

**Report of the 2015
Regional Co-ordination Meeting
Mediterranean and Black Sea,
Large Pelagic Fisheries**

Rome, Italy

09/09/2015 - 11/09/2015

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PART 1 – 2015 RCM MED&BS-LP REPORT

1. Executive summary

The RCM Mediterranean and Black Sea (RCM MED&BS) and the RCM Large Pelagics (RCM LP) met in Rome between 9-11 September 2015. The meeting was originally planned to be hosted in Greece but it was moved to Italy for the financial problems incurred in the implementation of the Greek National Program. RCM MED&BS-LP appreciated the facilities offered by the Italian National Research Council (CNR, Dipartimento Scienze del Sistema Terra e Tecnologie per l'Ambiente). The availability of SharePoint offered by ICES proved to be very efficient in organizing the work before, during and after the meeting.

As decided by Liaison Meeting in 2013, a coordination group for Large Pelagics covering areas of competence of RCM LDF, NA, Med&BS and dealing with all large pelagic species and fisheries was created. This group has been associated with RCM MED&BS in order to limit the number of meetings and allow Mediterranean experts on LP fisheries and stocks to participate in RCM LP subgroup while also participating in RCM MED&BS. Since 2014 the RCM MED&BS-LP is therefore a joint RCM with two co-chairs, one for MED&BS and one for LP.

Almost all ToRs were applicable to both groups and so it was considered that joint discussions would have been beneficial for the final results; the 2015 meeting was therefore organized as a plenary sessions while subgroup sessions were held only when needed. For this reason the report is only one; points of the agenda that were discussed separately by the two groups are reported with specific highlights if required by one subgroup.

According to the decision of the 12nd RCM Med&BS-LP endorsed by the Liaison Meeting in 2014, the Planning Group for Methodological Development (PGMed), has been organized in the same time period in the first two days (7 and 8 September 2015). Considering that TORs of PGMed are strictly related with the tasks of RCM MED&BS-LP (methodological developments, analysis of data from official RCM data calls, sharing activities, ranking of métiers at regional level, etc.), it was decided to draft one single report for both the RCM MED&BS-LP and the PGMed incorporating two different parts: one dedicated for MED&BS – LP subgroup and one for PGMed.

Considering the increased number of regional tasks of the RCGs under the EU MAP for data collection, RCM MED&BS-LP agreed to change the current working scheme of the RCMs and the PGMed (i.e. previous PGMed meeting following for the RCM MED&BS-LP meeting). In the future, PGMed shall work simultaneously with the RCM, as a parallel subgroup with specific ToRs included in the RCM ToRs. PGMed will carry out the technical and methodological aspects of the agenda. The PGMed will be coordinated by a technical Chair. For ensuring good coverage of the work to be performed, intersessional work should be also carried out previously of the meeting. RCM MED&BS-LP endorsed the list of ToRs for the 2016 PGMed.

The 13rd Regional Coordination Meeting for Mediterranean & Black Sea and Large Pelagics was attended by the National Correspondents and/or their delegates from the countries of the competent area as follows: Croatia, Cyprus, France, Italy, Malta, Romania, Slovenia, Spain and Portugal. The only missing countries were Bulgaria and Greece. Participants expressed their concerns for the missing participation of Bulgaria - that did not attend in the last two RCMs – and Greece. Participants considered essential to take all the necessary actions to guarantee the participation of all the countries of the competent area in the next RCM MED&BS-LP.

The GFCM Secretariat attended the meeting, while EC-DG Mare representatives attended only part time through video-conference. RCM MED&BS-LP was also attended by the chairs of MEDIAS and MEDITS.

GFCM Secretariat delivered a presentation on the GFCM Data Collection Reference Framework (DCRF). The DCRF is the first comprehensive GFCM framework for the collection and submission of fisheries-related data in the GFCM area (Mediterranean and Black Sea). These data are requested as per existing GFCM Recommendations and are necessary for the GFCM Scientific Advisory Committee (SAC) to formulate advice in accordance with its mandate. RCM MED&BS welcomed the implementation of DCRF that could be beneficial also to increase the efficiency on data transmission procedures. The actual ones, under the present task1 framework, caused several technical problems in data transmissions that led to financial penalties that Mediterranean MS receive with regards to the submission of GFCM data. Following the method of penalisation adopted is prompting MS to submit less data than available since this leads to less penalties (due to cascading effect presenting data in earlier GFCM tasks has on later tasks). RCM Med&BS 2015 is therefore recommending to better analyze the data failures in transmitting task 1.5 data (biological parameters).

The project *MARE/2014/19 Med & BS - Strengthening regional cooperation in the area of fisheries data collection in the Mediterranean and Black Sea*, was presented. The project aims at simplifying the present rules and addressing needs identified through experience with the current implementation of Data Collection Framework (DCF). RCM Med&BS-LP fully supported the study and participants expressed their availability in giving their contributions. RCM Med&BS-LP also recommended that the final results of the study should be presented in next RCM/PGMed.

For the first time, in 2015 an official data call for RCM MED&BS-LP was launched. As detailed in PGMED report, the data call was a clear success since all countries contributed to the data call although, as a first session, it may have required, at national level, the setting in place of new procedures to integrate variables coming from different databases managed by different organisations.

Data were set in common in a common file for MED&BS and LP respectively and kept available to the group to the dedicated sharepoint for the PGMED and RCM

However, data management was possible only with the technical support of French technicians, considering that no regional database is actually present. RCM Med&BS-LP considered that the development of a regional database is urgent to allow an efficient use of the data received from the official RCM data call and to allow a correct management of the data used by PGMED and RCM. RCM Med&BS-LP stated that it is fundamental to receive a clear feedback from the Commission in order to understand how to involve officially the GFCM as host, and then to be able to proceed with the development of the system that now it is "stopped" since more than two years.

During the teleconference with the Commission, a short presentation was made by the Commission representative concerning the preparation of the future EU Multi-annual Programme for data collection (EU DCMAP). As it is well known, the current DC MAP expires end of 2016 and several changes that have been requested by Member States and scientific groups, or arise from new obligations, will need to be reflected in the future DCMAP. RCM MED&BS-LP urged the Commission to guarantee that the new EU DCMAP should be ready by spring 2016 at the latest, for allowing MS to have time to prepare and implement their National Programs for 2017 onwards.

The Group reviewed the list of 8 surveys that was originally established during the RCM Med&BS 2010 and was evaluated by STECF-SGRN 10-03 *Review of needs related to surveys*. RCM Med&BS – LP recommends that the Mediterranean and Black Sea surveys included in the current DCF (Appendix IX of Commission Decision 93/2010/EU) will remain in the future EU DC MAP with some adjustments. It was agreed that, from a scientific point of view, it would be very useful to enlarge the list of scientific surveys in the region and include all proposed surveys. On the other hand, the financial implications of enlarging / establishing new surveys cannot be overlooked, having especially in mind that the financial contribution of EU in data collection has been fixed for the period 2014-2020, therefore there are financial constraints. Certain MS reiterated their reluctance to perform any new survey, whereas others were not in a position during the meeting to reaffirm their willingness to perform new surveys.

RCM MED&BS-LP reviewed the proposed list of stocks for which biological variables have to be collected and suggested several modifications that are detailed in recommendation no. 6. It has been considered important to maintain a kind of prioritization of the species, based on which different variables and with different periodicity should be required to be collected. Moreover, the Group suggested to maintain the columns with the inclusion of mandatory and optional variables (e.g. sex, maturity weight and age), allowing the adjustment of data collection to national / sub-regional needs.

RCM MED&BS-LP also discussed about the possible impacts that the LO could have for the scientific data collection at sea and on shore sampling programs, as well as the possible impact on census data such as logbooks. The RCM Med&BS - LP recommends keeping on having observers on board under the LO new scenario. Furthermore, the RCM Med&BS-LP members also support that if MS decided to conduct LO control on board, this should be completely independent from scientific data collection

2. Introduction

2.1 General

The RCM Mediterranean and Black Sea (RCM MED&BS) and the RCM Large Pelagics (RCM LP) met in Rome between 9-11 September 2015. The meeting was originally planned to be hosted in Greece but it was moved to Italy for the financial problems incurred in the implementation of the Greek National Program. RCM MED&BS-LP appreciated the facilities offered by the Italian National Research Council (CNR, Dipartimento Scienze del Sistema Terra e Tecnologie per l'Ambiente). The availability of SharePoint offered by ICES proved to be very efficient in organizing the work before, during and after the meeting.

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2.2 Terms of Reference

1. Review progress since 2014 following up the 11th liaison meeting report.
2. Review feedback from end users, and expert groups, to include: GFCM WG on DCRF, WGCATCH 2014, RDB SC and WKRDB 5, PGDATA, PGMED, STECF, WKISCON2, ICES (main issues to be clarified), WK on trans variables, Zagreb 2015), NC meetings (presented by the commission).
3. Regional data collection, analysis and storage and the evolution towards RCGs.
 - a) Consider the progress of the “strengthening regional cooperation in data collection” mare/2014/19, and possible implications.
 - b) Review progress in data quality screening, harmonisation of national and regional data checking procedures.
 - c) Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls
 - d) Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods.
 - e) Discuss design-based sampling: state of play of which MS are using it or plan to use it.
 - f) Analyse the RCM data call for the RDB 2014 data (analysis to be done as much as possible prior to the meeting, and the type of analysis e.g. ranking of ports to sample, to be determined beforehand).
 - g) Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling, and how such groups can be organised, coordinated, and funded e.g. joint surveys, sampling plans for MSFD variables, data quality scrutiny groups, international sampling frames.
4. Review proposal for task sharing and criteria for joint surveys.
5. Identify any amendments to NP needed in 2016.
6. Consider future funding mechanisms to continue strengthening regional cooperation

7. Landing Obligation.

- a. Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.
- b. The operation of at-sea observer programmes, and role of scientific observers.
- c. Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.
- d. The generation of catch estimates derived from sampling programme data.
- e. Experiences of on-shore sampling of landed discards.
- f. Review progress from last year's recommendations

8. National Administrations

- a) Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.
- b) Harmonisation of control agency data collection, and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.
- c) Harmonisation of catch data recording e.g. metiers.
- d) The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.
- e) Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.

9. Metiers. Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context.

10. Future multi-annual programme for data collection:

- a. Propose list of research surveys that should be carried out in the region in 2016.
- b. Review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries
- c. Review and comment on list of proposed stocks & biological variables to be included in EU MAP. (The Commission will provide background documents/input for this ToR)

11. AOB.

RCM MED&BS-LP addressed all TORs with the exception of the following: review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries.

Participants considered this point as highly relevant also in the Mediterranean context, but the time schedule did not allow to address this point.

2.3 Participants and Agenda

The agenda of the meeting and list of participants are included in Annex VII and VIII respectively.

The 13rd Regional Coordination Meeting for Mediterranean & Black Sea and Large Pelagics was attended by the National Correspondents and/or their delegates from the countries of the competent area as follows: Croatia, Cyprus, France, Italy, Malta, Romania, Slovenia, Spain and Portugal. The only missing countries were Bulgaria and Greece. Participants expressed their concerns for the missing participation of Bulgaria - that did not attend in the last two RCMs – and Greece. Participants considered essential to take all the necessary actions to guarantee the participation of all the countries of the competent area in the next RCM MED&BS-LP.

The GFCM Secretariat attended the meeting, while EC-DG Mare representatives attended only part time through video-conference. RCM MED&BS-LP was also attended by the chairs of MEDIAS and MEDITS.

Aside of this, the Group encourage the COM to try to ensure the assistance of at least the NC for those MS who are experiencing financial problems with their NP. In this sense, the absence of representatives of some MS during several years would have a negative impact in the regional coordination.

2.4 Structure of the report

The following table lists the sections in the report where the various ToRs have been addressed.

	Chapter / Paragraph
Terms of References	
Review progress since 2014 following up the 11 th liaison meeting report.	3
Review feedback from end users, and expert groups	4
Regional data collection, analysis and storage and the evolution towards RCGs.	5
Consider the progress of the “strengthening regional cooperation in data collection” mare/2014/19, and possible implications.	5.1
Review progress in data quality screening, harmonisation of national and regional data checking procedures.	5.2
Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls	5.3
Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods.	5.3
Discuss design-based sampling: state of play of which MS are using it or plan to use it.	5.3
Analyse the RCM data call for the RDB 2014 data	5.4
Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling,	5.5
Review proposal for task sharing and criteria for joint surveys.	5.6
Identify any amendments to NP needed in 2016.	6
Landing Obligation.	7
Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.	7.1
The operation of at-sea observer programmes, and role of scientific observers.	7.2
Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.	7.6
The generation of catch estimates derived from sampling programme data.	7.3

Experiences of on-shore sampling of landed discards.	7.5
Review progress from last year's recommendations	7.7
National Administrations	
Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.	6.3
The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.	6.4
Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.	5.6
Metiers.	5.3
Future multi-annual programme for data collection:	6
Propose list of research surveys that should be carried out in the region in 2016.	6.1
Review and comment on list of proposed stocks& biological variables to be included in EU MAP.	6.2
AOB	9

3. Review progress in regional co-ordination since the 2014 RCM

3.1 Follow-up of recommendations from the 2014 Liaison meeting

The 11th Liaison meeting (October 2014) considered all recommendations made by the RCMs and PGECON. These recommendations are listed below. The Liaison identified overlap between some recommendations made by the different RCMs and decided to merge these.

The recommendations are complemented with comments from the RCM MEED&BS-LP 2015 in the field 'follow up in 2015'.

LM11: Enlarge PGMed scope to Large Pelagics	
RCM MED&BS-LP 2014 Recommendation LP sub-group	Considering the new configuration taken in place in 2014 with LP subgroup associated to RCM MED&BS within a RCM MED&BS-LP, the LP subgroup recommend to enlarge PGMed ToRs to take into account LP subgroup. The list of ToRs are annexed in this report (annex 3)
Follow-up actions needed	LM
Responsible persons for follow-up actions	PGMed-LP, RCM MED&BS-LP
Time frame (Deadline)	Before the next PGMed-LP meeting
LM 2015 comments	LM endorses this recommendation
Follow up in 2015	As recommended by LM, PGMed have been enlarged to cover LP subgroup and introduced specific ToRs dedicated to LP. The group met 7th and 8th of September 2015 and found this configuration efficient even if, in some cases, parallel meetings were necessary for specific questions

LM11: Coordinated PGMed and LP data call	
RCM Med & BS-LP 2014 Recommendation LP sub-group	<p>The data required each year by the PGMed should be collected within the framework of a data-call defined by the following elements :</p> <p>Content: The content is defined according to the ToRs, which can now include issues specifically dedicated to the Large Pelagics subgroup or relevant to both groups.</p> <p>Format: For generic ToRs the format of the data will be similar to the format contained within the templates, spreadsheets and text files, used until now. <u>For the CV computations and investigation of sampling consistency</u>, the data will be collected to be consistent to the Standard Data Exchange Format (SDEF) proposed by the Large Pelagics subgroup, allowing to use the same tools and methodology for a more thorough investigation of sampling stratification and</p>

	<p>precision.</p> <p>Dates: The start and end dates of the data-call are set-up so that member states have time and flexibility for answering it, while complying with the 6 months period after the end of data collection during which data cannot be required. It has been agreed to launch the data-call the 1st of March and to set the deadline to the 15th of July.</p> <p>Person in charge: The chairs of the RCM MED&BS-LP will be responsible for launching the data-call.</p>
Follow-up actions needed	RCM MED&BS-LP
Responsible persons for follow-up actions	RCM MED&BS-LP co-chairs
Time frame (Deadline)	Next year (2015) for the next PGMed meeting
LM comments	LM endorses this recommendation
Follow up in 2015	Following this recommendation, a common data call was launched beginning of 2015. This data call was a success. Detailed content of answers are included in PGMed and RCM report.

LM A2. AGREEMENT	
Quality control documentation	
RCM NS&EA 2014 Agreement 1	It is agreed that all MS attending the RCM NS&EA will document their data checks and quality control procedures in reference to the data capture and data processing stages of their national sampling programmes.
Justification	In order to develop a comprehensive set of data checks in the RDB and in addition also can be implemented in MS national data bases it is suggested to assemble information of all present data quality checks used by MS.
Follow-up actions needed	ICES to develop an easier procedure for comparing the data.
Responsible persons for follow-up actions	MS within RCM NSEA
Time frame (Deadline)	RCMs 2015
LM comments	The LM fully support this agreement and suggest that this work is done in all regions and by all RCMs.
Follow up in 2015	The RCM MED&BS-LP discussed the issue and considered it useful. However, it was considered that no specific action is required because the compilation of data checks and quality control procedures will be provided by the Project on "strengthening regional cooperation in data collection" MARE/2014/19

LM 13. Adjustment of data collection requirements on small scale fisheries	
PGECON 2014 Recommendation	PGECON supports the implementation of recommendations as detailed by the 2013 workshop on transversal data in small-scale fisheries.
Justification	The current requirements on transversal data collection have turned out to be far too extensive, and, moreover the data have never been used. In the future, data collection should be more adjusted to end-user requirements
Responsible persons for follow-up actions	STECF
Time frame (Deadline)	Before DCMAP implementation
LM comments	LM endorses this recommendation
Follow up in 2015	No response needed by RCM MED&BS

LM 14. Workshop on Aquaculture data collection	
PGECON 2014 Recommendation	PGECON recommends a workshop on unclear issues in aquaculture data collection in 2014
Justification	It has been experienced that some further clarification is required on aquaculture data collection, e.g. quality checks, definition of primary activity, allocation of enterprises to particular segments, harmonisation of conversion indexes.
Responsible persons for follow-up actions	B. Pienkowska (MIR, Gdynia, PL)
Time frame (Deadline)	Scheduled for late 2014
LM comments	LM endorses this recommendation
Follow up in 2015	The workshop was held in June 2015. Experts from the Mediterranean took part at the workshop

LM 15. Workshop on thresholds for activity levels	
PGECON 2014 Recommendation	PGECON recommends a workshop on introducing a threshold for distinction between commercially and non-commercially used registered vessels.
Justification	Low-level activity fishing vessels will bias fleet economic data when merged with regular activity level.
Responsible persons for follow-up actions	H. V. Oostenbrugge (LEI, The Hague, NL)
Time frame (Deadline)	Scheduled for October 2014
LM comments	LM endorses this recommendation

Follow up in 2015	The workshop was held in October 2014. Experts from the Mediterranean took part at the workshop
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LM 16. Workshop on linking economic and biological effort data	
PGECON 2014 Recommendation	PGECON recommends a workshop on linking economic and biological effort data.
Justification	Transversal data have been intended to link biological and fleet economic data. Thus far this idea could hardly ever been pursued. This is mainly due to the fact that data are not collected at corresponding resolution. The WS is supposed to shed light into that issue in comparing previous data calls, further analysing (effort) data and their use (e.g. days at sea, fishing days). The WS is also to indicate opportunities for harmonisation of data requests (both biological and economic).
Responsible persons for follow-up actions	Cristina Castro Ribeiro (JRC)
Time frame (Deadline)	Scheduled for January 2015.
LM comments	LM endorses this recommendation
Follow up in 2015	The workshop was held in January 2015. Experts from the Mediterranean took part at the workshop

LM 17. Handbook on sampling design and estimation methods for fleet economic data collection	
PGECON 2014 Recommendation	PGECON recommends commissioning a handbook on sampling design and estimation methods for fleet economic data collection.
Justification	It has turned out that MS need more specific methodological advice, taking into account the particular circumstances for fleet data. This applies in particular to sampling efficiency and quality reporting. The documents on the issues (e.g. Eurostat) have not been sufficient to help MS providing reliable quality information throughout. Quality information is crucial and a specific manual will help harmonising reporting.
Responsible persons for follow-up actions	DG MARE
Time frame (Deadline)	Prior to 2015 fleet economic data call.
LM comments	LM endorses this recommendation
Follow up in 2015	No action has been taken by DGMARE on this issue. However, RCM MED&BS considered that handbook could provide useful inputs to MS

LM 18. Studies requested in previous years	
PGECON 2014 Recommendation	<p>PGECON must realize that a considerable number of studies that have been recommended through the years have piled up without having been addressed in any way – e.g.</p> <ul style="list-style-type: none"> • Origin and Sources of Raw Material in the European Seafood Industry • Study to disaggregate economic variables by activity and area • Harmonise quality reporting and propose methodology in the case of non-- -probability sample survey • Pilot study on social indicators • Study to propose methodologies for estimation of intangible assets in EU fisheries.
Justification	<p>Studies have been justified and endorsed numerous times. See detailed description in PGECON 14 report</p>
Responsible persons for follow-up actions	DG MARE
Time frame (Deadline)	End 2015
LM comments	LM endorses this recommendation
Follow up in 2015	No action has been taken by DGMARE on this issue. However, RCM MED&BS considered the necessity to implement these studies that could be funded under the EMFF direct management for data collection

4. Feedback from RFMOs, end users and expert groups

4.1 GFCM

Mr Federico De Rossi, Data compliance officer of the GFCM Secretariat, delivered a presentation on the GFCM Data Collection Reference Framework (DCRF). He recalled that, as the result of the revision process of the fishery data collection framework of GFCM started in 2013, the DCRF is the first comprehensive GFCM framework for the collection and submission of fisheries-related data in the GFCM area (Mediterranean and Black Sea). These data are requested as per existing GFCM Recommendations and are necessary for the GFCM Scientific Advisory Committee (SAC) to formulate advice in accordance with its mandate. Mr De Rossi went on by providing an overview of the main characteristics of the DCRF, including, among the others, the modular approach of the data components, the revised fleet segmentation, the prioritization of species by GFCM subregions and the definition of online data submission procedures. Furthermore, participants were informed about the next steps of the DCRF process following the endorsement made by the GFCM commission in May 2015: 1) DCRF pilot study (October 2015 - February 2016), 2) Meeting of DCRF Focal Points for data submission in the Mediterranean and Black Sea (February 2016) and 3) the endorsement of the Compendium of GFCM decisions as reviewed by the GFCM Compliance Committee (May 2016) which will also incorporate the amendments in line with the DCRF provisions. Finally, the attention of the meeting was called on the importance of the DCRF pilot study be coordinated by the GFCM Secretariat with participating countries which will be the opportunity to be part of the finalization of the DCRF process before it will become fully operative in 2017. GFCM feedback on data transmission and quality.

Regarding the penalties Mediterranean MS receive with regards to the submission of GFCM data, the RCM Med&BS 2015 is recommending that the following is to be taken into consideration:

- Task 1.5 data (Table 9) is being provided to the GFCM with the aim of supporting scientific analysis as a basis for advice to fisheries management. However, this data is not serving this

purpose. The advice to fisheries management provided by the GFCM is to date based on data obtained through the "Stock assessment forms". Nevertheless, Task 1.5 data is requested on annual basis by GFCM as it is fixed (not an ad hoc data call based on actual needs) as described by GFCM Recommendation GFCM/33/2009/3.

- Task 1.5 data (Table 9) requests biological data (i.e. data on length, sex and maturity scale) of the main associated species caught from all operational units in which the national fleet is active. However, such data are not always required to be collected under the EU's Data Collection Framework. For example, for some species only length is required to be collected, while for some operational units (e.g. operation of fishing fleets in GSAs other than the national ones) no biological information is collected. In such cases, if the relevant columns are left blank, it is considered that there are missing data and not full coverage.

Furthermore, since the data in each task depends on the data provided in the previous task, whereby data not provided in the initial tasks has a cascading effect on the following task, it is being recommended that MS are only penalized if their overall data coverage rating scale is lower than B. In this case a total 1% reduction should be applied. This suggestion is also being made, in view that if the above are not taken into consideration, penalties are avoidable, prompting MS to submit data in a manner to avoid them, which at the end of the day will not show a true picture of reality.

In order to avoid future penalization due to lack of data transmission, and not due to failure of transmitting available data, a better communication could be established between the MS and the GFCM Secretariat for clarifying the reasons for the non-transmission of data.

With regards to the new system being applied, where MS are penalized for not transmitting data to end users, there is the chance of MS being penalized more than once for not having collected in a given year data required by the EU DCF. For example if different or the same end users ask more than once for data that a MS has not collected in a given year, there is a chance that the MS is penalized every time there is a request for the said data. RCM Med&BS suggests that a distinction is made between non-transmission of data required by the DCF that is not collected in a given year, and non-transmission of data that is collected but not made available to end users; it is recommended that MS are penalized only once on data which is not collected in a given year and is required by the EU DCF and while the National Programme report and data submission is being evaluated, before the finances of the relevant year are settled. This could be easily done once the regional database will be in place; MS will be uploading all the data collected to this database. This will easily allow the monitoring of uncollected data. In the mean time, a MS should not be penalized multiple times for data not being collected if proof is provided that a penalty was already applied regarding the said data.

Penalties of transmission of data to the GFCM	
RCM MED&BS - LP 2015 Recommendation 1	<p>Regarding the penalties Mediterranean MS receive with regards to the submission of GFCM data, the RCM Med&BS 2015 is recommending that the following is to be taken into consideration:</p> <ul style="list-style-type: none"> • Task 1.5 data (Table 9) requests biological data (i.e. data on length, sex and maturity scale) of the main associated species caught from all operational units in which the national fleet is active. However, such data are not always required to be collected under the EU's Data Collection Framework. For example, for some species only length is required to be collected, while for some operational units (e.g. operation of fishing fleets in GSAs other than the national ones) no biological information is collected. In such cases, if the relevant columns are left blank, it is considered that there are missing data and not full coverage. Furthermore, this biological data is required in Task 1.5, irrespective of the importance of the species in the relevant GSA (for example irrespective of its catches, which sometimes can be insignificant). The issues mentioned above should not be encountered once the new GFCM DCRF (Data Collection Reference Framework) will be followed. • The data in each task depends on the data provided in the previous task/s, whereby data not provided in the initial tasks has a cascading effect on the following tasks. <p>With regards to the lack of data as described in the first point above a better communication could be established between the MS and the GFCM Secretariat.</p>
Justification	MS are receiving penalties following the DCF regulations for not submitting data which is not required by the DCF regulation to an end-user. Following the method of penalisation adopted is prompting MS to submit less data than available since this leads to less penalties (due to cascading effect presenting data in earlier GFCM tasks has on later tasks).
Follow-up actions needed	COM to properly consult GFCM on assessment of data failures
Responsible persons for follow-up actions	
Time frame (Deadline)	Before the next assessment of data failures by MS

Penalties on data request from end users	
RCM MED&BS - LP 2015 Recommendation 2	<p>RCM MED&BS - LP 2015 agrees with the STECF recommendation; "if a MS has informed the end-user that due to issues beyond their control they are unable to collect certain data, and in spite of this communication the end-user continues to request the data, then only in the first year this can be announced as a data transmission failure, and should not be repeated in following years. Data should not further be requested from the MS for those years. "</p> <p>RCM MED&BS - LDF 2015 notes that a data transmission failure of this type is only to be announced for the first request, even if the request for the same data comes from different end-users.</p>
Justification	To avoid MS being penalised for the same reason more than once
Follow-up actions needed	DGMare

Responsible persons for follow-up actions	
Time frame (Deadline)	Before the next assessment of data failures by MS

4.2 RDB-SC and WKRDB5

As last meetings of RDB-SC underlined the necessity to insure coordination within RDB progress among RCMs, members of RCM MED&BS-LP were invited to RDB-SC. During last meeting, it has been stressed that the long-term strategy is to develop the RDB towards i) a design based approach (including design based estimation) and ii) integrated regional data collection programmes. The RDB-SC identified that this, among other things, will require a revision of the exchange format and input from expert groups on fields essential for future estimation process. This will require developing a new data exchange format including a new table with Sampling Event information and SE table containing information on the primary sampling units and the sampling design. The FishPi project will try an implementation of the new data format in a WP. Next meeting of WKRDB will take place in October 2015 in Sète with a focus on population description. Concerning the Regional database, the Commission informed that the outputs of the "feasibility study" will be further investigated and evaluated by another study. Only after this step, the Commission will inform on the way the data should be stored and managed at national, regional and European level.

However, the RCM Med&BS-LP considered that the development of a regional database is urgent to allow an efficient use of the data received from the official RCM data call and to allow a correct management of the data used by PGMed and RCM.

In the MED&BS area, important steps were already implemented in previous years:

- a RDB Steering Committee was already established in 2012 ;
- RCM Med&BS 2012, after received a positive comment by the GFCM representatives on the possibility to host the Med&BS-RDB, agreed that the best option for the region would be that the RDB could be hosted by GFCM ;
- RCM Med&BS 2013 approved the following document: Data Policy 2013 REV – Mediterranean and Black Sea Regional DataBase (Med&BS-RDB): data policy document dealing with data confidentiality and data ownership issues.

Following this approach, RCM Med&BS-LP stated that it is fundamental to receive a clear feedback from the Commission in order to understand how to involve officially the GFCM as host, and then to be able to proceed with the development of the system that now it is "stopped" since more than two year. It was asked again, to the representative of the GFCM Secretariat, about the possibility to host the Med&BS-RDB. GFCM answered positively upon clarification of costs related issues (i.e. human resources, technical expertise and IT infrastructure) and definition of practical matters both internally and with European Commission.

Speed up the process of setting up a RDB for Med&BS (Med&BS-RDB) and a RDB for LP (LP-RDB)	
RCM Med&BS-LP 2015 Recommendation 3	RCM Med&BS-LP 2015 recommends that the Com should give clear indications on the possibilities to implement RDBs as soon as possible
Justification	<p>The RCM Med&BS-LP considered that the development of regional databases is urgent to allow an efficient use of the data received from the official RCM data call and to allow a correct management of the data used by PGMed and RCM.</p> <p>The process of development of the Mediterranean RDB started in 2011 and important steps were implemented. But all the process was stopped in 2013, because the COM informed on the need to wait for the outputs of the "feasibility study" and of its update.</p> <p>However, RCM Med&BS would like to proceed on the implementation of the RDB and in particular, considered fundamental to receive a clear feedback from the</p>

	Commission in order to understand how to involve <u>officially the GFCM as host</u> , and then to be able to proceed with the development of the system that now it is "stopped" since more than two year.
Responsible persons for follow-up actions	Liaison Meeting, DGMARE, GFCM, MS
Time frame (Deadline)	2016

4.3 MEDIAS

The Chair of the MEDIAS presented the outcomes of the 8th Annual Steering Committee Meeting of the MEDIAS, held in Sète (France) in the period 24-27 March 2015. The 8th MEDIAS meeting was hosted by IFREMER and chaired by Angelo Bonanno from CNR-IAMC. It was attended by 19 colleagues from the European Union countries involved in acoustic surveys in the Mediterranean Sea (i.e. Greece, Spain, Croatia, France and Italy) and in the Black Sea (Romania). One scientist from Tunisia, working on fisheries acoustics in Mediterranean sea, participated to the meeting.

The main aims of the 8th MEDIAS meeting were:

- to present the results of the Mediterranean International Acoustic Surveys (MEDIAS) carried out in 2014;
- to coordinate the MEDIAS to be performed in 2015;
- to improve and update the common Protocol for the MEDIAS that is incorporated in the DCF framework and reflected in the MEDIAS Handbook;
- to revise the ToRs from 2015 and to establish the ToRs for 2016.

Mediterranean International Acoustic Surveys carried out in 2014 by the MEDIAS partners in the Adriatic Sea, in the Gulf of Lions, in the Strait of Sicily, along the Iberian coast, in Maltese waters and in the Aegean and Ionian Seas were presented, as well as results from surveys carried out by Romania in 2012-2013 in the Black sea (GSA 29) and from an acoustic surveys performed by Italy in the Tyrrhenian sea (GSAs 9 and 10).

Specific Terms of Reference for the "MEDIAS 2014" were

- Update MEDIAS handbook;
- Update the MEDIAS Website;
- To work on the common database;
- To work on the allocation of trawl catches on acoustic data;
- To work on acoustic data analysis for the estimation of CV in a joint standardized way.

The improved version of the website was presented (URL is www.medias-project.eu). The website provides basic information about the project as well an open access to most of the documents produced by the MEDIAS group. A WEB-GIS application was also developed to show the investigated sea areas in each country.

As planned during the steering committee meeting of MEDIAS 2014, most of the MEDIAS partners participated to the EchoR workshop, held in Vigo by Mathieu Doray during the WGACEGG meeting (Working Group on Acoustic and Egg Surveys for Sardine and Anchovy in ICES Areas VII, VIII and IX), in the period 17-21 November 2014.

During the workshop Mathieu Doray presented a set of R scripts using EchoR functions to perform different tasks such as data check, length-weight relationships computation as well as the estimation of total biomass per species. Due to some differences in the data structure, as well as in the procedure adopted by each MEDIAS partner, it was not possible to run the entire set of scripts working on own data. During the MEDIAS meeting in Sète most of the problems in running the scripts were solved clarifying how to manage differences in data structure and procedures.

Even though all participants were interested in the use of EchoR, some work must be done further in order to evaluate the obtained results, and eventually develop specific functions to manage particular tasks (if any) not implemented in EchoR.

A further workshop on the CV estimation with different procedures was performed. Based on the work carried out during the MEDIAS 2014 meeting, an example (R script) on how to run geostatistical simulations was presented. Specifically, the CV was estimated following a procedure similar to the one proposed by Walline (2007). Differently from the procedure proposed by Walline (that takes into account also the indetermination due to the biological sampling) in this example we worked directly on

density values, and then obtained confidence intervals considered only the indetermination due to the spatial sampling. Since the CI estimation is one of the key points of the biomass estimates, all participants agreed on the possibility to include such step in the final part of a common procedure.

During the meeting in Sète the structure of the common database was presented and discussed. In order to obtain the necessary funds for the development of the MEDIAS database, it was proposed to include in each of the National Programs of the Member States working in MEDIAS a specific proposal for contributing to the MEDIAS database. The MEDIAS Steering Committee agreed and the necessary steps will be undertaken by each partner.

Taking into account the results of the workshops, a general discussion on the revision of the common MEDIAS protocol and an update of the MEDIAS handbook was carried out (see Annex IV of the Report of 8th MEDIAS meeting).

The following ToRs were proposed for the 2015 MEDIAS Meeting.

General:

- to join and harmonize the ongoing acoustic surveys in the Mediterranean Sea and Black Sea;
- to provide information for management decisions;
- to provide input for stock assessment purposes concerning the stocks which are managed internationally;
- to provide information for Good Environmental Status in the MSFD.

Specific:

- to update MEDIAS handbook;
- to update the MEDIAS Website;
- to update the structure of the common database;
- to update the workflow for the analysis of the echograms and, in particular, the aspects concerning the multifrequency analysis;
- to complete the EchoR workflow;
- to work on common scripts to be adopted for the estimation of CV in a standardized way and the allocation of trawl catches on acoustic data;
- to work on Marine Strategy Framework Directive for ecosystem descriptors and to evaluate the contribution of MEDIAS.

Following the presentation, the RCM-Med&BS 2015 endorsed the proposed ToRs for the next MEDIAS Meeting.

Proposal on MEDIAS area

Some new research activities, to be performed in the framework of MEDIAS, were proposed and discussed during the meeting:

- Epipelagic plankton layers in Alboran Sea: Matching acoustical and biological data;
- Noise Removal from the Greek acoustic data.
- The IRIS-SES project (<http://iris-ses.eu/>).

The MEDIAS program has been identified as one of the already existing Joint Monitoring Programs in the Mediterranean that could be integrated in the MSFD monitoring system.

The Steering Committee decided to resubmit to the RCMMed&BS 2015 the proposal for a study "Inter-calibration exercise of the MEDIAS research vessels" (see also RCMMed&BS 2011 Report), taking into account the importance of such study for the entire MEDIAS group.

Proposal From Malta

Since 2009 MEDIAS has been part of Malta's National Programme within the Data Collection Framework. It is pertinent to note that this survey targets anchovies and sardines for which no fishery exists in the Maltese Islands. In this regard Malta feels that there is limited scope in continuing the surveys as the benefits are not commensurate with the associated administrative burdens. To this end Malta is proposing that the survey is carried out by other Member States, which may have a vested interest in the fisheries involved, within the framework of regional cooperation.

Malta notes that Italy may be interested in performing the MEDIAS survey in GSA 15 as part of the survey it already carries out in GSA 16. It is understood that such an arrangement would yield the present level of data knowledge which is of interest to the Italian fisheries exploiting these stocks. Under this cooperation agreement Malta would be in a position to grant the necessary authorisations to the research vessel used by Italy to work within the waters under Malta's jurisdiction.

4.4 MEDITS

Maria Teresa Spedicato gave a presentation on the last MEDITS Coordination Meeting held in Menorca (Spain) on April 16-17, 2015. The meeting was attended by 38 scientists from 24 research groups of 9 countries involved in the MEDITS survey in the relevant GSAs.

The MEDITS coordination meeting reviewed and discussed the achievements of the MEDITS survey in each GSA. In Italy in many GSAs the time of the survey was shifted to August/September given some delay in the completion of the administrative procedure of the tender. In GSA16 the survey was conducted only partially and in November-December. The same in GSA15. In the GSA25 the MEDITS survey was not conducted. In Spain and France it was regularly conducted.

New results of the intercalibration survey conducted in Spain in 2014, after the change of the vessel, were also presented. Conclusion is that there were not significant differences between the two vessels. Progress regarding the MEDITS Reference Taxonomic list, the Protocol on Litter monitoring, and the Multi-disciplinary Group on Gear Performance were presented.

The MEDITS coordination meeting also discussed on the compliance of the TE file with JRC checks tool and database. Regarding the results of the IRIS-SES initiative: "Integrated Regional monitoring Implementation Strategy in the South European Seas" (a Pilot action developed during the Spanish MEDITS 2014 survey), the MEDITS meeting highlighted the importance of such initiative in the context of the Marine Strategy Directive Framework and the need of an integrated approach that should also rely upon additional resources given the work and sampling load.

Regarding the progress towards a common database for trawl survey the group was informed that the FishTrawl webapp (a software system for data input, analysis, import/export, storage, check) was completed and tested. A new release of the RoME routine for checking MEDITS data was made available through the meeting sharepoint to the MEDITS group. It is worth noting that the analysis carried out at EWG-STEFC level evidenced that the quality of MEDITS data has recently greatly improved from the recent past, also thanks to a wider use of the RoME routine and quality checks. Also results from a routine in R language (Litter) to support the calculation of occurrence, composition and abundance indices of Litter in MEDITS survey was presented and commented during the MEDITS coordination meeting. An explorative analysis for a standardisation of the ageing protocol for *Mullus barbatus* was presented to the MEDITS meeting from the coordinator of the working group on age.

Regarding the otolith reading the colleague of Malta ask to make this task facultative and in line with the obligation of DCF. The initiative of the working group on maturity regarding an Atlas of species maturity stages was also presented, as well as a proposal for reviewing and simplifying the MEDITS maturity scales. The MEDITS group stressed the importance of analysing in deep this issue within the maturity WG of MEDITS and standardise as much as possible the evaluations of maturity staging.

Progresses in common research activity and the MEDITS special issue were also presented. 8 woks/papers/projects accomplished or ongoing were discussed, as well as the initiative ICES COMEDA "Working Group on Comparative Analyses between European Atlantic and Mediterranean marine ecosystems to move towards an Ecosystem-based Approach to Fisheries". The RCM for the MED&BS was informed that the next meeting will be held in Malta on next March-April 2016.

4.5 WK on transversal variables, Zagreb 2015

The Workshop on the Transversal Variables took place in Zagreb from the 19th to 23rd of January, 2015 mainly to tackle the issues related to the increasing need of having fisheries fleet economic data and fisheries biologic data on a level of disaggregation that would allow a proper interoperability between datasets to underpin bioeconomic modelling. For that, several analyses were carried out and conclusions taken. These analyses were : 1. Comparison of economic and biological effort data calls both with respect to their level of resolution and the landings and effort values obtained from equivalent aggregations was performed. This was compared to what would be needed in order to undertake bioeconomic modelling for a chosen management plan. 2. The description of how MS are calculating effort variables and a proposal on the way forward to harmonize approaches, 3. Conclusions on how to harmonize levels of resolution, the variable definitions and the codification in use amongst data calls, in order to make them comparable and based on coherent standard codifications. Be aware in rebuilding time series, impact on analysis.

It was identified that there is a strong need for guidance and identification of standards with regards to data provision for the MS. Several specific misunderstandings from the effort data call and the economic data call were identified. Different calculation methodologies are in place when estimating effort variables - days at sea and fishing days - across MS and sometimes within a MS. This has a huge impact on data comparability and data coherence.

The Transversal WS January 2015 agreed to set up common standards for calculating the number of days at sea and number of fishing days and recommends that all MS use this common standard when calculating days at sea and fishing days.

RCM MED&BS-LP stressed the high relevance of the topics addressed by the WK. Participants also agreed on the roadmap proposed by the WK for the way forward to tackle the different problems encountered and put in place solutions. This roadmap entails firstly a presentation of the workshop results to the STECF spring plenary (already done). Second, to have an intermediate workshop with MS to assess how MS data would result from the new standards and to assess to what extent the scenarios identified represent the range of situations MS will find in their own data, so as to guarantee a smooth implementation for the 2016 data calls.

Participants also considered that the impact on time series from the application of the new definitions should be carefully evaluated.

4.6 STECF EWGs (on DCF/EU MAP revision) since last RCM

STECF has produced three plenary reports (STECF 14-24; 15-01 and 15-13) addressing different issues of data collection since the last meeting of RCM MED&BS-LP. The reports provide a number of recommendations to be taken into account for the present and future data collection.

Due to time limitations these reports were not presented during the meeting. However, participants discussed on the relevance of such meetings and on the opportunity to list them in the present report.

4.7 PGMED

The 9th Meeting of the Mediterranean Planning Group for Methodological Development (PGMed) was arranged to be held just before the RCM Med & BS - LP, in Rome 7th-8th of September 2015. This was the second time that the meeting was organised this way. However, for the first time it included ToRs specific and common with the large pelagics subgroup.

The 2015 PGMed was attended by 8 Mediterranean member states (Greece, Cyprus, France, Spain, Malta, Slovenia, Italy and Croatia) and also Portugal exclusively for LP. Considering that TORs of PGMed are strictly related with the tasks of RCM MED&BS-LP (methodological developments, analysis of data from official RCM data calls, sharing activities, ranking of métiers at regional level, etc.), it was decided to draft one single report for both the RCM MED&BS-LP and the PGMed incorporating two different parts: one dedicated for MED&BS – LP subgroup and one for PGMed.

RCM MED&BS-LP discussed the actual working structure of PGMed and the actions to strengthen its role in the context of the new Data Collection Framework.

Considering the increased number of regional tasks of the RCGs under the EU MAP for data collection, RCM MED&BS-LP agreed to change the current working scheme of the RCMs and the PGMed (i.e. previous PGMed meeting following for the RCM MED&BS-LP meeting). In the future, PGMed shall work simultaneously with the RCM, as a parallel subgroup with specific ToRs included in the RCM ToRs. PGMed will carry out the technical and methodological aspects of the agenda. The PGMed will be coordinated by a technical Chair. For ensuring good coverage of the work to be performed, intersessional work should be also carried out previously of the meeting.

RCM MED&BS-LP endorsed the following list of ToRs for the 2016 PGMed:

TOR 1) Ranking system for the whole Mediterranean and for Large pelagics. (Keep it flexible to adjust to needs/requirements of the PGMED participants)

TOR 2) Review and update the landing template for the Mediterranean and for the Black Sea

TOR 3) Review the advances made through the call for tenders MARE-14-09 and assess its usefulness to the PGMed and RCM work.

TOR 4) Investigate statistically sound approaches to investigate sampling stratification and precision, propose optimal and number of individuals and trips to be sampled and assess the number of individuals to sample for the large pelagics stock variables

TOR 5) List the data quality checks performed by each MS on their national database

TOR 6) Investigate standard data-quality reports for each MS

TOR 7) Identify data-manipulation tools to answer data-calls based on the PGMed data-call format

TOR 8) Any other business

5. Regional data collection

5.1 Project on “strengthening regional cooperation in data collection” MARE/2014/19

Maria Teresa Spedicato of COISPA presented the project *MARE/2014/19 Med & BS - Strengthening regional cooperation in the area of fisheries data collection in the Mediterranean and Black Sea*, funded by the European Commission in the perspective of a more regionalised management of fish stocks while pursuing an ecosystem approach, as envisaged by the Council Regulation 1380/2013 (Common Fishery Policy -CFP). The project aims at simplifying the present rules and addressing needs identified through experience with the current implementation of Data Collection Framework (DCF). The ultimate project objective is to lay out a Multiannual Regional Work Programme – MRWP –including:

1. a Regional Sampling Programme for 2016 covering Commercial Fisheries (RSP-CF);
2. a Regional Sampling Programme for 2016 covering the Data Collection on Fisheries Impacts on the Ecosystem (RSP-DCFIE);
3. Procedures to Quality Assessment of Biological Data at regional level (PQA-BD).

The Work Package 1 of the project, which has been recently concluded, has developed a SWOT analysis to develop inputs and suggestions for possible changes/improvements in the future regional coordination activities. WP1 has also conducted an analysis of the current tools/models available in the region.

The Work Package 2 is identifying and agreeing on guidelines and best practice for sampling, processing, analysing, managing biological data; setting code lists and developing methods for optimizing sampling size in Mediterranean fisheries, while assessing availability and quality of transversal data.

The Work Package 3 is addressing the point 2 above pursuing the following objectives: a) design a sampling program targeted to gather data on stomach contents of fish; b) increase the collection of data on by-catch, especially of non -target species, such as protected, endangered or threatened species; c) proposing additional ecosystem indicators, which can be useful to improve the assessment of the ecosystem impact due to fishing activity.

The Work Package 4 has the objective of identifying possible bottlenecks in the current approach of checking data, classifying the checks to be carried out both at national and regional level for improving the data quality.

The Work Package 5 aims at developing interactions and collection of inputs from end-users and stakeholders. To this purpose a web-platform has been created and most of actors at Mediterranean and Black sea level have been invited to contribute.

15 partners from 9 countries are members of the Consortium led by COISPA and many are also members of the RCMED&BS-LP, a condition that is facilitating the flow of information. The project is also conducted in cooperation with the twin initiative called FishPi that is ongoing in North Sea, North and East Atlantic areas.

RCM Med&BS-LP fully supported the study and participants expressed their availability in giving their contributions.

RCM Med&BS-LP also recommended that the final results of the study should be presented in next RCM/PGMed.

5.2 Data quality screening, harmonisation of national and regional data

RCM Med&BS-LP remarked that this topic is part of the project mare/2014/19, therefore it was suggested to wait for the results of the mentioned project in order to have a common approach for the quality screening. In the past, no advance on this topic has been achieved at regional level and the potential performance of this should be approached at share-stock level.

The group was informed about the quality checks that already exist in the working groups dealing with stock assessment. In the case of the GFCM, no quality check is carried out, as experts bring at the group their own data already checked. In the case of the STECF, there is a specific section in each stock where experts evaluate the quality of data reported by MS. The JRC also carries out quality checks of the data received and the RCM suggests that the PGMED invites some technical person from JRC who can share their experiences in this subject.

Regarding the Data Calls, some of the data sent to the JRC Data Call is the same and those sent to the RCM Data Call, so the group suggests the possibility of having common tools that makes things easy and even certainly automatic, so the data is not sent twice.

The use of quality indicators have been widely been discussed in DCF WK (such as WKPICS) and it is also a subject in the mare/2014/19 project. The RCM does not have the expertise to discuss this topic with the information available on this meeting and decided not to give any opinion on this subject.

5.3 Regional sampling designs

RCM Med&BS-LP discussed the meaning of the TOR dealing with the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls and participants agreed that the meaning of "sampling data format" should be better clarified.

Regarding the TOR on the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods, RCM Med&BS-LP remarked that this topic is part of the project mare/2014/19; therefore it was suggested to wait for the results of the mentioned project in order to have a common approach for this issue. After the results of the project are made available, they could be reviewed by the PGMed. This aspect would mainly affect shared stocks and regional programmes.

Except for Large Pelagics, no MS in the Mediterranean and Black Sea group are using design-based sampling programmes, but their sampling is still based on the achievement of the required precision levels. Low information has been circulated among MS in this region on this topic. The RCM was informed about the different WK carried out in the framework of the DCF in relation to new approaches in the sampling designs, in which the participation of MS from the region has been low. The reports of such groups (e.g. WKCATCH, WKPICS) are available and their application to sampling design can be profitable to improve the quality of data collected, focussing on the robustness of the sampling more than on the achievement of the required coefficients of variations. To achieve statistically sound sampling of commercial catches various statistical approaches may be valid, concurrent sampling being one among them, but other approaches (species-based sampling) are also valid.

France and Spain coordinate their tropical tuna purse seine fisheries monitoring and established a common sampling program and common tools for data acquisition, data quality checks and data management. An annual coordination meeting take place since 2005 alternatively in Spain and France with participation of tuna scientists from IEO, AZTI and IRD. Scientists from landing countries like Seychelles, Madagascar, Côte d'Ivoire, Sénégal and Ghana who participate in the data collection are also invited. During this meeting, method and tools are shared, discussed and eventually revised. Specific or common scientific contributions to tuna RFMOs (ICCAT/IOTC/WCPFC/IATTC) are identified and decided.

Regarding the sampling design and the possibility of making changes from the already approved NP, MSs need clarification on how compliance and derogation in their NP will be dealt if there is any change in their NP.

Evolution towards RCGs: Design-based sampling	
RCM Med&BS-LP 2015 Recommendation 4	RCM Med&BS-LP considered that MS should improve their knowledge on the design-based sampling and other statistical sampling tools used in others EU regions. For that, RCM recommended MS to participate in the EU Working Groups and Workshops relative to sampling designs and methods like WGCATCH.
Justification	The information on design-based sampling is scarce at Mediterranean and Black Sea level.
Follow-up actions needed	
Responsible persons for follow-up actions	MS
Time frame (Deadline)	2016

RCM Med&BS-LP discussed the role of metiers in sampling and estimation. However, the TOR refers to their use in the context of InterCatch or RDB that are not applicable in this region.

However, RCM Med&BS-LP considered that a list of métiers in the Mediterranean has been compiled by the 2015 PGMed, as an update of the list proposed in RCM 2010 and this list should be used as reference for codification in the RCM Data Calls and as a way to compare information among MS and reporting.

5.4 RCM and PGMed data call

The RCM remarked that no data call for the RDB has been carried out, as no RDB is currently developed neither in the Region nor for LP. The RCM Data Call asked for information to be used in the PGMed and all the issues regarding this subject are exhaustively described in the PGMed report. For the next year, the new Data Call will be done based on the experience of the previous years, trying to avoid the difficulties found by MS to prepare it.

The RCM noted that the group will face in the future difficulties managing the data, as the Data Call is more demanding year after year and a big amount of effort is required by people working in this data, including joining all the information, check for homogeneity of codes and consistency. In this sense, intersessional work should be done in this topic. The RCM agreed that the process, that should be carried out by PGMed, should follow two steps: first, cleaning of the data to ensure all the information available is correct and received on time and a second step to clean the data set, work with the information and people involved in their recollection, discussing the results and make them available to the RCM. MS should not only provide data but also technical people who are able to work with them.

The data call decided in 2014 was launched in May 2015 (cf Appendix I). As detailed in PGMED report (component 2), the data call was a clear success since all countries contributed to the data call although, as a first session, it may have required, at national level, the setting in place of new procedures to integrate variables coming from different databases managed by different organisations.

Data were set in common in a common file for MED&BS and LP respectively and keep available to the group to the dedicated sharepoint for the PGMED and RCM. Tables 1 and 2 give data coverage of data received.

Table 1: Available years of data in the data set for each member state and each variable for MED&BS

Member state	Landings	Effort	Value
BGR	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
CYP	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
ESP	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
FRA	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
GRC	2014	2014	2014
HRV	2012, 2013, 2014	2012, 2013, 2014	2012, 2013, 2014
ITA	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
MLT	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
ROU	2012, 2013, 2014	2012, 2013, 2014	2012, 2013, 2014
SVN	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014

Table 3.1: Available years of data in the data set for each member state and each variable

Table 2: Available years of data in the data set for each member state and each variable for LP

MEDITERRANEAN SEA			
vsIFlgCtry	Landings	Efforts	Samplings
CYP	2012, 2013, 2014	2012, 2013, 2014	
ESP	2009, 2010, 2011, 2012, 2013, 2014		2014
FRA	2009, 2010, 2011, 2012, 2013, 2014	2014, 2010, 2013, 2009, 2011, 2012	2012, 2013, 2014
HRV	2013, 2014	2013, 2014	2013, 2014
ITA	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	
MLT	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	
PRT	2013, 2014, 2010	2010, 2013, 2014	
SVN	2013	2013	

ATLANTIC OCEAN			
vsIFlgCtry	Landings	Efforts	Samplings
ESP	2009, 2010, 2011, 2012, 2013, 2014		2009, 2010, 2011, 2012, 2013, 2014
FRA	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
PRT	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014

INDIAN OCEAN			
vsIFlgCtry	Landings	Efforts	Samplings
ESP	2009, 2010, 2011, 2012, 2013, 2014		2009, 2010, 2011, 2012, 2013, 2014
FRA	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
PRT	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2014

PACIFIC OCEAN			
vsIFlgCtry	Landings	Efforts	Samplings
ESP			2009, 2010, 2011, 2012, 2013, 2014

It should be underlined that this signifies that PGMed and RCM MED&BS-LP is presently no more facing a problem of data availability but is now facing concrete questions related to data management like - data quality, - data consistencies, - codelist homogeneity, - adequation of format to ToRs, - elaboration of R tools facilitating analysis, etc.

Regarding 2016 data call, its exact content of format will be finalized by PGMed and RCM MED&BS-LP chairs taking into account the new ToRs of the group for 2016 and the comments listed in PGMed report (part 2). It will be circulated before the end of 2015 and will be launched in March 2016 as previous year with the objective of leaving time to interact within inter sessional work with N. Billet (IRD).

5.5 Areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling

RCM MED&BS-LP identified two areas where intra-institute intersessional work should be undertaken:

1. Groups on shared stocks to validate and prepare data for joint stock assessment.

The RCM remarked that the problem of funds should not be an issue, as in the new DCF, each MS is available to select the convenient meetings to be funded. In this sense, it was noted that intersessional work that should be done for shared stocks should also be funded in the NP. In certain occasions, it would be needed to receive funds in a short-term basis, so quick tools to ask for new funds should be developed.

2. Intersessional work on RCM data call: facilitator, chairs, contact to MS, validation of data.

RCM MED&BS-LP proposed the following procedure to obtain the best answer to the RCM MED & BS - LP data-call:

After the launch of the data-call, the chair and the PGMED and the technical facilitator should coordinate to contact Ncs and propose support to answer as efficiently as possible the data-call. An iterative procedure could help ensuring an optimal answer to the call. Such a procedure could be:

- 1- First contact between NCs and PGMED team to identify initial issues
- 2- NCs submit data
- 3- The PGMED team check for completeness and consistency with guidelines
- 4- Interaction between NCs and PGMED team to solve potential issues
- 5- Back to 2

5.6 Review proposal for task sharing and criteria for joint surveys

Scope of the issue

A joint survey is a survey at sea performed by several Member States using the same vessel. The aim of ToR 4 is to review the protocols for sharing the survey costs, especially vessel ones.

Until 2013 the total research vessel cost for conducting joint surveys have been included in National Programme for the "vessel MS" and the Commission have funded 50% of that cost. The other 50% has been shared according to either TAC share or landing share. The costs for the scientific staff have been included in the respective MS NP.

From 2014 until 2020 funding of the data collection is made available under the EMFF (article 77) under shared management. Therefore, the cost sharing model has to be changed as it would be unbalanced if the "vessel MS" should include the total research vessel cost in their Operational Programme and in the Annual Work Plan. National budgets allocated to data collection are indeed now limited, and to require "vessel MS" to reserve 80 % of their vessel costs in their annual Work Plan, and to share the 20 % leftover between other MS involved, is no more relevant.

RCM NS&EA and RCM NA 2014 discussed a cost model for the present joint MS financed surveys and for future joint surveys. When implementing new joint surveys the following cost sharing model were suggested:

1. The vessel cost of conducting the survey concerned is shared among MS according to their EU-TAC shares for the main species concerned or if the purpose of the survey covers several species, the MS share is calculated as a mean of the EU-TAC percentage shares for the species concerned.
2. Only those MS having a EU-TAC share \geq 5% are to be included in the cost sharing.
3. For those MS having a EU-TAC share \geq 5%, a relative distribution key is calculated based on their EU-TAC share of the species concerned.
4. Each MS participating in the survey concerned is providing scientific staff for the survey according the calculated share (point 3).
5. The vessels to be used for conducting the survey is based on the following criteria:
 - i. The vessel is technically equipped and at a size to carry out the survey concerned.
 - ii. The vessel can carry the number of scientific staff needed for carrying out the survey concerned.
 - iii. The vessel is available at the time of the survey concerned.
 - iv. If more than one vessel fulfil criteria i to iii the vessel to be used should be agreed by the MS concerned.
 - v. Agreement to select between vessels that fulfil criteria i to iii should take into account economic cost of the surveys to ensure a rational and efficient use of the data collection budget.

Of course, when stocks covered are no TAC species, another reference can be used for applying the procedure, such as national levels of catches of species concerned against the total EU catches.

State of play for surveys task sharing in the MED & BS

Two main international surveys are performed by MS in the MED&BS, Pan-Mediterranean Pelagic Acoustic Survey (MEDIAS) and Mediterranean International Bottom Trawl Survey (MEDITS) and their BS equivalents. Some agreements are in play between MS:

- MEDIAS ITA-SVN: MEDIAS is conducted on board the same Italian vessel. Slovenia, as the part of the survey is very short in its national waters (less than 1 day), does not participate in the vessel costs. Italy takes also in charge analysis and reporting of the data of all the samples collected. Gentlemen agreement.
- MEDIAS ITA-MLT: MEDIAS is conducted on board the same Italian vessel in both GSAs 15 (Maltese waters) and 16 (Strait of Sicily). There is an official agreement between the two MS.
- MEDITS ITA-SVN: MEDITS ITA-SVN: MEDIAS is conducted on board the same Italian vessel. Slovenia, as the part of the survey is very short in its national waters (less than 1 day), does not participate in the vessel costs. Samples are taken and analyzed by Slovenia (Fisheries Research Institute). Gentlemen agreement.

- Black Sea demersal and acoustic surveys ROM-BGR: DG MARE asked some years ago the both BS MS to establish a common protocol for performing together the demersal and the acoustic surveys planned in their NP. Bulgaria and Romania signed a bilateral agreement in 2010 on detailed actions to be carried out for the collection of biological data and the common scientific surveys (one demersal + one acoustic in Spring-Summer and in Autumn) and on the sharing of these works and the related expenses.

The first implementation of the agreement occurred in 2012 but stopped in 2013 due to BG financial difficulties not allowing to perform 2013 joint pelagic surveys as initially planned.

The new Agreement for 2015-2020 was signed in May 2015 in Bulgaria on the following conditions: each country has to carry pelagic and demersal surveys, twice per year (spring and autumn) in its national juridical BS waters with its own research vessel, having on board the scientists for the other country.

Romania launched the invitations for Bulgarian scientists to participate in spring/summer surveys but no reaction was received, so it carried out the demersal survey, as in 2014 Romania is informing that i) they were asked for strong intervention of the EC (but no results till today), and ii) a new research vessel is under finalization of auction acquisition for a new research vessel (under EMFF funds), that will reduce the costs of each survey, and iii) they are confident, also, in the EC intervention to deter Bulgarian part to fulfil its commitments, as per the actual EC Decision 93/2010 Annex listing the surveys on the Black Sea.

Can the model on costs sharing for surveys be implemented in the MED BS ?

Except for BS surveys in the beginning of the decade, MEDITS and MEDIAS cannot be really considered as international joint surveys. Each MS contribution is carried in its own waters with national vessels except for Slovenia and Malta where an Italian vessel is used under bilateral agreements between these MS and Italy.

The new agreement signed in 2015 between BGR and ROM limits also now each MS to its national waters with its own means.

Consequently and as no progress could be expected during the meeting as no Bulgarian participant was there, the RCM considers not necessary to establish further more precise protocols for sharing costs surveys as actual procedures seems to be already in force at bilateral and regional levels, and be suitable to work properly. The RCM is of opinion that these ways of collaboration do not require further formal bilateral agreements, as MEDITS and MEDIAS Working Groups are already in charge of the coordination of these international surveys.

Only concrete achievement of the ROM-BGR agreement must find solution for really applying. The RCM considers that this question should be addressed at EU level.

Request of Malta about its future contribution to MEDIAS survey

Maltese NC informed the RCM that, considering Malta has no national economic interest in small pelagics fisheries, this MS would wish not to continue to perform MEDIAS survey in GSA 15. But it agrees to provide administrative facilities and help to another MS for prospecting in its national waters when MEDIAS Group is thinking that it is a relevant scientific issue.

Considering the abovementioned model, catch of SPF are made by Italy and Italy might support the MEDIAS costs in GSA 15. Taking into account that consequences on assessments of anchovy and sardine stocks are supposed minimalist, the RCM agrees Italy is free to take decision on the follow-up that this MS wants to give to the Maltese request. Italy accepts to investigate this issue since 2016.

6. Future multi-annual programme for data collection

During the teleconference with the Commission, a short presentation was made by the Commission representative concerning the preparation of the future EU Multi-annual Programme for data collection (EU DCMAP). As it is well known, the current DC MAP expires end of 2016 and several changes that have been requested by Member States and scientific groups, or arise from new obligations, will need to be reflected in the future DCMAP. Input is still needed on which data should be included in the future, among others the lists of stocks and surveys, and on the implications that arise from the landing obligation set by Regulation (EU) 1380/2013.

RCM MED&BS-LP urged the Commission to guarantee that the new EU DCMAP should be ready by spring 2016 at the latest, for allowing MS to have time to prepare and implement their National Programs for 2017 onwards.

Problems were raised by certain MS on the implementation of modules of the National Programs (NPs), which are assigned through public procurement. The Group acknowledges that the procedure for assigning modules of the NPs through public procurement may create delays, or even complete failure on the implementation of the relevant modules. At the same time, it is recognized that exception rules for alleviating such problems could not be granted to any public procurement procedure.

6.1 Propose list of research surveys that should be carried out in the region in next DCMAP

The Group reviewed the list of 8 surveys that was originally established during the RCM Med&BS 2010 and was evaluated by STECF-SGRN 10-03 *Review of needs related to surveys (see Annex II)*. These surveys are the following:

- Bluefin tuna aerial survey (BFTAS),
- Pan-Mediterranean Acoustic Survey (MEDIAS)
- Beam trawl survey in North Adriatic (ARTS),
- Bottom trawl survey in Black Sea,
- Pelagic juvenile survey in Black Sea,
- Pelagic trawl survey in Black Sea,
- International bottom trawl survey in the Mediterranean (MEDITS), and
- Trawl survey in the Mediterranean (TSMEDI).

The Group noted that the evaluation criteria used by STECF were set in 2009, and that since then the scope of surveys in place have been modified for incorporating arising data requirements stemming out from the implementation of Marine Strategy (data on marine litter, sharks and other vulnerable species). The Group suggested a re-evaluation by STECF of the proposed list of surveys, considering any relevant modifications on their geographical coverage, their scope and the use of data in the context of the new EU DCMAP, for providing an updated advice on their prioritization.

It was agreed that, from a scientific point of view, it would be very useful to enlarge the list of scientific surveys in the region and include all proposed surveys. On the other hand, the financial implications of enlarging / establishing new surveys cannot be overlooked, having especially in mind that the financial contribution of EU in data collection has been fixed for the period 2014-2020, therefore there are financial constraints. Certain MS reiterated their reluctance to perform any new survey, whereas others were not in a position during the meeting to reaffirm their willingness to perform new surveys.

RCM Med&BS – LP recommends that the Mediterranean and Black Sea surveys included in the current DCF (Appendix IX of Commission Decision 93/2010/EU) will remain in the future EU DC MAP, with updates on their geographical coverage; specifically, it is proposed that Croatia is included in the list of MS, and MEDIAS is extended for covering also Tyrrhenian Sea.

Concerning the information included in the list of surveys, it is recommended that in the future DCMAP the column with information on *Survey effort – Days (maximum)* is deleted, for allowing flexibility to the MS to adjust the days of the survey for the collection of new required data. In any case, it is recalled that a minimum number of hauls by country is included in the surveys' manuals. The Group also recommends that in the future DCMAP the geographical areas of the surveys in the Mediterranean and Black Sea are indicated in terms of GSA and not statistical divisions.

List of surveys in the future EU DCMAP	
RCM MED&BS-LP 2015 Recommendation 5	<p>The RCM MED&BS – LP recommends that in the future EU DCMAP:</p> <ul style="list-style-type: none"> - the Mediterranean and Black Sea surveys currently included in the DCF (Appendix IX of Commission Decision 93/2010/EU) will remain, with updates on their geographical coverage; specifically, it is recommended that Croatia is included in the list of MS, and MEDIAS is extended for covering the Tyrrhenian Sea; - in the list of surveys the column <i>Survey effort – Days (maximum)</i> is deleted; - the geographical areas of the surveys in the Mediterranean and Black Sea are indicated in terms of GSA and not statistical divisions. - new surveys may be included based on a STECF re-evaluation of the proposed list of surveys for providing an updated advice on their prioritization
Justification	<p>Current surveys have built time series important for the assessment of stocks and the estimation of ecosystem indicators. The scope of the surveys has been/ will be even more enlarged to meet new data requirements stemming from the Marine Strategy Framework Directive (e.g. marine litter). Geographical enlargement is needed for including the new MS (Croatia) and the proposed area of Tyrrhenian Sea.</p> <p>The deletion of the column <i>Survey effort – Days (maximum)</i> will allow flexibility to the MS to adjust the days of the survey for the collection of new required data.</p> <p>The indication of the geographical areas in terms of GSA will present more clearly the exact areas and MS involved in the surveys.</p> <p>Since the 2010 STECF evaluation of proposed surveys, the scope of surveys has been modified for incorporating arising data requirements stemming out from the implementation of Marine Strategy (data on marine litter, sharks and other vulnerable species). A re-evaluation of proposed surveys, based on standard criteria and rules is needed for providing advice on their prioritization.</p>
Follow-up actions needed	<ol style="list-style-type: none"> 1. Re-evaluation of surveys 2. Establishment of list of surveys for the new EU DCMAP
Responsible persons for follow-up actions	<ol style="list-style-type: none"> 1. DG MARE, STECF 2. DG MARE
Time frame (Deadline)	Before adoption of new EU DCMAP

6.2 Review and comment on list of proposed stocks & biological variables to be included in EU MAP

During the teleconference with the Commission, the Group was invited to review the proposed list of stocks for which biological variables are collected and to suggest possible modifications. The Group was advised, among other criteria, to consider the potential of such stocks being included in future management plans, as well as to consider our international obligations that stem from data collection requirements from RFMOs.

The background document prepared by the Commission was reviewed concerning the stocks relevant to the Mediterranean and Black Sea Region, as well as large pelagic species.

In general the Group agrees with the table proposed by the Commission, having into consideration criteria used under Decision 2010/93/EU and Decision 2008/949/EC for the selection of stocks, cost-efficiency, data requirements of the relevant RFMOs (e.g. GFCM-DCRF v. May 2015, ICCAT Manual) and obligations stemming from international agreements.

It has been considered important for the Group to maintain a kind of prioritization of the species, based on which different variables and with different periodicity should be required to be collected. Moreover, the Group also suggests to maintain the columns with the inclusion of mandatory and optional variables (e.g. sex, maturity weight and age), allowing the adjustment of data collection to national / sub-regional needs.

Based on the above consideration, the Group's proposal on the list of stocks and the variables to be included in the EU MAP is provided (Annex III and Annex V).

The Commission's proposed list has been used as a base.

-For the Mediterranean and Black Sea Region:

- In order to make the table more comprehensive, it has been proposed that separated list of species/stocks are provided for the Mediterranean Region and the Black Sea Region.
- For simplifying the table, large pelagic (for Mediterranean) have been separated from the other species.
- Furthermore, also all shark species (grouped as Mediterranean & Black Sea) have been separated from the other species.
- The column for prioritizing the species has been revised and updated (G1: group 1; G2: group 2; G3: group 3).
- The four columns reporting the variables to be collected, by single species, have been checked and revised (M: mandatory; O: optional).
- A column reporting the frequency of the data collection for the listed variables (A: annually, T: triennial) has been inserted.
- The information on the area of the stocks (FAO division), for which variables should be collected, has been updated (FAO division should be considered valid only for G1 and G2).
- The Latin name of the species has been reviewed.
- Following the Regional agreement (RCMMed&BS, 2008), species pertaining to Group 3 have been added. No areas have been assigned to the species of this Group, and each MS should specify with justifications the species that will be selected for data collection.
- Species/stocks that are suggested to be excluded (e.g. due to rare presence in the Med&BS GSAs, species subject to a seasonal fishery, species with very low catch rates, name grouped at level of family, cost-effectiveness to collect the request variables etc.) have been already excluded from the table and are presented separately in Annex IV.
- New species proposed by the Commission and indicated as species under national management plan (see Annex IV above) have been excluded from the list. The Group considers that such list cannot be exhaustive at present and proposes that the future DCF will be flexible and allow MS to select additional species for data collection that will be covered by national management plans.
- Vulnerable species such as marine mammals, seabirds and reptiles that are included in Annex II of Barcelona convention have been grouped together and removed from the table presented by the Commission. Those vulnerable species are proposed in a separate table (Annex V). For these species there will be no obligation to collect biological parameters.

-For large pelagic species in Atlantic, Indian and Pacific Oceans:

- Annex VI shows the suggestion made by the group on the list of stocks to be included for highly migratory species. Minor changes were proposed to the background document prepared by the Commission. Some experts on the Large Pelagic Group suggested and justified the possibility to include further variables that could be collected in addition to the current requirements on stock-related variables (weight, sex, maturity) The new biological variables and biological sampling proposed for certain species are such as age, fecundity, trophic level, condition,

stomachs content and stock origin; It is known that the collection of these variables can be costly, so that in no case should be mandatory for Member States. However other experts on the Large Pelagic Group suggested and justified that most of these proposals are on the frame of research activities or studies instead of data requirements and most of the new proposal will be unrealistic and unsuitable on the context of a DCMAP-type frame. Penalties for those countries that do not meet extended and unsuitable requirements would be even probable. During the meeting there was no time for discussing the proposed modifications on the species and the biological variables to be collected in the future DCMAP. There was no consensus within the group on proposing new variables, so the Group considers that more work and discussion are required for the selection of the future stock-related variables, taking into account their cost-efficiency and the frame of DCMAP. Considering that funds and other means are limited, and that some variables need more effort to be collected or it is unsuitable, the data compliance of end users (such ICCAT, IOTC, etc.) should be prioritize on the frame of DCMAP to be collected.

Considering both the EU Dec. 93/2010 and the GFCM-DCRF (May 2015), the Group proposed the establishment of these three different species Groups based on the following rules:

Group 1 species: species that at regional/sub-regional level are regularly assessed and/or species with the highest importance in terms of total landing at regional/sub-regional level.

Group 2 species: other species that can have a certain fishery's importance (i.e. landing and/or economic value) at sub-regional/national level; species under international management plans, species under recovery and/or conservation action plans (e.g. all elasmobranch species).

Group 3 species: species important for any reason at national/GSA level (e.g. non indigenous species having an impact on the ecosystem) and/or species with minimum reference size under Reg. EU 1967/2006.

For species included in any of the three Groups (both in the Mediterranean and Black Sea), length data should be collected yearly by GSA following the concurrent approach.

On the base of the above identified criteria the species listed in each group are:

Mediterranean

Group 1 species: it includes *Engraulis encrasicolus*, *Sardina pilchardus*, *Mullus barbatus*, *M. surmuletus*, *Merluccius merluccius*, *Nephrops norvegicus*, and *Parapenaeus longirostris*. All Mediterranean large pelagic species (*Thunnus thynnus*, *T. alalunga*, *Sarda sarda*, *Xiphias gladius*, *Coryphaena hyppurus*, *Auxis rochei* and *Euthynnus alleteratus*) are also listed in Group 1 species.

Group 2 species: it includes basically all demersal and small pelagic species present in the current Annex VII of EU Dec 93/2010. This group includes also all the species with the highest regional contribution in terms of weight by country, resulting from the analysis and the exercise and carried out yearly by the PGMed (i.e. "Landing template for the Mediterranean and for the Black Sea"- PGMed, 2013, 2014): *Anguilla Anguilla*, *Aristeomorpha foliacea*, *Aristeus antennatus*, *Boops boops*, *Camelea gallina* (Veneridae), *Dicentrarchus labrax*, *Eledone cirrosa*, *Eledone moschata*, *Loligo vulgaris*, *Lophius budegassa*, *Lophius piscatorius*, *Octopus vulgaris*, *Pagellus erythrinus*, *Scomber spp.*, *Sepia officinalis*, *Solea vulgaris*, *Sparus aurata*, *Spicara smaris*, *Squilla mantis*, *Trachurus mediterraneus*, *Trachurus trachurus*.

All elasmobranchs species pertain to Group 2.

Group 3 species: it includes the list of species agreed at regional level during RCMed&BS 2008, as well as the species not included in G1 and G2 but with minimum reference size under Regulation (EC) 1967/2006: *Aspitrigla cuculus*, *Chelidonichthys lucerna*, *Citharus linguatula*, *Corallium rubrum*, *Diplodus annularis*, *Diplodus puntazzo*, *Diplodus sargus*, *Diplodus vulgaris*, *Ephinephelus spp.*, *Eutrigla gurnardus*, *Helicolenus dactylopterus*, *Illex spp.*, *Todarodes spp.*, *Lepidorhombus boscii*, *Lithognathus mormyrus*, *Micromesistius poutassou*, *Pagellus acarne*, *Pagellus bogaraveo*, *Pagrus pagrus*, *Penaeus kerathurus*, *Phycis blennoides*, *Serranus cabrilla*, *Spicara flexuosa*, *Trigla lucerna*, *Trigloporus lastoviza*, *Trisopterus minutus C.*, *Palinurus elephas*, *Siganus luridus*, *Siganus rivulatus*, *Sparisoma cretense*, *Spicara maena*, *Trigloporus lastoviza*, *Zeus faber*.

This list is extensive for including species of national interest in the region. MS will select with justification the actual species that will be included in the national G3 lists, considering their relevance and cost-efficiency.

Black sea

Group 1 species includes: *Engraulis encrasicolus*, *Psetta maxima*, *Sprattus sprattus*, *Trachurus mediterraneus*.

Group 2 species includes: *Rapana venosa*.

Group 3 species includes: *Acipenser spp.*, *Alosa immaculate*, *Alosa tanaica*, *Astacus spp.*, *Atherina pontica*, *Belone belone*, *Chamellea gallina*, *Crangon crangon*, *Donacilla cornea*, *Gobiidae*, *Huso huso*, *Liza aurata*, *Liza saliens*, *Merlangius merlangus*, *Mugil spp.*, *Mullus barbatus*, *Mullus surmuletus*, *Mytilus galloprovincialis*, *Palaemon adspersus*, *Palaemon alegans*, *Pomatomus saltatrix*, *Trachurus trachurus*, *Scomber colias*.

Concerning "stock related variables" (i.e. sex, maturity, weight and, when request, age) the following are proposed by category of species: Demersal and Small pelagic species (except elasmobranchs), Elasmobranch species and Large pelagic species.

Demersal and Small pelagic species (except Elasmobranchs)

G1 – the collection of stock related variables (sex, maturity, weight) is mandatory and should be made by GSA on a yearly basis. Age data should also be collected only for fish species by GSA on a yearly basis.

G2- the collection of stock related variables (sex, maturity, weight) is mandatory and should be made every three years, at national or GSA level. The collection of age data is optional depending on the national and regional-sub-regional needs.

G3 – the collection of all stock related variables (sex, maturity, weight and age) is optional depending on national/GSA interest. In case such variables are collected, they should be made available every 3 years.

Elasmobranch species

Concerning all elasmobranch species, as agreed at Regional Level (see RCMMed&BS 2009 recommendation), those species should be collected concurrently only for length and any coefficient of variation should be associated. The collection of stock related variables (sex, maturity, weight), on yearly basis and by GSA, should be linked to the scientific survey programmes in place in the Region (i.e. Medits, Medias).

Large pelagic species

The collection of stock related variables (sex, maturity, weight) is mandatory and should be provided at national level on a triennial basis. Only for *T. thunnus* age should be collected and provided, on triennial basis, always at national level. Sampling should be coordinated at a regional level, and the task allocation of the MS should be based on their share in landings.

Vulnerable species

Vulnerable species are defined as the species included in Annex II of the Barcelona Convention and mentioned in several GFCM Recommendations (GFCM/35/2011/3, GFCM/35/2011/4, GFCM/35/2011/5, GFCM/36/2012/2 and GFCM/36/2012/3). The group reviewed the list of variables recommended to be collected for vulnerable species by STECF (DCMAP review part II) and suggest keeping out this list from the current table and inserting it in another table without specifying the data and the frequency of the collection.

MSs are aware of the importance and the impact of some of these species in some particular fishery. However, due to the fact that the cost implications of designing dedicated monitoring programmes for each of the bycatch group of species (e.g. marine mammals, turtles, reptiles) could be substantial, the Group agreed that, when available, a minimum set of parameters, such as number of individuals, fishing gear and area (GSA) could be reported, on a yearly basis during on-board sampling (STECF-EWG, 13-05).

New species under management plans

Species not included in the list of stocks for biological sampling that are/will be regulated under national management plans, may be added in the national lists of stocks.

Derogations

Exceptions, which could be applied only for the collection of stock-related variables, can be applied based on the following criteria:

- the species is/are rare or not present in the national waters;
- the species represents less than 10% of EU total landings in the region (note: this value should be applied separately for Mediterranean and Black Sea);

- the species is exploited by national fishing fleets, but its total weight accounts for less than 2% or 200 tons of total landings of the country;
- In case a MS is exploiting a species in more than one GSA, and no exemption rules are met at national level for this species, the collection of stock-related variables may be exempted from a certain GSA if its total weight in that GSA accounts for less than 10% of the species national total landings.

The above mentioned exemptions rules should be applicable to all countries within each group of identified species and should be applied only for the collection of stock-related variables (i.e. sex, maturity, weight and age).

Review of the list of proposed stock (current Appendix VII of EU Reg. 93/2010)	
RCM Med&BS 2015 Recommendation 6	<p>The RCMMed&BS-LP, after having revised the list of species/stocks proposed by the Commission, recommends:</p> <ul style="list-style-type: none"> -to maintain the column for prioritizing the species (G1: group 1; G2: group 2; G3: group 3) as revised and updated during the RCMMed&BS-LP 2015 meeting; -to separate the list of species/stocks for the Mediterranean Region and the Black Sea Region as proposed by the meeting; -to keep separate the large pelagic and all shark species from the other species; -to maintain the four columns reporting the variables to be collected (M: mandatory; O: optional) by single species, as checked and revised by the RCMMed&BS-LP 2015 meeting; -to insert the column reporting the frequency of the data collection for the listed variables (A: annually, T: triennial) as revised and updated during the RCMMed&BS-LP 2015 meeting; -to include the list of species pertaining to Group 3 (note: no FAO areas have been assigned to the species of this Group) as agreed during the meeting; -to exclude from the proposed table all mammals, seabirds and reptiles, grouping them as vulnerable species, and reporting in a separate table. For this species there will be non-obligation to collect any biological parameter; -to keep the exceptions rules as revised and agreed during the RCMMed&BS-LP 2015 meeting: <ul style="list-style-type: none"> -the species is/are rare or not present in the national waters; -the species represents less than 10% of EU total landings in the region (note: this value should be applied separately for Mediterranean and Black Sea); -the species is present in the national waters, but its total weight accounts for less than 2% or 200 tons of total landings of the country. <p>The above mentioned exemptions rules should be applicable to all countries within each group of identified species and should be applied only for the collection of stock-related variables (i.e. sex, maturity, weight and age).</p>
Justification	It considered important to maintain a kind of prioritization of the species, based on which different variables and

	with different periodicity should be required to be collected. Moreover, the Group also suggests to maintain the columns with the inclusion of mandatory and optional variables (e.g. sex, maturity weight and age), allowing the adjustment of data collection to national / sub-regional needs
Responsible persons for follow-up actions	Liaison Meeting, DGMARE
Time frame (Deadline)	Before Data collection 2016

6.3 The role of NC within the RCM RCG context

RCM discussed regarding the future role of the RCG. Beside the task of preparing Regional Work Plane (RWP) and other tasks that are related to the data to be collected, agreeing on methodological aspects of data collection, planning and coordinating sampling at regional level and dealing with the quality and control of data; RCM agreed that RCG should address not only regional biological issues but also socio economic and transversal data

Clearer guidelines regarding the role of different future coordination groups are needed. There is no clear mandate given to specific coordination groups. RCM would like to be informed regarding the role of the European Coordination Group (EUCG) and if it is going to replace current Liaison Meeting (LM) or PGECON or both. RCM would like to precise this. RCM express its wish to have more than one EUCG; one dealing with the ToR for PGECON and second dealing with the ToR of the LM.

Regarding the appointment of the participants to the groups during the discussion different ideas and approaches were represented. As the situation is different in all Member states and also the role of National correspondent is different, RCM concluded that appointment should be left to MS. RCM agreed that people that are nominated by MS or/and by NC for data collection to take part in different groups should have a clear mandate to take binding decisions for MS on different data collection topics.

To sum up RCM agreed that clear hierarchy of the working plans should be established from the EU DCMAP to National Work Plans (NWP) in the case that work plans are adopted within regional co-ordination groups, the relevant member states should harmonize their national work plans with the regional work plans in parts where relevant for every single MS. Binding for the implementation of the data collection on national level and eligibility of the expenses should be NWP and not RWP.

Clearer definitions and rules should be determined for new coordination groups. We have to assure that no topics will be left over whit the change from existing to new groups. RCG should deal with all types of data that are collected, including economic, transversal and biologic data. Also ToR of the LM, PGECON and PGMED should be addressed in one of the EU Coordination Groups.

Membership to the single coordination group should be left to MS. People that will attend the meetings have to have a clear mandate to take decision from the national authority or NC.

6.4 The position of national administrations on populating the Regional Data Base

French Administration communicated for information to the RCM participants a note to DG Mare explaining French position regarding the data call of regional groups and the management of the regional database « FISHFRAME » hosted by ICES. This note stressed that France is in favor of the construction of these regional databases but recall as underlined in a previous note in July 2014 the need for a legal basis and a clear policy for access and management of these RDB.

Spanish position with regard to the population with its data to the Regional Data Base, specifically MED Data Bases, remains the same as it has been commented in previous occasions. The basic aspects that should enlighten the rationale of transmission and use of data should be oriented to the pertinence and use of data according to the requests itself: the production of the best scientific advice that shows us the situation of a certain stock (amongst others). Following this, we wish to provide our total cooperation in achieving so, as this Administration has been doing, both at the EU and international level. Having said so, this necessary collaboration should be done having into account the following principles:

- Data transmission should be done uniformly in all data bases, otherwise following the legal provisions existing. We shouldn't agree in providing data following different provisions, overall if these data are to be used for same or similar purposes. We should always have into account

the principle of optimization of all resources available (human and economic) and the existence of a different or extra methodology would suppose an extra burden.

- We consider basic to keep the confidentiality level that allows the anonymity of the data producer (fishing vessels, legal entities...). Only aggregated data should remain in the RDB.
- Also, we need to have identified the end users and what kind of access are these end users going to have.

Apart of all these, Spain would like to add that these comments are in line with all previously said in the framework of the current process of amendment of the DCMAP.

6. Identify any amendments to NP needed in 2016

No MS attending the meeting expressed the need to amend the NP, neither RCM MED&BS-LP have identified reasons for amendments to consider regional issues.

7. Landing Obligation

7.2 Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.

As regards the Mediterranean Sea, Article 15 of Regulation (EU) No 1380/2013 establishes a landing obligation for all catches of species which are subject to catch limits and also for catches of species which are subject to minimum sizes as defined in Annex III to Council Regulation (EC) No 1967/2006. The first phase of the Landing Obligation (LO) is implemented since 1 January 2015, affecting small pelagic fisheries using pelagic mid-water trawl and/or purse seines in the Mediterranean Sea (fisheries for anchovy, sardine, mackerel and horse mackerel). However the minimis exception applies to these fisheries, and some discards are expected for this species during the following years (quantities in the range of 3%-7% may be discarded depending on the gear used and GFCM Geographical Sub-Area).

In the scope of the large pelagic species, the LO applies originally, since 1 January 2015, to the following species/stocks; Swordfish (SWO) in North Atlantic (but not in the Mediterranean), Albacore (ALB), Big eye tuna (BET), Blue marlin (BUM) and White marlin (WHM) in the Atlantic (but not Mediterranean), Bluefin tuna (BFT) in East Atlantic and Mediterranean. However, some tuna RFMOs (ICCAT) rules include obligations to discard, which is in contradiction with the LO. In order to avoid this discrepancy between ICCAT recommendations and Union law, a Delegated Act (Delegated Regulation (EU) 2015/98) was approved by the Commission, and the LO should not apply to Union vessels participating in the fisheries covered by those ICCAT recommendations (this recommendation refers to BET, BFT, and SWO). In this situation, RCM Med&BS-LP do not expect significant differences in the LP scientific data collection before and after the LO. However, for the Mediterranean all members of the group expressed their concern on the possible implication of the implementation of the LO on the fisheries data collection.

During the meeting, the group discussed about the possible impacts that the LO could have for the scientific data collection at sea and on shore sampling programs, as well as the possible impact on census data such as logbooks.

7.3 The operation of at-sea observer programs, and role of scientific observers.

In the new LO scenario, where unwanted catches are supposed to be landed, the need of maintaining observers onboard for the collection of discard samples could be called into question; however the group strongly supports the need of keeping on having observers onboard in most cases. Furthermore, the RCM Med&BS-LP members also support that if Member State decides to conduct LO control onboard, this should be completely independent from scientific data collection.

Different reasons were raised during the meeting to support this recommendation:

- Some discard practices will always occur, even under LO scenario; species not under LO but still included in the DCF, species mandatory to discard, some demersal species not affected by LO till 2019 or non-commercial species. Observers remain the best option for the monitoring of these discards.
- Observers provide detailed spatial information of the unwanted catches useful for avoiding unwanted catches in the future. This information is not available if data collection is made during unloading.
- From observers we obtain independent information on logbooks (not strictly control). This information is useful in order to identify bias in census data.

- Observers play a role of direct contact between the scientists and the industry, and are useful to better understand what the feeling of the fishermen is.

- The group also agrees with the idea that if MS decided to conduct LO control on board (inspector), this should be completely independent from scientific data collection. Furthermore, this means that data collected under DCMAP should not be used later for control purposes. In this way observer effect and its associated bias, and the refusal rate for accepting observers on board will decrease. Moreover, this separation of roles should be clearly enough explained so that there are no doubts within the industry. Using independent video monitoring systems that are more and more efficient for control purposes is an interesting option. In this sense, France mentioned the difficulties that their observers are suffering on board tuna purse seiners in the Indian Ocean; IOTC implemented a discard ban for the three major tropical tunas in the Indian Ocean, and even if the role of the French observers under DCF is strictly scientific, fishing industry find a risk that these scientific data may be used with control purposes. In this situation, some difficulties may arise to place observers onboard.

Regarding this last point, some obstacles can be anticipated in the scope of the ICCAT fisheries, since most of the countries within ICCAT want the observers to conduct scientific observation and monitoring/inspection reporting related to compliance.

In general, the group strongly supports the need of keeping on having observers onboard. However, some participants mentioned the possibility that once the implementation of the LO is completed, in case all the species under the DCF are landed, it could be optional to either sample through observers onboard or on shore.

7.4 The generation of catch estimates derived from sampling program data

The Regulation (EU) 2015/812 has clarified something about the way the unwanted landings will come onshore. As it establishes, where catches below the applicable minimum conservation reference size are landed, those catches shall be stored separately and be treated in such a way that they are distinguished from fishery products destined for direct human consumption. However it is not still clear enough the route that this fraction of the landing (unwanted catches) will follow during and immediately after its landing. The impossibility to access this portion of the landing will result in the lack of the size sampling of the small size individuals (below MRS).

If shore sampling is done in the landing site at the landing moment (this seems to be a common practice in the Mediterranean), it is expected to have access to the entire landing (unwanted landing + marketable landing). Thus, it is not expected a major impact in the port sampling. However, a clearer explanation is needed on how landing locations and fate of the unwanted landings will work.

As with the at sea observers, the group strongly supports the idea of separating the role of control and scientific data collection on shore sampling.

7.5 Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.

As it has been mentioned by some working groups (WGCATCH), distinguishing the wanted and unwanted landings in logbooks is essential to ensure the continuity of the historic landings statistics.

Now, it is established by the Regulation (EU) 2015/812, that logbooks shall include "the estimated quantities of each species in kilograms live weight, or, where appropriate, the number of individuals, including the quantities or individuals below the applicable minimum conservation reference size, as a separate entry". However, it is recommended that robust testing of the logbook data is done in the next year, to ensure that vessel operators record their full catch including marketable landings and unwanted landings as separated entries.

7.6 Experiences of on-shore sampling of landed discards.

None of the countries participating in the meeting has made changes in sampling protocols in order to adapt their sampling scheme to the new scenario under LO. Croatia was the only one who mentioned that they are working on some changes, but that these are not implemented at this moment. None of the countries with small pelagic fisheries has dealt for the moment with unwanted landings, and it is expected that no major changes will be implemented until the entry in force of the LO for demersal species.

7.7 Review progress from last year's recommendations

No specific recommendations were done during the last year RCM Med&BS – LP regarding the implementation of the LO. The specific case of the obligation to keep onboard bigeye tuna was only mentioned, where it was pointed that great difficulties are encountered by skippers to separate young yellowfin tuna and bigeye tuna when caught. At present, as result of the Delegated Regulation (EU) 2015/98), in order to ensure consistency between ICCAT recommendations and Union law, the landing obligation should not apply to bigeye tuna.

Need for observers on board with a clear scientific role	
RCM MED&BS - LP 2015 Recommendation 7	The RCM Med&BS - LP recommends keeping on having observers on board under the LO new scenario. Furthermore, the RCM Med&BS-LP members also support that if MS decided to conduct LO control on board, this should be completely independent from scientific data collection.
Justification	<p>Different reasons were raised during the meeting to support this recommendation:</p> <ul style="list-style-type: none"> • Some discard practices will always occur, even under LO scenario; species not under LO but still included in the DCF, species mandatory to discard, some demersal species not affected by LO till 2019 or non-commercial species. Observers are the best option for the monitoring of these discards. • Observers provide detailed spatial information of the unwanted catches useful for avoiding unwanted catches in the future • From observers we obtain independent information on logbooks (not strictly control). This information is useful in order to identify bias in census data. • Observers play a role of direct contact between the scientists and the industry, and are useful to better understand what the feeling of the fishermen is. • The group also agrees with the idea that if MS decided to conduct LO control on board (inspector), this should be completely independent from scientific data collection. Furthermore, this means that data collected under DCMAP should not be used later for control purposes. This way observer effect and its associated bias, and the refusal rate for accepting observers onboard will decrease. Moreover, this separation of roles should be clearly enough explained so that there are no doubts within the industry.
Follow-up actions needed	LM, STECF, DGMare
Responsible persons for follow-up actions	
Time frame (Deadline)	2016

8 RCM MED&BS – LP recommendations to Liaison Meeting

Penalties of transmission of data to the GFCM	
RCM MED&BS - LP 2015 Recommendation 1	<p>Regarding the penalties Mediterranean MS receive with regards to the submission of GFCM data, the RCM Med&BS 2015 is recommending that the following is to be taken into consideration:</p> <ul style="list-style-type: none"> • Task 1.5 data (Table 9) requests biological data (i.e. data on length, sex and maturity scale) of the main associated species caught from all operational units in which the national fleet is active. However, such data are not always required to be collected under the EU's Data Collection Framework. For example, for some species only length is required to be collected, while for some operational units (e.g. operation of fishing fleets in GSAs other than the national ones) no biological information is collected. In such cases, if the relevant columns are left blank, it is considered that there are missing data and not full coverage. Furthermore, this biological data is required in Task 1.5, irrespective of the importance of the species in the relevant GSA (for example irrespective of its catches, which sometimes can be insignificant). The issues mentioned above should not be encountered once the new GFCM DCRF (Data Collection Reference Framework) will be followed. • The data in each task depends on the data provided in the previous task/s, whereby data not provided in the initial tasks has a cascading effect on the following tasks. <p>With regards to the lack of data as described in the first point above a better communication could be established between the MS and the GFCM Secretariat.</p>
Justification	MS are receiving penalties following the DCF regulations for not submitting data which is not required by the DCF regulation to an end-user. Following the method of penalisation adopted is prompting MS to submit less data than available since this leads to less penalties (due to cascading effect presenting data in earlier GFCM tasks has on later tasks).
Follow-up actions needed	COM to properly consult GFCM on assessment of data failures
Responsible persons for follow-up actions	
Time frame (Deadline)	Before the next assessment of data failures by MS

Penalties on data request from end users	
RCM MED&BS - LP 2015 Recommendation 2	RCM MED&BS - LP 2015 agrees with the STECF recommendation; "if a MS has informed the end-user that due to issues beyond their control they are unable to collect certain data, and in spite of this communication the end-user continues to request the data, then only in the first year this can be announced as a data transmission failure, and should not be repeated in following years. Data should not further be requested from the MS for those years. " (STECF 15-13) RCM MED&BS - LDF 2015 notes that a data transmission failure of this type is only to be announced for the first request, even if the request for the same data comes from different end-users.
Justification	To avoid MS being penalised for the same reason more than once
Follow-up actions needed	DGMare
Responsible persons for follow-up actions	
Time frame (Deadline)	Before the next assessment of data failures by MS

Speed up the process of setting up a RDB for Med&BS (Med&BS-RDB) and a RDB for LP (LP-RDB))	
RCM Med&BS-LP 2015 Recommendation 3	RCM Med&BS-LP 2015 recommends that the Com should give clear indications on the possibilities to implement RDBs as soon as possible
Justification	The RCM Med&BS-LP considered that the development of regional databases is urgent to allow an efficient use of the data received from the official RCM data call and to allow a correct management of the data used by PGMed and RCM. The process of development of the Mediterranean RDB started in 2011 and important steps were implemented. But all the process was stopped in 2013, because the COM informed on the need to wait for the outputs of the "feasibility study" and of its update. However, RCM Med&BS would like to proceed on the implementation of the RDB and in particular, considered <u>fundamental to receive a clear feedback from the Commission in order to understand how to involve officially the GFCM as host</u> , and then to be able to proceed with the development of the system that now it is "stopped" since more than two year.
Responsible persons for follow-up actions	Liaison Meeting, DGMARE, GFCM, MS
Time frame (Deadline)	2016

Evolution towards RCGs: Design-based sampling	
RCM Med&BS-LP 2015 Recommendation 4	RCM Med&BS-LP considered that MS should improve their knowledge on the design-based sampling and other statistical sampling tools used in other EU regions. For that, RCM recommended MS to participate in the EU Working Groups and Workshops relative to sampling designs and methods like WGCATCH.
Justification	The information on design-based sampling is scarce at Mediterranean and Black Sea level.
Follow-up actions needed	
Responsible persons for follow-up actions	MS
Time frame (Deadline)	2016

List of surveys in the future EU DCMAP	
RCM MED&BS-LP 2015 Recommendation 5	<p>The RCM MED&BS – LP recommends that in the future EU DCMAP:</p> <ul style="list-style-type: none"> - the Mediterranean and Black Sea surveys currently included in the DCF (Appendix IX of Commission Decision 93/2010/EU) will remain, with updates on their geographical coverage; specifically, it is recommended that Croatia is included in the list of MS, and MEDIAS is extended for covering the Tyrrhenian Sea; - in the list of surveys the column <i>Survey effort – Days (maximum)</i> is deleted; - the geographical areas of the surveys in the Mediterranean and Black Sea are indicated in terms of GSA and not statistical divisions. - new surveys may be included based on a STECF re-evaluation of the proposed list of surveys for providing an updated advice on their prioritization
Justification	<p>Current surveys have built time series important for the assessment of stocks and the estimation of ecosystem indicators. The scope of the surveys has been/ will be even more enlarged to meet new data requirements stemming from the Marine Strategy Framework Directive (e.g. marine litter). Geographical enlargement is needed for including the new MS (Croatia) and the proposed area of Tyrrhenian Sea.</p> <p>The deletion of the column <i>Survey effort – Days (maximum)</i> will allow flexibility to the MS to adjust the days of the survey for the collection of new required data.</p> <p>The indication of the geographical areas in terms of GSA will present more clearly the exact areas and MS involved in the surveys.</p> <p>Since the 2010 STECF evaluation of proposed surveys, the scope of surveys has been modified for incorporating arising data requirements stemming out from the implementation of Marine Strategy (data on marine litter, sharks and other vulnerable species). A re-evaluation of proposed surveys, based on standard criteria and rules is needed for providing advice on their prioritization.</p>

Follow-up actions needed	<ul style="list-style-type: none"> • Re-evaluation of surveys • Establishment of list of surveys for the new EU DCMAP
Responsible persons for follow-up actions	<ul style="list-style-type: none"> • DG MARE, STECF • DG MARE
Time frame (Deadline)	Before adoption of new EU DCMAP

Review of the list of proposed stock (current Appendix VII of EU Reg. 93/2010)	
RCM Med&BS 2015 Recommendation 6	<p>The RCMMed&BS-LP, after having revised the list of species/stocks proposed by the Commission, recommends:</p> <ul style="list-style-type: none"> -to maintain the column for prioritizing the species (G1: group 1; G2: group 2; G3: group 3) as revised and updated during the RCMMed&BS-LP 2015 meeting; -to separate the list of species/stocks for the Mediterranean Region and the Black Sea Region as proposed by the meeting; -to keep separate the large pelagic and all shark species from the other species; -to maintain the four columns reporting the variables to be collected (M: mandatory; O: optional) by single species, as checked and revised by the RCMMed&BS-LP 2015 meeting; -to insert the column reporting the frequency of the data collection for the listed variables (A: annually, T: triennial) as revised and updated during the RCMMed&BS-LP 2015 meeting; -to include the list of species pertaining to Group 3 (note: no FAO areas have been assigned to the species of this Group) as agreed during the meeting; -to exclude from the proposed table all mammals, seabirds and reptiles, grouping them as vulnerable species, and reporting in a separate table. For this species there will be non-obligation to collect any biological parameter; -to keep the exceptions rules as revised and agreed during the RCMMed&BS-LP 2015 meeting: <ul style="list-style-type: none"> -the species is/are rare or not present in the national waters; -the species represents less than 10% of EU total landings in the region (note: this value should be applied separately for Mediterranean and Black Sea); -the species is present in the national waters, but its total weight accounts for less than 2% or 200 tons of total landings of the country. <p>The above mentioned exemptions rules should be applicable to all countries within each group of identified species and should be applied only for the collection of stock-related variables (i.e. sex, maturity, weight and age).</p>
Justification	It considered important to maintain a kind of prioritization of the species, based on which different variables and

	with different periodicity should be required to be collected. Moreover, the Group also suggests to maintain the columns with the inclusion of mandatory and optional variables (e.g. sex, maturity weight and age), allowing the adjustment of data collection to national / sub-regional needs
Responsible persons for follow-up actions	Liaison Meeting, DGMARE
Time frame (Deadline)	Before Data collection 2016

Need for observers on board with a clear scientific role	
RCM MED&BS - LP2015 Recommendation 7	The RCM Med&BS - LP recommends keeping on having observers on board under the LO new scenario. Furthermore, the RCM Med&BS-LP members also support that if MS decided to conduct LO control on board, this should be completely independent from scientific data collection.
Justification	<p>Different reasons were raised during the meeting to support this recommendation:</p> <ul style="list-style-type: none"> • Some discard practices will always occur, even under LO scenario; species not under LO but still included in the DCF, species mandatory to discard, some demersal species not affected by LO till 2019 or non-commercial species. Observers are the best option for the monitoring of these discards. • Observers provide detailed spatial information of the unwanted catches useful for avoiding unwanted catches in the future • From observers we obtain independent information on logbooks (not strictly control). This information is useful in order to identify bias in census data. • Observers play a role of direct contact between the scientists and the industry, and are useful to better understand what the feeling of the fishermen is. • The group also agrees with the idea that if MS decided to conduct LO control on board (inspector), this should be completely independent from scientific data collection. Furthermore, this means that data collected under DCMAP should not be used later for control purposes. This way observer effect and its associated bias, and the refusal rate for accepting observers onboard will decrease. Moreover, this separation of roles should be clearly enough explained so that there are no doubts within the industry.
Follow-up actions needed	LM, STECF, DGMare
Responsible persons for follow-up actions	
Time frame (Deadline)	2016

9 Any other business

Tristan ROUYER, chair of PGMed asked to leave its position because has to undertake new professional function in his laboratory not compatible with PGMed. The group thanks T. ROUYER for it remarkable commitment conducting the group. Charis CHARLILAOU accepted taking in charge the duty of facilitator PGMED activities.

Large Pelagics subgroup has to reelect its Chair. The group thanks P. CHAVANCE for it remarkable commitment conducting the LP group. John RUIZ from AZTI was candidate and was elected at unanimity for the next biannual period.

Regarding RCM MED&BS, the actual chair Argirys KALIANIOTIS from Greece communicated to the group that, due to economical difficulties faced by its country, he is no more available to guarantee a complete commitment in acting as chair.. It was then decided to elect ŠVAB Jernej from Slovenia, the country following the chronological list of countries established in RCM MED&BS in 2012. E. SABATELLA is also confirmed as co chair..

Next meeting will take place from 19-23/09/2016. It will be hosted in Sukarrieta (Spain) or Cyprus. The exact place will be decided in April 2016.

10 Glossary

AR	Annual Report (of activities carried out by MS under the DCF)
AWP	Annual Workplan
CFP	Common Fishery Policy (EU)
CR	Control Regulations (EU)
DCF	Data Collection Framework (follow up of DCR)
DC-MAP	Multi Annual Programme for Data Collection (follow up of DCF)
EEZ	Exclusive Economic Zone
EMFF	European Maritime and Fisheries Funds
EWG	STECF Expert Working Group
FPA	Fishing Partnership Agreement
GFCM	General Fisheries Commission for the Mediterranean (FAO)
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IOTC	Indian Ocean Tuna Commission
JSC	Joint Scientific Committees (of the FPA)
LDF	Long Distance Fishery
LM	Liaison Meeting
LP	Large Pelagic species
MS	Member State(s) (of the EU)
NA	North Atlantic
NP	National Programme (of activities carried out by MS under the DCF)
NS&EA	North Sea and Eastern Arctic
OP	Operational Programme
OST	Open Source Tools
PGCCDBS	Planning Group on Commercial Catches, Discards and Biological Sampling
PGECON	Planning Group on Economic Issues
PGMed	Mediterranean Planning Group for Methodological Development
RCG	Regional Coordination Group
RCM	Regional Coordination Meeting
RDB	Regional Data Base (of the RCM)
RDB S.C.	Regional Data Base Steering Committee
RFMO	Regional Fisheries Management Organization
SCRS	Standing Committee on Research and Statistics (ICCAT)
SDEF	Standard Data Exchange Format

STECF	Scientific, Technical and Economic Committee for Fisheries
WCPFC	Western and Central Pacific Fisheries Commission
WKPICS	ICES Workshop on the Practical Implementation of Statistical Sound Catch Sampling Programmes

11 Annexes

11.1 Annex I - RCM MED&BS-LP - Data call 2015

In accordance with the EU DCF (Council Regulation (EC) No 199/2008, supplemented by Commission Decision 2010/93/EU), the RCM co chairs herewith ask Member States to provide data at DCF level 6. In line with the recommendation from the RCM MED&BS-LP 2014-2 (i.e. Coordinated PG Med and LP data call) this data call is common for the two subgroups (MED&BS and LP) and data should be submitted before July 15th 2015. The characteristics of the data required are described below.

Content

The 2015 data call format is based on the format used within the RCM MED&BS in 2014 with some additional variables. This year, the data will be organized in 4 tables dedicated to Landings, Efforts, Values and Sampling, respectively. These four tables will allow answering the different ToRs as follows:

ToR n°	Content(*)	Data required
1	MED & LP - Ranking system for GSAs exploited by more than one MS (GSAs 7, 15-16, 17, 29) for the whole Mediterranean and for the Black Sea	Landings Effort Value
2	MED & LP - Review and update the landing template for the Mediterranean and for the Black Sea	Landings
3	MED - For the metiers exploiting a shared stock and selected by the ranking system, propose the number of sampling trips by metier at the GSA level	Landings Effort
4	MED and LP - Investigate sampling stratification and assess the CV for shared stocks both for the Mediterranean (GSA 7, GSA 15-16, GSA 17), Black Sea and large pelagics	Landings Effort Sampling
5	MED - Analyse the extension of the problem concerning the fishing performed in a different GSA than their original one	Qualitative information as PGMED 2014
6	MED and LP - Data quality: present current approaches and case studies from the Mediterranean and for large pelagics, review of advances from other international working	Landings Effort Sampling
7	MED and LP - Review obstacles encountered by countries to produce SDEF datasets starting from their national datasets. Produce detailed recommendation for RDB SC on format, codelists, range ...)	Landings Effort Sampling
8	LP - Develop pilot applications helping answers to data call from tuna-RFMOS based on SDEF	Landings Effort Sampling
9	MED & LP - Proposals of workshops and studies	Not applicable
10	MED & LP - Any other business	Not applicable

(* RCM MED&BS-LP report, 2014)

Detailed data and table descriptions are given in appendix 1 and within the xls spreadsheet file associated to this call. Following this approach this RCM MED&BS-LP data call is progressively becoming SDEF compatible (Jansen et al., 2009)¹.

¹ Jansen, T., Degel, H., Vigneau, J., Jardim, E., 2009. Definition of Standard Data-Exchange Format for Sampling, Landings, and Effort Data from Commercial Fisheries. ICES Coop. Res. Rep. 48 p.

Period

Data years = 2009, 2010, 2011, 2012, 2013 & 2014.

Feed back and data transmission

Data should be sent by mail to RCM and PG Med chairs (e mail addresses below) in xls or csv format. The xls document attached includes 4 tabs (Value, Landing, Effort and Sampling) to ease the data submission.

As it is the first year that this data-call is implemented this way, the feedback of national correspondents is important and needed. The earlier problems and difficulties encountered will be reported, the easier it will be to deal with it so that the data-call can be tailored to both user-convenience and suitability to the ToRs. In particular, if any technical difficulty is encountered to provide the data under the right format, please contact Norbert BILLET (norbert.billet@ird.fr) and Tristan ROUYER (tristan.rouyer@ifremer.fr) for support.

Note that data submitted will only be used for the purpose of the working group and will not be stored in any database. Outputs from the ToRs will mostly be in the form of tables containing aggregated data, as it was the case the previous years.

We look forward to your cooperation.

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APPENDIX - Detailed Format description**Value (*)**

Field name	Description
Vessel flag country	ISO 3166 – 1 alpha-3 codes. The flag country of the vessel.
Year	Year
Area	Geographical stratification in the Data Collection Regulation (EC, 2008a, 2008b) : level 4 (GSA) for Mediterranean and Black Seas and level 3 (5°x5° rectangle) for large pelagics
Fishing activity category European lvl 6	Fishing activity category Level 6 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b)
Official landings value (*)	In euro

(*) if disaggregated data of value by landings are available, this information may be provided within Landing table below and then Value table may be omitted.

Landings

Field name	Description
Vessel flag country	ISO 3166 – 1 alpha-3 codes. The flag country of the vessel.
Year	Year
Quarter	Quarter
Month	1-12 only for LP (ICCAT and IOTC requirement)
Area	Geographical stratification in the Data Collection Regulation (EC, 2008a, 2008b) : level 4 (GSA) for Mediterranean and Black Seas and level 3 (5°x5° rectangle) for large pelagics

Species	Scientific name in Latin (Genus species). A suffix to the latin name is used for species for which Stock cannot be defined by area.
Fishing activity category National	For large pelagics and purse seiner "FAD" = fish aggregating device "FSC" = free school "IND" = indetermined
Fishing activity category European lvi 6	Fishing activity category Level 6 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b).
Official landings weight	Whole weight in kg.
Official landings value (*)	In euro

(*) if disaggregated data of value by landings are available, this information may be provided within Landing table below and then Value table may be omitted.

Effort

Field name	Description
Vessel flag country	ISO 3166 – 1 alpha-3 codes. The flag country of the vessel.
Year	Year
Quarter	Quarter
Month	1-12 only for LP (ICCAT and IOTC requirement)
Area	Geographical stratification in the Data Collection Regulation (EC, 2008a, 2008b) : level 4 (GSA) for Mediterranean and Black Seas and level 3 (5°x5° rectangle) for large pelagics
Fishing activity category National	For large pelagics and purse seiner "FAD" = fish aggregating device "FSC" = free school "IND" = indetermined
Fishing activity category European lvi 6	Fishing activity category Level 6 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b).
Number of sets/hauls	
Days at sea	In days at sea

Sampling

Field name	Description
Sampling type	"S" = sea sampling "M" = market sampling of known fishing trips "D" = market sampling of mixed trips "V" = vendor.
Vessel flag country	ISO 3166 – 1 alpha-3 codes The flag country of the vessel. This can be different from the landing country (see description of Landing country).
Year	Year of the end of the trip.
Trip code	National coding system.
Number of sets / hauls on trip	Total number of hauls/sets taken during the trip. Both the stations where biological measures were taken and the stations that were not worked up should be counted here.
Days at sea	In days.
Sampling method	"Observer" or "SelfSampling"

Station number	Sequential numbering by trip. If aggregation level is "T", the station no. = 999
Aggregation level	"H" = haul "T" = trip
Catch registration	This field describes the fraction of the catch that was registered: "All" = SL record is expected for both landings and discards fractions. "Lan" = SL record is expected only for the landed fraction "Dis" = SL record is expected only for the discarded fraction. "Non" = None. There are no SL records. <i>Species Registration</i> must also be assigned to "None"
Species registration	This field describes whether all species or only a subset has been registered: "All" = SL record is expected for all species in the given part of the catch. "Par" = Partial. SL record is expected only for some of the caught species. "Non" = None. There are no SL records (criteria to be checked). <i>Catch Registration</i> must also be assigned "None"
Date	"YYYY-MM-DD" (ISO 8601) Fishing starting date. If aggregation level is "T" = day of first station no.
Area	Geographical stratification in the Data Collection Regulation (EC, 2008a, 2008b) : level 4 (GSA) for Mediterranean and Black Seas and level 3 (5°x5° rectangle) for large pelagics
Fishing activity category National	For large pelagics and purse seiner "FAD" = fish aggregating device "FSC" = free school "IND" = indetermined
Fishing activity category European lvl 6	Fishing activity category Level 6 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b).
Species	Scientific name in Latin (Genus species). A suffix to the latin name is used for species for which Stock cannot be defined by area
Catch category	The fate of the catch "Dis" = discard "Lan" = landing
Weight	Whole weight in grammes, decimals not allowed. Weight of the corresponding stratum (Species / Catch category).
Subsample weight	Whole sample weight in grammes. Decimals not allowed. - For sea sampling: the live weight of the sample of the corresponding stratum. - For market sampling: the sample weight is the whole weight of the fish measured (e.g. the summed weight of the fish in one or more boxes).
Length code	Fixed to "cm" = 1 cm
Length class	In cm. Identifier: lower bound of size class, e.g. 65 for [65; 66] cm.
Number at length	Number at length. (not raised to whole catch)

11.2 Annex II - List of Surveys proposed by RCM RCM Med&BS 2010 for new DCMAP and their evaluation by STECF-SGRN 10-03

Name of the survey	Acronym	Area	Period	Current DCF	Priority score
Bluefin tuna aerial survey	BFTAS	GSA 5, 6, 7, 10, 11, 16, 18, 19	Summer (qtrs 2 &3)	No	1.40
Pan-Mediterranean Acoustic Survey	MEDIAS	GSA 1, 6, 7, 9, 10, 15, 16, 17, 18, 20, 22	Spring-summer (qtrs 2-3)	Yes	1.10
Beam trawl survey - North Adriatic	ARTS	GSA 17	Winter (qtr 4)	No	1.05
Bottom trawl survey in Black Sea		GSA 29	Spring - autumn (qtrs 2,3,4)	Yes	1.10
Pelagic juvenile survey in Black Sea		GSA 29	Autumn (qtrs 3 &4)	No	1.55
Pelagic trawl survey in Black Sea		GSA 29	Spring-autumn (qtrs 2,3,4)	Yes	1.20
International bottom trawl survey in the Mediterranean	MEDITS	GSA 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 22, 23, 25	Spring-summer (qtrs 2-3)	Yes	1.15
Trawl survey in the Mediterranean	TSMEDI	GSA 9, 10, 11, 15, 16, 17, 18, 19, 25	Autumn-winter (qtr 4)	No	1.15

11.3 ANNEX III - LIST OF SPECIES

Mediterranean Sea								
Species (Engl.)	Species (Latin)	Species Group	FAO DIVISION	Sex	Maturity	Weight	Age	Frequency
Anchovy	<i>Engraulis encrasicolus</i>	G1	all areas	M	M	M	M	A
Hake	<i>Merluccius merluccius</i>	G1	All areas	M	M	M	M	A
Red mullet	<i>Mullus barbatus</i>	G1	All areas	M	M	M	M	A
Striped red mullet	<i>Mullus surmuletus</i>	G1	All areas	M	M	M	M	A
Norway lobster	<i>Nephrops norvegicus</i>	G1	All areas except 3.2	M	M	M		A
White shrimp	<i>Parapenaeus longirostris</i>	G1	All areas	M	M	M		A
Sardine	<i>Sardina pilchardus</i>	G1	All areas	M	M	M	M	A
European Eel	<i>Anguilla anguilla</i>	G2	All areas	M	M	M	O	T
Giant red shrimp	<i>Aristeomorpha foliacea</i>	G2	1.3,2.2	M	M	M		T
Red shrimp	<i>Aristeus antennatus</i>	G2	1.1, 1.3	M	M	M		T
Bogue	<i>Boops boops</i>	G2	All areas except 1.1	M	M	M	O	T
Clam	<i>Camelea gallina</i> (Veneridae)	G2	2.1, 2.2	M	M	M		T
Sea bass	<i>Dicentrarchus labrax</i>	G2	2,1	M	M	M	O	T
Horned octopus	<i>Eledone cirrosa</i>	G2	1.1, 1.3, 2.1, 2.2, 3.1	M	M	M		T
Musky octopus	<i>Eledone moschata</i>	G2	1.3, 2.1, 2.2, 3.1	M	M	M		T
Common squid	<i>Loligo vulgaris</i>	G2	All areas	M	M	M		T
Black-bellied angler	<i>Lophius budegassa</i>	G2	1.1, 1.2, 1.3, 2.2, 3.1	M	M	M	O	T
Anglerfish	<i>Lophius piscatorius</i>	G2	1.1, 1.2, 1.3, 2.2, 3.1	M	M	M	O	T
Common octopus	<i>Octopus vulgaris</i>	G2	All areas	M	M	M		T
Pandora	<i>Pagellus erythrinus</i>	G2	All areas	M	M	M	O	T
Mackerel	<i>Scomber</i> spp.	G2	All areas	M	M	M	O	T
Cuttlefish	<i>Sepia officinalis</i>	G2	All areas	M	M	M		T
Sole	<i>Solea vulgaris</i>	G2	2,1	M	M	M	O	T
Gilthead sea bream	<i>Sparus aurata</i>	G2	1.2, 3.1	M	M	M	O	T
Picarels	<i>Spicara smaris</i>	G2	2.1, 3.1, 3.2	M	M	M	O	T
Mantis shrimp	<i>Squilla mantis</i>	G2	2,1	M	M	M		T
Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	G2	All areas	M	M	M	O	T
Horse mackerel	<i>Trachurus trachurus</i>	G2	All areas except 2.1	M	M	M	O	T
Red gurnard	<i>Aspitrigla cuculus</i>	G3		O	O	O	O	T
Tub gurnard	<i>Chelidonichthys lucerna</i>	G3		O	O	O	O	T
Spotted flounder	<i>Citharus linguatula</i>	G3		O	O	O	O	T
Red coral	<i>Corallium rubrum</i>	G3		O	O	O		T
Annular sea-bream	<i>Diplodus annularis</i>	G3		O	O	O	O	T
Sharpsnout sea-bream	<i>Diplodus puntazzo</i>	G3		O	O	O	O	T
White sea-bream	<i>Diplodus sargus</i>	G3		O	O	O	O	T
Two-banded sea-bream	<i>Diplodus vulgaris</i>	G3		O	O	O	O	T
Groupers	<i>Ephinephelus</i> spp.	G3		O	O	O	O	T
Grey gurnard	<i>Eutrigla gurnardus</i>	G3		O	O	O	O	T
Rockfish	<i>Helicolenus dactylopterus</i>	G3		O	O	O	O	T
Lobster	<i>Homarus gammarus</i>	G3		O	O	O	O	T
Squid	<i>Illex</i> spp., <i>Todarodes</i> spp.	G3		O	O	O	O	T
Four-spotted megrim	<i>Lepidorhombus boscii</i>	G3		O	O	O	O	T
Stripped sea-bream	<i>Lithognathus mormyrus</i>	G3		O	O	O	O	T
Blue whiting	<i>Micromesistius poutassou</i>	G3		O	O	O	O	T
Spanish sea-bream	<i>Pagellus acarne</i>	G3		O	O	O	O	T
Red sea-bream	<i>Pagellus bogaraveo</i>	G3		O	O	O	O	T

Common sea-bream	<i>Pagrus pagrus</i>	G3		O	O	O	O	T
Spiny lobster	<i>Palinurus elephas</i>	G3		O	O	O		T
Scallop	<i>Pecten jacobaeus</i>	G3		O	O	O	O	T
Caramote prawn	<i>Penaeus kerathurus</i>	G3		O	O	O		T
Greater forkbeard	<i>Phycis blennoides</i>	G3		O	O	O	O	T
Wreckfish	<i>Polyprion americanus</i>	G3		O	O	O	O	T
Comber	<i>Serranus cabrilla</i>	G3		O	O	O	O	T
Dusky spinefoot	<i>Siganus luridus</i>	G3		O	O	O	O	T
Marbled spinefoot	<i>Siganus rivulatus</i>	G3		O	O	O	O	T
Mediterranean parrotfish	<i>Sparisoma cretense</i>	G3		O	O	O	O	T
Picarel	<i>Spicara flexuosa</i>	G3		O	O	O	O	T
Blotched picarel	<i>Spicara maena</i>	G3		O	O	O	O	T
Streaked gurnard	<i>Trigloporus lastoviza</i>	G3		O	O	O	O	T
Poor cod	<i>Trisopterus minutus C.</i>	G3		O	O	O	O	T
John Dory	<i>Zeus faber</i>	G3		O	O	O	O	T
Black Sea								
Species (Engl.)	Species (Latin)	Species Group	FAO DIVISION	Sex	Maturity	Weight	Age	Frequency
Anchovy	<i>Engraulis encrasicolus</i>	G1	4,2	M	M	M	M	A
Turbot	<i>Psetta maxima</i>	G1	4,2	M	M	M	M	A
Sprat	<i>Sprattus sprattus</i>	G1	4,2	M	M	M	M	A
Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>	G1	4,2	M	M	M	M	A
Rapa	<i>Rapana venosa</i>	G2	4,2	M	M	M	O	T
Sturgeons	<i>Acipenser spp.</i>	G3	4,2	O	O	O	O	T
Pontic shad	<i>Alosa immaculata</i>	G3	4,2	O	O	O	O	T
Black Sea shad	<i>Alosa tanaica</i>	G3	4,2	O	O	O	O	T
Crayfish	<i>Astacus spp.</i>	G3	4,2	O	O	O	O	T
Big-scale sand smelt	<i>Atherina pontica</i>	G3	4,2	O	O	O	O	T
Garfish	<i>Belone belone euxini</i>	G3	4,2	O	O	O	O	T
Striped venus	<i>Chamellea gallina</i>	G3	4,2	O	O	O	O	T
Brown shrimp	<i>Crangon crangon</i>	G3	4,2	O	O	O	O	T
Banded wedge shell	<i>Donacilla cornea</i>	G3	4,2	O	O	O	O	T
Gobies	Gobiidae	G3	4,2	O	O	O	O	T
Beluga	<i>Huso huso</i>	G3	4,2	O	O	O	O	T
Golden grey mullet	<i>Liza aurata</i>	G3	4,2	O	O	O	O	T
Leaping mullet	<i>Liza saliens</i>	G3	4,2	O	O	O	O	T
Whiting	<i>Merlangius merlangus</i>	G3	4,2	O	O	O	O	T
Mullet	<i>Mugil spp.</i>	G3	4,2	O	O	O	O	T
Red mullet	<i>Mullus barbatus</i>	G3	4,2	O	O	O	O	T
Striped red mullet	<i>Mullus surmuletus</i>	G3	4,2	O	O	O	O	T
Mediterranean mussel	<i>Mytilus galloprovincialis</i>	G3	4,2	O	O	O	O	T
Baltic prawn	<i>Palaemon adspersus</i>	G3	4,2	O	O	O	O	T
Rockpool prawn	<i>Palaemon alegans</i>	G3	4,2	O	O	O	O	T
Bluefish	<i>Pomatomus saltatrix</i>	G3	4,2	O	O	O	O	T
Horse mackerel	<i>Trachurus trachurus</i>	G3	4,2	O	O	O	O	T
Atlantic chub mackerel	<i>Scomber colias</i>	G3	4,2	O	O	O	O	T
Large pelagic species in the Mediterranean								
Species (Engl.)	Species (Latin)	Species Group	FAO DIVISION	Sex	Maturity	Weight	Age	Frequency
Frigate tuna	<i>Auxys rochei</i>	G1	All areas	M	M	M		T
Dolphinfish	<i>Coryphaena hippurus</i>	G1	All areas	M	M	M		T
Little tunny	<i>Euthynnus alletteratus</i>	G1	All areas	M	M	M		T
Atlantic bonito	<i>Sarda sarda</i>	G1	All areas	M	M	M		T
Albacore	<i>Thunnus alalunga</i>	G1	All areas	M	M	M		T
Bluefin tuna	<i>Thunnus thynnus</i>	G1	All areas	M	M	M	O	T

Swordfish	<i>Xiphias gladius</i>	G1	All areas	M	M	M		T
Elasmobranchs in the Mediterranean Sea and Black Sea								
Species (Engl.)	Species (Latin)	Species Group	FAO DIVISION	Sex	Maturity	Weight	Age	Frequency
Bigeye thresher shark	<i>Alopias superciliosus</i>	G2	All areas	O	O	O		A
Thresher shark	<i>Alopias vulpinus</i>	G2	All areas	O	O	O		A
Sandbar shark	<i>Carcharhinus plumbeus</i>	G2	All areas	O	O	O		A
Sand tiger shark	<i>Carcharias taurus</i>	G2	All areas	O	O	O		A
Great white shark	<i>Carcharodon carcharias</i>	G2	All areas	O	O	O		A
Gulper shark	<i>Centrophorus granulosus</i>	G2	All areas	O	O	O		A
Basking shark	<i>Cetorhinus maximus</i>	G2	All areas	O	O	O		A
Kitefin shark	<i>Dalatias licha</i>	G2	All areas	O	O	O		A
Blue skate	<i>Dipturus batis</i>	G2	All areas	O	O	O		A
Longnosed skate	<i>Dipturus oxyrinchus</i>	G2	All areas	O	O	O		A
Velvet belly	<i>Etmopterus spinax</i>	G2	All areas	O	O	O		A
Tope shark	<i>Galeorhinus galeus</i>	G2	All areas	O	O	O		A
Blackmouth dogfish	<i>Galeus melastomus</i>	G2	All areas	O	O	O		A
Spiny butterfly ray	<i>Gymnura altavela</i>	G2	All areas	O	O	O		A
Sharpnose sevengill shark	<i>Heptranchias perlo</i>	G2	All areas	O	O	O		A
Bluntnose sixgill shark	<i>Hexanchus griseus</i>	G2	All areas	O	O	O		A
Shortfin mako	<i>Isurus oxyrinchus</i>	G2	All areas	O	O	O		A
Porbeagle	<i>Lamna nasus</i>	G2	All areas	O	O	O		A
Sandy ray	<i>Leucoraja circularis</i>	G2	All areas	O	O	O		A
Maltese skate	<i>Leucoraja melitensis</i>	G2	All areas	O	O	O		A
Starry smooth-hound	<i>Mustelus asterias</i>	G2	All areas	O	O	O		A
Smooth-hound	<i>Mustelus mustelus</i>	G2	All areas	O	O	O		A
Blackspotted smooth-hound	<i>Mustelus punctulatus</i>	G2	All areas	O	O	O		A
Common eagle ray	<i>Myliobatis aquila</i>	G2	All areas	O	O	O		A
Smalltooth sand tiger	<i>Odontaspis ferox</i>	G2	All areas	O	O	O		A
Angular roughshark	<i>Oxynotus centrina</i>	G2	All areas	O	O	O		A
Blue shark	<i>Prionace glauca</i>	G2	All areas	O	O	O		A
Smalltooth sawfish	<i>Pristis pectinata</i>	G2	All areas	O	O	O		A
Common sawfish	<i>Pristis pristis</i>	G2	All areas	O	O	O		A
Blue stingray	<i>Pteroplatytrygon violacea</i>	G2	All areas	O	O	O		A
Starry ray	<i>Raja asterias</i>	G2	All areas	O	O	O		A
Thornback ray	<i>Raja clavata</i>	G2	All areas	O	O	O		A
Brown ray	<i>Raja miraletus</i>	G2	All areas	O	O	O		A
Undulate ray	<i>Raja undulata</i>	G2	All areas	O	O	O		A
Blackchin guitarfish	<i>Rhinobatos cemiculus</i>	G2	All areas	O	O	O		A
Common guitarfish	<i>Rhinobatos rhinobatos</i>	G2	All areas	O	O	O		A
White skate	<i>Rostroraja alba</i>	G2	All areas	O	O	O		A
Small-spotted catshark	<i>Scyliorhinus canicula</i>	G2	All areas	O	O	O		A
Nursehound	<i>Scyliorhinus stellaris</i>	G2	All areas	O	O	O		A
Scalloped hammerhead	<i>Sphyrna lewini</i>	G2	All areas	O	O	O		A
Great hammerhead	<i>Sphyrna mokarran</i>	G2	All areas	O	O	O		A
Smalleye hammerhead	<i>Sphyrna tudes</i>	G2	All areas	O	O	O		A
Smooth hammerhead	<i>Sphyrna zygaena</i>	G2	All areas	O	O	O		A
Spiny dogfish	<i>Squalus acanthias</i>	G2	All areas	O	O	O		A
Longnose spurdog	<i>Squalus blainvillei</i>	G2	All areas	O	O	O		A
Sawback aculeata	<i>Squatina aculeata</i>	G2	All areas	O	O	O		A
Smoothback angelshark	<i>Squatina oculata</i>	G2	All areas	O	O	O		A
Angelshark	<i>Squatina squatina</i>	G2	All areas	O	O	O		A
Spotted torpedo	<i>Torpedo marmorata</i>	G2	All areas	O	O	O		A

11.4 ANNEX IV - SPECIES REMOVED

Species (Engl.)	Species (Latin)	Comments
Dolphinfish	<i>Coryphaena equiselis</i>	very rare species
Billfish	Istiophoridae	the only species in the Mediterranean T. belone is caught with harpoon
Grey mullets	Mugilidae	family grouping around 7 different species living near the coast or in the lagoon
Eledone species	<i>Eledone spp.</i>	the two species of the genus are already present in the table (i.e. <i>Eledone cirrhosa</i> and <i>E. moschata</i>)
Crawfish	Palinuridae	the main important species of the family <i>Palinurus elephas</i> is present under Group 3. Captures of <i>P. mauritanicus</i> and <i>P. regius</i> are rare and sporadic in the area
Sand eel	<i>Gymnammodytes cicereus</i>	Species target by traditional fishery (at very local scale and with a strong seasonality) classified as "Special fishery" by the European Commission, which, with few exceptions, has been practically forbidden in the EU waters. May be included in national lists as species under national management plan
Sand eel	<i>Gymnammodytes semisquamatus</i>	Species target by traditional fishery (at very local scale and with a strong seasonality) classified as "Special fishery" by the European Commission, which, with few exceptions, has been practically forbidden in the EU waters. May be included in national lists as species under national management plan
Transparent gobid	<i>Aphia minuta</i>	Species target by traditional fishery (at very local scale and with a strong seasonality) classified as "Special fishery" by the European Commission, which, with few exceptions, has been practically forbidden in the EU waters. May be included in national lists as species under national management plan
Crystal gobid	<i>Crystallogobius linearis</i>	Species target by traditional fishery (at very local scale and with a strong seasonality) classified as "Special fishery" by the European Commission, which, with few exceptions, has been practically forbidden in the EU waters. May be included in national lists as species under national management plan
Wedge shell	<i>Donax trunculus</i>	In case it is under national management plan, it may be included in national list
Tuberculate cockle	<i>Acanthocardia tuberculata</i>	In case it is under national management plan, it may be included in national list
Hard clam	<i>Callista chione</i>	In case it is under national management plan, it may be included in national list
Murex	<i>Bolinus brandaris</i>	In case it is under national management plan, it may be included in national list
Mediterranean mussel	<i>Mytilus galloprovincialis</i>	In case it is under national management plan, it may be included in national list
Purple sea urchin	<i>Paracentrotus lividus</i>	In case it is under national management plan, it may be included in national list
Greater amberjack	<i>Seriola dumerili</i>	In case it is under national management plan, it may be included in national list
Sand-smelt	<i>Atherina spp.</i>	Species target by traditional fishery classified as "Special fishery" by the European Commission, which, with few exceptions, has been practically forbidden in the EU waters. In case it is under national management plan, it may be included in national list
Other sharks	Squaliformes	all the shark in the Mediterranean have been already included at species level in the list

11.5 ANNEX V - VULNERABLE SPECIES

Vulnerable species	Species	FAO DIVISION	Sex	Maturity	Weight	Age	Frequency
Loggerhead turtle	<i>Caretta caretta</i>	All areas	No	No	No	No	A
Green turtle	<i>Chelonia mydas</i>	All areas	No	No	No	No	A
Leatherback turtle	<i>Dermochelys coriacea</i>	All areas	No	No	No	No	A
Nile soft-shelled turtle	<i>Trionyx triunguis</i>	All areas	No	No	No	No	A
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	All areas	No	No	No	No	A
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	All areas	No	No	No	No	A
Common pochard	<i>Aythya ferina</i>	All areas	No	No	No	No	T
Greater scaup	<i>Aythya marila</i>	All areas	No	No	No	No	T
Great cormorant	<i>Phalacrocorax carbo</i>	All areas	No	No	No	No	T
Osprey	<i>Pandion haliaetus</i>	All areas	No	No	No	No	A
Cory's Shearwater	<i>Calonectris diomedea</i>	All areas	No	No	No	No	A
Eleonora's Falcon	<i>Falco eleonora</i>	All areas	No	No	No	No	A
European Storm Petrel	<i>Hydrobates pelagicus</i>	All areas	No	No	No	No	A
Audouin's Gull	<i>Larus audouinii</i>	All areas	No	No	No	No	A
Slender-billed Curlew	<i>Numenius tenuirostris</i>	All areas	No	No	No	No	A
European Shag	<i>Phalacrocorax aristotelis</i>	All areas	No	No	No	No	A
Pygmy Cormorant	<i>Phalacrocorax pygmaeus</i>	All areas	No	No	No	No	A
Great White Pelican	<i>Pelecanus onocrotalus</i>	All areas	No	No	No	No	A
Dalmatian Pelican	<i>Pelecanus crispus</i>	All areas	No	No	No	No	A
American Flamingo	<i>Phoenicopterus ruber</i>	All areas	No	No	No	No	A
Yelkouan Shearwater	<i>Puffinus yelkouan</i>	All areas	No	No	No	No	A
Little Tern	<i>Sterna albifrons</i>	All areas	No	No	No	No	A
Lesser Crested Tern	<i>Sterna bengalensis</i>	All areas	No	No	No	No	A
Sandwich Tern	<i>Sterna sandvicensis</i>	All areas	No	No	No	No	A
Minke whale	<i>Balaenoptera acutorostrata</i>	All areas	No	No	No	No	A
Sei whale	<i>Balaenoptera borealis</i>	All areas	No	No	No	No	A
Fin whale	<i>Balaenoptera physalus</i>	All areas	No	No	No	No	A
Short-beaked common dolphin	<i>Delphinus delphis</i>	All areas	No	No	No	No	A
North Atlantic right whale	<i>Eubalaena glacialis</i>	All areas	No	No	No	No	A
Long-finned pilot whale	<i>Globicephala melas</i>	All areas	No	No	No	No	A
Risso's dolphin	<i>Grampus griseus</i>	All areas	No	No	No	No	A
Dwarf sperm whales	<i>Kogia simus</i>	All areas	No	No	No	No	A
Humpback whale	<i>Megaptera novaeangliae</i>	All areas	No	No	No	No	A
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	All areas	No	No	No	No	A
Killer whale	<i>Orcinus orca</i>	All areas	No	No	No	No	A
Harbour porpoise	<i>Phocoena phocoena</i>	All areas	No	No	No	No	A
Sperm whale	<i>Physeter macrocephalus</i>	All areas	No	No	No	No	A
False killer whale	<i>Pseudorca crassidens</i>	All areas	No	No	No	No	A
Striped dolphin	<i>Stenella coeruleoalba</i>	All areas	No	No	No	No	A
Rough-toothed dolphin	<i>Steno bredanensis</i>	All areas	No	No	No	No	A
Bottlenose dolphin	<i>Tursiops truncatus</i>	All areas	No	No	No	No	A
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	All areas	No	No	No	No	A
Monk seal	<i>Monachus monachus</i>	All areas	No	No	No	No	A
Patella	<i>Patella spp.</i>	All areas	No	No	No	No	A

11.6 ANNEX VI - SPECIES OTHER REGIONS

Highly migratory species Atlantic, Indian and Pacific Oceans							
Species (Eng.)	Species (Latin)	Species Group	FAO DIVISION	Sex	Maturity	Weight	Age
Frigate tuna	<i>Auxis sp</i>	G2				T	
Atlantic black skipjack	<i>Euthynnus sp</i>	G2				T	
Billfish	<i>Istiophoridae</i>	G1				T	
Shortfin mako	<i>Isurus oxyrinchus</i>	G1		T		T	
Skipjack tuna	<i>Katsuwonus pelamis</i>	G1		T	T	T	
Blue shark	<i>Prionace glauca</i>	G1		T		T	
Atlantic bonito	<i>Sarda sarda</i>	G1				T	
Sharks	<i>Sharks-like selachii</i>	G1		O		O	
Albacore	<i>Thunnus alalunga</i>	G1		T		T	
Yellowfin tuna	<i>Thunnus albacares</i>	G1		T	T	T	
Bigeye tune	<i>Thunnus obesus</i>	G1		T	T	T	
Bluefin tuna	<i>Thunnus thynnus</i>	G1		T	T	T	
Swordfish	<i>Xiphias gladius</i>	G1		T	O	T	

T = triennial; O = opcional

11.7 ANNEX VII – AGENDA

Planning Group Methodological (PGMED)

Monday, 7th September 2015 (9.30 am - 17.30 pm) and Tuesday, 8th September 2015 (9.00 am - 17.30 pm)

MED&BS & LP meeting

ToR 1 - MED & LP - Ranking system for GSAs exploited by more than one MS (GSAs 7, 15-16, 17, 29) for the whole Mediterranean and for the Black Sea

ToR 2 - MED & LP - Review and update the landing template for the Mediterranean and for the Black Sea

ToR 4 - MED and LP - Investigate sampling stratification and assess the CV for shared stocks both for the Mediterranean (GSA 7, GSA 15-16, GSA 17), Black Sea and large pelagics

ToR 6 - MED and LP - Data quality: present current approaches and case studies from the Mediterranean and for large pelagics, review of advances from other international working

ToR 7 - MED and LP - Review obstacles encountered by countries to produce SDEF datasets starting from their national datasets. Produce detailed recommendation for RDB SC on format, codelists, range ...)

ToR 9 - MED & LP - Proposals of workshops and studies

ToR 10 - MED & LP - Any other business

MED&BS meeting

ToR 3 - MED - For the métiers exploiting a shared stock and selected by the ranking system, propose the number of sampling trips by métier at the GSA level

ToR 5 - MED - Analyse the extension of the problem concerning the fishing performed in a different GSA than their original one

LP meeting

ToR 8 - LP - Develop pilot applications helping answers to data call from tuna-RFMOS based on SDEF

RCM MED&BS-LP

Wednesday, 9th September 2015 (9.30 am – 17.30 pm)

Welcome, meeting organization, reporting issues

ToR 1 - Review progress since 2014 following up the 11th liaison meeting report

ToR 2 - Review feedback from end users, and expert groups, to include: GFCM WG on DCRF, WGCATCH 2014, RDB SC and WKRDB 5, PGDATA, PGMED, STECF, WKISCON2, ICES (main issues to be clarified), WK on trans variables, Zagreb 2015), NC meetings (presented by the commission). MEDIAS and MEDITS progress and feedbacks.

PGMED report presentation

ToR 3 - Regional data collection, analysis and storage and the evolution towards RCGs

a) Consider the progress of the “strengthening regional cooperation in data collection” mare/2014/19, and possible implications.

b) Review progress in data quality screening, harmonisation of national and regional data checking procedures.

c) Consider the role of the sampling data format in terms of integration of sampling data collection, recording and the present and future RCM data calls

d) Consider the data collection protocols for at-sea and on-shore sampling in the context of regional sampling designs and probability selection methods.

e) Discuss design-based sampling: state of play of which MS are using it or plan to use it.

f) Analyse the RCM data call for the RDB 2014 data (analysis to be done as much as possible prior to the meeting, and the type of analysis e.g. ranking of ports to sample, to be determined beforehand).

g) Identify the areas and topics where there is a need for intra-institute intersessional work to achieve coordinated sampling, and how such groups can be organised, coordinated, and funded e.g. joint surveys, sampling plans for MSFD variables, data quality scrutiny groups, international sampling frames.

ToR 10 - Future multi-annual programme for data collection

- a) Propose list of research surveys that should be carried out in the region in 2016.
- b) Review and comment on ICES advice on what data are necessary for scientific advice regarding recreational fisheries
- c) Review and comment on list of proposed stocks & biological variables to be included in EU MAP.

Thursday, 10th September 2015 (9.00 am – 17.30 pm)

ToR 3 - continue

ToR 9 - Metiers

Discuss the role of metiers in sampling and estimation, as descriptors of fishing, as domains for estimation and their merging in the InterCatch, the RDB and the STECF data base and as an aide to sampling. Define how they are to be used in the future, the extent to which national and regional lists need to be harmonised and how lists are to be stored for use in a regional context.

ToR 4 - Review proposal for task sharing and criteria for joint surveys

ToR 5 - Identify any amendments to NP needed in 2016

ToR 6 - Consider future funding mechanisms to continue strengthening regional cooperation

ToR 7 - Landing Obligation

- a. Evaluate the impact of the introduction of the landing obligation, and/or preparations for its implementation.
- b. The operation of at-sea observer programmes, and role of scientific observers.
- c. Quality and integrity of catch data collected by the control agencies, i.e. logbook sales notes data.
- d. The generation of catch estimates derived from sampling programme data.
- e. Experiences of on-shore sampling of landed discards.
- f. Review progress from last year's recommendations

Friday, 11th September 2015 (9.00 am – 13.00 pm)

ToR 8 - National Administrations

- a) Address any issues relating specifically to national administrations and consider the role of NC within the RCM RCG context.
- b) Harmonisation of control agency data collection, and the cross border sharing of control agency data, for vessels operating and landing outside their flag country.
- c) Harmonisation of catch data recording e.g. metiers.
- d) The position of national administrations on populating the Regional Data Base according to the RCM data call with i) Landings and effort data and ii) Sampling data.
- e) Task sharing and task trading mechanisms that might operate within the context of a regional sampling designs.

ToR 11 – AOB

- a) RCM LP - Election Chair and co Chair
- b) Next meeting venue

11.8 ANNEX VIII – PARTICIPANTS

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PART 2 – 2015 PGMED REPORT

**Report of the 9th meeting of the
Planning Group for Methodological
Development
(PGMed)**

**Data Collection Framework (DCF)
Council Regulation (EC) No 199/2008
Commission Decision 2010/93/EU**

Rome, 7th – 8th of September 2015

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Chapter 1

Introduction

Origin During the 2006 Regional Coordination Meeting for the Mediterranean area (Malta, 26th-28th of April 2006, 3rd RCM Med) the creation of a Planning Group for the Mediterranean (Mediterranean Planning Group for Methodological Development - PGMed) was recommended, as a forum similar to the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS) for discussing methodological matters related to data collection referring particularly to the Mediterranean area.

During the 4th RCM Med (Cyprus, 2007) it was clarified that PGMed operates under the umbrella of the RCM Med, and it was recommended that the chairman of the PGMed participates in the RCM Med. The need for maintaining strong links with the General Commission for Fisheries in the Mediterranean (GFCM) and the PGCCDBS was strongly supported.

Following the proposal of the 2006 3rd Liaison Meeting, the first meeting of the PGMed was arranged to take place jointly with the 2007 PGCCDBS meeting in Malta (5th – 9th of March 2007).

Organisation and relation to the PGCCDBS Although organized in an autonomous group, it was agreed among all scientists that the contact and cooperation between the Mediterranean area and the ICES area (PGCCDBS) should be promoted and maintained. The link between the two planning groups (PGs) would be maintained through:

1. the inclusion of each group's report as an annex of the other;
2. the organization of parallel meetings;
3. the organization of joint plenary for generic issues;
4. the organization of joint workshops.

In 2012, this link was reviewed in plenary by the PGs. Although points 2 and 3 have been fulfilled since the beginning, each group's report is not usually included as annex of the other, mainly due to practical issues, so both reports are very independent. The organization of joint workshops has been done, although the participation of experts both from ICES and Mediterranean is not always as common as expected.

The divergence of both PGs is not a real problem, as they both work under different umbrellas (ICES in the case of PGCCDBS and RCM Med&BS in the case of PGMed). However, the rest of the problems should be solved. For that reason, PGMed 2012 proposed the following points to be taken into account in following meetings and reports in order to increase and improve the links between the groups. These points were agreed in a plenary with the PGCCDBS.

Regarding the meetings (i) when possible, join all presentations of potential interests for the Mediterranean together, in order to be able to split in PGs sooner and, thus, having more time to work in their specific ToRs; (ii) exposition of PGMed main results and discussions in plenary on the last day.

For the report (i) include a summary of relevant issues discussed in plenary in the PGMed report; (ii) include the list of ToRs of each group in the other's report; (iii) include the list of participants of each group in the other's report; (iv) add a link to the online report; (v) include the list of workshops of potential interest of each PG.

New organisation In 2013, it has been proposed that meetings for both PGs would be held separately given the uncertainty about the future role of PGCCDBS, and since then both PGs are held at different time and locations. The PGMed is now held 2 days before the RCM Med & BS.

The 2015 Meeting The 9th Meeting of the Mediterranean Planning Group for Methodological Development (PGMed) was arranged to be held just before the RCM Med & BS, in Rome 7th-8th of September 2015. This was the second time that the meeting was organised this way. However, for the first time it included ToRs specific and common with the large pelagics subgroup.

Attendance The 2015 PGMed was attended by 6 Mediterranean Member States (Cyprus, France, Spain, Romania, Malta, Italy). The list of PGMed participants is provided in Annex 1.

Chapter 2

Data availability

Member state	Landings	Effort	Value
Bulgaria	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Croatia	2013, 2014	2013, 2014	2013, 2014
Cyprus	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
France	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Greece	2014	2014	2014
Italy	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Malta	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Romania	2012, 2013, 2014	2012, 2013, 2014	2012, 2013, 2014
Slovenia	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Spain	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014

Table 2.1: Available years of data in the data set for each member state and each variable

Overall, the data received were satisfactory in quantity, as a large dataset could be built. For the Mediterranean, besides Romania, Croatia and Greece, for most of the countries landings, effort and value data from 2009 until 2014 (Table 12.1). It has to be noted that Croatia entered the EU in 2013, which explains data availability. The data availability for the large pelagics is then detailed in table 2.2. It illustrates the large quantity of data that could be gathered for the meeting.

Member State	Landings	Efforts	Samplings
Atlantic			
Spain	2009, 2010, 2011, 2012, 2013, 2014		2009, 2010, 2011, 2012, 2013, 2014
France	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Portugal	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Indian Ocean			
Spain	2009, 2010, 2011, 2012, 2013, 2014		2009, 2010, 2011, 2012, 2013, 2014
France	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014
Portugal	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2014
Mediterranean			
Cyprus	2012, 2013, 2014	2012, 2013, 2014	
Spain	2009, 2010, 2011, 2012, 2013, 2014		2014
France	2009, 2010, 2011, 2012, 2013, 2014	2014, 2010, 2013, 2009, 2011, 2012	2012, 2013, 2014
Croatia	2013.2014	2013.2014	2013.2014
Italy	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	
Malta	2009, 2010, 2011, 2012, 2013, 2014	2009, 2010, 2011, 2012, 2013, 2014	
Portugal	2013, 2014, 2010	2010, 2013, 2014	
Slovenia	2013	2013	
Pacific			
Spain			2009, 2010, 2011, 2012, 2013, 2014

Table 2.2: Available years of large pelagics data in the data set for each member state, each variable and each Ocean.

Chapter 3

ToR 1) Ranking system for GSAs exploited by more than one MS (GSAs 7, 15-16, 17, 29) for the whole Mediterranean and for the Black Sea

During PGMed 2010, a first ranking system for the Mediterranean Sea was conducted to anticipate the regional approach to sampling. MS had to provide catch, effort and value data by metier from the year 2007. The data was used to rank the metiers at level 6. During 2010, the RCMMed&BS carried out the same exercise with an updated data set. Taking into account both exercises, the RCMMed&BS 2010 recommended to PGMed to re-perform this exercise on a yearly basis for both the Mediterranean and Black Sea region.

During PGMed 2012, it was apparent that the metiers selected at regional level were the same as the previous years, both for the Mediterranean and the Black Sea. For this reason, it was agreed that the ranking system would be done every other year instead of on a yearly basis. However, during the RCM Med&BS, it was considered that, as the ranking system is included in the generic ToRs of the RCMs, the ranking system should continue to be performed on an annual basis, although the results of the ranking system may be the same or very similar compared with the previous years as it is shown in this section.

Thus, PGMed 2015 re-performed this exercise to provide a ranking for the Mediterranean and the Black Sea separately. The ranking system described in the DCF (2010/93/EU) was applied. The data made available by the different member states through the RCM data call was used. This data differed than that requested in previous years. Through the RCM 2015 data call, the landings and values of Group 1 and Group 2 species as classified by Appendix VII of Commission Decision 2010/93/EU, for the different metiers used in each country, were requested. On the other hand, in previous years, the landing and values of the to the total catch relevant to the respective metiers were requested. Thus, only the ranking list depending on the effort data presented in this report, can be compared to the ranking results obtained in previous years. The ranking was performed at the regional level using as reference the average values over the available data between 2009 and 2014. The MISC metiers were ignored because they differ among countries and because they are of importance at the national level but not at the regional level. The metiers were first ranked according to their share in the total catch. These shares were then cumulated by decreasing order until a cut-off level of 90% was reached. The same ranking procedure of the metiers was applied to effort data (days at sea) and value (euros) data.

3.1 Whole Mediterranean

3.1.1 Average ranking over the whole dataset

Level 4	Level 5	Level 6	Total landings (t)	Percentage
PS	SPF	≥ 14	83909	29
OTB	DEF	≥ 40	74902	26
PTM	SPF	≥ 20	42687	15
DRB	MOL	0	19724	7
LLD	LPF	0	11937	4
OTB	MDD	≥ 40	11785	4
GTR	DEF	≥ 16	11642	4
GNS	DEF	≥ 16	10457	4

Table 3.1: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total effort (days)	Percentage
GTR	DEF	≥ 16	602145	28
GNS	DEF	≥ 16	418550	20
OTB	DEF	≥ 40	382717	18
LLS	DEF	0	118888	6
FPO	DEF	0	115072	5
OTB	MDD	≥ 40	71786	3
DRB	MOL	0	62886	3
LLD	LPF	0	62890	3
PS	SPF	≥ 14	61454	3

Table 3.2: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total value (euros)	Percentage
OTB	DEF	≥ 40	438443350	32
FPN	LPF	0	160631096	12
PS	SPF	≥ 14	113883289	8
GTR	DEF	≥ 16	104034706	8
OTB	MDD	≥ 40	97764350	7
GNS	DEF	≥ 16	90925211	7
OTB	DWS	≥ 40	72508833	5
LLD	LPF	0	64669651	5
DRB	MOL	0	55608449	4
PTM	SPF	≥ 20	48515663	4

Table 3.3: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

The results of the ranking system based on landings selected 8 metiers at the Mediterranean level (Table 3.1), while the results of the ranking system based on effort selected 9 metiers (Table 3.2) and the ranking system based on value selected 10 metiers.

3.1.2 Ranking by 2 years periods

The ranking performed on a 2 years basis displayed a relatively high stability for landings (table 3.4), effort (table 3.5) and value (table 3.6). It has to be noted that for the ranking on values, the metier FPN_LPF_0_0_0 ranked first between 2010 and 2012.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	1	2	2
PS_SPF_>=14_0_0	2	2	2	1	1
PTM_SPF_>=20_0_0	3	3	3	3	3
DRB_MOL_0_0_0	4	4	4	4	4
OTB_MDD_>=40_0_0	5	5	6	7	
LLD_LPF_0_0_0	6	6	5	6	6
GNS_DEF_>=16_0_0	7	7	8	8	7
GTR_DEF_>=16_0_0	8	8	7	5	5

Table 3.4: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) for two-year periods for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
GTR_DEF_>=16_0_0	1	1	1	1	1
OTB_DEF_>=40_0_0	2	3	3	3	3
GNS_DEF_>=16_0_0	3	2	2	2	2
LLS_DEF_0_0_0	4	4	5	5	5
FPO_DEF_0_0_0	5	5	4	4	4
OTB_MDD_>=40_0_0	6	6	6	7	8
DRB_MOL_0_0_0	7	7	7	8	9
LLD_LPF_0_0_0	8	8	8	6	7
PS_SPF_>=14_0_0	9	9	9	9	6
LHP-LHM_CEP_0_0_0	10				

Table 3.5: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) for two-year periods for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	2	2	1	1
OTB_MDD_>=40_0_0	2	3	5	4	5
GTR_DEF_>=16_0_0	3	5	4	3	3
GNS_DEF_>=16_0_0	4	4	6	5	6
PS_SPF_>=14_0_0	5	6	3	2	2
LLD_LPF_0_0_0	6	7	7	7	7
OTB_DWS_>=40_0_0	7	8	8	6	4
DRB_MOL_0_0_0	8	9	9	8	9
PTM_SPF_>=20_0_0	9			9	8
FPN_LPF_0_0_0		1	1		
PS_LPF_14_0_0					10

Table 3.6: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) for two-years periods for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

3.2 GSA 7

3.2.1 Average ranking over the whole dataset

The ranking made on GSA 7 did not show any particularity, excepted that the number of metier ranked based on effort (table 3.8) was higher than for landings (table 3.7) and value (table 3.9).

Level 4	Level 5	Level 6	Total landings (t)	Percentage
OTB	DEF	≥ 40	1197	45
GNS	DEF	≥ 16	481	18
PS	LPF	14	349	13
GTR	DEF	≥ 16	309	12
PS	SPF	≥ 14	141	5

Table 3.7: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) over the period 2009-2014 for the GSAs 7 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total effort (days)	Percentage
GTR	DEF	≥ 16	602145	28
GNS	DEF	≥ 16	418550	20
OTB	DEF	≥ 40	382717	18
LLS	DEF	0	118888	6
FPO	DEF	0	115072	5
OTB	MDD	≥ 40	71786	3
DRB	MOL	0	62886	3
LLD	LPF	0	62890	3
PS	SPF	≥ 14	61454	3

Table 3.8: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) over the period 2009-2014 for the GSAs 7 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total value (euros)	Percentage
OTB	DEF	≥ 40	4964993	29
PS	LPF	14	4112371	24
GNS	DEF	≥ 16	2582383	15
GTR	DEF	≥ 16	2401752	14
OTB	DWS	≥ 40	1747946	10

Table 3.9: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) over the period 2009-2014 for the GSAs 7 and segmented according to Appendix VII of 2010/93/EU.

3.2.2 Ranking by 2 years periods

The metiers ranked fairly similarly over time for landings (table 3.10) and effort (table 3.11), but for value (table 3.12) the metier PS_LPF_14_0_0 ranked first from 2012 onwards.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	1	1	1
GNS_DEF_>=16_0_0	2	2	3	3	2
GTR_DEF_>=16_0_0	3	4	4	4	3
OTB_DWS_>=40_0_0	4				
PS_LPF_14_0_0		3	2	2	4
PS_SPF_>=14_0_0		5	5		

Table 3.10: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) for two-year periods for the GSAs 7 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
GTR_DEF_>=16_0_0	1	1	1	1	1
OTB_DEF_>=40_0_0	2	3	3	3	3
GNS_DEF_>=16_0_0	3	2	2	2	2
LLS_DEF_0_0_0	4	4	5	5	5
FPO_DEF_0_0_0	5	5	4	4	4
OTB_MDD_>=40_0_0	6	6	6	7	8
DRB_MOL_0_0_0	7	7	7	8	9
LLD_LPF_0_0_0	8	8	8	6	7
PS_SPF_>=14_0_0	9	9	9	9	6
LHP-LHM_CEP_0_0_0	10				

Table 3.11: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) for two-year periods for the GSAs 7 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	2	2	2
OTB_DWS_>=40_0_0	2	5	5		
GNS_DEF_>=16_0_0	3	2	3	3	4
GTR_DEF_>=16_0_0	4	4	4	4	3
PS_LPF_14_0_0		3	1	1	1

Table 3.12: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) for two-years periods for the GSA 7 and segmented according to Appendix VII of 2010/93/EU.

3.3 GSA 15 and GSA 16

3.3.1 Average ranking over the whole dataset

The metiers ranked on landings (table 3.13), effort (table 3.14) and value (table 3.15) did not show any particular feature.

Level 4	Level 5	Level 6	Total landings (t)	Percentage
OTB	DEF	≥ 40	11083	42
PS	SPF	≥ 14	3895	15
OTB	MDD	≥ 40	3216	12
LLD	LPF	0	1913	7
OTB	DWS	≥ 40	1556	6
GTR	DEF	≥ 16	1503	6
PTM	SPF	≥ 20	1361	5

Table 3.13: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) over the period 2009-2014 for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total effort (days)	Percentage
GTR	DEF	≥ 16	602145	28
GNS	DEF	≥ 16	418550	20
OTB	DEF	≥ 40	382717	18
LLS	DEF	0	118888	6
FPO	DEF	0	115072	5
OTB	MDD	≥ 40	71786	3
DRB	MOL	0	62886	3
LLD	LPF	0	62890	3
PS	SPF	≥ 14	61454	3

Table 3.14: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) over the period 2009-2014 for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total value (euros)	Percentage
OTB	DEF	≥ 40	64291274	37
OTB	MDD	≥ 40	28809751	16
OTB	DWS	≥ 40	26944945	15
LLD	LPF	0	18111055	10
GTR	DEF	≥ 16	15186339	9
PS	SPF	≥ 14	6815639	4

Table 3.15: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) over the period 2009-2014 for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

3.3.2 Ranking by 2 years periods

The ranking of metiers were found stable over time for landings (table 3.16), effort (table 3.14) and value (table 3.18) did not show any particular feature.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	1	1	1
PS_SPF_>=14_0_0	2	2	2	3	3
OTB_MDD_>=40_0_0	3	3	3	2	2
LLD_LPF_0_0_0	4	4	4	5	6
GTR_DEF_>=16_0_0	5	6	7	6	5
OTB_DWS_>=40_0_0	6	5	6	4	4
PTM_SPF_>=20_0_0	7	7	5	7	7

Table 3.16: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) for two-year periods for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
GTR_DEF_>=16_0_0	1	1	1	1	1
OTB_DEF_>=40_0_0	2	3	3	3	3
GNS_DEF_>=16_0_0	3	2	2	2	2
LLS_DEF_0_0_0	4	4	5	5	5
FPO_DEF_0_0_0	5	5	4	4	4
OTB_MDD_>=40_0_0	6	6	6	7	8
DRB_MOL_0_0_0	7	7	7	8	9
LLD_LPF_0_0_0	8	8	8	6	7
PS_SPF_>=14_0_0	9	9	9	9	6
LHP-LHM_CEP_0_0_0	10				

Table 3.17: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) for two-year periods for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	1	1	1
OTB_MDD_>=40_0_0	2	2	3	3	3
OTB_DWS_>=40_0_0	3	3	2	2	2
LLD_LPF_0_0_0	4	4	4	4	5
GTR_DEF_>=16_0_0	5	5	5	5	4
PS_SPF_>=14_0_0	6		6		6

Table 3.18: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) for two-years periods for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

3.4 GSA 17

3.4.1 Average ranking over the whole dataset

The ranking of metiers did not show any particular feature for landings (table 3.19) and value (table 3.21). For effort (table 3.20) more metiers were retained than for the two other variables.

Level 4	Level 5	Level 6	Total landings (t)	Percentage
PTM	SPF	≥ 20	34446	31
PS	SPF	≥ 14	26073	24
OTB	DEF	≥ 40	19379	18
DRB	MOL	0	18127	16

Table 3.19: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) over the period 2009-2014 for the GSAs 15, 16 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total effort (days)	Percentage
GTR	DEF	≥ 16	602145	28
GNS	DEF	≥ 16	418550	20
OTB	DEF	≥ 40	382717	18
LLS	DEF	0	118888	6
FPO	DEF	0	115072	5
OTB	MDD	≥ 40	71786	3
DRB	MOL	0	62886	3
LLD	LPF	0	62890	3
PS	SPF	≥ 14	61454	3

Table 3.20: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) over the period 2009-2014 for the GSAs 17 and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total value (euros)	Percentage
OTB	DEF	≥ 40	121264340	40
DRB	MOL	0	48737241	16
PTM	SPF	≥ 20	34221968	11
GNS	DEF	≥ 16	31531830	10
TBB	DEF	0	20953824	7
PS	SPF	≥ 14	17117128	6

Table 3.21: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) over the period 2009-2014 for the GSAs 17 and segmented according to Appendix VII of 2010/93/EU.

3.4.2 Ranking by 2 years periods

The ranking of metiers were found stable over time for landings (table 3.22), effort (table 3.20) and value (table 3.24) did not show any particular feature.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
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PTM_SPF_>=20_0_0	1	1	1	1	2
OTB_DEF_>=40_0_0	2	3	3	4	3
DRB_MOL_0_0_0	3	2	2	3	4
TBB_DEF_0_0_0	4				
PS_SPF_>=14_0_0	5			2	1
GNS_DEF_>=16_0_0		4	4		

Table 3.22: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) for two-year periods for the GSAs 17 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
GTR_DEF_>=16_0_0	1	1	1	1	1
OTB_DEF_>=40_0_0	2	3	3	3	3
GNS_DEF_>=16_0_0	3	2	2	2	2
LLS_DEF_0_0_0	4	4	5	5	5
FPO_DEF_0_0_0	5	5	4	4	4
OTB_MDD_>=40_0_0	6	6	6	7	8
DRB_MOL_0_0_0	7	7	7	8	9
LLD_LPF_0_0_0	8	8	8	6	7
PS_SPF_>=14_0_0	9	9	9	9	6
LHP-LHM_CEP_0_0_0	10				

Table 3.23: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) for two-year periods for the GSAs 17 and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTB_DEF_>=40_0_0	1	1	1	1	1
DRB_MOL_0_0_0	2	2	2	2	2
PTM_SPF_>=20_0_0	3	4	4	3	4
GNS_DEF_>=16_0_0	4	3	3	4	5
TBB_DEF_0_0_0	5	5	5	6	6
FPO_DEF_0_0_0	6				
PS_SPF_>=14_0_0				5	3

Table 3.24: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) for two-years periods for the GSAs 17 and segmented according to Appendix VII of 2010/93/EU.

3.5 Black Sea

3.5.1 Average ranking over the whole dataset

The metier OTM_MPD_>=13-19_0_0 dominated the ranking for landings (table 3.25), effort (table 3.26) and value (table ??).

Level 4	Level 5	Level 6	Total landings (t)	Percentage
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OTM	MPD	>=13-19	3830	98
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Table 3.25: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) over the period 2009-2014 for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total effort (days)	Percentage
OTM	MPD	>=13-19	3125	65
GNS	DEF	360-400	1452	30

Table 3.26: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) over the period 2009-2014 for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

Level 4	Level 5	Level 6	Total value (euros)	Percentage
OTM	MPD	>=13-19	1508605	76
GNS	DEF	>=16	275913	14

Table 3.27: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) over the period 2009-2014 for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

3.5.2 Ranking by 2 years periods

The metier OTM_MPD_>=13-19_0_0 also dominated the ranking for landings (table 3.28), effort (table 3.29) and value (table 3.30) over time.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTM_MPD_>=13-19_0_0	1	1	1	1	1

Table 3.28: Results of the ranking system at a cut-off level of 90 percent, based on total landings (tons) for two-year periods for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTM_MPD_>=13-19_0_0	1	1	1	1	1
GNS_DEF_360-400_0_0	2	2	2	2	2

Table 3.29: Results of the ranking system at a cut-off level of 90 percent, based on total effort (days) for two-year periods for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

Metier	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
OTM_MPD_>=13-19_0_0	1	1	1	1	1
GNS_DEF_360-400_0_0			2		

Table 3.30: Results of the ranking system at a cut-off level of 90 percent, based on total value (euros) for two-years periods for the Black Sea and segmented according to Appendix VII of 2010/93/EU.

3.6 Large pelagics

In a separate meeting, participants from Malta, Spain, Italy and France discussed how a ranking could be applied to large pelagics cases. For large pelagic species, metiers have to be reported to ICCAT independently of their relative importance to a given MS or region. Therefore, the ranking of metiers for LP does not have any incidence on the selection of the metiers to be sampled. It was also noted that the ranking for LP will have to be relative as it will be only produced for EU Member States. Therefore such a ranking may be used to optimize the sampling coverage within European MS and not at the international level. The group agreed that developing a tool helping to rank LP fisheries (métiers) would be useful as an exploratory tool to identify the relative weight of métiers and MS by ocean, fishing zone, or by stocks by ocean at the European level. A rapid overview of the results of the data call identified many problems in the data (see ToR 7). Some were minor but could not be solved before the meeting due to the late reception of data. Nevertheless the group tried to produce a ranking by ocean and stocks-ocean by correcting the main problems and validating data for landings.

3.6.1 Average ranking over the whole dataset

Metier level 6	Mean annual landings (t)	Percentage
PS_LPF_0_0_0	315937	71.4
LLD_LPF_0_0_0	84961	19.2
LHP_LPF_0_0_0	31104	7.0
LTL_LPF_0_0_0	4547	1.0
PTM_LPF_100_119_0	2614	0.6

Table 3.31: Results of the ranking system at a cut-off level of 99 percent, based on mean annual landings (tons) by metier Level 6 over the period 2009-2014 for Large Pelagic fisheries.

Due to problems in the data, 8 % of the landing weight cannot be assigned to an ocean. The Table 3.32 show that and in the rest of this chapter we do not present values related to misidentified areas.

Ocean	Mean annual landings (t)	Percentage
Indian	202310	46
Atlantic	188954	43
Unknown	34828	8
Mediterranean	16699	4

Table 3.32: Mean annual landings (tons) by ocean over the period 2009-2014 for Large Pelagic fisheries. "Unknown" refers to unidentified ocean.

Ocean	Metier level 6	Mean annual landings (t)	Percentage
Atlantic	PS_LPF_0_0_0	107342	57
Atlantic	LLD_LPF_0_0_0	54087	29
Atlantic	LHP_LPF_0_0_0	20055	11
Atlantic	LTL_LPF_0_0_0	4141	2
Atlantic	PTM_LPF_100_119_0	2112	1
Indian	PS_LPF_0_0_0	193070	95
Indian	LLD_LPF_0_0_0	8933	4
Mediterranean	LLD_LPF_0_0_0	11473	69
Mediterranean	PS_LPF_0_0_0	4002	24
Mediterranean	PS_LPF_>=14_0_0	708	4
Mediterranean	FPN_LPF_0_0_0	300	2
Mediterranean	LHP_LPF_0_0_0	116	1

Table 3.33: Results of the ranking system at a cut-off level of 99 percent within each ocean, based on mean annual landings (tons) by metier Level 6 over the period 2009-2014 for Large Pelagic fisheries.

3.6.2 Ranking by 2 years periods

Four Large pelagic Fisheries (PS, LLD, LHP, LTL and PTM) dominate European fisheries and realize 99 % of landings with 71 % for PS (Table 3.31). Indian and Atlantic oceans represent 89 % of landings (Table 3.32). Main species landed by ocean are indicated in Table 3.34). Ranking by two years periods (Tables 3.35, 3.36 and 3.37) indicates that relative proportion of métiers are stable in all oceans during the 2009-2014 period.

Ocean	Species	Mean annual landings (t)	Percentage
Atlantic	Katsuwonus pelamis	67529	36
Atlantic	Thunnus albacares	41219	22
Atlantic	Prionace glauca	40873	22
Atlantic	Thunnus obesus	14430	8
Atlantic	Thunnus alalunga	10000	5
Indian	Katsuwonus pelamis	89312	44
Indian	Thunnus albacares	87181	43
Indian	Thunnus obesus	16489	8
Mediterranean	Xiphias gladius	7583	45
Mediterranean	Thunnus thynnus	3888	23
Mediterranean	Thunnus alalunga	1499	9
Mediterranean	Coryphaena hippurus	1046	6
Mediterranean	Sarda sarda	579	3
Mediterranean	Euthynnus alletteratus	426	3
Mediterranean	Seriola dumerili	288	2

Table 3.34: Results of the ranking system at a cut-off level of 90 percent within each ocean, based on mean annual landings (tons) by species over the period 2009-2014 for Large Pelagic fisheries.

Metier level 6	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
LHP_LPF_0_0_0	3	3	3	3	3
LLD_LPF_0_0_0	2	2	2	2	2
LTL_LPF_0_0_0	4	4	4	4	5
PS_LPF_0_0_0	1	1	1	1	1
PTM_LPF_100_119_0		5	5	5	4
PTM_LPF_>=70_0			6	6	

Table 3.35: Results of the ranking system at a cut-off level of 99 percent, based on total landings by metier Level 6 for two-years periods for Large Pelagic fisheries.

Ocean	Metier level 6	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Atlantic	LHP_LPF_0_0_0	3	3	3	3	3
Atlantic	LLD_LPF_0_0_0	2	2	2	2	2
Atlantic	LTL_LPF_0_0_0	4	4	4	4	5
Atlantic	PS_LPF_0_0_0	1	1	1	1	1
Atlantic	PTM_LPF_100_119_0				5	4
Atlantic	PTM_LPF_>=70_0			5	6	
Indian	LLD_LPF_0_0_0	2	2	2	2	2
Indian	PS_LPF_0_0_0	1	1	1	1	1
Mediterranean	FPN_LPF_0_0_0	4	3	4	4	4
Mediterranean	LHP_LPF_0_0_0		5	5	5	
Mediterranean	LLD_LPF_0_0_0	1	1	1	1	1
Mediterranean	LLD_LPF_>=1_0					6
Mediterranean	LTL_LPF_0_0_0					5
Mediterranean	PS_LPF_0_0_0	2	2	2	2	2
Mediterranean	PS_LPF_>=14_0_0	3	4	3	3	3

Table 3.36: Results of the ranking system at a cut-off level of 99 percent within each ocean, based on total landings by metier Level 6 for two-years periods for Large Pelagic fisheries.

Ocean	Species	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Atlantic	Katsuwonus pelamis	1	1	1	1	1
Atlantic	Prionace glauca	3	3	2	2	2
Atlantic	Thunnus alalunga				4	5
Atlantic	Thunnus albacares	2	2	3	3	3
Atlantic	Thunnus obesus	4	4	4	5	4
Atlantic	Xiphias gladius	5	5	5		
Indian	Katsuwonus pelamis	1	1	2	2	2
Indian	Thunnus albacares	2	2	1	1	1
Indian	Thunnus obesus	3	3	3	3	3
Mediterranean	Coryphaena hippurus	4	4	4	4	5
Mediterranean	Euthynnus alletteratus	6	6	6	6	6
Mediterranean	Sarda sarda	5	5	5	5	4
Mediterranean	Seriola dumerili					7
Mediterranean	Thunnus alalunga	3	3	3	3	3
Mediterranean	Thunnus thynnus	2	2	2	2	2
Mediterranean	Xiphias gladius	1	1	1	1	1

Table 3.37: Results of the ranking system at a cut-off level of 90 percent within each ocean, based on total landings by species for two-years periods for Large Pelagic fisheries.

Chapter 4

ToR 2) Review and update of the landing template for the Mediterranean and for the Black Sea

4.1 For the 3 last years

In accordance with 2007 RCM recommendation (4th RCMMed Report - Cyprus, 2007), for the purpose of exchanging landings data, the MS should provide landing data for the species presented in Appendix VII of the Commission Decision 2010/93/EU for the 3 years preceding the PGMed meeting. It has to be noted that for some countries and genders, the disaggregation of landings by species was not always available (namely Eledone, Lophius, Mullus and Trachurus). To avoid confusion, the total landings were also provided for these genders. Excepted for Greece which provided data only for 2014, the average was calculated on the 2012-2014 period (Table 4.5), and the results are shown in 4.2. The percentage of contribution of each country for each species was then presented (Table 4.4). As a general comment to this exercise (Table 4.2), the group noted that it was likely that not all countries appropriately reported for sharks.

Member State	Years
Spain	2012, 2013, 2014
France	2012, 2013, 2014
Italy	2012, 2013, 2014
Croatia	2013, 2014
Slovenia	2013, 2012, 2014
Greece	2014
Malta	2012, 2013, 2014
Cyprus	2014, 2012, 2013
Bulgaria	2013, 2014, 2012
Romania	2012, 2013, 2014

Table 4.1: Years available for the analysis for each Member State

Species	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
Alopias superciliosus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alopias vulpinus	0.0	0.0	0.0	1.2	0.0	9.7	0.0	0.0	0.0	0.0
Anguilla anguilla	0.0	0.6	0.0	389.1	0.0	15.0	0.0	0.0	0.0	22.8
Aristeomorpha foliacea	0.0	0.0	0.0	0.0	26.2	2464.6	37.8	0.0	0.0	0.5
Aristeus antennatus	0.0	0.0	0.3	0.0	0.0	633.3	2.2	0.0	0.0	1131.8

Boops boops	0.0	83.7	90.3	186.0	1467.6	1605.4	42.2	0.0	0.8	453.9
Carcharhinus plumbeus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carcharias taurus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Centrophorus granulosus	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.7
Cetorhinus maximus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Coryphaena equiselis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coryphaena hippurus	0.0	1.7	0.1	0.1	17.3	776.9	256.9	0.0	0.1	112.5
Dalathias licha	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	5.6
Dicentrarchus labrax	0.0	5.4	2.2	129.9	71.9	170.1	0.1	0.0	2.5	97.8
Dipturus batis	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Dipturus oxyrinchus	0.0	0.0	0.0	17.6	0.3	0.0	0.9	0.0	0.0	0.2
Eledone cirrhosa *	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	1608.9
Eledone moschata *	0.0	0.0	0.1	0.0	0.0	2516.9	2.2	0.0	20.4	271.6
Engraulis encrasicolus	155.1	9201.5	0.3	0.0	7405.7	34768.8	0.3	62.9	32.8	17218.7
Etmopterus spinax	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Eutrigla gurnardus	0.0	0.0	0.0	31.1	0.0	627.8	3.5	0.0	0.0	39.5
Galeorhinus galeus	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	33.3
Galeus melastomus	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	90.2
Gymnura altavela	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heptranchias perlo	0.0	0.0	0.0	0.0	0.0	11.8	1.4	0.0	0.0	1.9
Hexanchus griseus	0.0	0.0	0.0	0.4	6.2	1.6	7.7	0.0	0.0	1.2
Illex spp,Todarodes spp	0.0	0.0	0.0	193.1	535.7	2281.3	0.0	0.0	0.0	1193.3
Istiophoridae	0.0	0.0	0.0	0.0	0.0	34.6	0.0	0.0	0.0	0.3
Isurus oxyrinchus	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.2
Lamna nasus	0.0	0.0	0.0	0.0	0.0	0.6	1.5	0.0	0.0	0.0
Leucoraja circularis	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Leucoraja melitensis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loligo vulgaris	0.0	154.2	11.6	217.8	256.7	1351.5	14.3	0.0	11.3	482.5
Lophius budegassa *	0.0	99.5	0.8	431.6	365.9	206.7	3.4	0.0	0.0	1201.1
Lophius piscatorius *	0.0	0.0	0.0	0.0	278.9	1241.8	3.0	0.0	0.0	407.6
Merluccius merluccius	0.0	1007.0	9.7	1394.2	2430.8	9298.5	23.2	0.0	0.7	3411.8
Micromesistius poutassou	0.0	52.2	0.0	14.5	359.2	351.6	2.4	0.0	0.0	1553.8
Mugilidae	0.0	91.8	1.9	161.5	101.9	4658.7	0.9	2.0	27.5	302.7
Mullus barbatus *	270.4	1133.6	25.2	6.9	1915.0	5753.5	26.2	4.1	3.2	1377.7
Mullus surmuletus *	0.0	19.1	43.9	294.5	1007.4	1666.3	47.9	0.0	0.2	677.7
Mustelus asterias	0.0	0.0	0.0	0.0	0.0	14.0	0.8	0.0	0.0	0.0
Mustelus mustelus	0.0	16.1	0.0	0.0	0.0	8.3	1.6	0.0	1.2	29.9
Mustelus punctulatus	0.0	0.0	0.0	0.0	0.0	221.0	0.2	0.0	0.0	0.0
Myliobatis aquila	0.0	15.7	0.0	0.1	17.9	0.0	0.0	0.0	0.1	10.8
Nephrops norvegicus	0.0	321.4	0.0	5.4	301.3	1847.0	1.3	0.0	0.0	605.4
Octopus vulgaris	0.0	234.8	44.0	826.3	2331.2	2728.0	31.5	0.0	0.0	3222.2
Oxynotus centrina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Pagellus erythrinus	0.0	69.1	14.0	145.4	765.3	855.0	14.2	0.0	8.5	633.0
Parapenaeus longirostris	0.0	342.5	0.0	3.6	2282.2	8084.2	25.9	0.0	0.0	275.1
Penaeus kerathurus	0.0	0.0	0.0	1.5	754.0	692.8	0.0	0.0	0.5	0.0
Prionace glauca	0.0	0.0	0.0	3.4	0.0	98.0	3.0	0.0	0.0	86.1
Pristis pectinata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pristis pristis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Psetta maxima	35.5	21.0	0.0	12.0	0.0	110.7	0.0	43.2	1.2	37.5
Pteroplatytrygon violacea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Raja asterias	0.0	0.0	0.0	7.0	5.6	0.0	0.0	0.0	0.2	18.6
Raja clavata	0.0	0.0	0.0	16.6	1.8	360.3	29.3	0.2	0.2	87.1
Raja miraletus	0.0	0.0	0.0	0.0	0.1	35.3	0.1	0.0	0.0	0.0
Raja undulata	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Rhinobatos cemiculus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhinobatos rhinobatos	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Rostroraja alba	0.0	0.0	0.0	4.3	0.0	0.0	1.7	0.0	0.0	0.0
Sarda sarda	1.8	107.2	0.8	45.0	217.2	1219.0	1.5	0.0	0.2	439.9
Sardina pilchardus	0.0	55367.2	2.1	0.0	6077.8	22760.5	33.0	0.0	41.5	15558.9
Scomber spp	0.0	642.4	0.0	850.8	1201.7	2058.7	0.0	0.0	0.0	4737.2
Scyliorhinus canicula	0.0	0.0	0.0	25.8	58.7	125.7	1.0	0.0	0.0	322.0
Scyliorhinus stellaris	0.0	0.0	0.0	0.1	0.0	0.5	0.8	0.0	0.0	0.0
Sepia officinalis	0.0	187.6	21.6	101.7	1281.6	5527.8	19.9	0.0	6.1	923.3
Shark-like Selachii	0.0	0.0	10.0	0.0	0.0	37.8	0.0	0.0	0.0	2.3
Solea vulgaris	0.0	214.6	0.0	136.0	467.4	1958.1	0.5	0.4	12.6	124.9
Sparus aurata	0.0	76.9	27.1	402.0	648.7	612.0	4.4	0.0	13.6	840.1
Sphyrna lewini	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna mokarran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna tudes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna zygaena	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spicara smaris	0.0	129.1	92.8	6.9	364.9	188.5	0.0	0.0	0.0	209.8
Sprattus sprattus	2923.0	60.1	0.0	0.0	0.0	90.3	57.0	77.5	2.0	7.1
Squalus acanthias	3.0	14.2	0.0	1.6	46.0	0.0	8.0	2.5	0.0	3.8
Squalus blainvillei	0.0	0.0	0.0	0.0	0.0	0.0	27.9	0.0	0.0	6.4
Squatina aculeata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squatina oculata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squatina squatina	0.0	0.0	0.0	0.3	5.6	0.0	0.0	0.0	0.0	0.0
Squilla mantis	0.0	3.4	0.0	0.0	471.8	4820.5	0.0	0.0	0.7	757.2
Thunnus alalunga	0.0	48.0	347.5	0.3	0.0	1040.7	36.6	0.0	0.0	299.2
Thunnus thynnus	0.0	14.6	17.7	682.7	30.7	0.0	149.5	0.0	0.0	1100.3
Trachurus mediterraneus *	172.2	256.4	1.7	8.4	102.8	392.6	9.1	18.1	4.6	3137.3
Trachurus trachurus *	0.0	0.0	2.0	394.8	213.0	2546.5	23.5	0.0	0.0	2779.1
Trigla lucerna	0.0	0.0	0.0	10.6	64.7	0.0	0.0	0.0	0.0	27.6
Veneridae	0.0	77.7	0.0	0.3	0.0	1456.6	0.0	0.0	0.2	24.0
Xiphias gladius	0.0	25.4	48.5	69.7	1343.9	3424.3	446.6	0.0	0.0	2742.9
Total	3417.9	70095.6	815.4	7221.5	35303.3	133757.0	1342.8	210.7	192.9	70694.9

Table 4.2: Average landings (in tons) over the 2012 to 2014 period, for each species from Appendix VII of Commission Decision 2010/93/EU and for each Member State from the Mediterranean and Black Sea. The asterisk indicates genders for which the disaggregation by species is not systematic for all member states.

	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
Eledone spp.	0.0	0.0	0.0	0.0	0.0	2516.9	2.5	0.0	20.4	1880.5
Lophius spp.	0.0	99.5	0.8	431.6	644.8	1448.4	6.4	0.0	0.0	1608.7
Mullus spp.	270.4	1152.7	69.1	301.4	2922.4	7419.8	74.1	4.1	3.4	2055.4
Trachurus spp.	172.2	256.4	3.7	403.1	315.8	2939.1	32.5	18.1	4.6	5916.4

Table 4.3: Average landings (in tons) over the 2012 to 2014 period, for genders for which the disaggregation by species is not systematic for all member states.

Species	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
Alopias superciliosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Alopias vulpinus	0.00	0.00	0.00	11.25	0.00	88.75	0.00	0.00	0.00	0.00
Anguilla anguilla	0.00	0.14	0.00	91.01	0.00	3.52	0.00	0.00	0.00	5.33
Aristeomorpha foliacea	0.00	0.00	0.00	0.00	1.04	97.45	1.49	0.00	0.00	0.02
Aristeus antennatus	0.00	0.00	0.02	0.00	0.00	35.83	0.13	0.00	0.00	64.03
Boops boops	0.00	2.13	2.30	4.73	37.35	40.85	1.07	0.00	0.02	11.55
Carcharhinus plumbeus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carcharias taurus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Centrophorus granulosus	0.00	0.00	0.00	0.00	0.00	0.00	5.45	0.00	0.00	94.55
Cetorhinus maximus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Coryphaena equiselis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coryphaena hippurus	0.00	0.15	0.01	0.01	1.48	66.66	22.04	0.00	0.00	9.65
Dalathias licha	0.00	0.00	0.00	3.47	0.00	0.00	0.00	0.00	0.00	96.53
Dicentrarchus labrax	0.00	1.13	0.45	27.07	14.98	35.45	0.03	0.00	0.53	20.37
Dipturus batis	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00
Dipturus oxyrinchus	0.00	0.00	0.00	92.63	1.58	0.00	4.74	0.00	0.00	1.05
Eledone cirrhosa *	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	99.98
Eledone moschata *	0.00	0.00	0.00	0.00	0.00	89.53	0.08	0.00	0.73	9.66
Engraulis encrasicolus	0.23	13.37	0.00	0.00	10.76	50.50	0.00	0.09	0.05	25.01
Etmopterus spinax	0.00	0.00	0.00	57.14	0.00	0.00	0.00	0.00	0.00	42.86
Eutrigla gurnardus	0.00	0.00	0.00	4.44	0.00	89.44	0.49	0.00	0.00	5.63
Galeorhinus galeus	0.00	0.00	0.00	1.33	0.00	0.00	0.00	0.00	0.00	98.67
Galeus melastomus	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	99.78
Gymnura altavela	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heptranchias perlo	0.00	0.00	0.00	0.00	0.00	78.30	8.92	0.00	0.00	12.78
Hexanchus griseus	0.00	0.00	0.00	2.14	36.22	9.64	45.18	0.00	0.00	6.82
Illex spp, Todarodes spp	0.00	0.00	0.00	4.59	12.74	54.27	0.00	0.00	0.00	28.39
Istiophoridae	0.00	0.00	0.00	0.00	0.00	99.14	0.00	0.00	0.00	0.86
Isurus oxyrinchus	0.00	0.00	0.00	0.00	0.00	0.00	4.29	0.00	0.00	95.71
Lamna nasus	0.00	0.00	0.00	0.00	0.00	28.57	71.43	0.00	0.00	0.00
Leucoraja circularis	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Leucoraja melitensis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loligo vulgaris	0.00	6.17	0.46	8.71	10.27	54.06	0.57	0.00	0.45	19.30
Lophius budegassa *	0.00	4.31	0.04	18.69	15.85	8.95	0.15	0.00	0.00	52.02
Lophius piscatorius *	0.00	0.00	0.00	0.00	14.44	64.30	0.16	0.00	0.00	21.10
Merluccius merluccius	0.00	5.73	0.05	7.93	13.83	52.91	0.13	0.00	0.00	19.41
Micromesistius poutassou	0.00	2.24	0.00	0.62	15.39	15.07	0.10	0.00	0.00	66.58
Mugilidae	0.00	1.72	0.03	3.02	1.91	87.10	0.02	0.04	0.51	5.66
Mullus barbatus *	2.57	10.78	0.24	0.07	18.21	54.71	0.25	0.04	0.03	13.10
Mullus surmuletus *	0.00	0.51	1.17	7.84	26.81	44.35	1.27	0.00	0.01	18.04
Mustelus asterias	0.00	0.00	0.00	0.00	0.00	94.58	5.42	0.00	0.00	0.00
Mustelus mustelus	0.00	28.23	0.00	0.00	0.00	14.49	2.81	0.00	2.05	52.43
Mustelus punctulatus	0.00	0.00	0.00	0.00	0.00	99.93	0.07	0.00	0.00	0.00
Myliobatis aquila	0.00	35.20	0.00	0.15	40.13	0.00	0.00	0.00	0.30	24.22
Nephrops norvegicus	0.00	10.43	0.00	0.18	9.78	59.93	0.04	0.00	0.00	19.65
Octopus vulgaris	0.00	2.49	0.47	8.77	24.75	28.97	0.33	0.00	0.00	34.21
Oxynotus centrina	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Pagellus erythrinus	0.00	2.76	0.56	5.81	30.56	34.14	0.57	0.00	0.34	25.27
Parapenaeus longirostris	0.00	3.11	0.00	0.03	20.72	73.40	0.23	0.00	0.00	2.50
Penaeus kerathurus	0.00	0.00	0.00	0.10	52.05	47.82	0.00	0.00	0.03	0.00
Prionace glauca	0.00	0.00	0.00	1.79	0.00	51.46	1.56	0.00	0.00	45.20
Pristis pectinata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pristis pristis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psetta maxima	13.58	8.04	0.00	4.61	0.00	42.39	0.00	16.54	0.47	14.36
Pteroplatytrygon violacea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Raja asterias	0.00	0.00	0.00	22.38	17.82	0.00	0.00	0.00	0.64	59.17
Raja clavata	0.00	0.00	0.00	3.35	0.36	72.73	5.91	0.03	0.05	17.57
Raja miraletus	0.00	0.00	0.00	0.00	0.28	99.34	0.38	0.00	0.00	0.00
Raja undulata	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhinobatos cemiculus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhinobatos rhinobatos	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rostroraja alba	0.00	0.00	0.00	71.91	0.00	0.00	28.09	0.00	0.00	0.00
Sarda sarda	0.09	5.28	0.04	2.22	10.69	59.97	0.07	0.00	0.01	21.64
Sardina pilchardus	0.00	55.46	0.00	0.00	6.09	22.80	0.03	0.00	0.04	15.58

Scomber spp	0.00	6.77	0.00	8.96	12.66	21.69	0.00	0.00	0.00	49.91
Scyliorhinus canicula	0.00	0.00	0.00	4.84	11.01	23.57	0.19	0.00	0.00	60.39
Scyliorhinus stellaris	0.00	0.00	0.00	6.82	0.00	36.36	56.82	0.00	0.00	0.00
Sepia officinalis	0.00	2.32	0.27	1.26	15.88	68.50	0.25	0.00	0.08	11.44
Shark-like Selachii	0.00	0.00	19.92	0.00	0.00	75.55	0.00	0.00	0.00	4.53
Solea vulgaris	0.00	7.36	0.00	4.67	16.04	67.18	0.02	0.01	0.43	4.28
Sparus aurata	0.00	2.93	1.03	15.32	24.71	23.31	0.17	0.00	0.52	32.01
Sphyrna lewini	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna mokarran	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna tudes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna zygaena	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spicara smaris	0.00	13.01	9.35	0.70	36.78	19.01	0.00	0.00	0.00	21.15
Sprattus sprattus	90.86	1.87	0.00	0.00	0.00	2.81	1.77	2.41	0.06	0.22
Squalus acanthias	3.83	17.94	0.00	2.06	58.11	0.00	10.11	3.12	0.00	4.84
Squalus blainvillei	0.00	0.00	0.00	0.00	0.00	0.00	81.26	0.00	0.00	18.74
Squatina aculeata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squatina oculata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squatina squatina	0.00	0.00	0.00	5.06	94.38	0.00	0.00	0.00	0.00	0.56
Squilla mantis	0.00	0.06	0.00	0.00	7.79	79.63	0.00	0.00	0.01	12.51
Thunnus alalunga	0.00	2.71	19.61	0.02	0.00	58.73	2.06	0.00	0.00	16.88
Thunnus thynnus	0.00	0.73	0.89	34.21	1.54	0.00	7.49	0.00	0.00	55.14
Trachurus mediterraneus *	4.20	6.25	0.04	0.20	2.51	9.57	0.22	0.44	0.11	76.46
Trachurus trachurus *	0.00	0.00	0.03	6.62	3.57	42.73	0.39	0.00	0.00	46.64
Trigla lucerna	0.00	0.00	0.00	10.30	62.90	0.00	0.00	0.00	0.00	26.80
Veneridae	0.00	4.98	0.00	0.02	0.00	93.44	0.00	0.00	0.01	1.54
Xiphias gladius	0.00	0.31	0.60	0.86	16.59	42.27	5.51	0.00	0.00	33.86
Total	1.06	21.70	0.25	2.24	10.93	41.40	0.42	0.07	0.06	21.88

Table 4.4: Contribution (percent) of each member state to the average landings for each species from Appendix VII of Commission Decision 2010/93/EU. The asterisk indicates genders for which the disaggregation by species is not systematic for all member states.

A quick analysis of the tables shows that some Member states are very dominant in the exploitation of some significant commercial species (around or over 75% of the whole EU Mediterranean catches): Bulgaria (sprat), France (eel), Italy (Aristeomorpha, deepwater rose shrimp, nephrops, Squilla, clams, cuttlefish, grey mullets, sole, albacore, swordfish, billfishes, commercial rays, pelagic sharks), Greece (anglerfish), Spain (Mediterranean horse mackerel, demersal sharks). Italy and Malta land more than 90

4.2 Average over the past years

Since in 2015 several years of data were collected, it was decided to make a similar table, but using the average of the landings over available years for each member state, so that a general overview would be available. The years used for this analysis are presented in table 12.1. The results are shown in Table ?? for the raw values and in Table 4.4 for the percentages.

Member State	Years
Spain	2009, 2010, 2011, 2012, 2013, 2014
France	2009, 2010, 2011, 2012, 2013, 2014
Italy	2009, 2010, 2011, 2012, 2013, 2014
Malta	2009, 2010, 2011, 2012, 2013, 2014
Slovenia	2010, 2011, 2009, 2013, 2012, 2014
Croatia	2013, 2014
Greece	2014

Cyprus 2014, 2009, 2010, 2011, 2012, 2013
 Bulgaria 2009, 2010, 2013, 2014, 2011, 2012
 Romania 2012, 2013, 2014

Table 4.5: Years used by Member State

Species	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
Alopias superciliosus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alopias vulpinus	0.0	0.0	0.0	1.8	0.0	30.9	0.2	0.0	0.1	0.7
Anguilla anguilla	0.0	0.6	0.0	322.8	0.0	16.1	0.0	0.0	0.0	10.2
Aristeomorpha foliacea	0.0	0.0	0.0	0.0	26.2	2433.6	36.9	0.0	0.0	0.9
Aristeus antennatus	0.0	0.0	0.3	1.3	0.0	591.0	2.1	0.0	0.0	1040.0
Boops boops	0.0	83.7	141.9	202.0	1467.6	1874.5	48.6	0.0	1.2	377.4
Carcharhinus plumbeus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carcharias taurus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Centrophorus granulosus	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.4
Cetorhinus maximus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Coryphaena equiselis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coryphaena hippurus	0.0	1.7	0.1	0.1	17.3	1257.0	340.6	0.0	0.1	127.2
Dalathias licha	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	5.3
Dicentrarchus labrax	0.0	5.4	1.6	163.8	71.9	162.4	0.1	0.0	3.6	95.0
Dipturus batis	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Dipturus oxyrinchus	0.0	0.0	0.0	8.8	0.3	0.0	0.5	0.0	0.0	0.2
Eledone cirrhosa *	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1285.3
Eledone moschata *	0.0	0.0	0.1	0.2	0.0	2952.7	2.6	0.0	21.8	140.2
Engraulis encrasicolus	88.4	9201.5	0.3	0.0	7405.7	43171.0	4.4	62.9	102.6	13686.7
Etmopterus spinax	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Eutrigla gurnardus	0.0	0.0	0.0	26.0	0.0	604.4	2.1	0.0	0.0	32.2
Galeorhinus galeus	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	33.3
Galeus melastomus	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	86.3
Gymnura altavela	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heptranchias perlo	0.0	0.0	0.0	0.0	0.0	30.8	1.3	0.0	0.0	3.9
Hexanchus griseus	0.0	0.0	0.0	0.3	6.2	1.0	4.8	0.0	0.0	1.8
Illex spp, Todarodes spp	0.0	0.0	0.0	161.4	535.7	2915.5	0.0	0.0	0.0	654.5
Istiophoridae	0.0	0.0	0.0	0.0	0.0	125.7	0.0	0.0	0.0	0.3
Isurus oxyrinchus	0.0	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0	5.3
Lamna nasus	0.0	0.0	0.0	0.1	0.0	0.4	0.7	0.0	0.0	0.0
Leucoraja circularis	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Leucoraja melitensis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loligo vulgaris	0.0	154.2	14.1	200.6	256.7	1423.3	13.7	0.0	14.3	378.1
Lophius budegassa *	0.0	99.5	0.7	595.1	365.9	241.7	1.9	0.0	0.0	1125.9
Lophius piscatorius *	0.0	0.0	0.0	0.0	278.9	1416.7	2.2	0.0	0.0	528.1
Merluccius merluccius	0.0	1007.0	10.5	1807.8	2430.8	10320.5	16.3	0.0	0.7	3815.6
Micromesistius poutassou	0.0	52.2	0.0	12.4	359.2	576.9	6.3	0.0	0.0	2047.0
Mugilidae	0.0	91.8	1.8	176.9	101.9	3652.2	0.9	2.0	25.4	262.0
Mullus barbatus *	270.4	1133.6	25.2	12.5	1915.0	5512.3	19.1	4.1	3.3	1166.2
Mullus surmuletus *	0.0	19.1	55.8	267.6	1007.4	2014.8	49.6	0.0	0.1	686.3
Mustelus asterias	0.0	0.0	0.0	0.0	0.0	10.6	1.1	0.0	0.0	0.0
Mustelus mustelus	0.0	16.1	0.0	0.0	0.0	7.7	1.4	0.0	1.2	26.8
Mustelus punctulatus	0.0	0.0	0.0	0.0	0.0	255.1	0.2	0.0	0.0	0.0
Myliobatis aquila	0.0	15.7	0.0	0.1	17.9	0.0	1.1	0.0	0.2	12.5
Nephrops norvegicus	0.0	321.4	0.0	9.7	301.3	2505.9	1.8	0.0	0.0	584.6
Octopus vulgaris	0.0	234.8	39.9	619.4	2331.2	3122.7	27.5	0.0	0.0	3096.0
Oxynotus centrina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Pagellus erythrinus	0.0	69.1	14.1	136.8	765.3	867.2	14.4	0.0	7.0	493.7
Parapenaeus longirostris	0.0	342.5	0.0	3.8	2282.2	9016.6	20.8	0.0	0.0	259.2

Penaeus kerathurus	0.0	0.0	0.0	1.9	754.0	744.5	0.0	0.0	0.3	6.5
Prionace glauca	0.0	0.0	0.0	1.9	0.0	130.2	2.1	0.0	0.0	74.4
Pristis pectinata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pristis pristis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Psetta maxima	40.9	21.0	0.0	9.8	0.0	92.8	0.0	43.2	1.1	13.9
Pteroplatytrygon violacea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Raja asterias	0.0	0.0	0.0	6.3	5.6	0.0	0.0	0.0	0.1	18.6
Raja clavata	0.0	0.0	0.0	14.5	1.8	374.3	22.2	0.2	0.2	62.6
Raja miraletus	0.0	0.0	0.0	0.0	0.1	30.8	0.1	0.0	0.0	0.0
Raja undulata	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Rhinobatos cemiculus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhinobatos rhinobatos	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rostroraja alba	0.0	0.0	0.0	4.5	0.0	0.0	1.2	0.0	0.0	0.0
Sarda sarda	1.8	107.2	0.8	35.3	217.2	1285.9	2.5	0.0	0.7	664.6
Sardina pilchardus	0.0	55367.2	1.6	0.0	6077.8	19094.9	11.5	0.0	210.2	15776.8
Scomber spp	0.0	642.4	0.0	649.6	1201.7	2060.1	0.0	0.0	0.0	4070.7
Scyliorhinus canicula	0.0	0.0	0.0	30.7	58.7	119.4	0.8	0.0	0.0	270.3
Scyliorhinus stellaris	0.0	0.0	0.0	0.6	0.0	0.5	0.8	0.0	0.0	0.0
Sepia officinalis	0.0	187.6	27.1	85.1	1281.6	6471.1	23.9	0.0	7.9	802.5
Shark-like Selachii	0.0	0.0	10.3	0.1	0.0	45.1	0.0	0.0	0.0	5.4
Solea vulgaris	0.0	214.6	0.0	149.7	467.4	1952.7	0.3	0.4	11.7	88.2
Sparus aurata	0.0	76.9	15.4	423.6	648.7	480.8	2.4	0.0	8.8	741.7
Sphyrna lewini	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna mokarran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna tudes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sphyrna zygaena	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spicara smaris	0.0	129.1	119.9	8.9	364.9	276.9	6.0	0.0	0.0	195.5
Sprattus sprattus	3479.6	60.1	0.0	0.1	0.0	109.6	57.0	77.5	7.3	7.1
Squalus acanthias	3.6	14.2	0.0	2.5	46.0	0.0	8.0	2.5	0.0	2.6
Squalus blainvillei	0.0	0.0	0.0	0.1	0.0	0.0	19.8	0.0	0.0	7.0
Squatina aculeata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squatina oculata	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squatina squatina	0.0	0.0	0.0	0.1	5.6	0.0	0.0	0.0	0.0	0.0
Squilla mantis	0.0	3.4	0.0	0.0	471.8	5428.3	0.0	0.0	2.5	707.6
Thunnus alalunga	0.0	48.0	277.5	0.3	0.0	1717.0	19.8	0.0	0.0	286.1
Thunnus thynnus	0.0	14.6	11.3	469.5	30.7	0.0	167.7	0.0	0.0	1252.6
Torpedo marmorata	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Trachurus mediterraneus *	181.2	256.4	1.6	17.2	102.8	400.6	12.5	18.1	7.4	2472.5
Trachurus trachurus *	0.0	0.0	1.8	476.9	213.0	3204.3	17.6	0.0	0.0	3475.8
Trigla lucerna	0.0	0.0	0.0	16.1	64.7	0.0	0.0	0.0	0.0	23.1
Veneridae	0.0	77.7	0.0	1.1	0.0	1776.1	0.0	0.0	1.4	27.0
Xiphias gladius	0.0	25.4	41.0	55.1	1343.9	4463.8	426.8	0.0	0.0	3187.1
Total	3854.6	70095.6	813.9	7186.5	35303.3	147361.5	1345.1	210.7	441.1	66240.5

Table 4.6: Average landings (in tons) over the 2009 to 2014 period, for each species from Appendix VII of Commission Decision 2010/93/EU and for each Member State from the Mediterranean and Black Sea. The asterisk indicates genders for which the disaggregation by species is not systematic for all member states.

	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
Eledone spp.	0.0	0.0	0.1	0.2	0.0	2952.7	2.8	0.0	21.8	1425.5
Lophius spp.	0.0	99.5	0.7	595.1	644.8	1658.4	4.1	0.0	0.0	1654.0
Mullus spp.	270.4	1152.7	81.0	280.2	2922.4	7527.1	68.7	4.1	3.4	1852.5
Trachurus spp.	181.2	256.4	3.5	494.1	315.8	3604.9	30.1	18.1	7.4	5948.3

Table 4.7: Average landings (in tons) over the 2012 to 2014 period, for genders for which the disaggregation by species is not systematic for all member states.

Species	Bulgaria	Croatia	Cyprus	France	Greece	Italy	Malta	Romania	Slovenia	Spain
<i>Alopias superciliosus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Alopias vulpinus</i>	0.00	0.00	0.00	5.31	0.00	91.96	0.50	0.00	0.15	2.08
<i>Anguilla anguilla</i>	0.00	0.17	0.00	92.31	0.00	4.60	0.00	0.00	0.00	2.92
<i>Aristeomorpha foliacea</i>	0.00	0.00	0.00	0.00	1.05	97.44	1.48	0.00	0.00	0.04
<i>Aristeus antennatus</i>	0.00	0.00	0.02	0.08	0.00	36.15	0.13	0.00	0.00	63.62
<i>Boops boops</i>	0.00	1.99	3.38	4.81	34.97	44.66	1.16	0.00	0.03	8.99
<i>Carcharhinus plumbeus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Carcharias taurus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Centrophorus granulosus</i>	0.00	0.00	0.00	0.00	0.00	0.00	14.85	0.00	0.00	85.15
<i>Cetorhinus maximus</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
<i>Coryphaena equiselis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Coryphaena hippurus</i>	0.00	0.10	0.00	0.01	0.99	72.07	19.53	0.00	0.00	7.30
<i>Dalathias licha</i>	0.00	0.00	0.00	5.39	0.00	0.00	0.00	0.00	0.00	94.61
<i>Dicentrarchus labrax</i>	0.00	1.07	0.31	32.51	14.27	32.23	0.02	0.00	0.72	18.85
<i>Dipturus batis</i>	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00
<i>Dipturus oxyrinchus</i>	0.00	0.00	0.00	89.49	3.05	0.00	5.42	0.00	0.00	2.03
<i>Eledone cirrhosa</i> *	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	99.98
<i>Eledone moschata</i> *	0.00	0.00	0.00	0.01	0.00	94.71	0.08	0.00	0.70	4.50
<i>Engraulis encrasicolus</i>	0.12	12.48	0.00	0.00	10.05	58.56	0.01	0.09	0.14	18.56
<i>Etmopterus spinax</i>	0.00	0.00	0.00	55.56	0.00	0.00	0.00	0.00	0.00	44.44
<i>Eutrigla gurnardus</i>	0.00	0.00	0.00	3.91	0.00	90.93	0.32	0.00	0.00	4.84
<i>Galeorhinus galeus</i>	0.00	0.00	0.00	0.71	0.00	0.00	0.20	0.00	0.00	99.09
<i>Galeus melastomus</i>	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	99.88
<i>Gymnura altavela</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Heptranchias perlo</i>	0.00	0.00	0.00	0.00	0.00	85.37	3.72	0.00	0.00	10.91
<i>Hexanchus griseus</i>	0.00	0.00	0.00	1.95	43.95	7.09	34.02	0.00	0.00	12.99
<i>Illex spp, Todarodes spp</i>	0.00	0.00	0.00	3.78	12.55	68.32	0.00	0.00	0.00	15.34
<i>Istiophoridae</i>	0.00	0.00	0.00	0.00	0.00	99.76	0.00	0.00	0.00	0.24
<i>Isurus oxyrinchus</i>	0.00	0.00	11.41	0.00	0.00	0.00	1.63	0.00	0.00	86.96
<i>Lamna nasus</i>	0.00	0.00	0.00	8.81	0.00	31.72	59.47	0.00	0.00	0.00
<i>Leucoraja circularis</i>	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
<i>Leucoraja melitensis</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Loligo vulgaris</i>	0.00	6.28	0.57	8.17	10.46	57.98	0.56	0.00	0.58	15.40
<i>Lophius budegassa</i> *	0.00	4.09	0.03	24.48	15.05	9.94	0.08	0.00	0.00	46.32
<i>Lophius piscatorius</i> *	0.00	0.00	0.00	0.00	12.53	63.64	0.10	0.00	0.00	23.73
<i>Merluccius merluccius</i>	0.00	5.19	0.05	9.31	12.52	53.17	0.08	0.00	0.00	19.66
<i>Micromesistius poutassou</i>	0.00	1.71	0.00	0.41	11.76	18.89	0.21	0.00	0.00	67.03
<i>Mugilidae</i>	0.00	2.13	0.04	4.10	2.36	84.64	0.02	0.05	0.59	6.07
<i>Mullus barbatus</i> *	2.69	11.27	0.25	0.12	19.03	54.79	0.19	0.04	0.03	11.59
<i>Mullus surmuletus</i> *	0.00	0.47	1.36	6.53	24.57	49.13	1.21	0.00	0.00	16.74
<i>Mustelus asterias</i>	0.00	0.00	0.00	0.00	0.00	90.43	9.57	0.00	0.00	0.00
<i>Mustelus mustelus</i>	0.00	30.29	0.00	0.00	0.00	14.42	2.60	0.00	2.29	50.39
<i>Mustelus punctulatus</i>	0.00	0.00	0.00	0.00	0.00	99.94	0.06	0.00	0.00	0.00
<i>Myliobatis aquila</i>	0.00	33.08	0.00	0.14	37.71	0.00	2.42	0.00	0.35	26.30
<i>Nephrops norvegicus</i>	0.00	8.63	0.00	0.26	8.09	67.28	0.05	0.00	0.00	15.69
<i>Octopus vulgaris</i>	0.00	2.48	0.42	6.54	24.61	32.97	0.29	0.00	0.00	32.69
<i>Oxynotus centrina</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
<i>Pagellus erythrinus</i>	0.00	2.92	0.60	5.78	32.33	36.63	0.61	0.00	0.29	20.85
<i>Parapenaeus longirostris</i>	0.00	2.87	0.00	0.03	19.14	75.61	0.17	0.00	0.00	2.17
<i>Penaeus kerathurus</i>	0.00	0.00	0.00	0.12	50.03	49.40	0.00	0.00	0.02	0.43

Prionace glauca	0.00	0.00	0.00	0.92	0.00	62.42	1.00	0.00	0.00	35.66
Pristis pectinata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pristis pristis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psetta maxima	18.34	9.43	0.00	4.42	0.00	41.67	0.00	19.40	0.48	6.26
Pteroplatytrygon violacea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Raja asterias	0.00	0.00	0.00	20.62	18.28	0.00	0.00	0.00	0.38	60.72
Raja clavata	0.00	0.00	0.00	3.05	0.38	78.67	4.67	0.03	0.04	13.16
Raja miraletus	0.00	0.00	0.00	0.00	0.32	99.36	0.32	0.00	0.00	0.00
Raja undulata	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhinobatos cemiculus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rhinobatos rhinobatos	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rostroraja alba	0.00	0.00	0.00	79.44	0.00	0.00	20.56	0.00	0.00	0.00
Sarda sarda	0.08	4.63	0.03	1.52	9.38	55.52	0.11	0.00	0.03	28.70
Sardina pilchardus	0.00	57.35	0.00	0.00	6.30	19.78	0.01	0.00	0.22	16.34
Scomber spp	0.00	7.45	0.00	7.53	13.93	23.89	0.00	0.00	0.00	47.20
Scyliorhinus canicula	0.00	0.00	0.00	6.39	12.23	24.88	0.17	0.00	0.00	56.33
Scyliorhinus stellaris	0.00	0.00	0.00	32.14	0.00	24.11	43.75	0.00	0.00	0.00
Sepia officinalis	0.00	2.11	0.31	0.96	14.42	72.82	0.27	0.00	0.09	9.03
Shark-like Selachii	0.00	0.00	17.00	0.08	0.00	74.02	0.00	0.00	0.00	8.90
Solea vulgaris	0.00	7.44	0.00	5.19	16.20	67.69	0.01	0.01	0.40	3.06
Sparus aurata	0.00	3.21	0.64	17.66	27.05	20.05	0.10	0.00	0.37	30.93
Sphyrna lewini	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna mokarran	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna tudes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sphyrna zygaena	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spicara smaris	0.00	11.72	10.89	0.81	33.14	25.15	0.54	0.00	0.00	17.75
Sprattus sprattus	91.61	1.58	0.00	0.00	0.00	2.89	1.50	2.04	0.19	0.19
Squalus acanthias	4.60	17.88	0.00	3.08	57.92	0.00	10.07	3.11	0.00	3.34
Squalus blainvillei	0.00	0.00	0.00	0.37	0.00	0.00	73.64	0.00	0.00	25.99
Squatina aculeata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squatina oculata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squatina squatina	0.00	0.00	0.00	2.60	97.11	0.00	0.00	0.00	0.00	0.29
Squilla mantis	0.00	0.05	0.00	0.00	7.13	82.08	0.00	0.00	0.04	10.70
Thunnus alalunga	0.00	2.04	11.82	0.01	0.00	73.11	0.84	0.00	0.00	12.18
Thunnus thynnus	0.00	0.75	0.58	24.12	1.58	0.00	8.61	0.00	0.00	64.35
Torpedo marmorata	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Trachurus mediterraneus *	5.22	7.39	0.05	0.50	2.96	11.54	0.36	0.52	0.21	71.24
Trachurus trachurus *	0.00	0.00	0.03	6.45	2.88	43.36	0.24	0.00	0.00	47.04
Trigla lucerna	0.00	0.00	0.00	15.46	62.27	0.00	0.00	0.00	0.00	22.26
Veneridae	0.00	4.13	0.00	0.06	0.00	94.30	0.00	0.00	0.08	1.44
Xiphias gladius	0.00	0.27	0.43	0.58	14.08	46.78	4.47	0.00	0.00	33.40
Total	1.16	21.06	0.24	2.16	10.61	44.27	0.40	0.06	0.13	19.90

Table 4.8: Contribution (percent) of each member state to the average landings for each species from Appendix VII of Commission Decision 2010/93/EU. The asterisk indicates genders for which the disaggregation by species is not systematic for all member states.

The comparison between tables 4.4 and 4.8 does not show notable changes. The more important Member states exploiting the main commercial stocks remain the same and comments abovementioned are still relevant.

Chapter 5

ToR 3) For the métiers which are exploiting a shared stock and selected by the ranking system, the number of sampling trips by metier at the GSA level can be determined.

5.1 Introduction

5.1.1 Data source

Here we use the data from the table IIIC3 of the national programs to build the dataset. It has to be noted that 2013 data was used as besides for Spain, 2014 data were not available. The tables of the national programs were collected from the JRC website at the following adress: <http://datacollection.jrc.ec.europa.eu/national-programmes-and-annual-reports>.

5.1.2 Case studies

The group examined the métiers exploiting shared stocks between different Member States (MS). It has to be noted that the group did not consider that the list of shared stocks was exhaustive. A list, originating from GFCM, was proposed to the group for consideration in the years to come. The list is presented in the ToR 9 section. The métiers selected in the ranking system are sampled by different MS. For the present ToR, the share of the different MS for the sampling effort of these métiers was investigated. The number of trips to be sampled by métier and MS was estimated as the proportion of the total number of samples, accounting for both landing (in tons) and effort (in days) of every MS in the shared area. The group considered the following cases:

- Gulf of Lions (GSA 7): Shared stock between France and Spain.
- Strait of Sicily (GSA 15 & 16): Shared stock between Italy and Malta.
- Northern Adriatic Sea (GSA 17): Shared stock among Italy, Slovenia and Croatia.
- Black Sea (GSA 29): Shared stock between Bulgaria and Romania.

5.2 Results

5.2.1 GSA 7

Metier	MS	Catch	Effort	N	PcentC	PcentE	Estim.N.C	Estim.N.E
OTB_DEF_>=40_0_0	France	763151	15123	12	54	89	19	32
	Spain	653110	1923	24	46	11	17	4
PS_SPF_>=14_0_0	Spain	97170	52	36	100	100	36	36
GTR_DEF_>=16_0_0	France	548183	26415	198	100	100	198	198
LLS_DEF_0_0_0	Spain	26110	912	48	100	100	48	48

Table 5.1: Estimated number of samples to be taken by MS considering catches (Estim. N (C)) and effort (Estim. N (E)) for the shared métiers in the Gulf of Lions (GSA 7). N: number of planned samples to be taken in accordance to National Programs (2013).

5.2.2 GSA 15 & 16

Metier	MS	Catch	Effort	N	PcentC	PcentE	Estim.N.C	Estim.N.E
OTB.DEF_>=40_0_0	Malta	128522	590	12	2	2	1	1
	Italy	7848702	37164	35	98	98	46	46
PS.SPF_>=14_0_0	Italy	2270544	1666	12	100	100	12	12
	Malta	47295	4654	12	26	38	8	12
LLS.DEF_0_0_0	Italy	138260	7540	19	74	62	23	19
	Malta	10174	85	12	100	100	12	12
GTR.DEF_>=16_0_0	Malta	24071	6173	12	2	8	1	5
	Italy	1442495	69135	46	98	92	57	53
FPO.DEF_0_0_0	Malta	35278	23116	12	100	100	12	12
OTB.MDD_>40_0_0	Italy	3665820	14944	67	100	100	67	67
PTM.SPF_>=20_0_0	Italy	942806	2599	12	100	100	12	12

Table 5.2: Estimated number of samples to be taken by MS considering catches (Estim. N (C)) and effort (Estim. N (E)) for the shared métiers in the straight of sicily (GSA 15 and 16). N: number of planned samples to be taken in accordance to National Programs (2013).

5.2.3 GSA 17

Metier	MS	Catch	Effort	N	PcentC	PcentE	Estim.N.C	Estim.N.E
GNS_DEF_>=16_0_0	Slovenia	20510	2220	8	1	2	1	2
	Italy	1785692	65941	61	79	52	73	49
	Croatia	459014	57484	24	20	46	19	43
GTR_DEF_0_0_0	Slovenia	20502	3524	8	100	100	8	8
OTB_DEF_>=40_0_0	Slovenia	50855	727	8	0	1	1	1
	Italy	15228700	65580	78	76	62	130	106
	Croatia	4679697	39158	85	23	37	40	63
PS_SPF_>=14_0_0	Slovenia	68543	185	20	0	1	0	1
	Italy	1340054	1918	12	2	6	2	6
	Croatia	67956661	28867	60	98	93	90	86
GTR_DEF_>=16_0_0	Croatia	401683	36740	24	100	100	24	24
FPO_DEF_0_0_0	Italy	952816	24672	25	100	100	25	25
PTM_SPF_>=20_0_0	Italy	33853686	15803	14	100	100	14	14
DRB_MOL_0_0_0	Italy	16193958	44159	57	100	100	57	57

Table 5.3: Estimated number of samples to be taken by MS considering catches (Estim. N (C)) and effort (Estim. N (E)) for the shared métiers in the northern Adriatic (GSA 17). N: number of planned samples to be taken in accordance to National Programs (2013).

5.2.4 GSA 29

Metier	MS	Catch	Effort	N	PcentC	PcentE	Estim.N.C	Estim.N.E
GNS_DEF_400_0_0	Bulgaria	30396	1986	32	40	88	37	81
	Romania	44681	257	60	60	12	55	11

Table 5.4: Estimated number of samples to be taken by MS considering catches (Estim. N (C)) and effort (Estim. N (E)) for the shared métiers in the Black Sea (GSA 29). N: number of planned samples to be taken in accordance to National Programs (2013).

However the group is critical towards the usefulness and applicability of the advice originating from these tables. It was recalled that for the métiers that have been selected through the ranking system for sampling, the current DCF sets a minimum number of trips to be sampled. Through the exercise of re-allocating the number of trips among the MS that share certain métiers, based on their contribution in landings and effort, in many cases the results suggest very low number of trips for some of the MS, which does not reach the minimum number of trips required by DCF. In such a case, the re-allocation cannot be followed. Furthermore, it is not expected that this exercise of re-allocating trips will provide any improvement on the quality of the data collected, since the initial number of trips proposed are not based on statistically sound methods. The group stresses that a more suitable approach should be investigated in the future for selecting the number of trips to be sampled and for proposing sampling coordination among the relevant MS.

Chapter 6

ToR 4) Investigate sampling stratification and assess the CV for shared stocks both for the Mediterranean (GSA 7, GSA 15-16, GSA 17), Black Sea and large pelagics.

6.1 Foreword

ToR 4 issue was to analyse the benefit brought by merging all information available at the GSA level to calculate the precision level, coefficient of variation (CV), achieved for shared stocks for length measurements. The precision was assessed using the methodology described by Vigneau and Mahevas (2007). It is based on the comparison of the number at length in the sample with the number at length of all samples rescaled to the sampled weight. This method allows the estimation of the precision for each length class and for the whole LFD at stock or métier level. However, the group considers that the computation of the CV should be made by properly accounting for the stratification of the data and that it should be made sure that the precision levels provided in the Commission decision 2010/93/EU is adapted to the delta statistics used here. It has to be noted that the group did not consider that the list of shared stocks was exhaustive. A list, originating from GFCM, was proposed to the group for consideration in the years to come. The list is presented in the ToR 9 section. The investigation of the stratification was initiated during a practical, during which participants could use the code provided in Annex 4.

Data The data requested were length frequency distributions, number of individuals measured by length class, by sampling trip and métier for the year 2014. Shared stocks provided were to be coherent to those listed in table III C 5 of the MS technical report 2011. For example, in GSA 7, both Spain and France participate to the sampling of *Merluccius merluccius* and both MS should thus provide information for this stock.

6.2 Demersals

Data availability

MS	GSA	Species	Metier	Number of individuals	Number of sampled trips
France	GSA7	Solea solea	DRB_MOL	50	5
France	GSA7	Lophius budegassa	GTR_DEF	5	3
France	GSA7	Merluccius merluccius	GTR_DEF	663	21
France	GSA7	Mullus barbatus	GTR_DEF	50	3
France	GSA7	Mullus surmuletus	GTR_DEF	63	3
France	GSA7	Solea solea	GTR_DEF	277	9
France	GSA7	Lophius piscatorius	LLS_DEF	5	2
France	GSA7	Merluccius merluccius	LLS_DEF	536	30
France	GSA7	Mullus barbatus	LLS_DEF	176	4
France	GSA7	Mullus surmuletus	LLS_DEF	173	6
France	GSA7	Solea solea	LLS_DEF	965	48
France	GSA7	Engraulis encrasicolus	OTB_DEF	1726	51
France	GSA7	Lophius budegassa	OTB_DEF	3220	250
France	GSA7	Lophius piscatorius	OTB_DEF	473	146
France	GSA7	Merluccius merluccius	OTB_DEF	17080	386
France	GSA7	Mullus barbatus	OTB_DEF	6423	191
France	GSA7	Mullus surmuletus	OTB_DEF	569	86
France	GSA7	Sardina pilchardus	OTB_DEF	1873	52
France	GSA7	Solea solea	OTB_DEF	2863	275
France	GSA7	Engraulis encrasicolus	OTM_SPF	2117	27
France	GSA7	Merluccius merluccius	OTM_SPF	87	4
France	GSA7	Sardina pilchardus	OTM_SPF	818	13
France	GSA7	Engraulis encrasicolus	OTT_DEF	68	5
France	GSA7	Lophius budegassa	OTT_DEF	120	6
France	GSA7	Lophius piscatorius	OTT_DEF	68	7
France	GSA7	Merluccius merluccius	OTT_DEF	556	11
France	GSA7	Mullus barbatus	OTT_DEF	580	11
France	GSA7	Mullus surmuletus	OTT_DEF	53	7
France	GSA7	Sardina pilchardus	OTT_DEF	68	4
France	GSA7	Solea solea	OTT_DEF	109	11
France	GSA7	Sardina pilchardus	PS_SPF	1166	19
Italy	GSA15-16	Merluccius merluccius	GTR_DEF	19	4
Italy	GSA15-16	Mullus barbatus	GTR_DEF	17	3
Italy	GSA15-16	Mullus surmuletus	GTR_DEF	335	16
Italy	GSA15-16	Merluccius merluccius	OTB_DEF	3470	26
Italy	GSA15-16	Mullus barbatus	OTB_DEF	2789	24
Italy	GSA15-16	Mullus surmuletus	OTB_DEF	1311	12
Italy	GSA15-16	Merluccius merluccius	OTB_DWS	281	5
Italy	GSA15-16	Mullus barbatus	OTB_DWS	168	2
Italy	GSA15-16	Mullus surmuletus	OTB_DWS	245	2
Italy	GSA15-16	Merluccius merluccius	OTB_MDD	443	3
Italy	GSA15-16	Mullus barbatus	OTB_MDD	919	9
Italy	GSA15-16	Mullus surmuletus	OTB_MDD	1084	8
Malta	GSA15-16	Mullus surmuletus	GTR_DEF	320	4
Spain	GSA7	Merluccius merluccius	LLS_DEF	10901	275
Spain	GSA7	Merluccius merluccius	OTB_DEF	1558	17
Spain	GSA7	Mullus barbatus	OTB_DEF	679	9
Spain	GSA7	Merluccius merluccius	OTB_DWS	225	13

Table 6.1: Number of individuals and trips sampled by member state, GSA, species and gear available. Only the cases with more than one trip sampled are presented.

6.2.1 Case studies for CV computation

For the demersal species, the following case studies were selected:

MS	Species	GSA	N	NA
Italy	Merluccius merluccius	GSA15-16	4218	39
Malta	Merluccius merluccius	GSA15-16	6	1
Italy	Mullus surmuletus	GSA15-16	2975	38
Malta	Mullus surmuletus	GSA15-16	320	4
France	Merluccius merluccius	GSA7	18958	453
Spain	Merluccius merluccius	GSA7	12703	306
France	Mullus barbatus	GSA7	7240	210
Spain	Mullus barbatus	GSA7	679	9

Table 6.2: Case studies selected for CV computation.

6.2.2 Results

Results are summarized in Table 6.3. The CVs were calculated for 90% of the number of individuals by removing the tails (5% on each side) according to the Commission Decision 949/2008. The results (Table 6.3) showed that the 12.5% level was achieved for hake in GSA7.

MS	GSA	Species	CV	N trips
France,Spain	GSA7	Merluccius merluccius	13.8	747
France,Spain	GSA7	Mullus barbatus	32.7	202
Italy,Malta	GSA15-16	Mullus surmuletus	63.1	41

Table 6.3: CV and number of sampled trips for the different case studies available

6.3 Large pelagics

Table 6.4 indicates CV estimates for main species, métiers and compiles list of MS collecting samples. A clear relation appears between CV and number of samples: highly sampled species by métiers have low CV below the DCF 12.5% target. Samples comprised in the range of 200-500 allow CV below 12.5% but this depends on species and métiers considered. Further study should explore CV structure by stocks, métier and country and conduct simulation to evaluate impact of improved sampling in selected stratum (the most variable) on overall CV.

Species	Metier level 6	MS	CV	Number of samples
Auxis rochei	FPN_LPF_0_0_0	ESP	18	37
Auxis thazard	LHP_LPF_0_0_0	ESP	11	134
Auxis thazard	PS_LPF_0_0_0	ESP	4	1607
Coryphaena hippurus	LLD_LPF_0_0_0	ITA	75	19
Coryphaena hippurus	MIS	ITA	28	32
Euthynnus affinis	PS_LPF_0_0_0	ESP	52	22
Euthynnus alletteratus	FPN_LPF_0_0_0	ESP	38	59
Euthynnus alletteratus	LHP_LPF_0_0_0	ESP	12	107
Euthynnus alletteratus	PS_LPF_0_0_0	ESP	7	479
Istiophorus albicans	LLD_LPF_0_0_0	PRT	34	28
Istiophorus platypterus	LLD_LPF_0_0_0	PRT	26	4
Isurus oxyrinchus	LLD_LPF_0_0_0	ESP, PRT	23	386
Katsuwonus pelamis	LHP_LPF_0_0_0	ESP, FRA	5	1334
Katsuwonus pelamis	PS_LPF_0_0_0	ESP, FRA	2	7038
Makaira nigricans	LLD_LPF_0_0_0	PRT	29	32
Prionace glauca	LLD_LPF_0_0_0	ESP, FRA, PRT	14	486
Sarda sarda	FPN_LPF_0_0_0	ESP	20	65
Sarda sarda	LLD_LPF_0_0_0	ITA, PRT	13	24
Sarda sarda	MIS	ITA	18	35
Thunnus alalunga	LHP_LPF_0_0_0	ESP, FRA	10	473
Thunnus alalunga	LLD_LPF_0_0_0	ESP, FRA, ITA, PRT	24	166
Thunnus alalunga	LTR_LPF	ESP	24	75
Thunnus alalunga	PS_LPF_0_0_0	ESP, FRA	25	249
Thunnus alalunga	PTM_LPF_0_0_0	FRA	11	324
Thunnus albacares	LHP_LPF_0_0_0	ESP, FRA	16	936
Thunnus albacares	LLD_LPF_0_0_0	ESP, PRT	24	51
Thunnus albacares	PS_LPF_0_0_0	ESP, FRA	5	9730
Thunnus obesus	LHP_LPF_0_0_0	ESP, FRA	5	1213
Thunnus obesus	LLD_LPF_0_0_0	ESP, PRT	23	102
Thunnus obesus	PS_LPF_0_0_0	ESP, FRA	5	8124
Thunnus thynnus	FPN_LPF_0_0_0	ESP	15	10
Thunnus thynnus	LHM_LPF_0_0_0	ESP	17	231
Thunnus thynnus	LHP_LPF_0_0_0	ESP, FRA	34	169
Thunnus thynnus	LLD_LPF_0_0_0	ESP, FRA, HRV, ITA	27	181
Thunnus thynnus	LTL_LPF_0_0_0	FRA	81	8
Thunnus thynnus	MIS	ITA	34	5
Thunnus thynnus	PS_LPF_0_0_0	ITA	42	4
Thunnus thynnus	PS_LPF_>=14_0_0	HRV	39	17
Thunnus thynnus	PTM_LPF_0_0_0	FRA	53	110
Xiphias gladius	LLD_LPF_0_0_0	ESP, FRA, HRV, ITA, PRT	5	1590

Table 6.4: CV and number of samples.

Chapter 7

ToR 5) Analyse the extension of the problem concerning the fishing performed in a different GSA than their original one (MED and BS only)

No new data was made available to the 2015 group compared to 2014. Therefore the 2015 group assumed that the cases presented in the 2014 report were still relevant to the 2015 situation and decided to include them in the present report. However, if needed, such information should be updated or new data should be collected for the years to come. In 2014, Data were made available by Cyprus, Spain, Slovenia and Croatia. For both Slovenia and Croatia this ToR was not applicable as fishing is operated within the limits of their territorial waters in GSA 17. For the other MS, no information was made available.

Information from last year The following tables describe the situation for those countries that made information available to the 2014 group. In general, the case studies available during PGMed did not show any remarkable issues. However, the lack of information for the rest of the countries prevented a deeper discussion about the extension of this problem in the Mediterranean.

MS	Spain	Métier	OTB DWS
Original GSA	1 (North Alboran Sea)	Fishing GSA	2 (Alboran Island)
Description of the Fisheries An annually fixed number of boats from 1 port (Almeria) of GSA 1 perform five-day trips in GSA 2, during 6 months each year and land their catches in GSA 1 ports. In 2013, 214 trips were carried out.			
Catches and effort assignment Information on the origin is available through the daily sale bills. Sampling is carried out on board (concurrent sampling).			

MS	Cyprus	Métier	OTB MDD / OTB DEF
Original GSA	25 (Cyprus Island)	Fishing GSA	14 (Gulf of Gabes), 15 (Malta Island), 21 (Southern Ionian Sea)
Description of the Fisheries 1 bottom trawler operating in central Mediterranean all year round, landing the catches both in original GSA (25) or in GSA 15. Main species landed in GSA 25 are <i>Mullus spp.</i>			
Catches and effort assignment Information (including sampling) is obtained by Malta (GSA 15) in the framework of a bi-lateral agreement with Cyprus.			

MS	Cyprus	Métier	OTB DEF
Original GSA	25 (Cyprus Island)	Fishing GSA	24 (North Levant), 26 (South Levant)
Description of the Fisheries 3 bottom otter trawls operating in eastern Mediterranean international waters all year round. Catches are landed in GSA 25.			
Catches and effort assignment Information is obtained in GSA 25. As the fishing GSAs are non-EU waters, no sampling is carried out.			

MS	Spain	Métier	OTB DEF / OTB DWS / OTB MDD
Original GSA	6 (Northern Spain)	Fishing GSA	7 (Gulf of Lions)
Description of the Fisheries An annually fixed number of boats from 1 port (Rosas) of GSA 6 perform their trips in GSA 7, and land their catches in GSA 6. In 2013, the number of trips by metier were: 56 OTB DEF, 44 OTB DWS and 11 OTB MDD.			
Catches and effort assignment Information on the origin is available through the daily sale bills. For OTB DEF and OTB DWS no sampling is carried out in this port but in a different one whose fleets always operates in GSA 7. For OTB MDD, no sampling is carried out because this metier is not selected in GSA 7 in the ranking system. No specific comment. Information is obtained in GSA 25. As the fishing GSAs are non-EU waters, no sampling is carried out.			

MS	Spain	Métier	OTB DWS
Original GSA	6 (Northern Spain)	Fishing GSA	5 (Balearic Islands)
Description of the Fisheries An annually fixed number of boats from 3 ports of GSA 6 perform five-day long trips in GSA 5, during 2 months each year and land their catches in GSA 6 ports. In 2013 227 trips were carried out.			
Catches and effort assignment Information on the origin is available through the daily sale bills. Sampling was performed on board, but due to its high cost and to the fact that these data were not used in the stock assessment, the sampling is no longer carried out.			

Chapter 8

ToR 6) Data quality: present current approaches and case studies from the Mediterranean and for large pelagics, review of advances from other international working groups

This year, scripts were provided by Norbert BILLET (IRD) to the group, so that standard data quality reports could be produced by each MS on the dataset they provided to the group. The script includes many items, among which several were obtained from WKPICS (2 and 3) and from PGCCDBS 2014. The reports were designed to enable MS to investigate their dataset and identify potential problems and inconsistencies in their dataset. The present section presents a fictive case-study to illustrate the suitability of the tool as a standard approach for future meetings. As part of the practical session, MS representatives were trained to run the scripts on their data. The script is available in the Annex 4 of the present report.

8.1 Example

Exploration of a fictive dataset

PGMED 2015 Participants

Contents

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2.3	Countries over years	2
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1 COST description

Class: clData

Description: Unknown stock

Number of rows: 7411

2 Dimensions

2.1 Vessel flag countries

The dataset include following vessel flag countries:

Table 1: Summary for the “Vessel flag country” dimension

Vessel flag country	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
PGcountry	7411	100	16044.76	100	12515901	100

2.2 Years

The dataset include following years:

Table 2: Summary for the “Year” dimension

Year	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
2009	1086	15	1940.77	12	1386138	11

Year	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
2010	1262	17	2530.35	16	225	0
2011	1104	15	3079.50	19	156522	1
2012	1502	20	2779.34	17	2528367	20
2013	1254	17	2658.10	17	5033052	40
2014	1203	16	3056.70	19	3411597	27

2.3 Countries over years

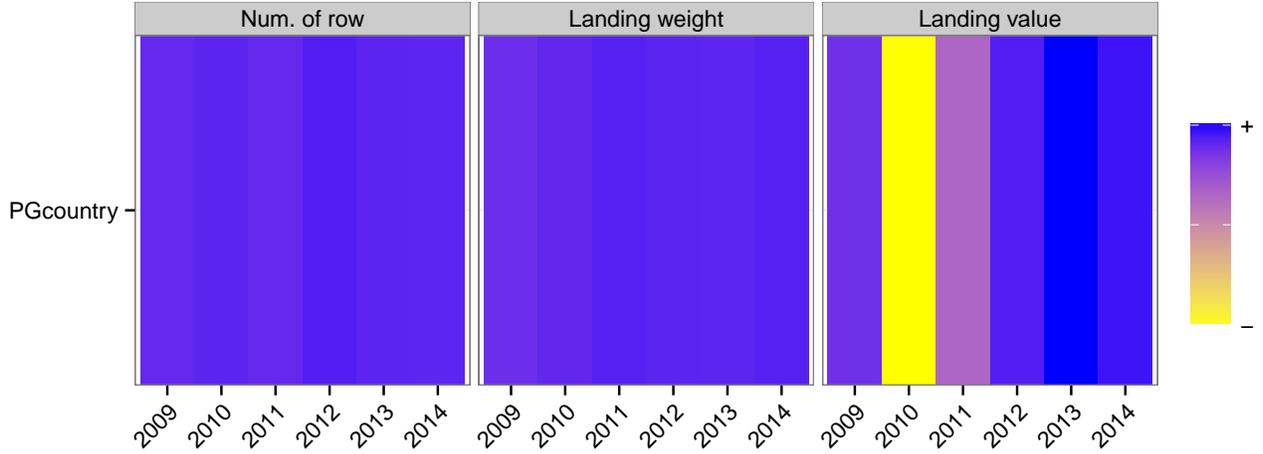


Figure 1: Contribution of countries over years

2.4 Metiers

2.4.1 List of metiers

The dataset include following metiers level 6:

Table 3: Summary for the “Metier level 6” dimension

Metier level 6	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
LHP_LPF_0_0_0	479	6	3243.20	20	3161245	25
LLD_LPF_0_0_0	404	5	1127.32	7	5904495	47
PS_LPF_0_0_0	6528	88	11674.24	73	3450161	28

2.4.2 Metiers over years

2.5 Time granularity

The dataset can be aggregated from the temporal point of view at the following levels, by metier:

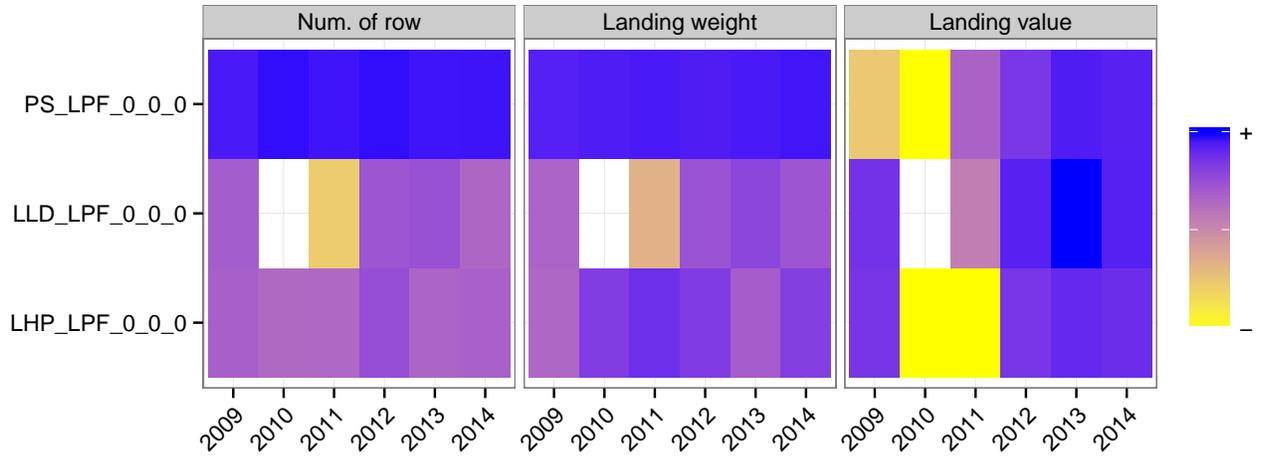


Figure 2: Contribution of metiers over years

Table 4: Temporal granularity (Y:year, Q:quarter, M:month, D:day)

Metier	PGcountry
LHP_LPF_0_0_0	Y-Q-M
LLD_LPF_0_0_0	Y-Q-M
PS_LPF_0_0_0	Y-Q-M

2.6 Species

2.6.1 List of species

- The dataset include the following 8 species (alphabetically ordered):

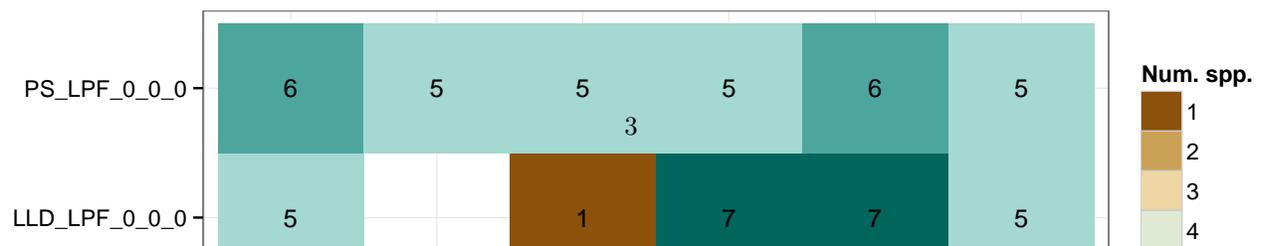
Table 5: Summary for the “Species” dimension

Species	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
Auxis thazard	183	2	77.33	0	220	0
Prionace glauca	125	2	153.19	1	102690	1
Sarda sarda	33	0	4.67	0	15903	0
Thunnus alalunga	382	5	197.57	1	403888	3
Thunnus albacares	3242	44	11825.71	74	1062965	8
Thunnus obesus	3145	42	2380.63	15	266961	2
Thunnus thynnus	199	3	1176.22	7	9294362	74
Xiphias gladius	102	1	229.44	1	1368912	11

- All species was found in the ASFIS reference table.

2.6.2 Number of species over years

- By metier



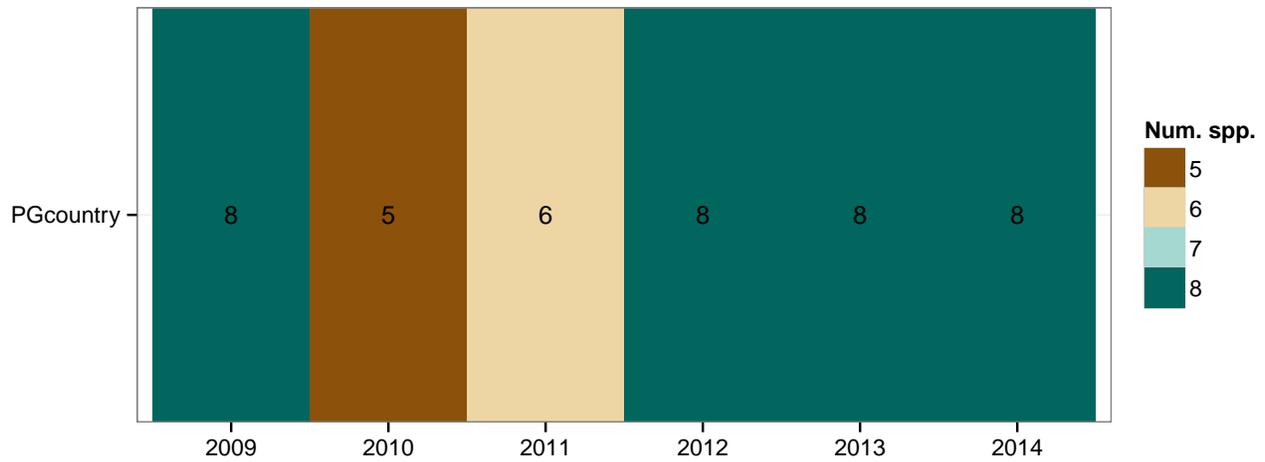


Figure 4: Number of species by country and by year

2.6.3 Species over years

- For the whole dataset the following species represents a contribution equal or superior than 90% in term of number of data, landing weight and values:

Thunnus alalunga, *Thunnus albacares*, *Thunnus obesus*, *Thunnus thynnus*, *Xiphias gladius*

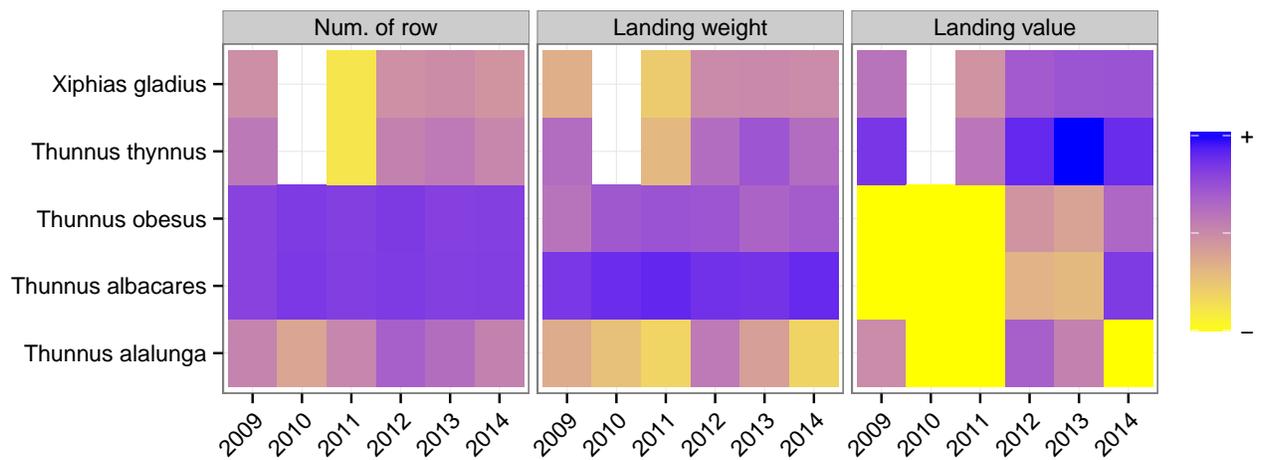


Figure 5: Contribution of main species over the years

2.6.4 Species by metier

2.6.4.1 PS_LPF_0_0_0

- For the metier **PS_LPF_0_0_0** the followings species represents a contribution egal or superior than 90% in term of number of data, landing weight and values:

Thunnus albacares, Thunnus obesus, Thunnus thynnus

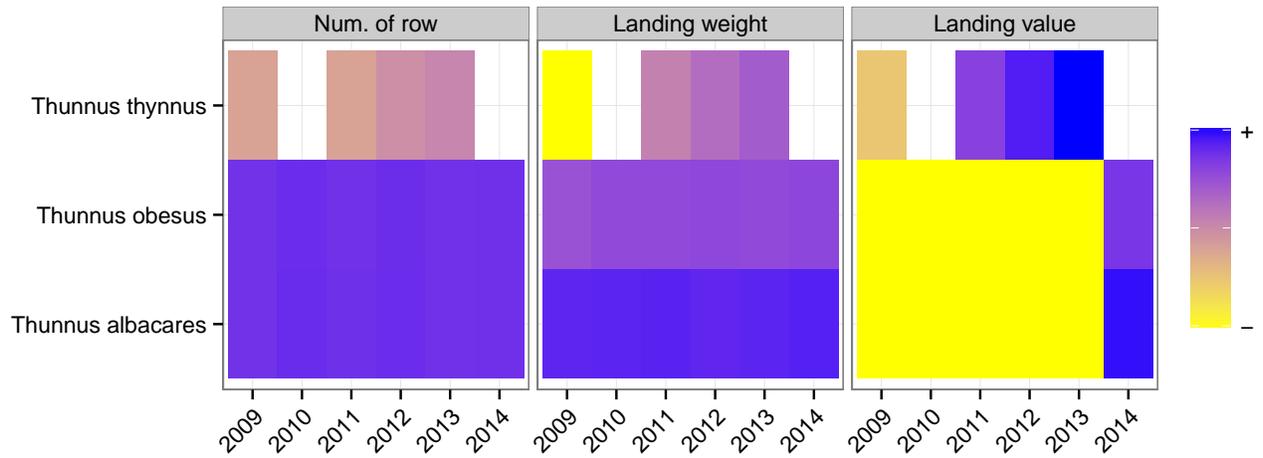


Figure 6: Contribution of main species over the years for the metier

2.6.4.2 LHP_LPF_0_0_0

- For the metier **LHP_LPF_0_0_0** the followings species represents a contribution equal or superior than 90% in term of number of data, landing weight and values:

Prionace glauca, Thunnus alalunga, Thunnus albacares, Thunnus obesus, Thunnus thynnus

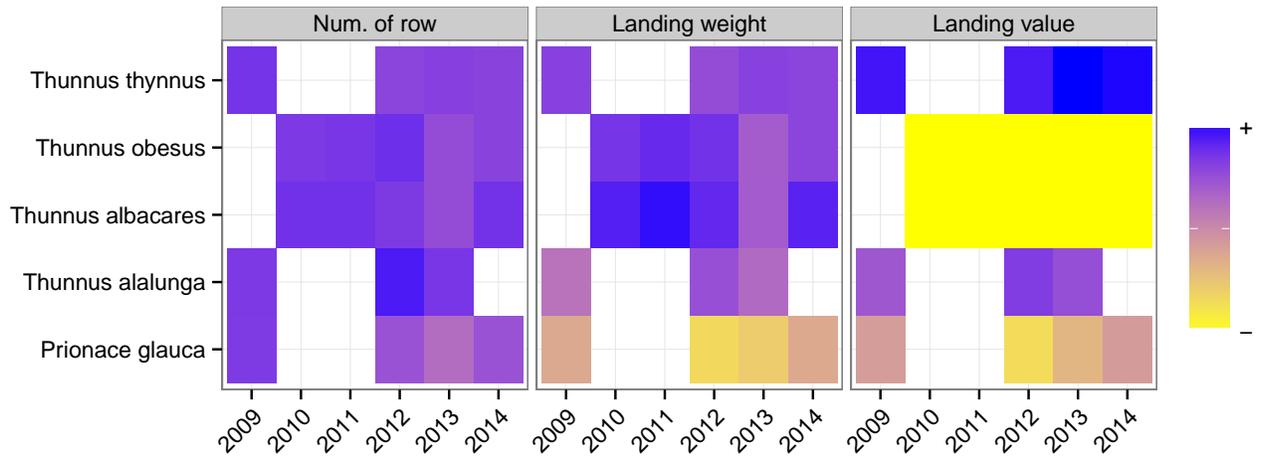


Figure 7: Contribution of main species over the years for the metier

2.6.4.3 LLD_LPF_0_0_0

- For the metier **LLD_LPF_0_0_0** the followings species represents a contribution egal or superior than 90% in term of number of data, landing weight and values:

Prionace glauca, Thunnus alalunga, Thunnus albacares, Thunnus thynnus, Xiphias gladius

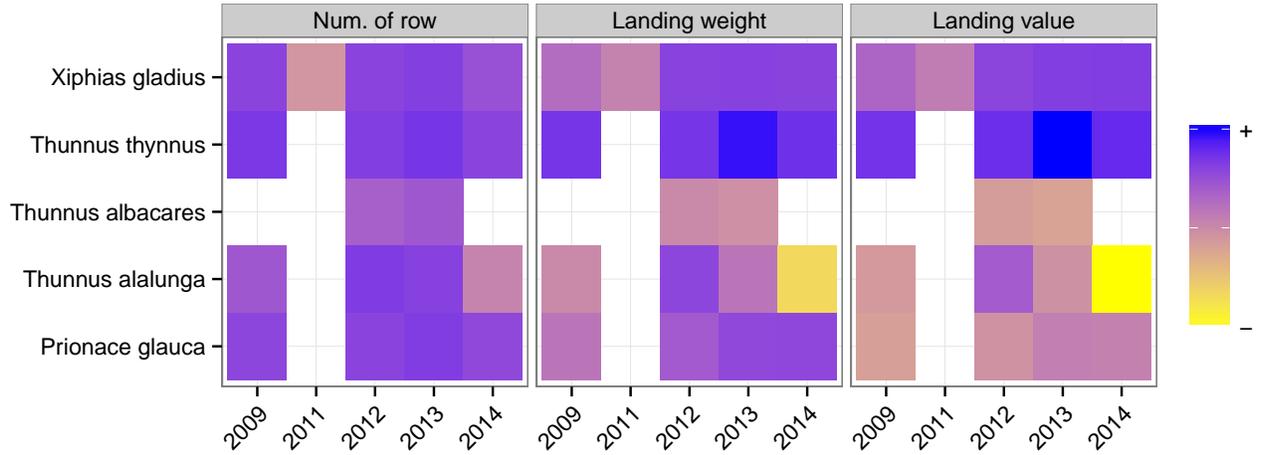


Figure 8: Contribution of main species over the years for the metier

2.7 Areas

From a geographical point of view, the dataset use the following referentials, by metier:

Table 6: Spatial granularity

Metier level 6	Spatial referentials
PS_LPF_0_0_0	CWPSquare, GSA, FAO
LHP_LPF_0_0_0	CWPSquare, FAO
LLD_LPF_0_0_0	FAO, CWPSquare

2.7.1 By seas and metiers

Table 7: Summary for the “Ocean” dimension

Ocean	Num. of rows	%	Landing weight (t)	%	Landing value (€)	%
ATL	7195	97	15171.94	95	5343768	43
MED	216	3	872.81	5	7172134	57

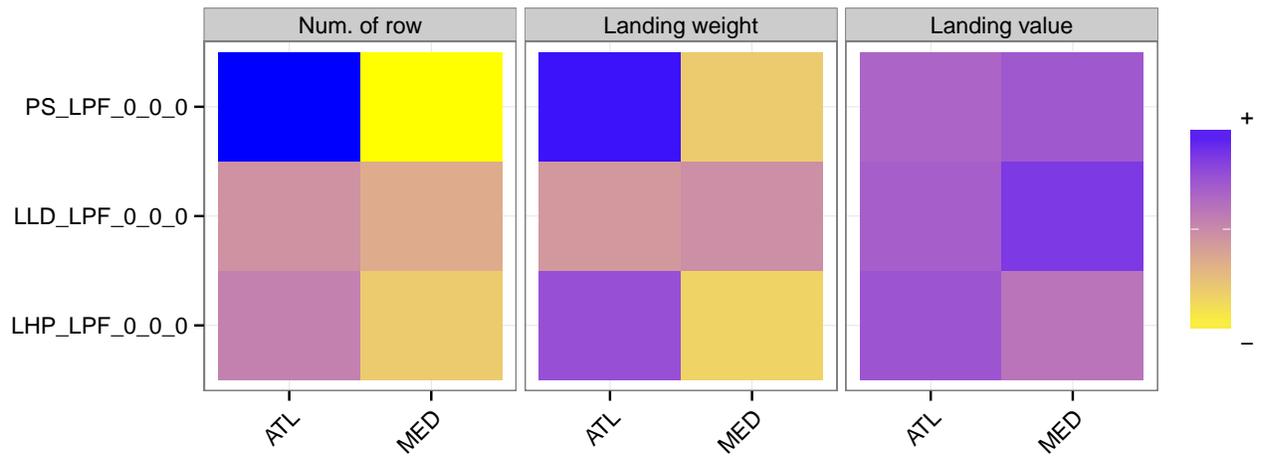


Figure 9: Contribution of metiers over seas

Chapter 9

ToR 7) Review obstacles encountered by countries to produce SDEF datasets starting from their national datasets. Produce detailed recommendation for RDB SC on format, codelists, range ...

The 2015 data call was different from previous years in various respects:

- Number of tables: reduced (landings, effort, sampling)
- Format: disaggregation of data by metier, species, MS, GSAs
- Amount of data: the period 2009-2014 was required

The call was a success as most of the countries were able to provide the required data (TOR1, table 12.1). Feedbacks were gathered from participants so that improvements could be made in the short-term. The dataset allowed for running tools in the R language such as the COST libraries, scripts for building data-quality reports (see Annex 4) and filling-out ICCAT task I and task II (TOR 8). It set the basis for the development and implementation of common approaches and tools for data collection in the Mediterranean region, Black Sea and for large pelagics species in the future. As this was the first year of the call, it required extra-effort to NC. This was found particularly true for MS that do not have a centralized database, as the data has to be collected from various sources. The group also noted the importance of accounting for the needs of the meeting for the next calls, to avoid spending time and effort to provide unnecessary data (in terms of disaggregation and amount). For instance, it was duly noted that the data call did not allow to fully answer the ToR 1 as data was only provided for a list of species.

The data-call also proved problematic to the organizers of the meeting. Some data were received late, and given the amount of data and sources of errors to check, it impaired the ability to provide ready-to-go and more in-depth analyses. It was also noted that the interaction between NCs and the organizers did not take place, which did not allow for providing support to MS for answering the call.

It was noted that the guidelines of the call should be made more explicit to MS: list of metiers codes to respect, format for area codes, etc. Several propositions were made to improve the data-call in the future:

- Improve and clarify the guidelines to make variables clearer and explicit
- R-Script to list problems in the dataset: provided to the MS
- Arrange for interactions between the PGMED team and NCs to provide support ahead of the call deadline
- List of common mistakes found in the data

As an illustration, a few common problems encountered are listed below:

Duplicated rows The provided data need to be aggregated to avoid the following, and common, problem:

```
XXX 2011 3 7 435000 Xiphias gladius LLD_LPF_0_0_0 5086
```

```
XXX 2011 3 7 435000 Xiphias gladius LLD_LPF_0_0_0 193314
```

Units for effort The unit required was *days at sea*. However, many other units were found: FISH.HOUR, FHOURS, NO.HOOKS, HOURS, HOOKS, HOURS.SEA, D.FISH, D.AT SEA, NULL, TRAP DAY and d.Fish

Area code When CWP square were provided, the codes were incorrect: the first digit which indicates the size of the square was missing. CWP codes definition can be found here. Neither 1x1 and 5x5 nor IATTC, BIL94A, BIL94B, BIL95, BIL96, BIL97, F51, F57, AL31, AL32, AL33, AL34, ATL, BF58, BF59, LLBE42, MED are appropriate area codes. The GSAs were also coded inhomogeneously, GSA or SA.

Species code ASFIS code was sometimes provided, which was annot a big issue, but sometimes other codes were provided that did not seem to correspond to any species, such as ZZ9. Presence of spaces, absence of caps for the first letter and special characters make the dataset inhomogeneous.

Other problems Sometimes important information was also missing:

- Missing or wrong area code
- Missing sampling weight
- Missing length class
- Missing number at length
- Duplicated data due to incorrect aggregation

Those problems were specifically identified in table 9.1 for the large pelagics data:

Country	National dataset	Data call table	Duplicated PK	Metier label	Metier subset	Area codes
Croatia	LP	Landings			X	X
Croatia	LP	Efforts			X	X
Croatia	LP	Samplings		X	X	X
Cyprus	LP	Landings	X	X	X	X
Cyprus	LP	Efforts	X	X		X
France	LP Med.	Landings		X	X	X
France	LP Med.	Efforts		X	X	X
France	LP Med.	Samplings		X	X	X
France	LP O.T.	Landings				
France	LP O.T.	Efforts				
France	LP O.T.	Samplings				
France	LP Other	Landings				
France	LP Other	Efforts				
France	LP Other	Samplings				
Italy	LP	Landings	X		X	X
Italy	LP	Efforts	X		X	X
Italy	LP	Samplings	X			X
Malta	LP	Landings		X	X	X
Malta	LP	Efforts		X	X	X
Portugal	LP Azores	Landings		X	X	X
Portugal	LP Azores	Efforts			X	X
Portugal	LP	Landings				X
Portugal	LP	Efforts				X
Portugal	LP	Samplings		X		X
Slovania	LP	Landings		X	X	X
Slovania	LP	Efforts		X	X	X
Spain	LP	Landings	X	X		X
Spain	LP	Efforts	X			X
Spain	LP	Samplings	X	X		

Table 9.1: Main problems encountered.

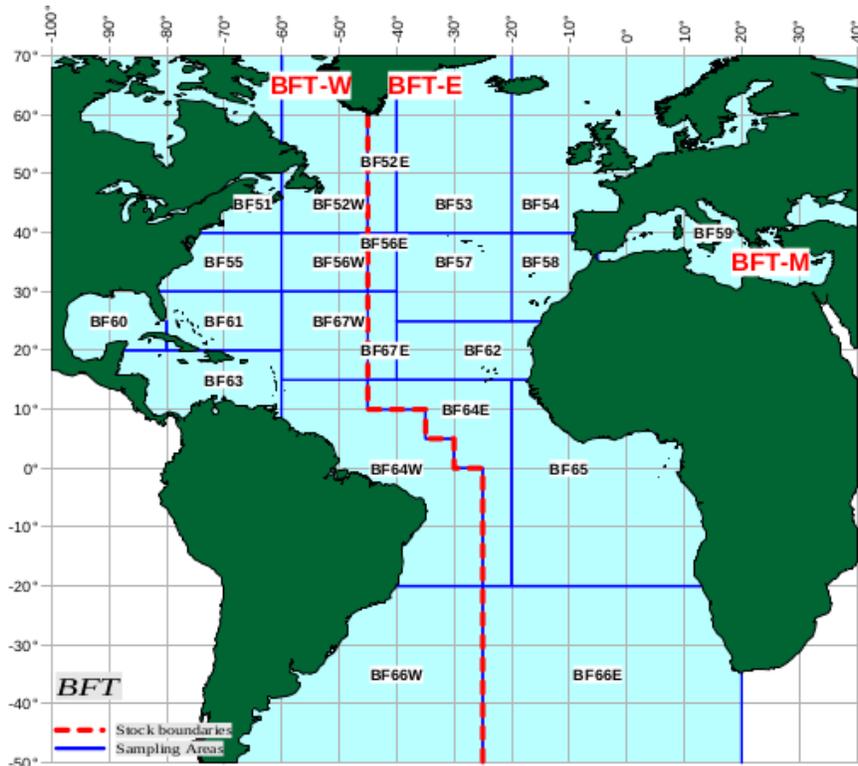


Figure 10.2: ICCAT stocks and sampling areas for *Thunnus thynnus*.

TASK I - NOMINAL CATCHES																	Version	Language				
ICCAT INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS																	2015a	ENG				
Statistical Correspondent																	Secretariat use only		Filtering criteria			
Affiliation Name <input type="text"/>																	Date reported <input type="text"/>		Filter 1		Filter 2	
E-mail <input type="text"/>																	Reference No <input type="text"/>		a) 0		0	
Identification Institution <input type="text"/>																	File name (proposed) <input type="text"/>		b) 0		0	
Department <input type="text"/>																			c) 0		0	
Address <input type="text"/>																			d) 0		0	
Country <input type="text"/>																						
Data set characteristics																	Notes					
Reporting flag <input type="text"/>																						
Years covered (from) <input type="text"/> (to) <input type="text"/>																	Quantities: kg					
Version reported <input type="text"/>																	Product type: LW					
Content (data) <input type="text"/>																						
Catch attributes																	Data processing (optional)					
Fleet ID <input type="text"/>																	Landings		Discards			
Flag of Vessel (cod)																	Data source		Corrections		Data source	
Base port/zone																	LU		LU		LD	
Year																						
Species (cod)																						
Stock (M.Unit)																						
Sampling area (cod)																						
Task / area																						
Gear (cod)																						
Fishing zone (cod)																						
Landed (dead, L)																						
Discards (dead, DD)																						
Discards (alive, DL)																						
Caged BFT (alive, FA)																						
Data source																						
Corrections																						
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Chapter 11

ToR 9) Any other business

11.1 Shared stocks

The list of shared stocks that have been used so far by the PGMED is incomplete. Therefore a list of shared stocks has been built upon the GFCM list. It has been suggested to use it as a reference for the future meetings.

English common name	Scientific name	Area	GSA	Countries (in bold EU countries)	Comments
Horned octopus	<i>Eledone cirrhosa</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy and Serbia-Montenegro	Group 2 species
Musky octopus	<i>Eledone moschata</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Anchovy	<i>Engraulis encrasicolus</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 1 species
Anchovy	<i>Engraulis encrasicolus</i>	Gulf of Lion	GSA 7	France and Spain	Group 1 species
European squid	<i>Loligo vulgaris</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Blackbellied angler	<i>Lophius budegassa</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Monkfish or angler	<i>Lophius piscatorius</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Hake	<i>Merluccius merluccius</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 1 species
Hake	<i>Merluccius merluccius</i>	Gulf of Lion	GSA 7	France and Spain	Group 1 species
Hake	<i>Merluccius merluccius</i>	North Tyrrhenian and Corsica	GSA 8 and GSA 9	France and Italy	Group 1 species
Hake	<i>Merluccius merluccius</i>	Sicily Channel	GSA 16 and GSA 15	Italy , Libya, Malta and Tunisia	Group 1 species
Red mullet	<i>Mullus barbatus</i>	Western Mediterranean	GSA 8 and GSA 11	Corsica and Sardinia	Group 1 species
Red mullet	<i>Mullus barbatus</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy,	Group 1 species

English common name	Scientific name	Area	GSA	Countries (in bold EU countries)	Comments
				Slovenia and Serbia-Montenegro	
Striped red mullet	<i>Mullus surmuletus</i>	Western Mediterranean	GSA 8 and GSA 11	Corsica and Sardinia	Group 1 species
Norway lobster	<i>Nephrops norvegicus</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 1 species
Norway lobster	<i>Nephrops norvegicus</i>	North Tyrrhenian and Corsica	GSA 8 and GSA 9	France and Italy	Group 1 species
Common pandora	<i>Pagellus erythrinus</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Deepwater rose shrimp	<i>Parapenaeus longirostris</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy and Serbia-Montenegro	Group 1 species
Sardine	<i>Sardina pilchardus</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 1 species
Atlantic mackerel	<i>Scomber scomber</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Common cuttlefish	<i>Sepia officinalis</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 2 species
Common sole	<i>Solea vulgaris</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro	Group 1 species
Blue whiting	<i>Micromesistius poutassou</i>	North Tyrrhenian and Corsica	GSA 8 and GSA 11	France and Italy	Group 2 species
Blue whiting	<i>Micromesistius poutassou</i>	Adriatic Sea	GSA 17	Albania, Croatia, Italy and Serbia-Montenegro	Group 2 species
Dolphin fish	<i>Coryphaena hippurus</i>	Western Mediterranean.	GSA 9, 10, 11, 16, 17, 18, 19, GSA	Italy, Malta, Spain and Tunisia	Group 1 species. Data should be reported at regional level

English common name	Scientific name	Area	GSA	Countries (in bold EU countries)	Comments
			15, GSA 5		(not at GSA level) as for other large pelagic species, C. hyppurus is considered a single stock at Med level.
Common spiny lobster	<i>Palinurus elephas</i>	Western Mediterranean	GSA 8 and GSA 11	Corsica and Sardinia	Group 3 species

SAC provisional shared stocks list/Liste provisoire des stocks partagés du CSC (GFCM, 2006) (Annex H - Report of the ninth session of the Scientific Advisory Committee of the GFCM, Rome, Italy, 24–27 October 2006).

11.2 Future of the PGMED

This year, the current Chair of PGMED (Tristan Rouyer) had to step down (involvement in Bluefin tuna stock assessment). A new chair will thus have to be appointed for 2016. Discussions followed about the future of the PGMED as a group. Historically the PGMED has been designed as a similar arena as the PGCCDBS, focussed on methodological matters. The meeting lasted a week, but the work that had to be done was often achieved in two days and the duration of the meeting was reduced accordingly. However, the larger amount of data acquired through the 2015 data-call required more work and enabled new analyses to be performed. However, the two days meeting currently dedicated to PGMED became too short and the group stressed that it should be extended in order to allow for deeper data analysis and discussions. Whatever the future of the group will be, it was noted that clarifications from the european commission about the RCGs and their place within the DCMAP were needed to help designing a more fruitful arena and its objectives.

It has been noted that in 2015, methodological aspects related to data access, data quality, sampling procedures and tools have actually been tackled during the meeting. This was found in line with the original objectives of the PGMED. The group reckognized that methodological reflexion on sampling methods and optimization at regional level would be facilitated if a regional database was established. The group also underlined that the association of the LP groups within PGMED was a positive aspect, which enlarged and complemented the scope of analyses.

Chapter 12

Annex 1: List of PGMed participants

Name	Country	Institute	Email
Beatriz Guijarro	Spain	IEO	beatriz@ba.ieo.es
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Table 12.1: List of PGMed participants

Chapter 13

Annex 2: Terms of Reference

TOR 1) Ranking system for GSAs exploited by more than one MS (GSAs 7, 15-16, 17, 29) for the whole Mediterranean and for the Black Sea

TOR 2) Reviewing and update of the landing template for the Mediterranean and for the Black Sea

TOR 3) For the metiers which are exploiting a shared stock and selected by the ranking system, the number of sampling trips by metier at the GSA level can be determined.

TOR 4) Investigate sampling stratification and assess the CV for shared stocks both for the Mediterranean (GSA 7, GSA 15-16, GSA 17), Black Sea and large pelagics.

TOR 5) Analyse the extension of the problem concerning the fishing performed in a different GSA than their original one (MED and BS only)

TOR 6) Data quality: present current approaches and case studies from the Mediterranean and for large pelagics, review of advances from other international working groups

TOR 7) Review obstacles encountered by countries to produce SDEF datasets starting from their national datasets. Produce detailed recommendation for RDB SC on format, codelists, range (...)

TOR 8) Develop pilot applications helping answers to data call from tuna-RFMOS based on SDEF (LP only)

TOR 9) Any other business.

Chapter 14

Annex 3: Ranking system for all the metiers over the Meiterranean

The following tables were built for the ToR 1, ranking system for the Mediterranean. These tables are thus similar to ToR 1 tables, but the list of metiers was not cut at the 90% contribution level.

14.1 Landings

Metier	Percentage	Cumsum
PS_SPF_>=14_0_0	29	29
OTB_DEF_>=40_0_0	26	54
PTM_SPF_>=20_0_0	15	69
DRB_MOL_0_0_0	7	75
LLD_LPF_0_0_0	4	80
OTB_MDD_>=40_0_0	4	84
GTR_DEF_>=16_0_0	4	88
GNS_DEF_>=16_0_0	4	91
LLS_DEF_0_0_0	2	93
TBB_DEF_0_0_0	1	94
FPO_DEF_0_0_0	1	95
OTB_DWS_>=40_0_0	1	97
PS_LPF_14_0_0	1	98
FYK_DEF_0_0_0	0	98
PS_LPF_>=14_0_0	0	99
OTM_MPD_>=20_0_0	0	99
GNS_SLP_>=16_0_0	0	99
GND_SPF_0_0_0	0	99
LA_SLP_14_0_0	0	99
SB-SV_DEF_0_0_0	0	100
LHP-LHM_CEP_0_0_0	0	100
FPN_LPF_0_0_0	0	100
LHP_LPF_0_0_0	0	100
LHP-LHM_FIF_0_0_0	0	100
LTL_LPF_0_0_0	0	100
FYK_CAT_0_0_0	0	100
GND_DEF_0_0_0	0	100
LHM_LPF_0_0_0	0	100

Table 14.1: Results of the ranking system, based on landings over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

14.2 Effort

Metier	Percentage	Cumsum
GTR_DEF_>=16_0_0	28	28
GNS_DEF_>=16_0_0	20	48
OTB_DEF_>=40_0_0	18	66
LLS_DEF_0_0_0	6	72
FPO_DEF_0_0_0	5	77
OTB_MDD_>=40_0_0	3	81
DRB_MOL_0_0_0	3	84
LLD_LPF_0_0_0	3	86
PS_SPF_>=14_0_0	3	89
OTB_DWS_>=40_0_0	2	92
LHP-LHM_CEP_0_0_0	2	93
FYK_DEF_0_0_0	1	95
PTM_SPF_>=20_0_0	1	96
GNS_SLP_>=16_0_0	1	97
SB-SV_DEF_0_0_0	1	97
PS_LPF_14_0_0	1	98
TBB_DEF_0_0_0	0	98
LHP_LPF_0_0_0	0	99
GND_SPF_0_0_0	0	99
LHP-LHM_FIF_0_0_0	0	99
LTL_LPF_0_0_0	0	100
LA_SLP_14_0_0	0	100
OTM_MPD_>=20_0_0	0	100
PS_LPF_>=14_0_0	0	100
FYK_CAT_0_0_0	0	100
FPN_LPF_0_0_0	0	100
GND_DEF_0_0_0	0	100

Table 14.2: Results of the ranking system, based on effort over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

14.3 Value

Metier	Percentage	Cumsum
OTB_DEF_>=40_0_0	32	32
FPN_LPF_0_0_0	12	43
PS_SPF_>=14_0_0	8	52
GTR_DEF_>=16_0_0	8	59
OTB_MDD_>=40_0_0	7	66
GNS_DEF_>=16_0_0	7	73
OTB_DWS_>=40_0_0	5	78

LLD_LPF_0_0_0	5	83
DRB_MOL_0_0_0	4	87
PTM_SPF_>=20_0_0	4	90
LLS_DEF_0_0_0	2	93
FPO_DEF_0_0_0	2	95
PS_LPF_14_0_0	2	96
TBB_DEF_0_0_0	2	98
FYK_DEF_0_0_0	1	98
GNS_SLP_>=16_0_0	0	99
LHP-LHM_CEP_0_0_0	0	99
SB-SV_DEF_0_0_0	0	99
GND_SPF_0_0_0	0	100
OTM_MPD_>=20_0_0	0	100
LA_SLP_14_0_0	0	100
LHP-LHM_FIF_0_0_0	0	100
PS_LPF_>=14_0_0	0	100
LTL_LPF_0_0_0	0	100
FYK_CAT_0_0_0	0	100
GND_DEF_0_0_0	0	100
LHM_LPF_0_0_0	0	100
LHP_LPF_0_0_0	0	100

Table 14.3: Results of the ranking system, based on value over the period 2009-2014 for the Mediterranean region and segmented according to Appendix VII of 2010/93/EU.

Chapter 15

Annex 4: Code of the practical session to investigate the data with COST tools and produce data quality reports

15.1 Data investigation

15.1.1 Some generic things to start with

We start to read the landings data and do some clean up so that the following analyses are clearer:

```
## read the landing data TOTAL LANDINGS read landings
path <- "~/Documents/DCF/PGMED_2015/data/total/"
file <- paste(path, "LandingsTable.csv", sep = "")
d2 <- read.csv(file)
## WE PUT ALL SPECIES INTO SCIENTIFIC NAMES Find the scientific names for
## FAO species codes
d2$Species <- as.character(d2$Species)
asfis <- read.csv("~/Documents/DCF/PGMED_2015/data/refEspASFIS.csv")
ind <- which(d2$Species %in% asfis$X3A_CODE)
lsp <- as.character(unique(d2$Species[ind]))
for (i in 1:length(lsp)) {
  ind <- which(asfis$X3A_CODE == lsp[i])
  indS <- which(d2$Species == lsp[i])
  d2$Species[indS] <- rep(as.character(asfis$Scientific_name[ind]), length(indS))
}
## GSA names: list of problems (not exhaustive...) unique(d2$Area)
d2$Area <- as.character(d2$Area)
ind <- which(d2$Area %in% c("GSA 17", "gsa 17"))
d2$Area[ind] <- rep("GSA17", length(ind))
ind <- which(d2$Area %in% c("37.1.2"))
d2$Area[ind] <- rep("GSA7", length(ind))
ind <- which(d2$Area %in% c("GSA 20"))
d2$Area[ind] <- rep("GSA20", length(ind))
ind <- which(d2$Area %in% c("GSA 22"))
d2$Area[ind] <- rep("GSA22", length(ind))
ind <- which(d2$Area %in% c("GSA 23"))
d2$Area[ind] <- rep("GSA23", length(ind))
ind <- which(d2$Area %in% c("SA 10"))
d2$Area[ind] <- rep("GSA10", length(ind))
ind <- which(d2$Area %in% c("SA 17"))
d2$Area[ind] <- rep("GSA17", length(ind))
ind <- which(d2$Area %in% c("SA 11"))
d2$Area[ind] <- rep("GSA11", length(ind))
ind <- which(d2$Area %in% c("SA 16"))
d2$Area[ind] <- rep("GSA16", length(ind))
ind <- which(d2$Area %in% c("SA 18"))
d2$Area[ind] <- rep("GSA18", length(ind))
```

```

ind <- which(d2$Area %in% c("SA 19"))
d2$Area[ind] <- rep("GSA19", length(ind))
ind <- which(d2$Area %in% c("SA 9"))
d2$Area[ind] <- rep("GSA9", length(ind))
ind <- which(d2$Area %in% c("SA 1"))
d2$Area[ind] <- rep("GSA1", length(ind))
ind <- which(d2$Area %in% c("SA 2"))
d2$Area[ind] <- rep("GSA2", length(ind))
ind <- which(d2$Area %in% c("SA 5"))
d2$Area[ind] <- rep("GSA5", length(ind))
ind <- which(d2$Area %in% c("SA 6"))
d2$Area[ind] <- rep("GSA6", length(ind))
ind <- which(d2$Area %in% c("SA 7"))
d2$Area[ind] <- rep("GSA7", length(ind))

```

We do the same with the sampling data:

```

## ToR4
samp <- read.csv("~/Documents/DCF/PGMED_2015/data/total/SamplingTable.csv")
## change DES in DEF
samp$Fishing.activity.category.European.lvl.6 <- gsub("DES", "DEF", as.character(samp$Fishing.activity.category.European.lvl.6))
## GSA names unique(samp$Area) WE PUT ALL SPECIES INTO SCIENTIFIC NAMES
## Find the scientific names for FAO species codes
samp$Species <- as.character(samp$Species)
asfis <- read.csv("~/Documents/DCF/PGMED_2015/data/refEspASFIS.csv")
ind <- which(samp$Species %in% asfis$X3A_CODE)
lsp <- as.character(unique(samp$Species[ind]))
for (i in 1:length(lsp)) {
  ind <- which(asfis$X3A_CODE == lsp[i])
  indS <- which(samp$Species == lsp[i])
  samp$Species[indS] <- rep(as.character(asfis$Scientific_name[ind]), length(indS))
}

samp$Area <- as.character(samp$Area)
ind <- which(samp$Area %in% c("GSA 17", "gsa 17"))
samp$Area[ind] <- rep("GSA17", length(ind))
ind <- which(samp$Area %in% c("37.1.2"))
samp$Area[ind] <- rep("GSA7", length(ind))
ind <- which(samp$Area %in% c("7"))
samp$Area[ind] <- rep("GSA7", length(ind))
ind <- which(samp$Area %in% c("GSA07"))
samp$Area[ind] <- rep("GSA7", length(ind))
ind <- which(samp$Area %in% c("GSA06"))
samp$Area[ind] <- rep("GSA6", length(ind))
ind <- which(samp$Area %in% c("GSA08"))
samp$Area[ind] <- rep("GSA8", length(ind))
ind <- which(samp$Area %in% c("GSA09"))
samp$Area[ind] <- rep("GSA9", length(ind))
## remove the non-mediterranean cases
ind.rm <- which(substring(samp$Area, 1, 3) != "GSA")
samp <- samp[-ind.rm, ]
## we correct for data in mm
samp$Length.class <- as.numeric(samp$Length.class)
samp$Length.class[which(samp$Length.code == "mm" & is.na(samp$Length.class) ==
FALSE)] <- floor(samp$Length.class[which(samp$Length.code == "mm" & is.na(samp$Length.class) ==
FALSE)]/10) * 10
samp$Length.class[which(samp$Length.code == "cm" & is.na(samp$Length.class) ==
FALSE)] <- samp$Length.class[which(samp$Length.code == "cm" & is.na(samp$Length.class) ==
FALSE)] * 10
samp$Length.code[which(samp$Length.code == "cm")] <- "mm"

```

Now we will use the functions designed by Norbert BILLET to reformat the data into COST-friendly objects. Those functions were specifically designed so that data obtained through the data-call, and in the appropriate format, could be used within the COST tools framework. This will allow us to run several routines helpful for data checking and also more advanced (raising). Here the process takes time as the dataset is quite large.

```

source("~/Documents/DCF/PGMED_2015/code/RCM_toCost.R")
ind <- which(samp$Flag.country %in% "FRA" & samp$Species %in% "Merluccius merluccius")
samp2 <- samp[ind, ]
ind <- which(d2$Flag.country %in% "FRA" & d2$Species %in% "Merluccius merluccius")
d3 <- d2[ind, ]
source("~/Documents/DCF/PGMED_2015/code/RCM_toCost.R")
## Sampling data from the sampling table
myCS <- RCM2015_toCost_CS(samp2, bad.rm = TRUE)

## Integrity problem for CS/HH, 168 row(s) removed
## Integrity problem for CS/SL, 690 row(s) removed
## Integrity problem for CS/HL, 1627 row(s) removed

## Landings data from the landings table
myCL <- RCM2015_toCost_CL(d3, bad.rm = TRUE)
##
myCS@h1$lenCls[myCS@h1$lenCls > 1000] <- floor(myCS@h1$lenCls[myCS@h1$lenCls >
  1000]/100) * 10
myCS@hh$foVal <- "V"

```

To check what is inside, the `head()` will help. The objects are quite big.

```

head(myCS)
head(myCL)

```

We can also build a detailed table to summarize what is inside this dataset, for instance the number of samples (S) and the number of measures (N) per quarter, per metier and per year:

```

## build a table for the number of samples with everything we need from the data
hsl <- merge(myCS@hh, myCS@s1)
y <- unique(hsl$year)
T <- data.frame()
for (i in 1:length(y)) {
  hsl1 <- hsl[which(hsl$year==y[i]),]
  quarter <- rep(1:4,each=3)[as.numeric(substring(hsl1$date,6,7))]
  t <- data.frame(tapply(hsl1$commCat, list(hsl1$foCatEu6, quarter), length))
  rownames(t) <- paste(as.character(y[i]),rownames(t))
  T <- rbind(T,t)
}
colnames(T) <- substring(colnames(T),2,2)
## put everything into a nice table
tab1 <- T
tab1 <- data.frame(Year=as.numeric(substring(rownames(tab1),1,4)),
  Metier=substring(rownames(tab1),6,nchar(rownames(tab1))),
  SQ1=tab1[,1],
  SQ2=tab1[,2],
  SQ3=tab1[,3],
  SQ4=tab1[,4])
## Now we do the same for the number of measures
hsl2 <- merge(myCS@hh, myCS@h1)
y <- unique(hsl2$year)
T <- data.frame()
for (i in 1:length(y)) {
  hsl2y <- hsl2[which(hsl2$year==y[i]),]
  quarter <- rep(1:4,each=3)[as.numeric(substring(hsl2y$date,6,7))]
  t <- data.frame(tapply(hsl2y$lenNum, list(hsl2y$foCatEu6, quarter), sum))
  rownames(t) <- paste(as.character(y[i]),rownames(t))
  T <- rbind(T,t)
}
colnames(T) <- substring(colnames(T),2,2)
tab <- T
## put everything into a nice table
tab <- data.frame(Year=as.numeric(substring(rownames(tab),1,4)),
  Metier=substring(rownames(tab),6,nchar(rownames(tab))),
  NQ1=tab[,1],
  NQ2=tab[,2],
  NQ3=tab[,3],

```

```

NQ4=tab[,4])
## we print the nice table that follows in the pdf document
tab0 <- merge(tab1,tab)
tabex <- xtable(tab0,caption='Number of samples and measures per quarter',digits=0)
print(tabex, include.rownames=FALSE)

```

Year	Metier	SQ1	SQ2	SQ3	SQ4	NQ1	NQ2	NQ3	NQ4
2009	GNS_DEF	1	6	18	3	11	58	158	65
2009	GTR_DEF			1				2	
2009	MIS_DEF		1				4		
2009	OTB_DEF	36	33	60	46	418	480	1114	897
2009	OTM_SPF	3	6	7	8	18	123	161	111
2010	GNS_DEF	9	16	12	9	63	125	112	100
2010	GTR_CEP	1				3			
2010	GTR_DEF	1	3		2	3	7		7
2010	MIS_DEF		1	6	1		1	17	1
2010	OTB_DEF	84	56	81	42	1263	1173	1276	1019
2011	GNS_DEF	21	11	6		188	96	57	
2011	GTR_DEF	2				7			
2011	Observ	5				12			
2011	OTB_DEF	61	52	48	44	1402	1193	1778	1684
2012	GTR_DEF		8	4	2		66	27	19
2012	LLS_DEF	1	1	1	3	2	2	5	20
2012	OTB_DEF	41	26	48	40	1157	789	1391	811
2012	OTM_SPF	7		4	4	146		61	73
2013	GTR_DEF	6	7	6	2	81	49	97	28
2013	LLD_LPF				1				1
2013	LLS_DEF	6	7	2	5	33	27	10	15
2013	OTB_DEF	50	38	59	57	1009	657	1765	1452
2013	OTM_SPF	4	1	10	4	93	20	395	76
2013	OTT_DEF		1	1	1		31	30	29
2014	FYK_CAT	1				23			
2014	GTR_DEF	9	7	4	1	76	88	53	35
2014	LLD_LPF			2				2	
2014	LLS_DEF	19	5	2	4	89	19	16	27
2014	OTB_DEF	49	39	59	51	1002	588	1848	802
2014	OTM_SPF			1	2			30	33
2014	OTT_DEF	1	1			33	40		

Table 15.1: Number of samples and measures per quarter

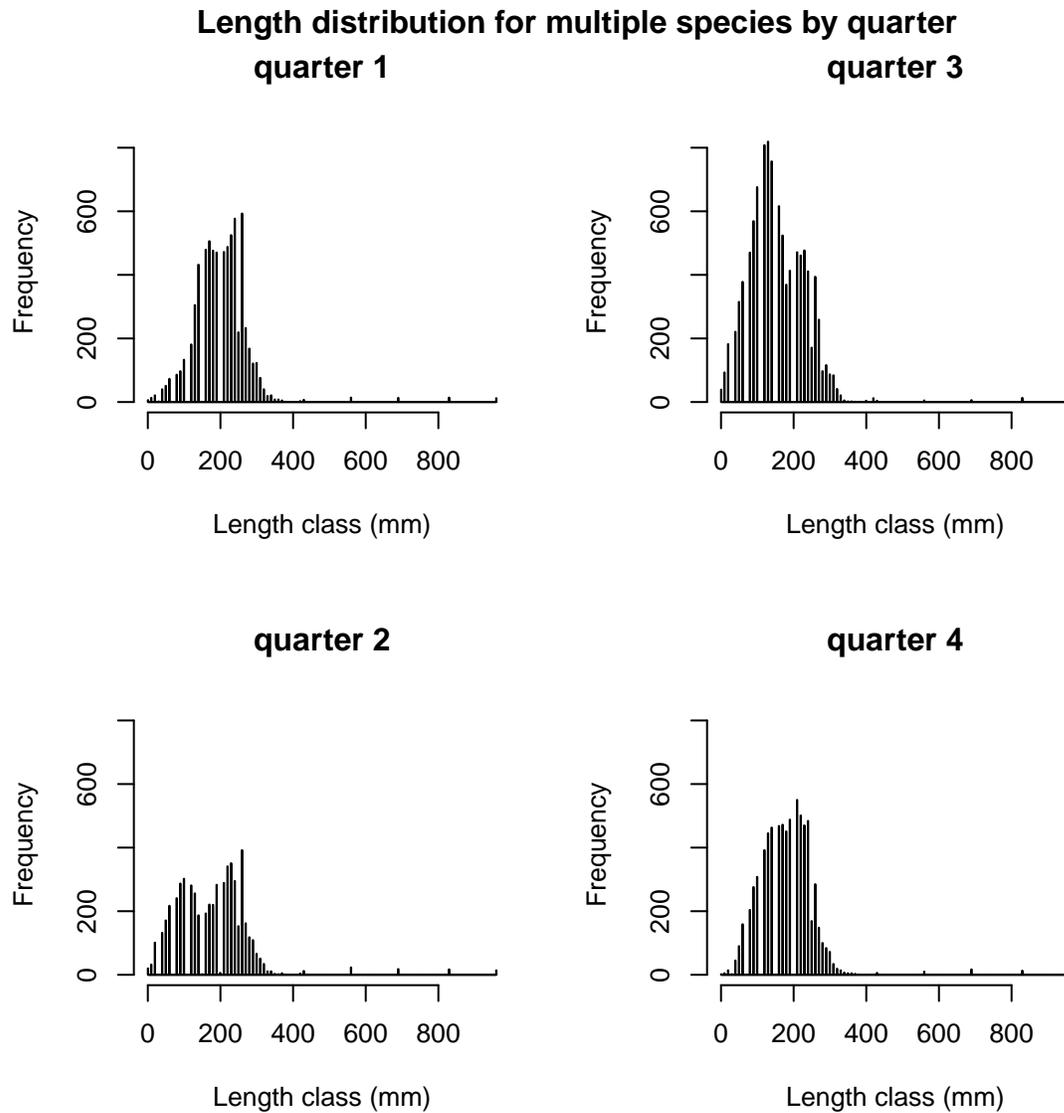


Figure 15.1: Size structure by quarter

15.1.2 Investigating the stratification: size-structure and delta plots

First look

```
## plot
par(mfcol = c(2, 2))
lengthHist(myCS, by = c("quarter"), col = 2, freq = TRUE, fraction = "LAN")
```

```
sppName <- "Merluccius merluccius"
strD <- strIni(timeStrata = "year")
deltas <- deltCalc(myCS, species = sppName, strDef = strD)
plot(deltas, strat1 = "timeStrata")
```

We can also do the same thing but selecting only one year

Delta plot / Species : Merluccius merluccius
Primary strata : year

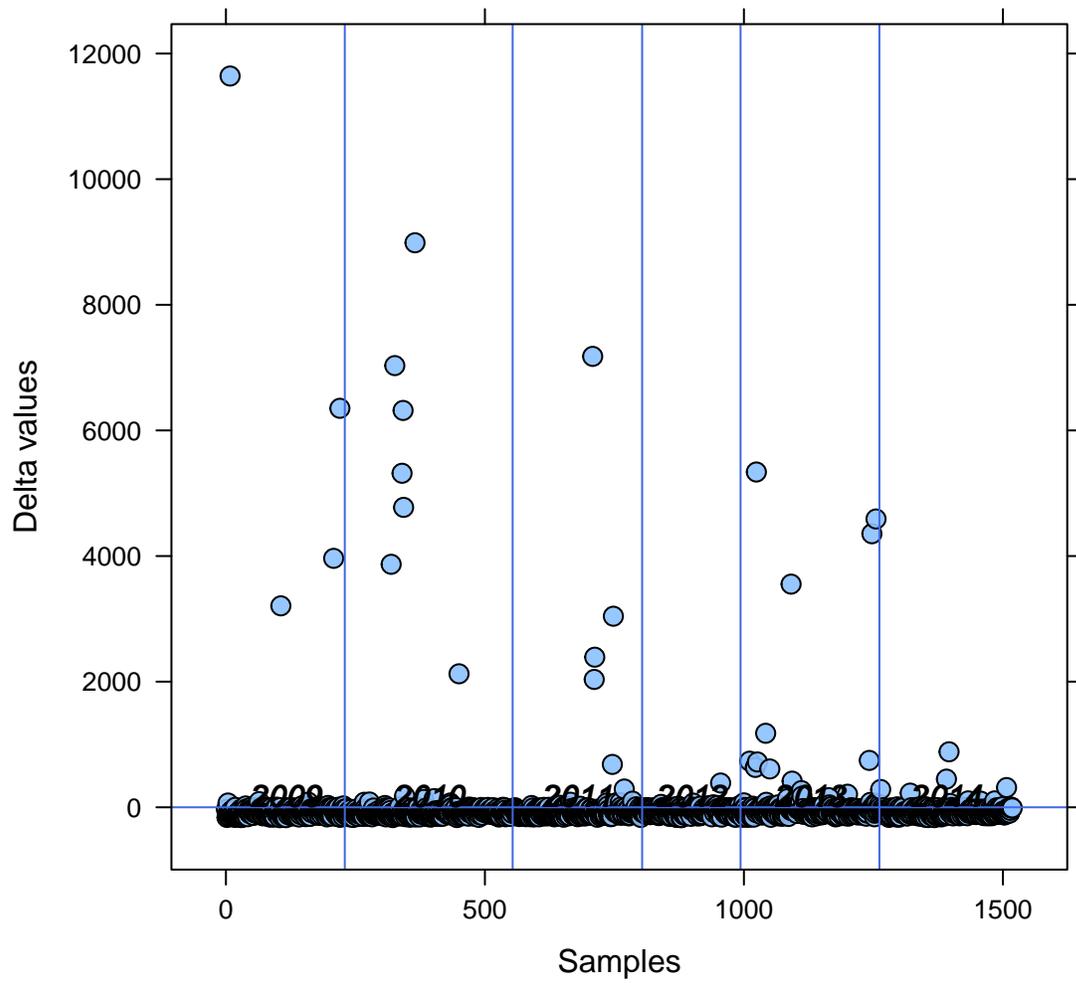


Figure 15.2: Delta plot between years

```

ind <- which(samp$Flag.country %in% 'FRA' & samp$Species %in% 'Merluccius merluccius' & samp$Year==2013)
samp2 <- samp[ind,]
ind <- which(d2$Flag.country %in% 'FRA' & d2$Species %in% 'Merluccius merluccius' & d2$Year==2013)
d3 <- d2[ind,]
## Sampling data from the sampling table
myCS <- RCM2015_toCost_CS(samp2,bad.rm=TRUE)

## Integrity problem for CS/HH, 26 row(s) removed
## Integrity problem for CS/SL, 117 row(s) removed
## Integrity problem for CS/HL, 227 row(s) removed

## Landings data from the landings table
myCL <- RCM2015_toCost_CL(d3,bad.rm=TRUE)
## correct the dates
ind <- which(substring(as.character(myCS@hh$date),1,4)!='2013')
date2 <- paste(substring(as.character(myCS@hh$date)[ind],1,4),substring(as.character(myCS@hh$date)[ind],1,nchar(as.character(myCS@hh$date)[ind]))
myCS@hh$date[ind] <- (date2)
myCS@hh$date <- as.Date(myCS@hh$date)
myCS@hl$lenCls[myCS@hl$lenCls>1000] <- floor(myCS@hl$lenCls[myCS@hl$lenCls>1000]/100)*10
myCS@hh$foVal <- 'V'

```

We can look at it and see that there are outliers.

```

sppName <- "Merluccius merluccius"
strD <- strIni(techStrata = "foCatEu6")
deltas <- deltCalc(myCS, species = sppName, strDef = strD)
plot(deltas, strat1 = "techStrata")

```

And we can look at the two dimensional figure, to see how samples are aggregated in time(quarter) and metier 15.4

```

sppName <- "Merluccius merluccius"
strD <- strIni(timeStrata = "quarter", techStrata = "foCatEu6")
deltas <- deltCalc(myCS, species = sppName, strDef = strD)
plot(deltas, strat2 = "timeStrata", strat1 = "techStrata")

```

We can now attempt to identify the outliers, for which the delta values are really high. We use the following lines. The delta plot will appear and we just have to select the outliers with a left-click directly on the figure. Right click terminates the selection sequence.

We can then eliminate those:

```

listtrp <- c('15944066','15944086','15944107','16375725','16510066','16510070','16751144','16766603','17387397')
ind <- which(samp$Flag.country %in% 'FRA' & samp$Species %in% 'Merluccius merluccius' & samp$Year==2013 & !samp$Trip.code %in% listtrp)
samp2 <- samp[ind,]
ind <- which(d2$Flag.country %in% 'FRA' & d2$Species %in% 'Merluccius merluccius' & d2$Year==2013)
d3 <- d2[ind,]
## Sampling data from the sampling table
myCS <- RCM2015_toCost_CS(samp2,bad.rm=TRUE)

## Integrity problem for CS/HH, 26 row(s) removed
## Integrity problem for CS/SL, 117 row(s) removed
## Integrity problem for CS/HL, 217 row(s) removed

## Landings data from the landings table
myCL <- RCM2015_toCost_CL(d3,bad.rm=TRUE)
## correct the dates
ind <- which(substring(as.character(myCS@hh$date),1,4)!='2013')
date2 <- paste(substring(as.character(myCS@hh$date)[ind],1,4),substring(as.character(myCS@hh$date)[ind],1,nchar(as.character(myCS@hh$date)[ind]))
myCS@hh$date[ind] <- (date2)
myCS@hh$date <- as.Date(myCS@hh$date)
myCS@hl$lenCls[myCS@hl$lenCls>1000] <- floor(myCS@hl$lenCls[myCS@hl$lenCls>1000]/100)*10
myCS@hh$foVal <- 'V'

```

And we obtain a much clearer figure 15.5, with for instance LLS and GTR that seem to catch larger fish than OTB.

Delta plot / Species : Merluccius merluccius
Primary strata : foCatEu6

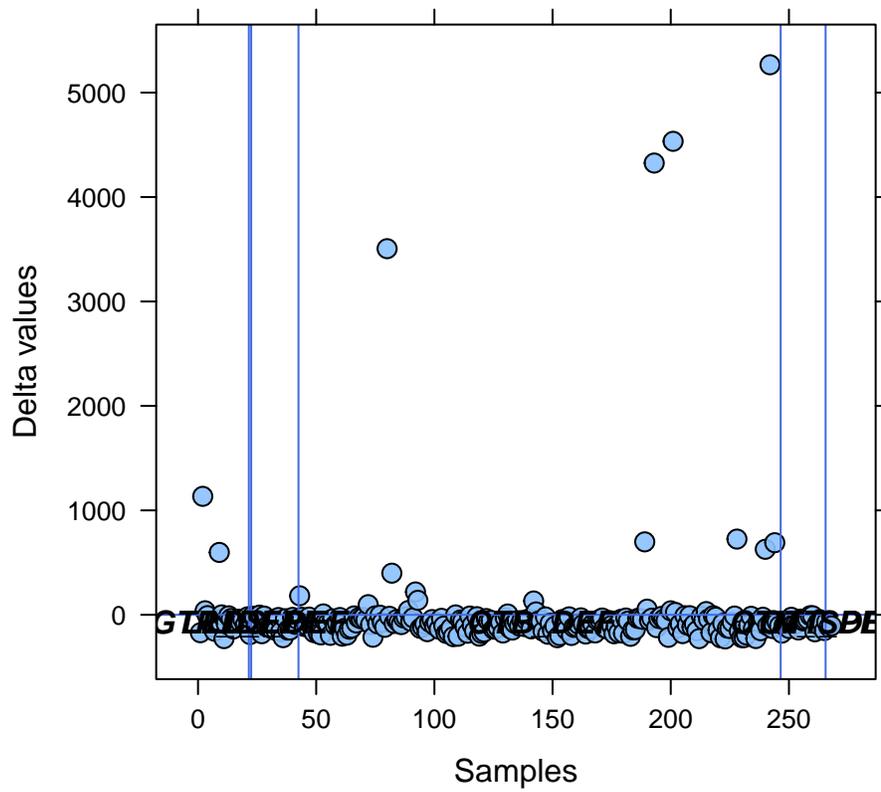


Figure 15.3: Delta plot for 2013

Delta plot / Species : Merluccius merluccius
Primary strata : foCatEu6

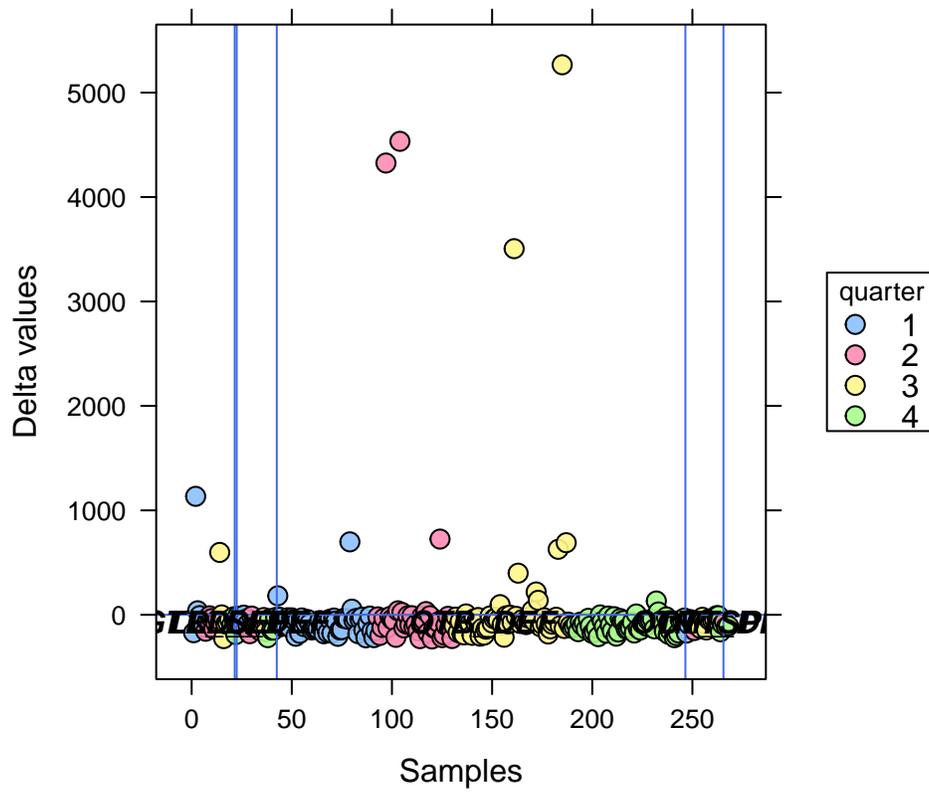


Figure 15.4: Delta plot by quarter and metier

```
sppName <- "Merluccius merluccius"
strD <- strIni(timeStrata = "quarter", techStrata = "foCatEu6")
deltas <- delCalc(myCS, species = sppName, strDef = strD)
plot(deltas, strat1 = "timeStrata", strat2 = "techStrata")
```

We can now look at the consistency between samples and landings (15.6). The quarter seem ok, but we can see problems with the metier names.

```
listtrp <- c("15944066", "15944086", "15944107", "16375725", "16510066", "16510070",
            "16751144", "16766603", "17387397")
ind <- which(samp$Flag.country %in% "FRA" & samp$Species %in% "Merluccius merluccius" &
            samp$Year == 2013 & !samp$Trip.code %in% listtrp)
samp2 <- samp[ind, ]
ind <- which(d2$Flag.country %in% "FRA" & d2$Species %in% "Merluccius merluccius" &
            d2$Year == 2013)
d3 <- d2[ind, ]
## Sampling data from the sampling table
myCS <- RCM2015_toCost_CS(samp2, bad.rm = TRUE)

## Integrity problem for CS/HH, 26 row(s) removed
## Integrity problem for CS/SL, 117 row(s) removed
## Integrity problem for CS/HL, 217 row(s) removed

## Landings data from the landings table
myCL <- RCM2015_toCost_CL(d3, bad.rm = TRUE)
## CS
csVal <- csDataVal(myCS)
## CL
clVal <- clDataVal(myCL)
## STRATIFICATION
strD <- strIni(timeStrata = "quarter", techStrata = "foCatEu6")
## Check consistency of sampling/prod
CSrel <- relativeValue(csVal, strD, "nbSamp")
CLrel <- relativeValue(clVal, strD)
plot(CLrel, CSrel)
```

This can be checked with the following function:

```
tab <- tabConsist(list(myCS, myCL), "foCatEu6")
tabex <- xtable(t(tab), caption = "Consistency of metiers across tables", digits = 0)
print(tabex, include.rownames = TRUE)
```

15.2 Quality reports

	CS1.hh	CL1
GNS_CRU_>=16_0		x
GNS_DEF_>=16_0_0		x
GNS_LPF_>=16_0		x
GTN_DEF_0_0_0		x
GTN_DEF_>=16_0		x
GTN_LPF_>=16_0		x
GTR_CEP_0_0_0		x
GTR_CEP_>=16_0		x
GTR_CRU_0_0_0		x
GTR_CRU_>=16_0		x
GTR_DEF	x	
GTR_DEF_>=16_0_0		x
GTR_MOL_0_0_0		x
GTR_MOL_>=16_0		x
LLD_LPF	x	
LLS_DEF	x	
MIS		x
OTB_DEF	x	
OTB_DEF_>=40_0_0		x
OTM_SPF	x	
OTT_DEF	x	
PS_DEF_0_0_0		x
PS_DEF_>=14_0		x

Table 15.2: Consistency of metiers across tables

Delta plot / Species : Merluccius merluccius
Primary strata : quarter

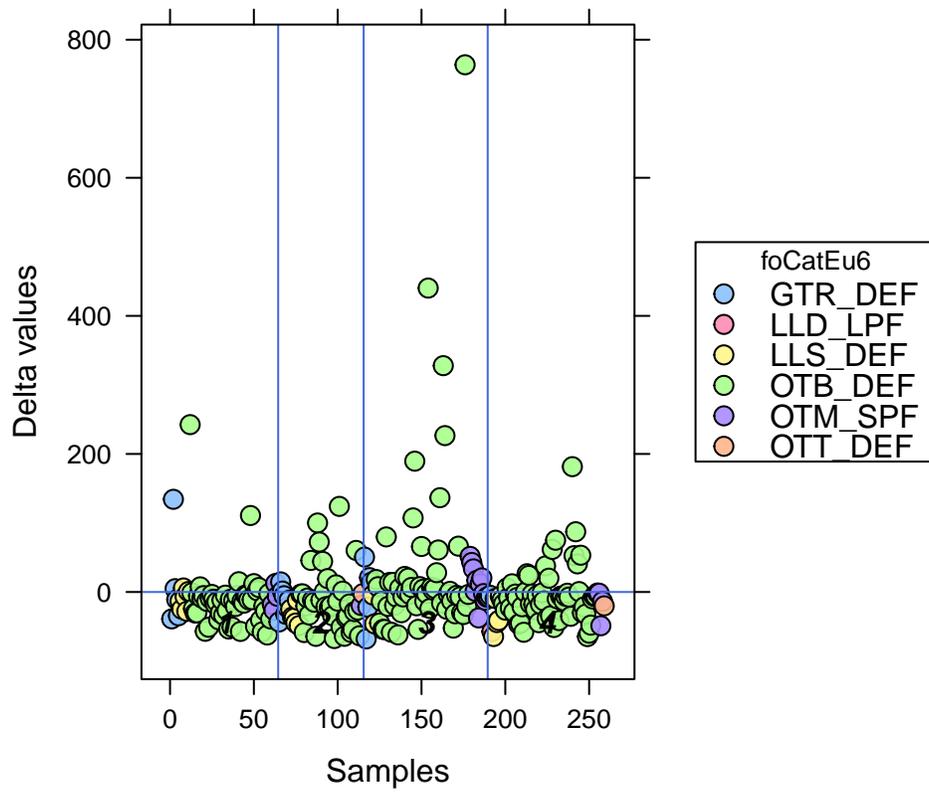


Figure 15.5: Delta plot by quarter and metier

Chapter 16

Annex 5: List of metiers

Level_4_Gear_type	Level_5_Target_assemblage	Level_6	CODE	GSA	MS
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0		29 Bulgaria
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0		29 Bulgaria
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0		29 Bulgaria
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0		29 Bulgaria
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA		29 Bulgaria
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA		29 Bulgaria
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0		29 Bulgaria
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0		29 Bulgaria
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0		29 Bulgaria
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0		29 Bulgaria
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0		29 Bulgaria
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0		29 Bulgaria
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0		29 Bulgaria
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0		29 Bulgaria
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0		29 Bulgaria
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0		29 Bulgaria
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0		29 Bulgaria
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0		29 Bulgaria
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0		29 Bulgaria
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0		29 Bulgaria
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0		29 Bulgaria
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0		29 Bulgaria
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0		29 Bulgaria
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0		29 Bulgaria
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0		29 Bulgaria
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0		29 Bulgaria
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0		29 Bulgaria
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0		29 Bulgaria
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA		29 Bulgaria
Anchored_seine_[SDN]	Demersal_species	(a)	NA		29 Bulgaria
Pair_seine_[SPR]	Demersal_species	(a)	NA		29 Bulgaria
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0		29 Bulgaria
Glass_eel_fishing	Glass_eel	(a)	NA		29 Bulgaria
Misc	NA	NA	NA		29 Bulgaria
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0		15 Malta
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0		15 Malta
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0		15 Malta
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0		15 Malta
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA		15 Malta
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA		15 Malta
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0		15 Malta
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0		15 Malta
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0		15 Malta
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0		15 Malta
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0		15 Malta
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0		15 Malta
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0		15 Malta
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0		15 Malta
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0		15 Malta
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0		15 Malta
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0		15 Malta
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0		15 Malta
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0		15 Malta
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0		15 Malta
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0		15 Malta
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0		15 Malta
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0		15 Malta
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0		15 Malta
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0		15 Malta
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0		15 Malta
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0		15 Malta
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0		15 Malta
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA		15 Malta
Anchored_seine_[SDN]	Demersal_species	(a)	NA		15 Malta
Pair_seine_[SPR]	Demersal_species	(a)	NA		15 Malta
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0		15 Malta
Glass_eel_fishing	Glass_eel	(a)	NA		15 Malta
Misc	NA	NA	Refers_to_Combined_gillnet		15 Malta
Misc	NA	NA	Refers_to_Bottom_shrimp_tr		15 Malta
Misc	NA	NA	Refers_to_Set_surface_long		15 Malta
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0		17 Slovenia
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0		17 Slovenia
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0		17 Slovenia
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0		17 Slovenia
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA		17 Slovenia
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA		17 Slovenia
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0		17 Slovenia
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0		17 Slovenia

Sheet1

Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	17 Slovenia
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	17 Slovenia
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	17 Slovenia
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	17 Slovenia
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	17 Slovenia
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	17 Slovenia
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	17 Slovenia
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	17 Slovenia
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	17 Slovenia
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	17 Slovenia
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	17 Slovenia
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	17 Slovenia
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	17 Slovenia
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	17 Slovenia
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	17 Slovenia
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	17 Slovenia
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	17 Slovenia
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	17 Slovenia
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	17 Slovenia
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	17 Slovenia
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	17 Slovenia
Anchored_seine_[SDN]	Demersal_species	(a)	NA	17 Slovenia
Pair_seine_[SPR]	Demersal_species	(a)	NA	17 Slovenia
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	17 Slovenia
Glass_eel_fishing	Glass_eel	(a)	NA	17 Slovenia
Misc	NA	NA	Misc	17 Slovenia
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	1 Spain
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	1 Spain
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	1 Spain
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	1 Spain
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	1 Spain
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	1 Spain
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	1 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	1 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	1 Spain
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	1 Spain
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	1 Spain
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	1 Spain
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	1 Spain
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	1 Spain
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	1 Spain
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	1 Spain
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	1 Spain
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	1 Spain
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	1 Spain
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	1 Spain
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	1 Spain
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	1 Spain
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	1 Spain
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	1 Spain
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	1 Spain
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	1 Spain
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	1 Spain
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	1 Spain
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	1 Spain
Anchored_seine_[SDN]	Demersal_species	(a)	NA	1 Spain
Pair_seine_[SPR]	Demersal_species	(a)	NA	1 Spain
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	1 Spain
Glass_eel_fishing	Glass_eel	(a)	NA	1 Spain
Misc_LLS***	Pagellus_bogaraveo	NA	Misc_LLS***	1 Spain
Misc_LHP****	Large_pelagic_fish	NA	Misc_LHP****	1 Spain
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	2 Spain
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	2 Spain
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	2 Spain
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	2 Spain
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	2 Spain
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	2 Spain
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	2 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	2 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	2 Spain
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	2 Spain
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	2 Spain
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	2 Spain
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	2 Spain
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	2 Spain
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	2 Spain
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	2 Spain
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	2 Spain
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	2 Spain

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Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	2 Spain
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	2 Spain
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	2 Spain
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	2 Spain
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	2 Spain
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	2 Spain
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	2 Spain
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	2 Spain
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	2 Spain
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	2 Spain
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	2 Spain
Anchored_seine_[SDN]	Demersal_species	(a)	NA	2 Spain
Pair_seine_[SPR]	Demersal_species	(a)	NA	2 Spain
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	2 Spain
Glass_eel_fishing	Glass_eel	(a)	NA	2 Spain
Misc	NA	NA	Misc	2 Spain
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	5 Spain
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	5 Spain
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	5 Spain
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	5 Spain
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	5 Spain
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	5 Spain
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	5 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	5 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	5 Spain
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	5 Spain
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	5 Spain
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	5 Spain
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	5 Spain
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	5 Spain
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	5 Spain
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	5 Spain
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	5 Spain
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	5 Spain
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	5 Spain
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	5 Spain
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	5 Spain
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	5 Spain
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	5 Spain
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	5 Spain
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	5 Spain
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	5 Spain
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	5 Spain
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	5 Spain
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	5 Spain
Anchored_seine_[SDN]	Demersal_species	(a)	NA	5 Spain
Pair_seine_[SPR]	Demersal_species	(a)	NA	5 Spain
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	5 Spain
Glass_eel_fishing	Glass_eel	(a)	NA	5 Spain
Misc	NA	NA	Misc	5 Spain
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	6 Spain
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	6 Spain
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	6 Spain
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	6 Spain
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	6 Spain
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	6 Spain
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	6 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	6 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	6 Spain
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	6 Spain
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	6 Spain
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	6 Spain
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	6 Spain
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	6 Spain
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	6 Spain
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	6 Spain
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	6 Spain
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	6 Spain
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	6 Spain
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	6 Spain
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	6 Spain
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	6 Spain
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	6 Spain
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	6 Spain
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	6 Spain
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	6 Spain
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	6 Spain
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	6 Spain
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	6 Spain

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Anchored_seine_[SDN]	Demersal_species	(a)	NA	6 Spain
Pair_seine_[SPR]	Demersal_species	(a)	NA	6 Spain
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	6 Spain
Glass_eel_fishing	Glass_eel	(a)	NA	6 Spain
Misc	NA	NA	Misc	6 Spain
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	7 Spain
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	7 Spain
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	7 Spain
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	7 Spain
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	7 Spain
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	7 Spain
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	7 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	7 Spain
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	7 Spain
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	7 Spain
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	7 Spain
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	7 Spain
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	7 Spain
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	7 Spain
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	7 Spain
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	7 Spain
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	7 Spain
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	7 Spain
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	7 Spain
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	7 Spain
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	7 Spain
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	7 Spain
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	7 Spain
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	7 Spain
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	7 Spain
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	7 Spain
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	7 Spain
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	7 Spain
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	7 Spain
Anchored_seine_[SDN]	Demersal_species	(a)	NA	7 Spain
Pair_seine_[SPR]	Demersal_species	(a)	NA	7 Spain
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	7 Spain
Glass_eel_fishing	Glass_eel	(a)	NA	7 Spain
Misc	NA	NA	Misc	7 Spain
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	7 France
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	7 France
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	7 France
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	7 France
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	7 France
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	7 France
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	7 France
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	7 France
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	7 France
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	7 France
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	7 France
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	7 France
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	7 France
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	7 France
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	7 France
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	7 France
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	7 France
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	7 France
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	7 France
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	7 France
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	7 France
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	7 France
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	7 France
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	7 France
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	7 France
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	7 France
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	7 France
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	7 France
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	7 France
Anchored_seine_[SDN]	Demersal_species	(a)	NA	7 France
Pair_seine_[SPR]	Demersal_species	(a)	NA	7 France
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	7 France
Glass_eel_fishing	Glass_eel	(a)	NA	7 France
Misc	NA	NA	Misc	7 France
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	8 France
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	8 France
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	8 France
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	8 France
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	8 France
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	8 France

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Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	8 France
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	8 France
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	8 France
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	8 France
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	8 France
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	8 France
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	8 France
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	8 France
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	8 France
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	8 France
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	8 France
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	8 France
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	8 France
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	8 France
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	8 France
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	8 France
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	8 France
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	8 France
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	8 France
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	8 France
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	8 France
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	8 France
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	8 France
Anchored_seine_[SDN]	Demersal_species	(a)	NA	8 France
Pair_seine_[SPR]	Demersal_species	(a)	NA	8 France
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	8 France
Glass_eel_fishing	Glass_eel	(a)	NA	8 France
Misc	NA	NA	Misc	8 France
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	25 Cyprus
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	25 Cyprus
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	25 Cyprus
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	25 Cyprus
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	25 Cyprus
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	25 Cyprus
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	25 Cyprus
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	25 Cyprus
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	25 Cyprus
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	25 Cyprus
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	25 Cyprus
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	25 Cyprus
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	25 Cyprus
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	25 Cyprus
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	25 Cyprus
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	25 Cyprus
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	25 Cyprus
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	25 Cyprus
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	25 Cyprus
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	25 Cyprus
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	25 Cyprus
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	25 Cyprus
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	25 Cyprus
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	25 Cyprus
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	25 Cyprus
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	25 Cyprus
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	25 Cyprus
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	25 Cyprus
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	25 Cyprus
Anchored_seine_[SDN]	Demersal_species	(a)	NA	25 Cyprus
Pair_seine_[SPR]	Demersal_species	(a)	NA	25 Cyprus
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	25 Cyprus
Glass_eel_fishing	Glass_eel	(a)	NA	25 Cyprus
Misc	NA	NA	Misc	25 Cyprus
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	29 Romania
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	29 Romania
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	29 Romania
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	29 Romania
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	29 Romania
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	29 Romania
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	29 Romania
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	29 Romania
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	29 Romania
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	29 Romania
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	29 Romania
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	29 Romania
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	29 Romania
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	29 Romania
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	29 Romania
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	29 Romania
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	29 Romania

Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	29 Romania
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	29 Romania
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	29 Romania
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	29 Romania
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	29 Romania
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	29 Romania
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	29 Romania
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	29 Romania
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	29 Romania
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	29 Romania
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	29 Romania
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	29 Romania
Anchored_seine_[SDN]	Demersal_species	(a)	NA	29 Romania
Pair_seine_[SPR]	Demersal_species	(a)	NA	29 Romania
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	29 Romania
Glass_eel_fishing	Glass_eel	(a)	NA	29 Romania
Misc	NA	NA	NA	29 Romania
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	9 Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	9 Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	9 Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	9 Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	9 Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	9 Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	9 Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	9 Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	9 Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	9 Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	9 Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	9 Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	9 Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	9 Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	9 Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	9 Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	9 Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	9 Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	9 Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	9 Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	9 Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	9 Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	9 Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	9 Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	9 Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	9 Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	9 Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	9 Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	9 Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	9 Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	9 Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	9 Italy
Glass_eel_fishing	Glass_eel	(a)	NA	9 Italy
Misc	NA	NA	NA	9 Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	10 Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	10 Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	10 Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	10 Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	10 Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	10 Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	10 Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	10 Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	10 Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	10 Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	10 Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	10 Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	10 Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	10 Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	10 Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	10 Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	10 Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	10 Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	10 Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	10 Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	10 Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	10 Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	10 Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	10 Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	10 Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	10 Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	10 Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	10 Italy

Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	10	Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	10	Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	10	Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	10	Italy
Glass_eel_fishing	Glass_eel	(a)	NA	10	Italy
Misc	NA	NA	NA	10	Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	11	Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	11	Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	11	Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	11	Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	11	Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	11	Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	11	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	11	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	11	Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	11	Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	11	Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	11	Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	11	Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	11	Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	11	Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	11	Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	11	Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	11	Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	11	Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	11	Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	11	Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	11	Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	11	Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	11	Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	11	Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	11	Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	11	Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	11	Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	11	Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	11	Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	11	Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	11	Italy
Glass_eel_fishing	Glass_eel	(a)	NA	11	Italy
Misc	NA	NA	NA	11	Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	16	Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	16	Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	16	Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	16	Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	16	Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	16	Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	16	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	16	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	16	Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	16	Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	16	Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	16	Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	16	Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	16	Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	16	Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	16	Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	16	Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	16	Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	16	Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	16	Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	16	Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	16	Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	16	Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	16	Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	16	Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	16	Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	16	Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	16	Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	16	Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	16	Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	16	Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	16	Italy
Glass_eel_fishing	Glass_eel	(a)	NA	16	Italy
Misc	NA	NA	NA	16	Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	17	Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	17	Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	17	Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	17	Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	17	Italy

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Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	17	Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	17	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	17	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	17	Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	17	Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	17	Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	17	Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	17	Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	17	Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	17	Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	17	Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	17	Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	17	Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	17	Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	17	Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	17	Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	17	Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	17	Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	17	Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	17	Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	17	Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	17	Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	17	Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	17	Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	17	Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	17	Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	17	Italy
Glass_eel_fishing	Glass_eel	(a)	NA	17	Italy
Misc	NA	NA	NA	17	Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	18	Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	18	Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	18	Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	18	Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	18	Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	18	Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	18	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	18	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	18	Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	18	Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	18	Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	18	Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	18	Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	18	Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	18	Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	18	Italy
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	18	Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	18	Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	18	Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	18	Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	18	Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	18	Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	18	Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	18	Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	18	Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	18	Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	18	Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	18	Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	18	Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	18	Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	18	Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	18	Italy
Glass_eel_fishing	Glass_eel	(a)	NA	18	Italy
Misc	NA	NA	NA	18	Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	19	Italy
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	19	Italy
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	19	Italy
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	19	Italy
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	19	Italy
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	19	Italy
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	19	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	19	Italy
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	19	Italy
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	19	Italy
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	19	Italy
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	19	Italy
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	19	Italy
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	19	Italy
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	19	Italy
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	19	Italy

Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	19 Italy
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	19 Italy
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	19 Italy
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	19 Italy
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	19 Italy
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	19 Italy
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	19 Italy
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	19 Italy
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	19 Italy
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	19 Italy
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	19 Italy
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	19 Italy
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	19 Italy
Anchored_seine_[SDN]	Demersal_species	(a)	NA	19 Italy
Pair_seine_[SPR]	Demersal_species	(a)	NA	19 Italy
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	19 Italy
Glass_eel_fishing	Glass_eel	(a)	NA	19 Italy
Misc	NA	NA	NA	19 Italy
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	20 Greece
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	20 Greece
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	20 Greece
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	20 Greece
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	20 Greece
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	20 Greece
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	20 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	20 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	20 Greece
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	20 Greece
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	20 Greece
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	20 Greece
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	20 Greece
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	20 Greece
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	20 Greece
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	20 Greece
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	20 Greece
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	20 Greece
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	20 Greece
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	20 Greece
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	20 Greece
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	20 Greece
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	20 Greece
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	20 Greece
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	20 Greece
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	20 Greece
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	20 Greece
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	20 Greece
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	20 Greece
Anchored_seine_[SDN]	Demersal_species	(a)	NA	20 Greece
Pair_seine_[SPR]	Demersal_species	(a)	NA	20 Greece
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	20 Greece
Glass_eel_fishing	Glass_eel	(a)	NA	20 Greece
Misc	NA	NA	NA	20 Greece
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	22 Greece
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	22 Greece
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	22 Greece
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	22 Greece
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	22 Greece
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	22 Greece
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	22 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	22 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	22 Greece
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	22 Greece
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	22 Greece
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	22 Greece
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	22 Greece
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	22 Greece
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	22 Greece
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	22 Greece
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	22 Greece
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	22 Greece
Stationary_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	22 Greece
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	22 Greece
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	22 Greece
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	22 Greece
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	22 Greece
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	22 Greece
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	22 Greece
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	22 Greece
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	22 Greece

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Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	22 Greece
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	22 Greece
Anchored_seine_[SDN]	Demersal_species	(a)	NA	22 Greece
Pair_seine_[SPR]	Demersal_species	(a)	NA	22 Greece
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	22 Greece
Glass_eel_fishing	Glass_eel	(a)	NA	22 Greece
Misc	NA	NA	NA	22 Greece
Boat_dredge_[DRB]	Molluscs	NA	DRB_MOL_0_0_0	23 Greece
Bottom_otter_trawl_[OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	23 Greece
Bottom_otter_trawl_[OTB]	Deep_water_species	>=40	OTB_DWS_>=40_0_0	23 Greece
Bottom_otter_trawl_[OTB]	Mixed_demersal_species_and_deep_water_species	>=40	OTB_MDD_>=40_0_0	23 Greece
Multi-rig_otter_trawl_[OTT]	Demersal_species	>=40	NA	23 Greece
Bottom_pair_trawl_[PTB]	Demersal_species	>=40	NA	23 Greece
Beam_trawl_[TBB]	Demersal_species	>=40	TBB_DEF_0_0_0	23 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	23 Greece
Midwater_otter_trawl_[OTM]	Mixed_demersal_and_pelagic_species	13-20**	OTM_MPD_>=13-19_0_0	23 Greece
Pelagic_pair_trawl_[PTM]	Small_pelagic_fish	>=20	PTM_SPF_>=20_0_0	23 Greece
Hand_and_Pole_lines_[LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	23 Greece
Hand_and_Pole_lines_[LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	23 Greece
Trolling_lines_[LTL]	Large_pelagic_fish	(a)	LTL_LPF_0_0_0	23 Greece
Drifting_longlines_[LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	23 Greece
Set_longlines_[LLS]	Demersal_fish	(a)	LLS_DEF_0_0_0	23 Greece
Pots_and_traps_[FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	23 Greece
Fyke_nets_[FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	23 Greece
Fyke_nets_[FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	23 Greece
Statory_uncovered_pound_nets_[FPN]	Large_pelagic_fish	(a)	FPN_LPF_0_0_0	23 Greece
Trammel_net_[GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	23 Greece
Set_gillnet_[GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	23 Greece
Set_gillnet_[GNS]	Demersal_species	360-400**	GNS_DEF_360-400_0_0	23 Greece
Set_gillnet_[GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	23 Greece
Driftnet_[GND]	Small_pelagic_fish	(a)	GND_SPF_0_0_0	23 Greece
Driftnet_[GND]	Demersal_fish	(a)	GND_DEF_0_0_0	23 Greece
Purse_seine_[PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	23 Greece
Purse_seine_[PS]	Large_pelagic_fish	>=14	PS_LPF_14_0_0	23 Greece
Lampara_nets_[LA]	Small_and_large_pelagic_fish	>=14	LA_SLP_14_0_0	23 Greece
Fly_shooting_seine_[SSC]	Demersal_species	(a)	NA	23 Greece
Anchored_seine_[SDN]	Demersal_species	(a)	NA	23 Greece
Pair_seine_[SPR]	Demersal_species	(a)	NA	23 Greece
Beach_and_boat_seine_[SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	23 Greece
Glass_eel_fishing	Glass_eel	(a)	NA	23 Greece
Misc	NA	NA	NA	23 Greece
Bottom otter trawl [OTB]	Demersal_species	>=40	OTB_DEF_>=40_0_0	17 Croatia
Set gillnet [GNS]	Demersal_species	>=16	GNS_DEF_>=16_0_0	17 Croatia
Purse seine [PS]	Small_pelagic_fish	>=14	PS_SPF_>=14_0_0	17 Croatia
Trammel net [GTR]	Demersal_species	>=16	GTR_DEF_>=16_0_0	17 Croatia
MISC	NA	(a)	MISC	17 Croatia
Pots and traps [FPO]	Demersal_species	(a)	FPO_DEF_0_0_0	17 Croatia
Set longlines [LLS]	Demersal_species	(a)	LLS_DEF_0_0_0	17 Croatia
Hand and Pole lines [LHP][LHM]	Cephalopods	(a)	LHP-LHM_CEP_0_0_0	17 Croatia
Beach and boat seine [SB][SV]	Demersal_species	(a)	SB-SV_DEF_0_0_0	17 Croatia
Hand and Pole lines [LHP][LHM]	Finfish	(a)	LHP-LHM_FIF_0_0_0	17 Croatia
Boat dredge [DRB]	Molluscs	(a)	DRB_MOL_0_0_0	17 Croatia
Purse seine [PS]	Large_pelagic_fish	>=14	PS_LPF_>=14_0_0	17 Croatia
Set gillnet [GNS]	Small_and_large_pelagic_fish	>=16	GNS_SLP_>=16_0_0	17 Croatia
Midwater otter trawl [OTM]	Mixed_demersal_and_pelagic_species	>=20	OTM_MPD_>=20_0_0	17 Croatia
Drifting longlines [LLD]	Large_pelagic_fish	(a)	LLD_LPF_0_0_0	17 Croatia
Fyke nets [FYK]	Catadromous_species	(a)	FYK_CAT_0_0_0	17 Croatia
Fyke nets [FYK]	Demersal_species	(a)	FYK_DEF_0_0_0	17 Croatia
Beam trawl [TBB]	Demersal_species	(a)	TBB_DEF_0_0_0	17 Croatia

Chapter 17

Annex 6: Presentation on sampling optimization

Developing a method for optimizing sampling size in Mediterranean fisheries

Tristan ROUYER
Florence GONTRAND

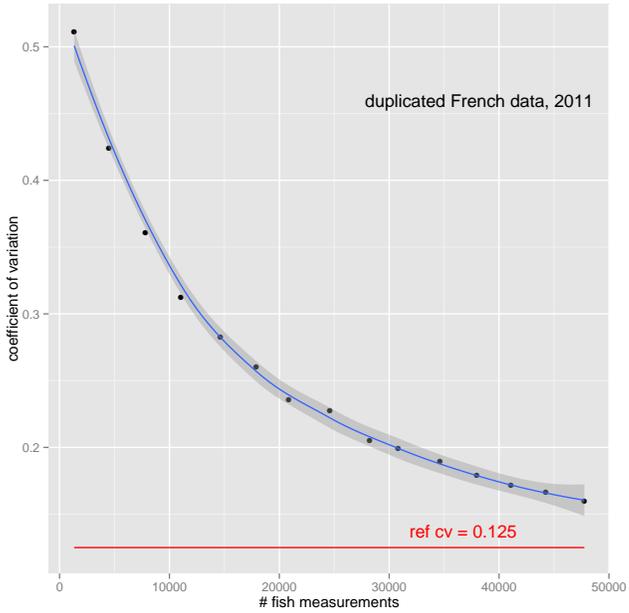
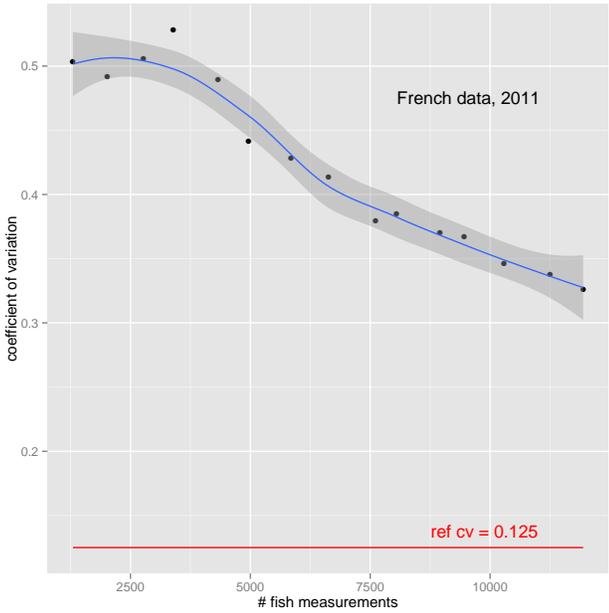
Marbec, Ifremer

September 8th, 2015

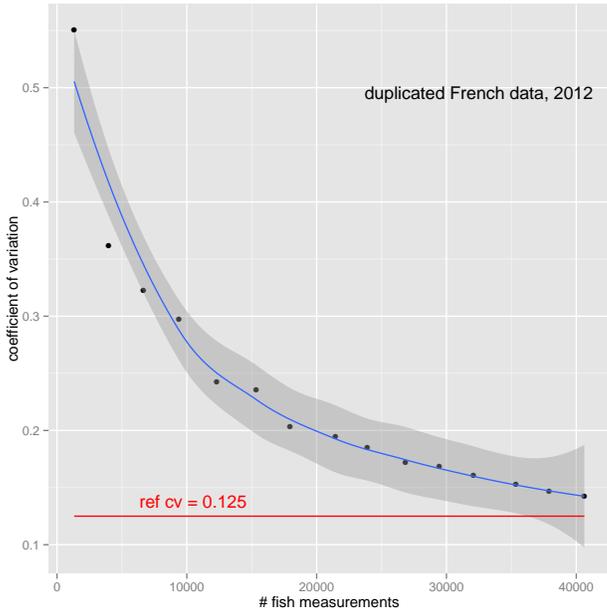
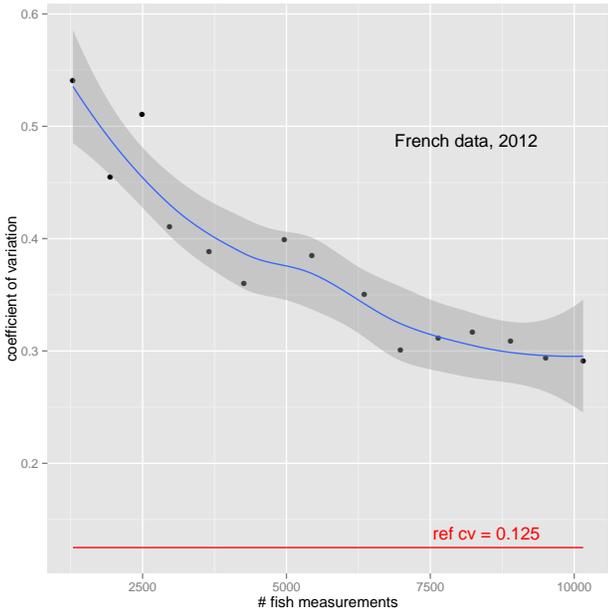
The logo for Ifremer, featuring a stylized fish silhouette above the word "Ifremer" in a bold, sans-serif font, all contained within a yellow rectangular background.

Ifremer

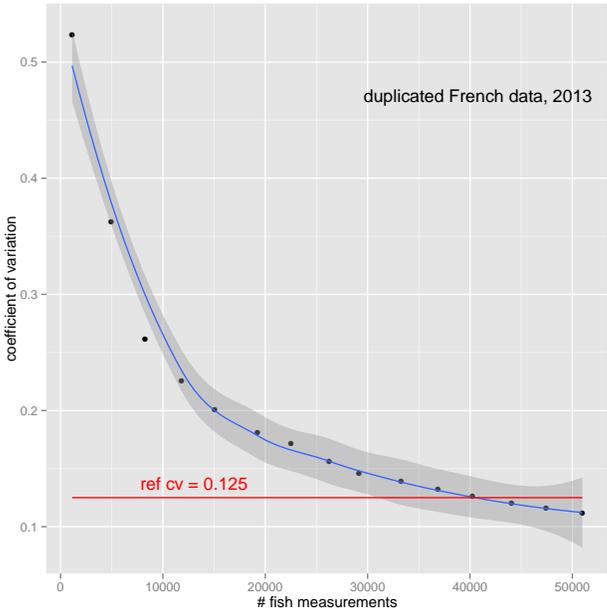
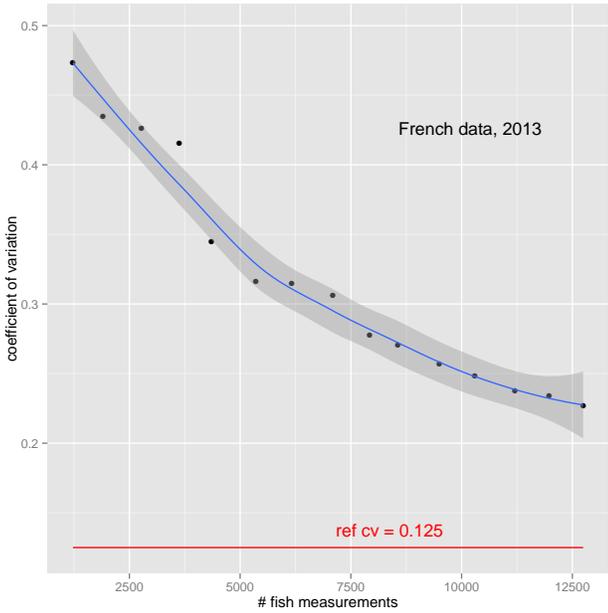
Context



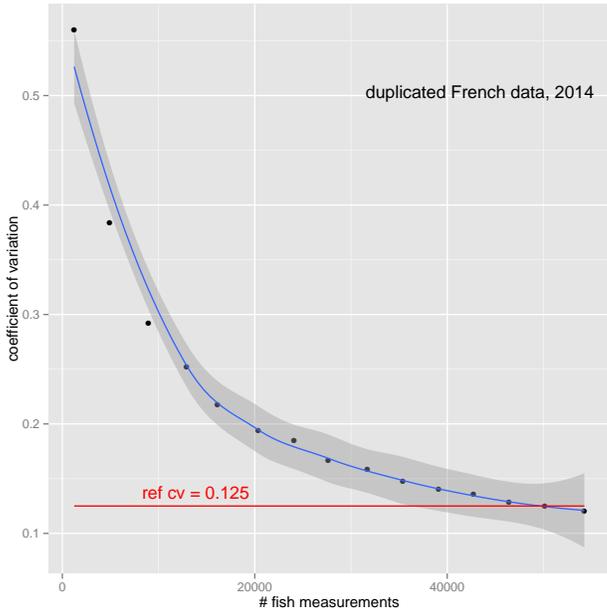
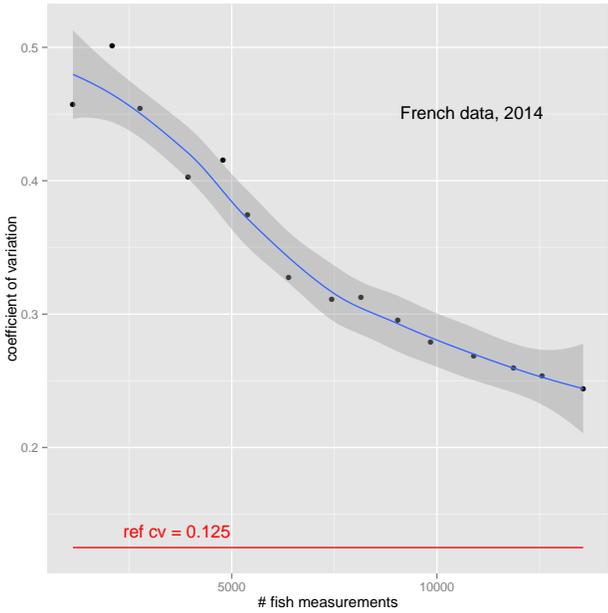
Context



Context



Context



Objectives

Getting an optimal sampling

- 1 Optimizing the total number of fish measurements
- 2 Optimizing the allocation in strata
 - temporal : quarters, semesters, ...
 - technical : métiers, commercial categories
 - spatial : official areas, ...

Method

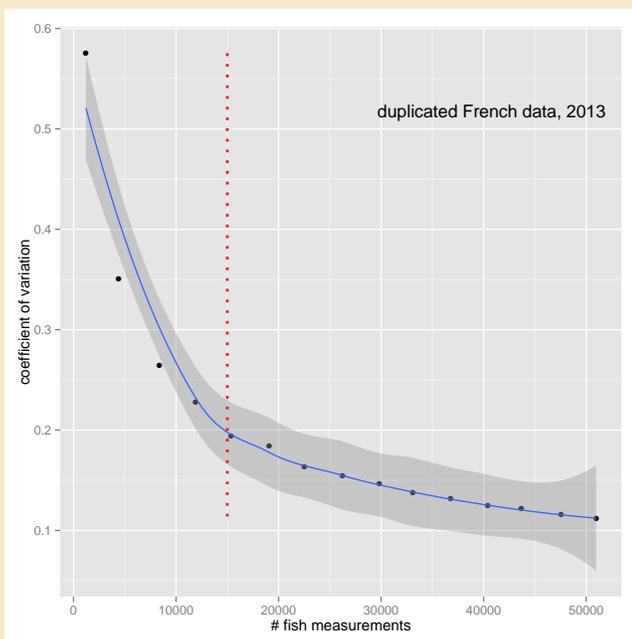
General idea

- Develop a set of criteria for determining optimal N
- Explore the sensitivity of the cv to each stratum

Exploratory analyses

Optimal number of measurements based on cv curve

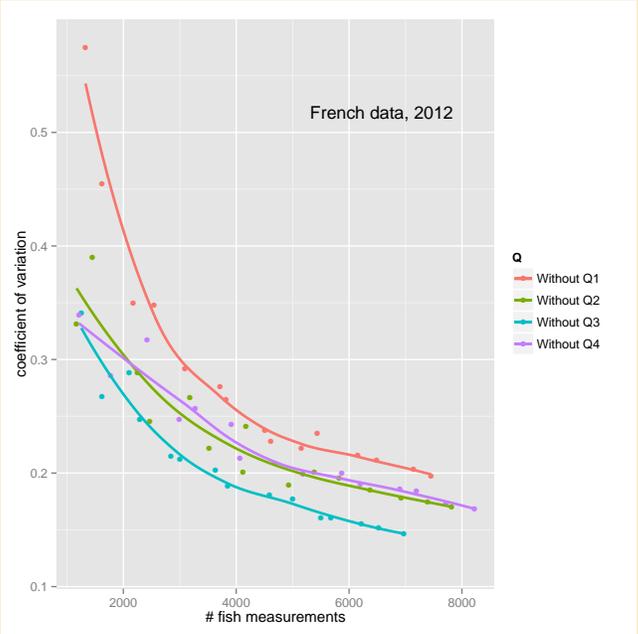
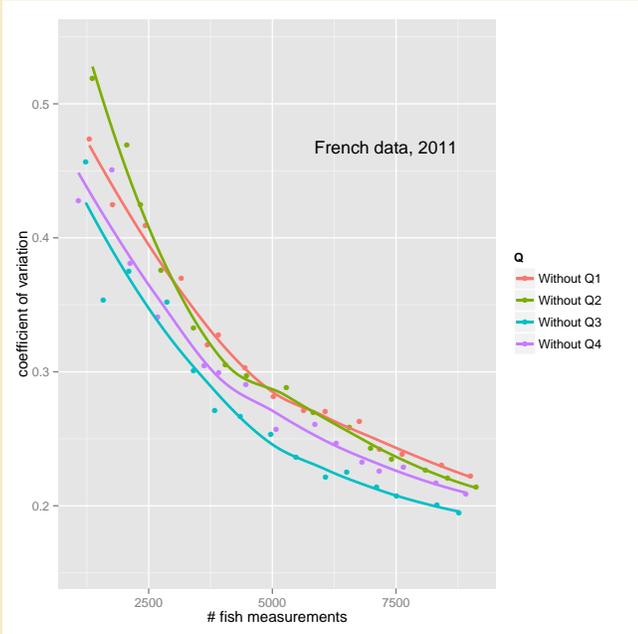
The gain of cv is less and less substantial
→ optimal point



Need for criteria of decision

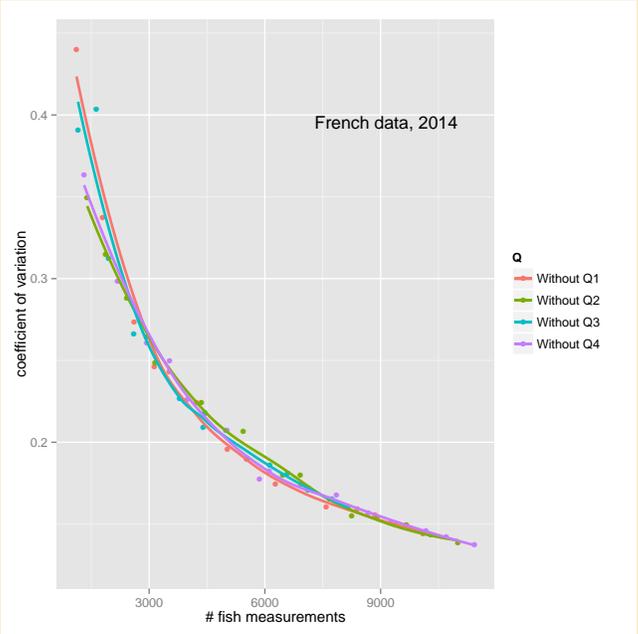
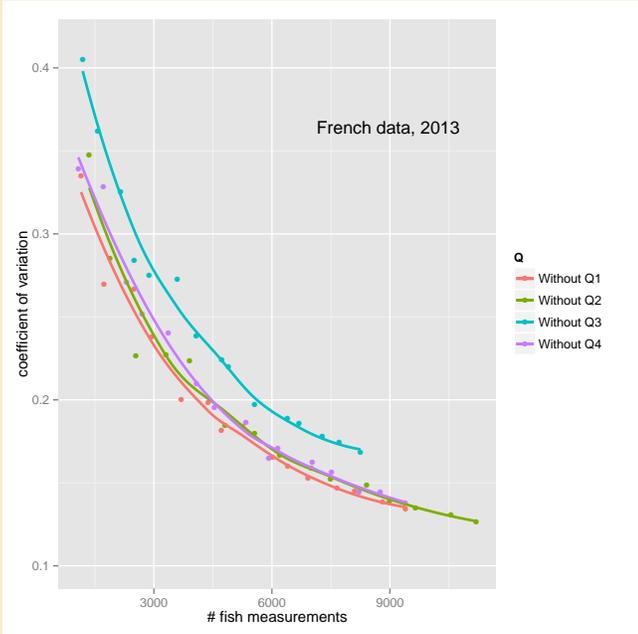
Exploratory analyses

Sensitivity analysis : identifying a sensitive quarter



Exploratory analyses

Sensitivity analysis : identifying a sensitive quarter



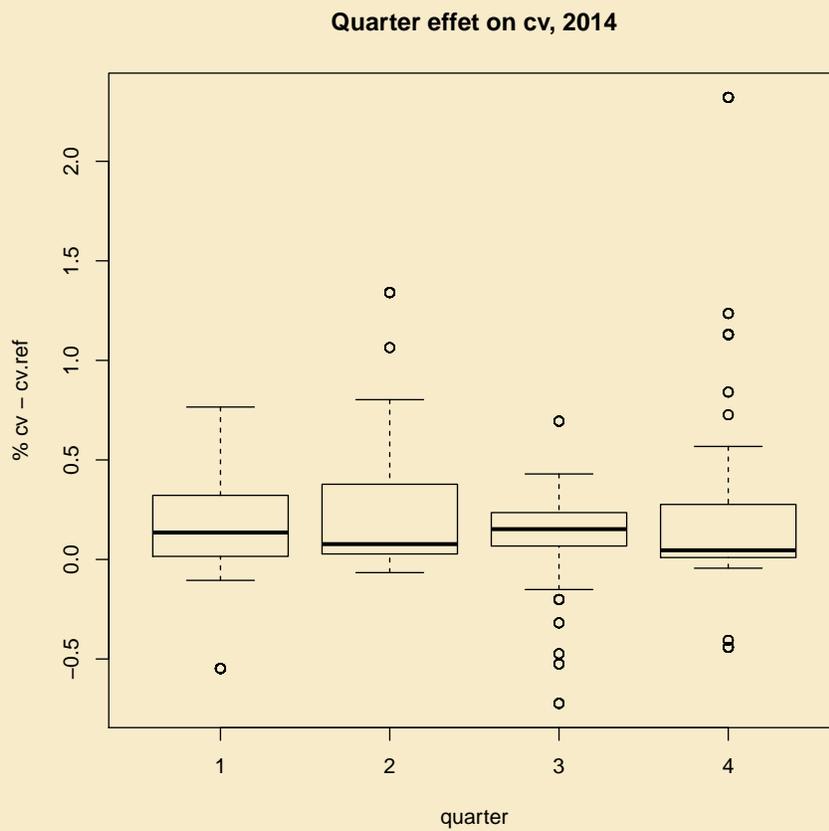
Exploratory analyses

Sensitivity analysis : jackknife

- Remove trip codes one by one
- Extract
 - the associated cv
 - the associated quarter
- Compute the difference with the cv of reference (cv with the whole sampling)

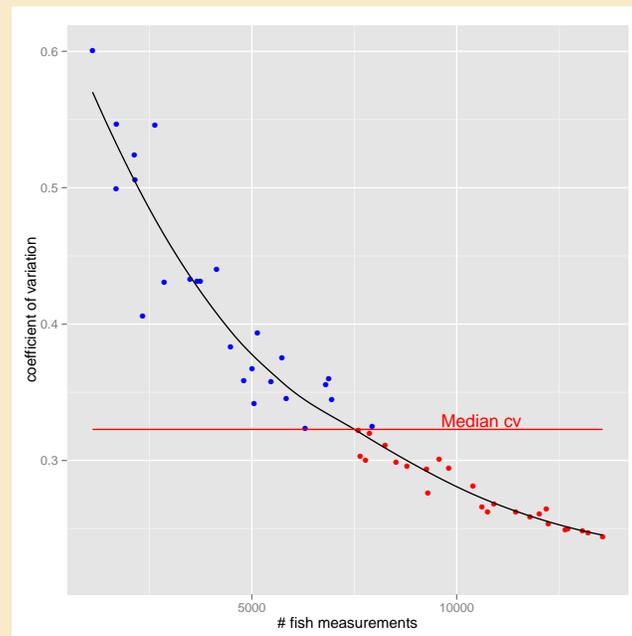
Exploratory analyses

Sensitivity analysis : jackknife



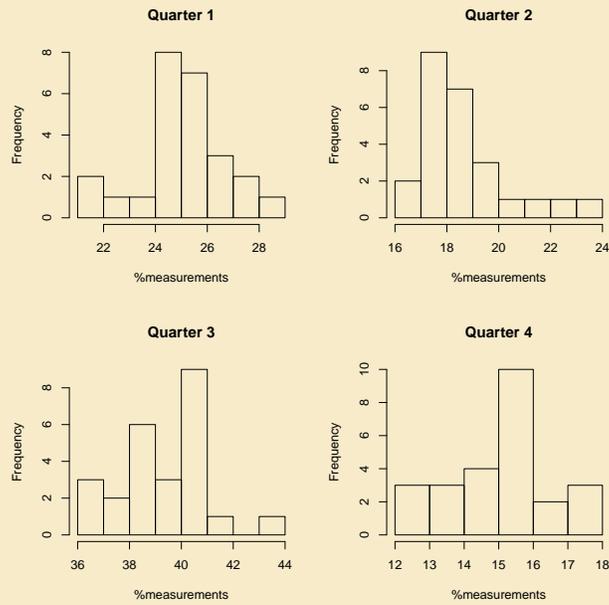
Progress

Case study based on median cv

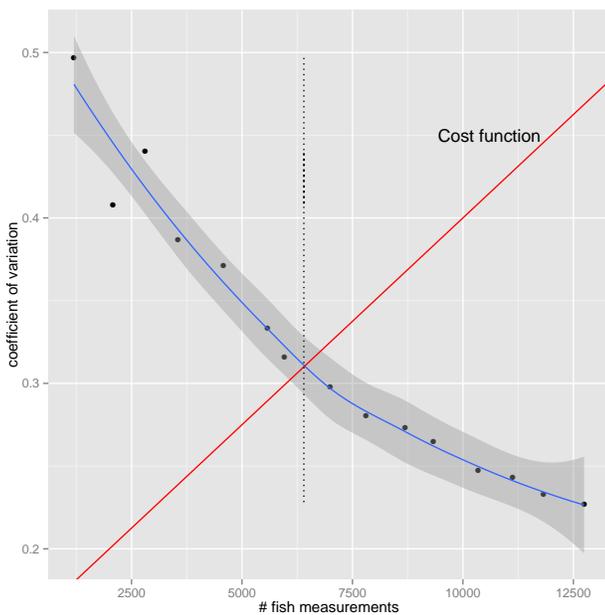


Progress

Case study based on median cv



Future directions



- Add a cost function (trade-off)
- Complete with other criteria (biodiversity index, ...)
- Account for landings

Chapter 18

Annex 7: Presentation on data quality



PG-MED 2015

Quality Evaluation

7 & 8 sept. 2015
CNR HQ – Roma
N. Billet - IRD



Quality Evaluation

- Data quality evaluation is a complex process as it encompasses:
 - the statistical sound of the sampling design,
 - the outcomes of implementing the scheme,
 - how the data are managed,
 - and how the data are analysed.

(From WKPICS 3 - 2013)



Quality Assurance

- Show, through suitable diagnostics, how quality problems propagate from national sampling strata through to final combined international data, so that sampling can be improved in a well targeted way.
- National sampling schemes need not have identical design, if they follow best practice standards and have correctly calculated, representative estimates with associated variance.

(From WKPICS 3 - 2013)



Quality Assurance

- Data end-users must not expect estimates at a higher level of disaggregation than the survey was designed for.
- A recurrent example is the unrealistic expectations to post-stratify fishery sampling data into highly resolved fleet métiers, when the inevitable outcome is many métiers having no or very few samples.
- It is essential that end-users work with survey experts to ensure that surveys and end-user needs are properly aligned at a national and regional scale.

(From WKPICS 3 - 2013)



Quality Assurance

- The process of coordination of sampling between countries should identify the sampling needed at a national scale to deliver the desired precision
- The calculation of precision should take into account the sampling design and any cluster sampling effects which are common in fisheries sampling.
- ⇒ A key to effective quality evaluation is full and accurate documentation of national sampling programmes.
- ⇒ Adherence to best practice guidelines, which implies the need for guidelines and standards.

(From WKPICS 3 - 2013)



Quality Assurance

- The DCMAP should not contain prescriptive precision targets such as target CV values, as have previously been included in the DCR and DCF, but it is important that the precision of estimates needed by end-users can be evaluated.

(From WKPICS 3 - 2013)



PGCCDBS 2014 trial QA report for Baltic Sea Cod



AT-SEA-SAMPLING												
Stock - Species - Area - Year (Cod 2224 2012)	Total landings 2012: 16756 t (source: FishFrame, RCM Baltic 2013)											
	Denmark		Germany		Sweden		Poland		Finland		Latvia	Estonia
	Design	Implementation	Design	Implementation	Design	Implementation	Design	Implementation				
Importance: Contribution to stock landing	53%		27%		14%		5%		2%	<1	<1	
<i>Sampling / design effect / diagnostic for randomness... (Description according to best practice)</i>												
Sampling design	probability based discard sampling		probability based catch sampling		Probability based discard sampling		probability based discard sampling					
Primary sampling unit	Vessel* trips		Vessel		Trip		Vessel					
Sampling frame	quarterly vessel list		annual vessel list		Quarterly vessel list		annual vessel list					
Periodicity	effort is following the		1-2 samples/week during		difficult to quantify		...					
Contact protocol	yes		Yes		Yes		Yes					
Sampling manual available	yes (Danish)		under preparation		No		under preparation					
...												
<i>Strata from the sampling frame</i>												
	Fleet 1		Fleet 2		Fleet 1		Fleet 2		Fleet 1		Fleet 2	
	active gear	passive gear	active gear	passive gear	active gear	passive gear	active gear	passive gear	active gear	passive gear	active gear	passive gear
Importance: Contribution to national landing	70%	30%	67%	33%	50%	50%	47%	53%	100%	100%		
Mean discard rate of the fleet in the year	9%	assumed	10%	4%	14%	2%	5%	1%				
Importance: Contribution to national discards in fleet	100%	0%	84%	16%	93%	7%	71%	29%				
<i>Quality indicator</i>												
1 Total number of vessels in the fleet*	151	199	58	887	40	101	44	69	1	3		
Number of trips sampled onboard of vessels	34	0	28	32	4	40	1	2				
Number of unique vessels sampled	15	0	15	17	4	19	1	1				
Total number of trips conducted by the fleet	4686	11519	3891	22156	247	4043	275	565				
Number of trips sampled where stock occurred in the discards	34	0	28	32	4	33	0	2				
Number of port samples	40	40	28	32	4	39	1	2				
Age key quality indicator (e.g. Mean number of age samples per trip sampled from this fleet)	75	75	207	63	76	14	0%	0%				
2 Non-response rate	68%		45%	53%	75%	50%	0%	0%				
Industry decline (refusal rate)	27%		9%	3%	23%	not	0%	0%				
3 Goodness of fit	tested and considered all right		tested and considered all right		Few trips achieved		sampling ICES rectangle 37G4					
Bias 1: Spatio-temporal coverage	6% are having a to small vessel for observers to		smaller passive gear vessels rejected		High refusal rate		no problem					
Bias 2: Vessel selection												
Bias 3: ...												
4 Precision levels of e.g. parameters, b, ... e.g. CV, variance, relative sampling error e.g. Input data for XSA model: maturity at age stock weight catch weight catch at age												

Figure 4.2.3.1 Copy of the completed trial QA report for Baltic Sea Cod. This focuses on the offshore component of the programme but a line was added in this report to refer to the number of onshore samples.



PGCCDBS version of the Quality Assurance Report



Country					
Stock					
Year					
Relative importance:	Landings (Tonnes)				
	% international TAC				
OFFSHORE SAMPLING PROGRAMME					
Potential sampling bias	Hi	Lo			
RCM evaluation			DESIGN		
Signature and date			IMPLEMENTATION & achievement		
sampling design (Description according to best practice)					
Sample selection procedure	Simple random			Description	
Primary sampling units (PSUs)	Site				
Sampling frame				Description	
a) Coverage	Full coverage				
b) Stratifications	None				
c) Periodicity	Annual				
Distribution of sampling effort...	Proportional to landings				
Hierarchical sampling	Unit	Selection	Protocol	Description	
List tertiary sampling units	Primary Site	Simple random			
e.g vessel- trip - haul - species - sex - fish ...	2				
List the selection process for each and	3				
	4				
	...				
Documentation and monitoring	Available	Description	Contact person		
Sampling manual available					
Where can these documents be found					
Monitoring					
System for recording non-response rates					
QUALITY INDICATORS					
Strata from the sampling frame		Port group 1 (e.g. large ports sampled)	Port group 2 (e.g. minor ports - not sampled)		
Importance: Contribution to national landing		75%	25%		
Target and sample population. ...in relation to					
Number of ports in the stratum	Frame	3	12		
Number of active ports	Stock				
Number of active ports sampled	Stock	3	0		
Number of visits	Frame	12	0		
Number of vessel landings sampled	Stock	36	0		
Number of unique vessels sampled	Stock	28	0		
Sampling quality indicators	Stock				
Number of trips sampled for length		50	0		
Number of lengths		1800	0		
Number of trips sampled for age					



Quality Indicators

- **Quality Indicators should be clearly distinguished from any metrics to indicate compliance with DCF legal requirements.**
- QI's for quality of design :
 - Coverage of the sampling frame (e.g. how much of the landed catch of each species into a country is into the ports included in an onshore sampling scheme).
- QI's for bias related to implementation error could include:
 - Non-response rates (e.g. refusal to allow access to vessels or catches for sampling)..
 - Proportion of total landings in strata with missing samples (a problem of over-stratification).
- QIs related to precision could include:
 - Relative standard error RSE (referred to in DCF texts as CV, referring to coefficient of variation of the mean).
 - Numbers of primary sampling units sampled, ideally by stratum.

(WKPICS 2 & 3)



Quality Indicators

- QI's for data management:
 - Domains of values (range and code lists)
 - Data consistency (no duplicated / orphan data)

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