 107	66%	87%	80%	
Stock status	Overexploited-Overfished	1	2 019 420	5 040 376	2%	20%	13%
	Overexploited-Not overfished				0%	0%	0%
	Underexploited-overfished				0%	0%	0%
	Underexploited-Not overfished	1	175 051	726 521	2%	2%	2%
	Fully fished	2	3 492 175	7 359 115	4%	35%	19%
	Other	14	1 468 004	7 111 100	28%	15%	18%
	Unknown	15	2 129 856	15 445 528	30%	21%	40%
Landings considered (maximum 50 species)	50	10 090 643	39 038 078	100%	100%	100%	
Total landings	123	10 189 072	39 286 915	41%¹⁵	99%¹⁵	99%¹⁵	

7.2.2 Madeira

Depending on the species, outermost region of Madeira data collection is implemented and assessed within the scope of CECAF, ICES or ICCAT. Main fisheries target large pelagic fishes (tuna species), deep-sea species (black scabbardfish), small pelagic fishes (horse mackerel) and molluscs (limpets).

DCF requirements have been implemented in this OR without any major issues. Large pelagic species are assessed within the scope of ICCAT by SCRS Working Groups while black scabbardfish is in the sphere of ICES and is assessed by WGDEEP, where Madeira participate as observer. All other stocks are assessed by National bodies, being data provided to several end-users. Although Madeira is part of the Fisheries Committee for the Eastern Central Atlantic (CECAF) they still do not report to that Committee.

¹³ As reported in AER for year 2017.

¹⁴ In % of total landings (maximum 50 species).

¹⁵ % of total landings related with landings considered.

Biological sampling of all the species in Table 1B is conducted with no major problem.

In 2017, total landings in Madeira were estimated at 4.9 thousand tons and 14.9 Million euros for 97 species registered. A sampling intensity of only 7 species in 2018 AR represents 90% of the landings in weight and 87% in value. The number of species selected for sampling has increased in the current EU-MAP, meaning that with 56% of the species (almost) all the landings will be covered. Although the top 50 species considered represents only 52% in number of total species, they represent nearly 100% of total weight and value of landings.

Only 18% of the species are subject to stock assessment but this represents 93% in volume and 91% in value of the landings.

Table XXVI - Overview of biological sampling per species and landings in Azores (in kg, € and in percentage of landings).

	Number of species ¹⁶	Landings weight in 2017 (Kg) ¹⁶	Landings value in 2017 (€) ¹⁶	Number of species ¹⁷	Landings weight in 2017 (Kg) ¹⁷	Landings value in 2017 (€) ¹⁷	
Species sampled in 2018 AR	7	4 367 307	12 863 626	14%	90%	87%	
Species included in EU-MAP List	28	4 783 993	14 497 744	56%	99%	98%	
Provisional species list as provided by EWG 19-12 for future EU-MAP	29	4 792 835	14 531 609	58%	99%	98%	
Stock Assessment	9	4 504 954	13 454 267	18%	93%	91%	
Stock status	Overexploited-Overfished	1	796 194	2 549 332	2%	16%	17%
	Overexploited-Not overfished				0%	0%	0%
	Underexploited-overfished				0%	0%	0%
	Underexploited-Not overfished	1	124 302	476 076	2%	3%	3%
	Fully fished	2	821 475	1 599 806	4%	17%	11%
	Other				0%	0%	0%
	Unknown	5	2 762 983	8 829 053	10%	57%	59%
Landings considered (maximum 50 species)	50	4 853 016	14 855 004	100%	100%	100%	
Total landings	97	4 858 528	14 866 736	52%¹⁸	100%¹⁸	100%¹⁸	

7.3 Spain

7.3.1 Canary Islands

The Canary fleets target a wide set of species groups (large pelagics, small pelagics and demersal) though the one targeting large pelagics reaches the most important level of catches. Large pelagic species are under the purview of ICCAT and are assessed in the framework of the SCRS Working Groups. Some of the small pelagic and demersal species are fished in the Canary

¹⁶ As reported in AER for year 2017.

¹⁷ In % of total landings (maximum 50 species).

¹⁸ % of total landings related with landings considered.

EEZ (small scale, Annex 1B of the EU-MAP) while other are exploited in African waters in the context of the Sustainable Fisheries Partnership Agreements signed by the EU with North West African coastal states. These are assessed in the assessment working groups organized by FAO/CECAF.

In 2017, total landings of Canary Islands were estimated to 14,477 tons and 32.6 Million euros for more than 350 registered species. According to the 2019 EU-MAP list, 11 species (including tuna species) were covered representing respectively 92% and 78% of the landings in tons and value. In terms of species sampled and reported in the 2018 national report, the number of species is the same.

All the species included in Annex 1B of the current EU-MAP (except Limpets, below the legal threshold) are being regularly subject to sampling for length distribution (demersal and small pelagic species) and for biological parameters (only small pelagic species for the time being). Sampling for small pelagic and demersal species is taking place both in the fish market and at sea with observers on board.

In the last years trials on acoustic methods for small pelagic stocks in Canary Islands are being conducted with a view to establish a sounder methodology.

According to the catch and value information of Table XXVII, the list of species in Annex 1B of the current EU-MAP is appropriate as they are the most important in terms of catches (if we exclude large pelagics). None of these species is being assessed given that for the moment there is not sufficient reliable data to build up a sound historical series for an accurate assessment. Notwithstanding this, Spain is regularly providing the information on the main species (sardine, horse mackerel, Atlantic chub mackerel, sardinella and parrotfish) to the relevant regional fisheries body (CECAF) with a view to use this information in a future stock assessment focusing the Canary stocks (FAO 2018; 2020).

With regard to the future EU-MAP, it does not seem necessary to increase the number of species for sampling in Canary although it seems however appropriate to envisage the extension of the biological sampling to cover the parrotfish.

Table XXVII - Overview of biological sampling per species and landings in Canary Islands (in kg, € and in percentage of landings).

	Number of species ¹⁹	Landings weight in 2017 (Kg) ¹⁹	Landings value in 2017 (€) ¹⁹	Number of species ²⁰	Landings weight in 2017 (Kg)	Landings value in 2017 (€)
Species sampled in 2018 AR	11	11 790 241	21 012 807	24 %	92%	78%
Species included in EU-MAP List	11	11 790 241	21 012 807	24 %	92%	78%
Provisional species list as provided by EWG 19-12 for future EU-MAP	10²¹	11 102 762	20 330 441	21 %	86 %	82%
Stock Assessment	6²²	9 168 595	17 118 407	14 %	71 %	64 %
Stock status	Overexploited-Overfished	1	3 120 441	2 %	24 %	26 %
	Overexploited-Not overfished	1	256 848	2 %	2 %	2 %
	Underexploited-overfished	0		0%	0%	0%

¹⁹ As reported in AER for year 2017.

²⁰ In % of total landings (maximum 42 species).

²¹ Mistake in EWG 19-12 report: Jack Horse Mackerel omitted

²² ICCAT species

	Underexploited- Not overfished	0			0%	0%	0%
	Fully fished	4	5 791 306	9 617 918	10 %	45 %	36 %
	Other	0			0%	0%	0%
	Unknown	6	2 631 079	3 942 866	15 %	20 %	15 %
	Landings considered (maximum 42 species)	42	12 844 385	26 746 725	100%	100%	100%
	Total landings	>350	14 476 584	32 638 609			

8 ECOSYSTEM KNOWLEDGE CHALLENGE

A way to address the ecosystem knowledge challenge is to consider the ecosystem components impacted by human activity that are interacting with stocks and fisheries. On one hand there are direct impacts of fisheries on biodiversity (e.g. by-catch, ETP species) and habitats (e.g. benthic impacts, ghost fishing), and on the other hand there are changes to stocks due to changes in biodiversity (e.g. due to species interactions, invasive species) or to habitats and environment (e.g. climate change, coastal habitats alterations due to human use, pollution).

Impacts of fisheries that affect biodiversity across most or all ORs include: selective extraction of species, IUU fishing and bycatch of elasmobranchs, toothed cetaceans and marine turtles.

Conversely, fisheries are also impacted by changes in biodiversity brought by climate change, invasive species and interactions with cetaceans and sharks. Habitat & environmental factors also impact fisheries, such as coastal development & pollution of coastal waters, marine litter and microplastics and, more recently, massive Sargassum inflows throughout the Caribbean region.

A number of the main issues affecting stocks and fisheries were identified during the meeting, through a literature review and from the expert knowledge of the meeting participants, within the meeting time constraints. Issues in bold have been identified as having a high impact and/or prevalence (Table XXVIII **Error! Reference source not found.** and Table XXIX).

EWG 19-19 notes however that there is a general lack of knowledge on these complex issues and further studies should be conducted, in particular to rank identified impacts in each OR to be able to define management priorities.

Table XXVIII- Known and potential impacts of fisheries.

	Impacts of fisheries on biodiversity	Impacts of fisheries on habitats/environment
ALL REGIONS	<ul style="list-style-type: none"> • IUU Fishing • bycatch (sharks) • selective extraction of species 	<ul style="list-style-type: none"> • IUU fishing
French Guiana	<ul style="list-style-type: none"> • interactions with turtles around nesting sites • shrimp trawling bycatch • toothed cetaceans seem to be impacted by fisheries 	<ul style="list-style-type: none"> • bottom trawling (shrimps)
Guadeloupe	<ul style="list-style-type: none"> • toothed cetaceans impacted by fisheries • interactions with turtles around nesting sites 	
Martinique	<ul style="list-style-type: none"> • toothed cetaceans impacted by fisheries • interactions with turtles around nesting sites 	

Saint Martin	<ul style="list-style-type: none"> toothed cetaceans seem to be impacted by fisheries 	
Réunion	<ul style="list-style-type: none"> bycatch (sharks, turtles) 	
Mayotte	<ul style="list-style-type: none"> bycatch (sharks, manatees) 	
Azores	<ul style="list-style-type: none"> bycatch (Elasmobranchs, turtles) 	
Madeira	<ul style="list-style-type: none"> bycatch (sharks, turtles) 	
Canary Islands	<ul style="list-style-type: none"> bycatch (sharks & rays, turtles) 	

Table XXIX - Known and potential impacts on fisheries.

	Biodiversity-related impacts on fisheries	Habitats/environment-related impacts on fisheries
ALL REGIONS	<ul style="list-style-type: none"> Climate change 	<ul style="list-style-type: none"> Climate change Marine litter and microplastics Insufficient identification of habitats and nursing grounds
French Guiana	<ul style="list-style-type: none"> Torn fishing nets from interactions with turtles around nesting sites 	
Guadeloupe	<ul style="list-style-type: none"> Invasive species (e.g. lionfish) 	<ul style="list-style-type: none"> Navigation (commercial or leisure) Aggregate removal Coastal development Agriculture, transfer of pesticides (Chlordecone) Massive Sargassum algae inflows
Martinique	<ul style="list-style-type: none"> Invasive species (e.g. lionfish) 	<ul style="list-style-type: none"> Navigation (commercial or leisure) Coastal development, Agriculture (transfer of pesticides (Chlordecone)), nutrients and suspended matter Massive Sargassum algae inflows
Saint Martin	<ul style="list-style-type: none"> Invasive species (e.g. lionfish) 	<ul style="list-style-type: none"> Massive Sargassum algae inflows
Réunion	<ul style="list-style-type: none"> Sharks' depredation, mostly on demersal fishery using handline seasonally 	<ul style="list-style-type: none"> Navigation (commercial or leisure) Coastal development
Mayotte		<ul style="list-style-type: none"> Lagoon pollution
Azores	<ul style="list-style-type: none"> Cetaceans interactions with fisheries 	<ul style="list-style-type: none"> Coastal development Marine litter Introduction of non-indigenous

		species (shipping)
Madeira		
Canary Islands		<ul style="list-style-type: none"> • Coastal development • Pollution of coastal waters

9 EMFF ANALYSIS

The Commission budget for 2021-2027 proposes that ORs continue receiving compensation for additional costs capped at 50% of the total financial envelope to support the fisheries sector (including aquaculture) in the nine regions. It is expected to keep the funding at the same level as in the 2013-2020 budget, including the continuation of 100% compensation for the additional costs of fishing and aquaculture enterprises linked to their specific situation. The financial package earmarked for these regions is also intended to help to develop sustainable fisheries and a sustainable maritime economy and to support small-scale coastal fishers.

Table XXX - Economic characteristics of the OR fisheries in 2017.

	Dependency (Rodgers-Bertram RB ₅₀ Coefficient) ²³
France	
French Guiana	0.871
Guadeloupe	0.745
Martinique	0.756
Saint-Martin	-
Mayotte	0.777
Réunion	0.830
Portugal	
Azores	0.696
Madeira	0.902
Spain	
Canary Islands	0.733

It can be observed from Table XXXI that the published values and quantities of aquaculture production are small and the number of species farmed is limited.

Table XXXI - Aquaculture Production in the ORs by Product and Value in 2016 (Source: FAO)

²³ Between 0 and 1; the closer to 1 the more highly dependent on a few species the fishery is for income, see Rodgers P.E, and P. Bertram (1999) Methods of Indicating the Comparative Dispersion of National Fleet Revenue in Mixed Fisheries, *Marine Policy*, Vol 23, No 1, pp 37-46, 1999.

	Product	Value (€)
France		
French Guiana	Cyprinids nei	9,290
	Freshwater Fishes nei	13,780
Guadeloupe	Giant River Prawn	39,820
	Red Drum	126,100
	Tilapia	13,250
Martinique	Giant River Prawn	154,800
	Red Drum	238,900
	Tilapia	46.460
Saint-Martin		
Mayotte	Red Drum	165,900
Réunion	Pargo Breems nei	49,780
	Rainbow Trout	248,000
	Tilapia	193,500
Portugal		
Azores		
Madeira		
Spain		
Canary Islands		

The allocation of funding for the EMFF under the 2013-2020 budget was made on a global MS basis, with the MS being permitted to determine the allocation of the funding among their ORs. Fisheries and aquaculture will benefit along with the general economies of the OR from the measures, for example, from ERDF spending to improve the quality of transport infrastructures, and from ESF institution to improve the levels of education and skills among the population, especially school leavers. The precise impact of these measures could only be determined by a detailed input/output analysis of each OR economy and the cost is unlikely to justify the usefulness of the information gained for such small economies. As such, analysis of the social and economic effects will concentrate on the direct effects of the expenditure. But it must be recognised that there will be multiplier effects in the local economies in the form of direct effects upstream on suppliers and downstream on purchasers from the initial investments, and in the form of induced effects from the general raising of the level of economic activity in each OR.

10 ROADMAP

EWG 19-19 was tasked to develop a roadmap for possible subsequent meetings that would form the basis for the permanent network of research institutes of the EU ORs, but was also asked during the meeting to develop it considering possible future scientific studies and activities the group felt were necessary in the short, medium and long-term future. In this context, the roadmap below constitutes a list of all future research that were identified through the EWG 19-19 analysis and discussions.

EWG 19-19 considers that Illegal, Unreported and Unregulated Fishing, in all its aspects at local, regional or international level, is a particular issue in most, if not all, ORs and should therefore be given greater attention in future studies. EWG 19-19 notes that there is a Regional Working Group on IUU (RWG-IUU) for the Western Central Atlantic which aims to build capacity within the region to tackle IUU fishing²⁴ and that in 2019 the Western Central Atlantic Fishery Commission (WECAFC) endorsed a Regional Plan of Action to prevent, deter and eliminate IUU fishing²⁵, recognising the importance of IUU in this region which is estimated to account for between 20 and 30% of total reported harvests. As an example, Levrel (2012) estimated for French Guiana alone that IUU fishing being 2 to 3 times more than local legal fishing activities. In the Indian Ocean, IUU fishing continues to be a significant issue²⁶ with values around 30% of fishing activity (Agnew et al., 2009).

Finally, EWG 19-19 encourages DG MARE to further use the existing Framework Contract EASME/EMFF/2018/011 (FWC), which has a specific section devoted to ORs, to address the topics identified by the group as being a priority to improve the knowledge in ORs, namely on IUU, recreational fisheries and ecosystem impacts, among others. EWG 19-19 also suggests that deliverables of the ongoing specific contract N°2 of the same FWC be circulated among the members of the group to ensure coherence between the different actors currently advising DG MARE on OR scientific issues.

Challenges	Issues Identify	Recommendations	Timeline
Data Collection	<p>General data:</p> <p>Future EU-MAP reporting tables consider ORs separately but some are joined, ex. Madeira and Canary</p> <p>There is very little knowledge on IUU fishing</p>	<p>Review the future EU-MAP with an OR perspective, namely considering each OR separately</p> <p>Increase share between ORs experts on data collection and on calculation of indicators methodologies - Expert Group(s) on ORs (more transversal between economic, social and biologists)</p> <p>DCF WP & ARs should present data by ORs and metier,</p>	<p>NOW</p> <p>2020</p>

²⁴ <http://www.fao.org/americas/noticias/ver/en/c/1039097/>

²⁵ <http://www.fao.org/iuu-fishing/news-events/detail/en/c/1204656/>

²⁶ <https://iotc.org/documents/report-16th-session-compliance-committee>

DCF fleet and fishers age segmentation may not be the most appropriate for ORs reality, namely <10 m and the 40-64 years	including recreational fisheries	2020
	MSs DCF Recreational fisheries coverage should be extended, namely in terms of species.	--
	An assessment of IUU by ORs is fundamental to establish the ecosystem, social and economic impact of fisheries.	--
	An assessment of recreational fisheries by ORs is fundamental to establish the ecosystem, social and economic impact of fisheries.	--
	An assessment of the capacities in the different ORs (human and financial resources, facilities, equipment) should be carried out in order to secure the resources necessary to implement the DCF	--
	At-sea monitoring should be improved in each ORs	--
	Challenges for data collection are different in the different ORs, so to improve the data collection taking into account this variability is essential.	--
	MSs sampling schemes design should be representative of ORs realities.	--
	Women roles in fisheries should be taken into consideration specifically in social, economic studies by ORs	--
	DCF fleet and fishers age segmentation should be at a finer scale intervals (following STECF 19-03 recommendation ²⁷)	2020
Biological data:	STECF WP & AR evaluation EWGs should identify specific issues for OR - a specific ToR for ORs should be added	2020

²⁷ EWG 19-03 felt that the 40-64 age bracket should be broken down further as it is difficult to tell if the figures are being skewed based on this bracket being wider than others. Five- year age brackets as in the EU population census would provide much more useful information without increasing workload. STECF Scientific Technical and Economic Committee for Fisheries (2019). Social data in the EU fisheries sector (STECF-19-03). Luxembourg: Publications Office of the European Union. <https://bit.ly/2mGW7FH> Accessed August 17, 2019.

Information on a limited number species considering the high biodiversity in ORs	Increase the number of species sampled, for a least length composition.	--
France WP does not mention ORs separately	France WP to include ORs specifically	2020
French ORs draft biological sampling (except lengths)	French ORs to improve biological sampling	
Inconsistent catch data reported to RFMO	Canary - Extend biological sampling to parrotfish, and increase geographical sampling	--
Economic data:	STECF WP & AR evaluation EWGs should identify specific issues for OR - a specific ToR for ORs should be added	2020
No economic data for Martinique, Mayotte and Saint Martin, only partial data for Réunion, French Guiana. Data available for Guadeloupe	France to collect and report economic data by ORs and metiers	--
Réunion and Canary – discrepancies between gross and total value of landings (should be similar)	Better consideration of the diversity and variability/seasonal changes of activities of small-scale fisheries, predominant in most ORs is needed	--
Réunion - Discrepancies on "non-other variable" costs category (higher than crew and fuel costs)	Economic data should be check for consistency and quality, for example harmonization of the activity variables (value of landings and economic variable [gross value of landings]) and improve the data quality.	--
Azores & Canary – fuel prices per litre are unusually low		
Madeira, Guadalupe and French Guiana – inconsistencies of FTE values		
Sub-representativeness of women in the economic data		
Social data:	STECF WP & AR evaluation EWGs should identify specific issues for OR - a specific ToR for ORs should be added	2020
All French ORs missing data for several social variables	French ORs need to improve social data collection	--
Mayotte – only employment known with no gender information		
Sub-representativeness of women in the social data		

Stock Assessment	<p>Assessment of all stocks caught in a multispecies fisheries with usual methods may not be feasible</p> <p>Canaries – stock data sent but not assessed</p>	<p>Review data and methods dedicated to the assessment of small-scale multispecific multispecies fisheries on data limited context & test several assessment methods in different ORs and compare results – possibly within an existing WG (ex. STECF, ICES, RFMOs)</p>	--
Environmental Knowledge	<p>General lack of knowledge on environmental issues related to fisheries</p> <p>Lack of quantification and prioritization of environmental issues related to fisheries</p>	<p>A review of Ecosystem Fisheries Interactions is needed by ORs.</p>	--
Economic & Social	<p>Markets issues are not considered in DCF, namely trade flows should be assessed by ORs</p> <p>Ageing population of fishers</p> <p>Sub-representativeness of women</p>	<p>Analysis of trade flows and local consumption of fishery and aquaculture products by ORs is needed.</p> <p>Study of the dynamics of fisheries and work force recruitment is needed by ORs</p> <p>Review fisheries governance systems by ORs.</p> <p>Calculation of Input/Output tables to determine the economic dependency of ORs on fishing and the income and employment multipliers</p>	<p>--</p> <p>--</p> <p>--</p> <p>--</p>

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12 CONTACT DETAILS OF EWG-19-19 PARTICIPANTS

¹ - Information on EWG participant's affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: <http://stecf.jrc.ec.europa.eu/adm-declarations>

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13 LIST OF ANNEXES

Electronic annexes are published on the meeting's web site on:

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List of electronic annexes documents:

EWG-19-19 – Annex 1 - OR_Landings_Sampling_Status_Tables ONLINE_updated

Table 2 - PORTUGAL – Synthesis of WPs* for data collection for economic and social indicators for geo-indicator “... and Southern Western waters” (selection of Azores in comments).

Workplan	MS	Supra region	Type of variables (E/S)	Variable	Data Source	Type of data collection scheme	Frequency
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Gross value of landings	sales notes	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Income from leasing out quota or other fishing	NA	NA	NA
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Other income	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Personnel costs	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Value of unpaid labour	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Energy costs	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Repair and maintenance costs	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Variable costs Euro	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Non-variable costs	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Lease/rental payments for quota or other fishing	NA	NA	NA
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Operating subsidies	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Subsidies on investments	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Consumption of fixed capital	Fleet Register	A - census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Value of physical capital	Fleet Register	A - census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Value of quota and other fishing rights	NA	NA	NA
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Investments in tangible assets, net	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Long/short Debt	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Total assets	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Engaged crew	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Unpaid labour	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Total hours worked per year	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Number of vessels	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Mean LOA of vessels	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Total vessel's tonnage	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Total vessel's power	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Mean age of vessels	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Days at sea	sales notes	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Days at sea	questionnaires	B - Probability Sample	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Energy consumption	questionnaires	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Number of fishing enterprises/units	National Administration database	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Value of landings per species	sales notes	A - Census	annual
2018-2019	PRT	Baltic Sea, North Sea, Eastern Arctic, NAFO, Extended North-Western waters and Southern Western waters	E	Average price per species	sales notes	A - Census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Gross value of landings	Sales notes	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Income from leasing out quota or other fishing	NA	NA	NA
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Other income	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Personnel costs	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Value of unpaid labour	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Energy costs	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Repair and maintenance costs	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Variable costs Euro	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Non-variable costs	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Lease/rental payments for quota or other fishing	NA	NA	NA
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Operating subsidies	National Administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Subsidies on investments	National Administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Consumption of fixed capital	Perpetual inventory method	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Value of physical capital	Perpetual inventory method	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Value of quota and other fishing rights	NA	NA	NA
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Investments in tangible assets, net	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Long/short Debt	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Total assets	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Engaged crew	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Unpaid labour	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Total hours worked per year	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Number of vessels	National administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Mean LOA of vessels	National administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Total vessel's tonnage	National administration database	A - Census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Total vessel's power	National administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Mean age of vessels	National administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Days at sea	Sales notes	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Days at sea	Questionnaire	B - Probability Sample	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Energy consumption	Questionnaire	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Number of fishing enterprises/units	National administration database	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Value of landings per species	Sales notes	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	E	Average price per species	Sales notes	A - census	annual
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Employment by gender	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	FTE by gender	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Unpaid labour by gender	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Employment by age	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Employment by education level	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Employment by nationality	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	Employment by employment status	Questionnaire, National administration	A - Census	every three years
2020-2021	PRT	Extended North-Western waters and Southern Western waters	S	FTE National	Questionnaire, National administration	A - Census	every three years

* N.B. WPs 2018-2019, 2020-2021

Table 3 - SPAIN – Synthesis of WPs* for data collection for economic and social indicators for geo-indicator “Other region” or including Canaries Islands.

Workplan	MS	Supra region	Type of variables (E/S)	Variable	Data Source	Type of data collection scheme	Frequency
2017-2019	ESP	Other regions	E	Days at sea	Logbook, VMS	A - Census	Annual
2017-2019	ESP	Other regions	E	Average price per species	Sales notes	A - Census	Annual
2017-2019	ESP	Other regions	E	Energy consumption	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Energy costs	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Engaged crew	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Gross value of landings	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Income from leasing out quota or other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Investments in tangible assets, net	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Lease/rental payments for quota or other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Long/short Debt	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Mean age of vessels	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Mean LOA of vessels	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Non-variable costs	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Number of fishing enterprises/units	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Number of vessels	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Operating subsidies	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Other income	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Personnel costs	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Repair and maintenance costs	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Subsidies on investments	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Total assets	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Total hours worked per year	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Total vessels power	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Total vessels tonnage	Register vessel	A - Census	Annual
2017-2019	ESP	Other regions	E	Unpaid labour	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Value of landing per species	Sales notes	A - Census	Annual
2017-2019	ESP	Other regions	E	Value of physical capital	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Value of quota and other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Value of unpaid labour	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	E	Variable costs	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Employment by age	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Employment by education level	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Employment by employment status	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Employment by gender	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Employment by nationality	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	FTE by gender	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	FTE National	questionnaires	B - Probability Sample Survey	Annual
2017-2019	ESP	Other regions	S	Unpaid labour by gender	questionnaires	B - Probability Sample Survey	Annual
2019 reviewed	ESP	Other regions		Similar to 2017-2019 workplan			
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Average price per species	Sales notes	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Consumption of fixed capita	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Days at sea	Logbook, VMS	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Employment by age	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Employment by education level	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Employment by employment status	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Employment by gender	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Employment by nationality	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Energy consumption	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Energy costs	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Engaged crew	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	FTE by gender	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	FTE National	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Gross value of landings	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Income from leasing out quota or other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Investments in tangible assets, net	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Lease/rental payments for quota or other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Long/short Debt	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Mean age of vessels	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Mean LOA of vessels	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Non-variable costs	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Number of fishing enterprises/units	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Number of vessels	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Operating subsidies	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Other income	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Personnel costs	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Repair and maintenance costs	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Subsidies on investments	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Total assets	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Total hours worked per year	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Total vessels power	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Total vessels tonnage	Register vessel	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Unpaid labour	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	S	Unpaid labour by gender	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Value of landing per species	Sales notes	A - Census	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Value of physical capital	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Value of quota and other fishing rights	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Value of unpaid labour	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.	E	Variable costs	questionnaires	B - Probability Sample Survey	Annual
2020-2021	ESP	Other regions		Similar data collection as Baltic Sea, North Sea, Eastern Arctic, North Atlantic, Canary Islands.			

* N.B. WPs 2017-2019, 2018-2019, 2019 reviewed, 2020-2021

14 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on:
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List of background documents:

EWG-19-19 – Doc 1 - Declarations of invited experts (see also section 12 of this report – List of participants)

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of the European Union

doi:10.2760/834602

ISBN 978-92-76-20811-2