The Data Collection Framework
The Data Collection Framework EU Council Regulation 199/2008 - Establishing a Community framework for the collection, management and use of data in the fisheries sector for scientific advice regarding the CFP

Report of the 10th Liaison Meeting Meeting between the Chairs of the RCMs, the chair of ICES PGCCDBS, the chair of PGMED, the chair of the Regional Database Steering Committee, the ICES representative, the Chairs of STECF EWG's DC-MAP and PGECON and the European Commission

FINAL REPORT

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1   Introduction

1.1 General

The 10th Liaison Meeting between the Chairs of the RCMs, the chair of ICES PGCCDBS, the chair of PGMED, the chair of the Regional Database Steering Committee, the ICES representative, the Chairs of STECF EWG's DC-MAP and PGECON and the European Commission was held at DG Maritime Affairs and Fisheries, Brussels from 8th to 9th October 2013.

1.2 Background & legal requirements

According to Article 5(1) of Council Regulation (EC) No 199/2008 (Data Collection Framework, DCF) Member States shall coordinate their national programmes with other Member States in the same marine region. For this purpose the Commission may organise Regional Coordination Meetings (RCMs) in order to assist Member States in coordinating their national programmes and the implementation of the collection, management and use of the data in the same region.

Five RCMs are operational in the framework of the DCF: Baltic, North Sea/ Eastern Arctic, North Atlantic and Mediterranean/Black Sea and Long Distance Fisheries. Most fleets subject to DCF activities are covered by these RCMs.

According to the Commission Regulation (EC) No 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and to Commission Decision 2010/93/EU specifying practical aspects for data collection, actions planned by MS in their national programme shall be presented according to the predefined regions. The scope of these regions was slightly modified by the RCMs 2008 and the following Liaison Meeting (5th LM) as follows:

- the Baltic Sea (ICES areas III b-d),
- the North Sea (ICES areas IIIa, IV and VIId), the Eastern Arctic (ICES areas I and II), the ICES divisions Va, XII & XIV and the NAFO areas.
- the North Atlantic (ICES areas V-X, excluding Va and VIId),
- the Mediterranean Sea and the Black Sea,
- regions where fisheries are operated by Community vessels and managed by Regional Fisheries Management Organisation's (RFMO) to which the Community is contracting party or observer.

Regional co-ordination greatly increases the efficiency, effectiveness and integration of the various DCF National Programmes (NPs). Regional Coordinating Meetings (RCMs) are held annually and involve National Correspondents and mainly biologists and, to limited extend, economists from each MS involved in the DCF programme (see last paragraph of this sub-section on the role of economists in DCF). The key objectives of the RCMs are to identify areas for standardisation, collaboration and co-operation between MS.

A Liaison Meeting (LM) between the chairs of STECF DCF EWG's (formerly chairs SGRN and SGECA), the chairs of the different RCM, the Chair of the PGCCDBS, the chair of PGMED, ICES and the Commission is held annually to analyse the RCM reports in order to ensure overall coordination between the RCMs. On the basis of the reports, the LM makes recommendations to the Commission.

The 2nd Liaison Meeting (2006) identified the following areas where it can contribute to the effectiveness of data collection and co-ordination within the framework of the Data Collection Regulation (D^CR):

- Make sure that the Regional Co-ordination Meetings (RCMs) move in the same direction.
- Address recommendations made by the RCMs and comment on these / modify them when considered appropriate / necessary.

- Identify issues, developments etc. that are of a pan-European interest and propose actions to be undertaken at the appropriate level (Member States, bilateral, regional or international level)

The 8th LM discussed the role and added value of the LM in relation to the DCF framework and concluded that the role of the LM is to co-ordinate the work being carried out in the development of the DCF. LM provides a coherent overview of the RCM issues at both a local and generic level. The LM prevents duplication of tasks and guides the evolution of the DCF. The LM prioritises RCM recommendations and reviews the follow up actions required.

Following the recommendation of the 8th LM, an economic planning group (PGECON) was established in 2012 to discuss methodological and coordination issues related to the economic modules of the DCF at European level (fleet economic data, aquaculture, processing sector).

1.3 Terms of Reference

The 10th Liaison meeting met in Brussels on 8th and 9th October 2013 to address the following terms of reference:

TOR 1. Discussion on possible follow-up to the main outputs of the 2013 RCMs and to the specific recommendations addressed to the Liaison Meeting.
- Recommendations database – state of play of upload of recommendations?

TOR 2. PGECON, PGCCDBS, PGMed – outcomes and recommendations from their 2013 meeting

TOR 3. Discussion on current horizontal issues:

- Regional databases:
  - Overview of use of the Regional Databases for RCMs in 2013, including the RCM data call, and problems identified
  - Other developments (RDB trainings in 2013, RDB Med&BS development)
  - Changes for the future – any recommendations from the LM?
- Feedback from data end users (ICES, GFCM, RCMs):
  - *In the context of data transmission by MS (Annual Report 2012 evaluation). Include RCM feedback on data transmission in 2013 evaluation exercise.*

TOR 4. Discussion on future horizontal issues: review of the DCF

- Future role of Regional Coordination Groups (overview of derogations, of recommendations of RCMs, regional sampling…)
- Recommendations for collaborative work between MS for funding under the EMFF direct management programme
- ToR for STECF EWG13-18 on revision of the DCF (25-29 Nov 2013)
- Issues relating to implementation of the NP2014-2016:
  - RCM2013 guidance to MS and to STECF. Any problems foreseen with roll-over of NP2011-2013?

TOR 5. Studies

- Recommendations for studies for 2014

TOR 6. Recommended meetings/workshops:

- Prepare a list of recommended meetings for 2014 as guidance for MS

T0R 7. AOB

- JRC Website/central repository for DCF files (AR, NPs) – has there been any improvement?
- Recommendations database – ICES (for RCM & LM recommendations) & perhaps the STECF Secretariat for STECF recommendations – discussion on content/ structure

- Derogations database - Database of derogations by Member State to be created by DG MARE – discussion on content/ structure (RCGs to produce contents, JRC to manage database?)

1.4 Participants

The 10th Liaison Meeting met with the following participants:

Name	Role
Amelie Knapp	European Commission
Beatriz Guijarro	Chair of PGMED
Christian Tritten*	European Commission
Bas Drukker	European Commission
Constantin Stroie	Chair of the RCM Mediterranean&Black Sea
Cristina Morgado	ICES secretariat
Eskild Kirkegaard	Chair STECF EWG DC-MAP and chair of Liaison Meeting
Frans van Beek	Chair RCM NS&EA
Gráinne Ní Chonchúir	co-Chair ICES PGCCDBS
Ireneusz Wójcik (chair)	Chair for RCM Long Distance Fisheries
Jörg Berkenhagen*	Chair of PGECON (incoming)
Jørgen Dalskov	Chair RCM Baltic
Katja Ringdahl	Chair Regional Database Coordination Group.
Kelle Moreau	Chair RCM NA
Paolo Carpentieri	Chair RDB MED
Pierre Chavance	Chair RCM sub-group on large pelagics

*Part-time

2   TOR 1 - Main outcomes and recommendations from RCMs

2.1 Main outcomes

2.1.1   RCM Long Distance Fisheries

The Regional Coordination Meeting for the Long Distance Fisheries (RCM LDF) was held from 2nd to 6th September 2013 in Constanta, Romania.

The group reviewed the progress in regional coordination since 2012 and addressed 2012 recommendations from the RCM LDF and the Liaison Meeting, as well as feedback from the end-users, including ICES, PGCCDBS, PGECON.

In 2012 the Large Pelagic species fishery (LP) were not reviewed by any RCM due to a lack of agreement on the competence over LP between the RCM Med&BS and the RCM LDF. Therefore, in 2013 the RCMs LDF and RCM Med&BS were held together and a working group was formed to work on all Large Pelagics issues. For the future work, it was recommended to create a single coordination sub-group on Large Pelagics under the RCM Med&BS to deal with all large pelagic fisheries, species and stocks issues, with the RCM's co-chair leading the LP sub-group.

The RCM LDF reviewed the Long Distance Fisheries activity by MS in CECAF and SPRMFO areas with the use of updated 2012 data provided by MS. There were no EU fishing activity in the SPRMFO area in 2012. Most of the fishing activity of the EU vessels in the CECAF area stopped in the period May-July 2012. The group performed the comparison of rankings of métier done in previous years with rankings done on the most recent data for the fishery in CECAF area. Based on that comparison, the group concluded that there is no need to amend the NP 2014.

A list of bilateral and multilateral agreements was updated. A joint programme for sampling fisheries on small pelagic species conducted by pelagic trawlers in CECAF area was implemented in 2012 and 2013 and the RCM LDF made a recommendation to extend this programme for another two years period. The group also recommended to set a similar joint sampling programme for fisheries targeting small pelagic species in the SPRMFO area. With regard to data collection on fishery in CECAF and SPRMFO areas, the RCM LDF does not see the immediate need for the establishment of the Regional Data Base (RDB) dedicated to that fishery, as the existing RDB (FishFrame) could serve the needs of coordination of long distance fishery sampling once it accommodates for the upload of data specific to that fishery. However, with regard to the RDB for the Large Pelagics, it was agreed that a standardization of formats and tools at the MS level should be a first step. Level of data aggregation and localization of a physical RDB will have to be considered in a second step.

The group discussed some of the main aspects of the possible changes to the data collection system in the future. Concerns were raised with regard to the implementation of the landing obligation. A number of CFP provisions are still unclear which may cause deterioration of the quality of catch statistics. It is unknown on how this obligation will effectively be set in place in the different RFMOs because, e.g., some species are not authorized to be kept on board under RFMO's present regulation and/or the discard ban may not be in place in certain EEZs. It was the view of the group that, at present, observer programs will still be required to collect detailed scientific data on-board fishing vessels.

With reference to the data quality issues and the development of a statistical sound sampling programme for long distance fisheries, the RCM validated its sampling design and implementation of sampling the fisheries in the CECAF area on the basis of the outcomes of the of Workshops on the Practical Implementation of Statistical Sound Catch Sampling Programmes (WKPICS).

Concerning the planned move from the RCM to the concept of Regional Coordination Groups (RCG), a changes for sampling design are envisaged under the new DC-MAP – i.e. the move from NPs individually planned by MS which then are coordinated by the RCMs, to the option where sampling is pre-designed at the regional level by the RCGs and then sampling tasks allocated to MS. However, such a

scenario raises some legal issues as it creates a conflict between the RCGs recommendations and the competences and legal obligation of MS under the EU law.

The RCM LDF made 3 recommendations, one Strategic comment and one suggestion to be reviewed by the 10th Liaison Meeting.

Mr Irek Wójcik (PL) was re-elected as a chair of the RCM LDF and Mr Pierre Chavance (FR) was elected as a co-chair of the Large Pelagics sub-group within the RCM Med&BS.

2.1.2   RCM Mediterranean & Black Sea

The 10 Regional Coordination Meeting for the Mediterranean and Black Sea [RCM Med&BS] (Chair: Constantin Stroie - Romania) was held in Constantza, Romania from 02-06 September 2013. The meeting was opened by PhD Mrs. Tania Zaharia Scientific Deputy Manager of National Institute for Marine Research and Development "Grigore Antipa" Constantza, Romania who addressed welcome to participants and successful work and thanked to EC for the approved opportunity to host the meeting among the Regional Coordination Meeting for Long Distance Fisheries.

The meeting was attended by scientists from majority Mediterranean MSs of EU in the Mediterranean and Black Seas, including the Chair of the Mediterranean Planning Group for Methodological Development [PGMed] and the Chair of the Mediterranean Acoustic Surveys Working Group [MEDIAS WG], the Chair of the Steering Committee of Regional Data Base, as well as a representative of the European Commission. The meeting was planned and organized in the same location and period of time with RCM Long Distance Fisheries [RCM LDF] in order to settle the issue on large pelagic species outside the Mediterranean Sea, as per annex of EU Decision 93/2012 and EC recommendation.

The representation of the General Fisheries Commission for the Mediterranean [GFCM] was delegated to the Chair of Steering Committee for Regional Data Base. Also ICCAT organization was invited but no representative attended the meeting. Should be remarked the fact that 8 EU MS were represented from 10 EU MSs in the region, missing the representatives of Bulgaria and Cyprus. Despite the invitations sent to the other 4 riparian countries of the Black Sea – Ukraine, Russian Federation, Georgia, Turkey – and to Montenegro – Mediterranean Sea – those states didn't send any representative to the meeting.

The terms of reference [ToRs] of the meeting were based on the generic ToRs of all RCMs, agreed between the Chairs of the RCMs and the Commission, with some adaptations to suit the specific needs of the RCM Med&BS and focusing on the issues related with DC-MAP, i.e. the new legislation in the EC fisheries policy and the changes needed in data collection framework to ensure the implementation of the new common fisheries policy of the EC for the next 2014-2020 cycle.

2.1.3   RCM North Sea &Eastern Arctic

The Regional Coordination Meeting for the North Sea & Eastern Arctic (RCM NS&EA) was held in September 2013 in Vigo (Spain). Since the Commission has decided to roll over the unchanged NP 2011-2013 to the period 2014-2016, there was no need for major coordination of the programme for 2014. This created time to explore future regional needs, to exercise regional statistical sound sampling programmes and start development of candidate approaches for reporting quality of data on a regional scale.

Recurring items on the agenda were the consideration of the follow up of relevant recommendations made last year by Liaison Committee. Further, through a number of presentations, the members of the group were informed on relevant developments. The ICES observer presented feed back from expert groups on data needs, projected benchmark meetings in 2014, ICES comments on the DC-MAP approach, and proposed changes in the structure of the role of PGCCDBS. Also participants reported on progress made by a number of ICES expertise groups, such as PGCCDBS, SGPIDS etc. which are relevant for (the quality) of data collection.

An interpretation was given to the changes in the new CFP and the consequences for data collection. The most prominent change is the introduction of the landing obligation. The RCM expressed great concern about the lack of clarity in the CFP on this subject and concluded that this potentially could lead to chaos in catch reporting. The announced likely extension of areas for data collection was received with some scepticism as presently institutions involved in data collection are confronted with reductions in budget in many MS. An expansion of data collection for most MS would become problematic without increase of budget.

A summary of the process in STECF that lead to proposed wording of the DC-MAP by STECF EWG 13-05 was presented to the group. It is clear that this process has not ended and needs to be continued. In fact, no formal decisions on the content of DC-MAP have been taken yet. Therefore, the elaboration on the future of coordination of data collection, as been done by RCM NS&EA in this meeting, is somewhat speculative.

Earlier in 2013, the chairs of the RCM Baltic, RCM NS&EA and RCM NA had send out a call to all MS to populate the RDB with low aggregated transversal (catch, effort, metier, port) data and biological data from the period 2009-2012. All MS responded positively and this is great progress compared to previous years. Also the quality of the data upload has improved. An evaluation of the data indicated that in general the catch and effort data are more complete than the biological data. There is a need for developing tools to examine the completeness and quality of the data. Data from Spain and Portugal were available but were not uploaded in the RDB because of technical problems.

The data in the RDB were explored in three subgroups to:

1. check whether there have been major changes in the fisheries (metiers) in the last 4 years which may compromise the Commission Decision to transfer the 2013 NPs unchanged to 2014.
2. exercise the design of regional designed sampling following (WKPICS) guidelines of a sound statistical approach
3. develop new approaches of investigating quality of data on a regional scale by designing diagnostics

The check (1) concludes that on a regional scale, the metiers in the top of the ranking are relatively stable and will be covered with data collection as in previous years. There is therefore no need to change the coordination of data sampling compared to previous years.

The exercise (2) indicates that efficiency can be improved if biological sampling could be carried out in a selection of fishing ports. The 2012 data present in the RDB includes landings for 430 species into 601 harbours. These species can be classified in groups such as gadoids, flatfish, pelagics, etc. As an example, the exercise indicates that if sampling for gadoids would be carried in fishing ports, only 46 or 24 ports need to be sampled to have access to 95% or 90% of the landings. The major ports for roundfish landings are in the UK and Denmark. This means that these two Member States would be the major data collectors for this species group (i.e. roundfish), while other MS may reduce or stop sampling for roundfish. It is clear that such analyses of the RDB data need to be further developed in order to optimise sampling design of data collection as much as possible to the needs of end-users. Also changes in data fields in the RDB are needed to improve the analyses. The exercise demonstrates that changes are needed in the future coordination of data collection.

The development of new approaches (3) to data quality is a continuation of the process started in last year's RCM. There is a legal need to report on the quality of data but also it is most important that end-users are aware of the quality of data used for providing advice. Examples of diagnostics have been developed or explored to compare reported catches from different sources, to check data ranges (length, age) in the RDB, goodness of fit indictors comparing sampling effort with the sampled populations. In summary there are simple ways to review both the quality of the data and the quality of sampling schemes but currently there isn't a process for reviewing and reporting on quality.

The RDB provided sufficient support to the subgroups although some problems were identified such as incomplete uploads, inconsistencies in parameter definition and the requirement of new data fields needed for future coordination. The actions needed to improve the situation are expressed in a number of recommendations.

The group considered that coordination is likely to change considerably under the DC-MAP. In the present situation - under the DCF - obligations to collect data are defined for each MS and these are coordinated by the RCM on the basis of provisional NPs. It is considered likely that, under the DC-MAP, part of the obligations will be defined at a regional level and need to be allocated to the MS before they produce their NP. RCM NS&EA considers that the allocation of regional priorities to MS may conflict with national priorities and available resources and therefore may become problematic in the future. Other changes foreseen are more involvement of the end-user in defining data needs, a regional approach to sampling design and another approach to data quality measurement. A well-functioning RDB plays here prominent role. A roadmap towards the implementation of the DC-MAP was considered mostly after the meeting and was further considered by the RCM NA. It is clear that regional coordination in the future is more extensive and more complex, involving more parties and require good communication and information. Roles and mandates of the different stake-holders in the process need to be clearly defined. Future Regional Coordination Groups (RCG) need to prepare for their more extended role and this preparation should be part of the road map.

2.1.4   RCM Baltic

The Regional Coordination Meeting for the Baltic (RCM Baltic) was held in August 2013 in Tallinn, Estonia. This year meeting was focusing on the present status of the data collection and analysed whether further cooperation and task sharing could be agreed. The Commission has extended the present EU Multiannual Programme (Commission Decision 2010/93/EU) for 2014-2016, and to roll-over the Member States' National programmes 2011-2013 for the period 2014-2016. Since these NP have been adopted without any changes, there is no need for major coordination. The DCF work during the period 2014-2016 was discussed as well as the revision of the DCF of the EU Multiannual Programme which will be the new framework for data collection.

The ICES observer presented feedback from expert groups on data needs, projected benchmark meetings in 2014, comments on revision to be carried out for the DCF, and changes in the structure of the role of PGCCDBS. Also participants reported on progress made by a number of ICES experts groups which are relevant for (the quality) of data collection.

An introduction was given by the Commission representative to the changes in the new CFP –beyond Article 37 on data collection - and the consequences for data collection. The most prominent change is the introduction of the landing obligation. The RCM expressed great concern about the lack of clarity in the CFP on this subject and concluded that this potentially could lead to chaos in catch reporting. Proposed extension of areas of data collection was received with scepticism by some MS on the basis that as an expansion of data collection for some MS would be difficult to finance.

A summary was presented of the process in STECF that lead to proposed changes to the DCF and the EU Multiannual programme by STECF EWG 13-05. As the work to be carried out by STECF is not yet finalised and that the Commission not yet has presented first draft of a new framework the discussion at the RCM Baltic on the revision of the DCF are somewhat speculative.

In spring of 2013 the chairs of the RCM Baltic, RCM NS&EA and RCM NA had send out a call to all MS to populate the RDB with low aggregated transversal (catch, effort, metier, port) data and biological data from the period 2009-2012. All MS responded positively and this is great progress compared to previous years. Also the quality of the data upload has improved. Only very few data still have to be checked and uploaded the data in the RDB were explored in three subgroups to:

Ranking of metier in order to check whether there have been major changes in the fisheries (metiers) in the last 4 years which may compromise the Commission's decision to transfer the 2011-13 NPs unchanged to 2014-16.

Analyse the level of sampling of biological parameters and propose new analyses to be carried out for quality assurance.

Analyse possibilities for setting up statistical sound regional designed sampling schemes for the Baltic Sea based on outcome of the ICES WKPICS and SGPIDS.

Group 1 concluded that no major changes to the NP's for 2014 have to be made. Most important metiers are relatively stable and will be covered with data collection as in previous years.

Group 2 developed a scenario for a regional sampling frame and explored diagnostics to assess data quality issues. At present, the use of the term "trip" differs between countries and does not have a unique value in the Regional Data Base so that the sampling performance of the different countries cannot be reasonably compared.

Group 3 suggested further analysis needed to be carried out and hopefully this could be done intersessionally before any decision can be made on whether a regional data collection programme could be implemented. Further, that the RDB is a key tool for future work on regional data collection programmes.

The RCM Baltic considered that coordination is likely to change considerably under the revised DCF. Under the current DCF, obligations to collect data are defined for each MS and these are coordinated by the RCM on the basis of provisional NPs. It is considered likely that, under the revised DCF, part of the obligations will be defined at a regional level and need to be allocated to the MS before they produce their NP (or Annual Work plans as they will be referred to under the EMFF).

RCM Baltic considers that the allocation of regional priorities to MS may conflict with national priorities and available resources and therefore may become problematic in the future. Other changes foreseen are more involvement of the end-user in defining data needs, a regional approach to sampling design and another approach to data quality measurement. The RCM Baltic stress that a well-functioning RDB is an essential tools.

A roadmap towards the implementation of the revision of the DCF was considered mostly after the meeting and was further considered by the RCM NS&EA as well as the RCM NA. It is clear that when regional coordination is strengthened in the future, is may be more complicated, involving more parties and will require good communication and information sharing. There will be a need for intersessional work in smaller groups as this will speed up the development of new and more statistical sound regional sampling schemes and to develop quality analysis tools.

2.2 RCM Recommendations and LM comments

Given the short time lag between the most of 2012 RCMs and the LM, no final reports were available to the LM for RCM NS&EA, NA and Baltic. Hence, the recommendations from these RCMs are based on the draft reports and, therefore, the exact wording might differ from the final RCMs reports.

1. Training course on "Design and analysis of statistically sound catch sampling programmes"	
RCMs Baltic and NA Recommendation	A training course on "Design and analysis of statistically sound catch sampling programs" should be organised.
Justification	Guidelines for implementing statistically sound catch sampling are required in the DC-MAP. Based on the work done by ICES (WKPICS and SGPIDS) the training course should organized including development of

	a manual with guidance on best-practice and definitions.
Follow-up actions needed	To be organized by ICES.
Responsible persons for follow-up actions	RCM chairs
Time frame (Deadline)	April 1ˢᵗ 2014
LM 2013	The recommendation is based on Baltic Rec 1 & NA Rec 10.
	LM endorses the recommendation.

2. Quality assurance - Managed repository for RDB upload successes and data status reports	
RCMs Baltic, NS&EA and NA Recommendation	It is recommended that a system for administering and recording up-load successes by Member States and a facility to provide a clear reference for data users on how complete the data is, are set up. For this purpose, a repository should be implemented for giving data users direct access to: • Up to date status reports on the contents of the database. These reports need to be live and available for data users so that • data calls can be properly audited • DB content can be properly interpreted • Up to date guidance notes • Up to date reference lists
Justification	Knowing the status of the data is crucial for auditing purposes, for quality control and to determine how the data can be used. It also allows users, within reason, to account for missing data in their estimates or reports. Changes to guidance and reference lists can be communicated to data users with reference to the repository.
Follow-up actions needed	SC-RDB to review possible solutions or develop and incorporate an application to provide end-users with this functionality and a reference repository.
Responsible persons for follow-up actions	SC-RDB
Time frame (Deadline)	Next SC-RDB meeting.
LM comments	This recommendation is a merge of Baltic Rec 2, NSEA Rec 3 & NA Rec 5. LM endorses the recommendation.

3. Towards a regional sampling scheme	
RCMs Baltic and NS&EA Recommendation	It is recommended that a 'dry-run' on the process from end-user participation to defining data needs and designing a regional sampling scheme is carried out during the roll-over years 2014-2015. The process itself, participating meetings and end-user specification can be used as specified by STECF EWG 13-02.
Justification	Before adapting the current data collection management to a full regional approach, experience needs to be gained on the future process. This will allow fine-tuning of the process prior to the full implementation and will thus allow for a quick start once DC-MAP is fully implemented.
Follow-up actions needed	Commission to initiate and steer the process
Responsible persons for follow-up actions	Commission and RCMs
Time frame (Deadline)	2014-2015
LM comments	This recommendation is a merge of Baltic Rec 3 & NSEA Rec 8. LM endorses the recommendation.

4. Specifying data quality diagnostics for fleet-based and stock-based biological data	
RCMs NS&EA & NA Recommendation	It is recommended that WKPICS3 provides detailed guidance on diagnostic methods to evaluate aspects of data quality to facilitate the work of Regional Coordination Groups in coordinating regional data collection and analysis, and provide any additional Terms of Reference for the proposed WGCATCH and WGBIOP to continue this development during the transition phase of DC-MAP. In addition recommends that WKPICS3 provides advice to SC-RDB on development requirements for the RDB related to data quality assurance and reporting.
Justification	A suite of diagnostic tools will be needed by RCGs to evaluate and respond to regional data quality issues. These include but are not limited to • errors in RDB related to quality assurance and control at national level and errors during RDB data uploading • quality of fleet-based biological data in terms of coverage and numbers of samples for length and age by stock, fleet and area as needed for coordinating national data collection activities, • quality of stock-based biological data such as for estimating growth parameters, maturity ogives and sex ratios in terms of data sources, coverage of the and numbers stock of samples
Follow-up actions needed	ICES to add Term of Reference to WKPICS3
Responsible persons for follow-up actions	ICES WKPICS3
Time frame (Deadline)	November 2013 WKPICS3 meeting.
LM comments	This recommendation is a merge of NSEA Rec 1 & NA Rec 4. LM endorses the recommendation.

5. Regional Database: Code lists and Reference tables for regional data base	
RCMs NS&EA , NA and NA Recommendation	It is recommended that code lists and reference tables in the regional data base are made comprehensive and unambiguous. Fields and appropriate standardized code lists are needed for: • Harbour (limited to the EU Master Data Register) • Species (limited to WoRMS and further restricted to species needed by RCMs) • Metier (definitions already listed in regulation and RCM reports, but currently not restricted by RDB) • Sales location, sampling location (in the CS data), fish presentation (e.g. whole or partial), and data provider (i.e. who did the sampling and uploaded the data).
Justification	The design and implementation of design based sampling requires consistent coding of the data in all fields. It should not be possible to upload data outside the agreed codes without permission from the RCM chair.
Follow-up actions needed	RCMs need to update reference lists. These lists should be implemented in the RDB.
Responsible persons for follow-up actions	RCM chairs to liaise on this issue & RCMs to intersessionally decide on the restrictions to the lists and to provide these to the RDB administration. SC-RDB to ensure implementation by ICES Secretariat as host of the RDB.
Time frame (Deadline)	Spring 2014 (before the next RCM data call for uploading (or re-uploading) data)
LM comments	This recommendation is a merge of NSEA Rec 5, NA Rec 1 & NA Rec 7. LM endorses the recommendation.

6. Design Based Sampling	
RCMs NS&EA and NA Recommendation	It is recommended that WKPICS/WGCATCH indicates which data fields and relationships are needed in the exchange format of the RDB to enable regional design based sampling. In addition it is recommended that means of linking effort measures more directly with landed species is needed. Presently the CL and CE can only be linked by metier.
Justification	The design and implementation of design based sampling requires appropriate fields and relationships to be available in the RDB. Specifically there is a need to link species information more directly with measures of effort. Presently the CL and CE can only be linked by metier.
Follow-up actions needed	Relevant ToRs for WKPICS/WGCATCH are set out. SC-RDB to ensure that the RDB developments enable design and estimation appropriate for design based sampling.
Responsible persons for follow-up actions	SC-RDB
Time frame (Deadline)	Oct 2013
LM comments	This recommendation is a merge of NSEA Rec 5 & NA Rec 11. LM endorses the recommendation.

7. Regional data base	
RCM Baltic 2013 Recommendation 4	RCM Baltic strongly recommends that funding is found to ensure further development and improvement of the RDB "FishFrame".
Justification	For the improvement and moving toward a regional data collection programmes a regional data base is a fundamental tool for the RCMs. In addition when reporting to data calls and the Annual Reports a RDB is important. Furthermore, the demands from the users to a regional database is under constant change as the users discover new possibilities in the use of the data as they get more familiar with the use of the database and because the data collection, fish stock management and modeling environment changes and new data types and processing facilities become important.
Follow-up actions needed	DG MARE
Responsible persons for follow-up actions	DG MARE
Time frame (Deadline)	Funding should be made available as soon as possible
LM comments	The LM endorses the recommendation.

8. Quality assurance – RDB additional fields and managing data gaps	
RCM NS & EA 2013 Recommendation 2	The RCM recommends that a policy on how missing data values for MS are accounted for in the database and this decision communicated to RDB users.
Justification	Proper consideration needs to be given to how to account for empty data values. Missing data could devalue summary information and if estimates are derived how they are derived could change over time. An example is provided in the RCM report where landing information for a MS does not have both value and weights for some of their records. If this data is uploaded then the sum of the landings would not equate to the sum of the value (€). This could also occur in relation to missing fishing effort.
Follow-up actions needed	SC-RDB to consider the impact of missing data values and to provide clear guidance on how MS should manage these data.
Responsible persons for follow-up actions	SC-RDB
Time frame (Deadline)	Next SC-RDB meeting
LM comments	The LM endorses the recommendation.

9. Quality assurance – RDB additional fields and managing data gaps	
RCM NS & EA 2013 Recommendation 4	RCM recommends an additional field in the core tables to identify the administration that has collected and or uploaded the data.
Justification	Currently the country of landings or flag country is the only reference to the source of the data. But with bilateral agreements and most MS now sampling foreign vessels within their sampling schemes it is not always clear which country collected the data. This is crucial for auditing purposes, for quality control and to limit the opportunities for replication of data. This field is also required to allow data to be raised according to national sampling schemes.
Follow-up actions needed	SC-RDB to insert a field to identify the source or origins of the uploaded data.
Responsible persons for follow-up actions	SC-RDB
Time frame (Deadline)	Next SC-RDB meeting
LM comments	The LM endorses the recommendation.

10. Quality assurance - Managed repository for RDB upload successes and data status reports	
RCM NS & EA 2013 Recommendation 6	RCM recommends that MS document their interpretation of trips, samples and sampling events and describe what the TripID and SampleID represent in there uploaded data.
Justification	The key identifiers for the biological data refer to trips and samples in most instances, for example on a discard trip each event is quite distinct but ashore where sampling might only focus on components or categories of a landing then this can lead to a different interpretation and achievements are therefore not directly comparable. Sampling events, trips and samples are crucial for auditing and monitoring sampling design and key to significant quality indicators.
Follow-up actions needed	MS to provide a summary document of their interpretation of these key fields in the upload data formats. RCG to collate these documents for storing in the RDB repository (see earlier recommendation).
Responsible persons for follow-up actions	MS, SC-RDB
Time frame (Deadline)	Next SC-RDB meeting
LM comments	The LM endorses the recommendation.

11. Quality assurance – surveys at sea	
RCM NS&EA 2013 Recommendation 7	The RCM recommends to develop a suite of diagnostics from which the quality of the (international) results of survey at sea can be assessed.
Justification	MS and RCGs have a legal requirement to report on the quality of data collection carried out under the DC-MAP to the European Commission.
Follow-up actions needed	Develop a toolbox with survey quality diagnostics, establish a process which applies and reports those.
Responsible persons for follow-up actions	ICES and other international organisations which coordinate DC-MAP surveys
Time frame (Deadline)	before the implementation of DC-MAP (2016)
LM comments	The LM endorses the recommendation.

12. Quality assurance – Member States QA before loading to the RDB	
RCM NA 2013 Recommendation 2	MS to document Quality Control and Quality Approach procedures in summary for review at the next RCM.
Justification	MS have a duty of care and are required under the current DCF to ensure that the data within their own MS databases are also checked for inaccuracies before uploading anything to the RDB.
Follow-up actions needed	All RCM NA Member States to ensure quality checks are in place and are being carried out and documented.
Responsible persons for follow-up actions	MS and all RCMs
Time frame (Deadline)	Before RCMs in 2014
LM comments	The LM endorses the recommendation.

13. Quality Control - Data discrepancies between official data held within Eurostat, Intercatch, RDB and that used by the Assessment Working Groups

RCM NA 2013 Recommendation 3	It is recommended that a procedure should be in place to more easily compare the data held in each of ICES sources highlighting any anomalies. As there is data sharing between ICES and Eurostat any inconsistencies should be more easily explained.
Justification	A comparison of data held in different databases (including the RDB) highlighted substantial differences, giving rise to concerns about what data is being used in the assessments.
Follow-up actions needed	ICES to develop an easier procedure for comparing the data.
Responsible persons for follow-up actions	ICES
Time frame (Deadline)	RCMs 2014
LM comments	The LM endorses the recommendation.

14. MARE/2012/22 LOT 2 scientific data storage and transmission under the 2014-2020 DC- MAP	
RCM NA 2013 Recommendation 6	RCMNA recommends that RCMs should take into account the results of the MARE/2012/22 LOT 2 scientific data storage and transmission under the 2014-2020 Data Collection MAP feasibility study due for completion February 2014 and consider the implications for further development of the RDB. This should be either added or included within the Tors for the next cycle of RCGs.
Justification	It is important that MS and RCMs remain up-to-date with the conclusions of evaluations and new developments of the RDB to ensure that qualitative work can be done during the RCMs and that meaningful recommendations can be made for future improvements.
Follow-up actions needed	LM to consider and add to TORs. RCGs to review the reports and advise on RDB development.
Responsible persons for follow-up actions	RCMs
Time frame (Deadline)	RCMs 2014
LM comments	The LM recommends that the RCM/RCG are involved as clients in the study as they are one of the main data end users.

15. Eels and Salmon and DCMAP	
RCM NA 2013 Recommendation 8	The RCM recommends that eels and salmon work be integrated within the governance structure being developed for DCMAP (and with reference to the roadmap for the development of a regional sampling programme), and that these requirements be clearly ex- pressed in the text of the DCMAP.
Justification	It is currently unclear whether the collection of data on eels and salmon will be part of the DC-MAP.
Follow-up actions needed	DGMARE - Further consideration to be given to where eels and salmon data collection should be placed in the DCMAP and the road- map for the development of a regional sampling programme. Representation of eels and salmon data collection in DCMAP to be be considered at the STECF EWG 13-18: 'Data Collections in EMFF' and the 3rd National Correspondents meeting of 2013.
Responsible persons for follow-up actions	DGMARE, NC, STECF
Time frame (Deadline)	Within the time frame of the DCMAP development
LM comments	The LM endorses the recommendation.

16. Regional Coordination: Cost sharing of International Ecosystem Survey in Nordic Waters and Blue Whiting joint research surveys	
RCM NA 2013 Recommendation 9	RCM NA recommends that the non-EU share of the research vessel cost for conducting the following surveys is shared among MS according to their EU-TAC shares for the main species concerned: i) the International Ecosystem Survey in the Nordic (Atlanto-Scandian herring), ii) the Blue Whiting Survey (blue whiting). Those MS having a EU-TAC share >= 5% (average TAC 2011-2013) are to be included in the cost sharing. The share is based on the relative share in the total costs of all MS participating. The share will be reviewed mid-term EMFF period.
Justification	There is a need to update current agreements to reflect the new financial structure under the EMFF, while the surveys themselves are automatically rolled-over to 2014 and 2015 under the current DCF regime. Furthermore, the cost sharing models for both surveys should be aligned.
Follow-up actions needed	Approval by National Correspondents
Responsible persons for follow-up actions	Jorgen Dalskov (DK) and Sieto Verver (NLD) to initiate and prepare proposal for NC meeting.
Time frame (Deadline)	November 1, 2013 (prior to NC meeting, date to be set)
LM comments	The LM endorses the recommendation.

3 Outcomes and recommendations from PGECON

3.1 Main outcomes

The second Planning Group on Economic Issues met in The Hague, from 13th to 16st May 2013. The terms of reference for the meeting are given in section 2.1. 26 experts from 13 Member States attended the meeting.

PGECON is an operative meeting with a general aim to compare different approaches and to share different experiences. Participation is open to national experts involved in the implementation of the economic modules of the Data Collection Framework (DCF). PGECON aims to provide useful inputs to improve MS sampling schemes.

A key topic for discussion at this meeting was the review and the finalisation of the glossary of economic definitions. The glossary is an essential tool to improve harmonization of economic data collection among MS. It aims to improve the data collection procedures as clear definitions of variables and a common understanding is the starting point of any survey. EWG 11-18 compiled a preliminary glossary and listed the principles that should be considered in the process of finalising the glossary. On the basis of this background work the glossary has been compiled by JRC together with an external consultant. The final glossary was presented to PGECON 2013 for discussion. PGECON 2013 made a

revision of the glossary prepared by JRC. The final revised glossary was presented at the STECF DC-MAP meeting (EWG-13-05) in June 2013.

The outcome of the workshop on disaggregation of economic data was also discussed at PGECON 2013. A presentation on the outcome of the 2012 workshop in Malta was given. Fleet economic data cannot be collected at higher resolution than defined in the DCF. However, several applications require a spatial or activity-related resolution of fleet economic data which is different to the resolution defined under the DCF. As transversal data are, in most cases, available at the required resolution, the plan was to find correlations between those two groups and use these correlations to estimate the economic data at a lower aggregation level. For this analysis individual vessel data from several member states have been analyzed using different software (SPSS, Excel, R, SAS). However, the analyses performed during the workshop are to be regarded as preliminary and as a work in progress. After two workshops on this issue, which provided a broadened insight into the issue, PCEGON strongly recommends a study on the disaggregation which delivers a comprehensive analysis of different approaches and methods, addressing also the availability of individual data by MS.

PGECON also discussed the possibility of introducing thresholds for sampling by survey. The current regulation requires data covering all fleets. These data are appropriate to evaluate the economic performance of the whole fleet. However, bio-economic analysis requires the cost structure of the operating fleet The average performance of the fleet can be biased by the non-active/low active vessels. Firstly in most of the cases the cost structure of the commercial fleet is different from the one of low active vessels. Secondly, in many cases the capital input and consequently costs are increased with low active vessels. Ultimately the average economic performance is biased and of little use for bio-economic analysis. Therefore these data cannot be used to make economic evaluation of management measures or the consequences of implementation of new CFP. PGECON realised that in some MS it is evident that inclusion of all vessels would degrade the economic performance of the commercial fleet that the management measures are targeting. However, since no data was available to determine, for each MS, whether thresholds would be appropriate and what effect the introduction of thresholds would have on the quality of the data, PGECON concluded that this issue should be investigated in a workshop. The terms of reference for this workshop are described in section 9.6

PGECON 2013 discussed the usefulness of the CV as a quality indicator and concluded that the CV is a useful indicator but that it should be reported together with achieved sample rate (already available) and the frame population. Preferably all three indicators should be available to the end-user. PGECON 2013 reinforced the suggestion of STECF 13-06 that no target or threshold should be set on the CV indicator. A quick comparison of the CV's submitted to JRC database showed that the quality of the CV's submitted is variable and that not all MS seem to calculate the CV's in the same way. Therefore PGECON 2013 suggests that more attention is given to harmonizing the calculation of the CV. PGECON 2013 suggests that a statistician is invited to the next PGECON to explain how to calculate the coefficients of variation given different sampling strategies and estimation of total values and explore possibilities to lower the CV by changing aggregating methods and, in particular, by including additional information (e.g. exhaustively available transversal data).

The commission presented the main changes discussed for the new program in comparison to the DCF. Thereafter a Compilation of recommendations & conclusions relating to the development of the Data Collection Multiannual Programme (DC-MAP) edited by Jordi Guillen was discussed. Overall there were little, or no, objections to most proposed edits. Discussed below were the points where PGECON did not agree with the recommendations. However, overall it was felt that there was not sufficient time given to discuss these issues in details.

Fleet data

PGECON felt that short and long term debt would be not useful to collect for the majority of MS. Moreover, the reference given in the presentation ("EWG 12-01 agrees with the proposal of EWG 11-

18 to separate debt indicator in Appendix X and XII to short and long term debts") refers to aquaculture (appendix X) or processing industry (appendix XII), but not to fleet

PGECON felt that the direct subsidies were clearly defined at last year's PGECON and did not need to be reconsidered.

PGECON felt that before social data are included in the new DC-MAP a pilot study should be conducted to evaluate which data should be collected, which data are available through common sources and which are the applications/end users and requirements. However the commission should ask social scientists to conduct such pilot studies. The group strongly agreed that these social data were not the responsibility of economists.

Aquaculture data

The inclusion of subsides for investment was seen as a useful addition as this can often have a direct effort on income and production.

MS also agreed, in principle, that the collection of production data in terms of numbers of individuals, apart from weight and value, was useful in certain examples. However, the group stressed that unit reporting should be clearly defined

In principle there was no strong objection to the combination of 'repair and maintenance' together with 'other variable costs' but there was concern that these variables may need to be disaggregated again in the future and as such the group believes it would be wise to maintain the current reporting of the two variables.

In terms of reporting spatial distribution of aquaculture enterprises there was some concern expressed by MS and there needs to be clearer definitions of this possible new variable. Specifically, there is a need to clearly define the level and scale of the reporting. Some MS also believe there are confidentiality issues with reporting exact location of enterprises.

Fish Processing data

The provision of 'Raw Material' has been discussed at STECF many times. The commission has been requested to run a pilot study on the feasibility of collecting these data and its usefulness. And this pilot study should be run before including this variable in the DC-MAP.

There were varied viewpoint among MS with regard to the question whether there was a value added to collecting the data compared to the data already collected by Eurostat. No consensus was reached regarding this point.

PGECON finally suggested the Terms of Reference for two other DCF workshops to be held in 2013 (they are already included in the list of eligible meetings for 2013). PGECON recommended the European Commission to launch the studies already requested by previous DCF workshops and STECF meetings and discussed the budget for these studies.

3.2 PGECON recommendations and LM comments

17. Reviewing and finalizing/adopting the glossary of economic definition as prepared by EWG11-18 (report STECF 11-19)	
PGECON 2013 Recommendation	PGECON 2013 suggested to include the Glossary in the Master Reference Register of DCMAP and to discuss the glossary with SBS experts in Eurostat before publishing it in MRR.
Follow–up actions needed	
Responsible persons for follow-up actions	DG Mare
Time frame (Deadline)	before 2014
LM comments	LM notes that this recommendation has been followed up by the STECF EWG dealing with the DC-MAP

18. Disaggregation of economic data	
PGECON 2013 Recommendation	PCEGON strongly recommends a study on the disaggregation which delivers a comprehensive analysis of different approaches and methods, addressing also the availability of individual data which varies by MS.
Follow–up actions needed	
Responsible persons for follow-up actions	DG Mare
Time frame (Deadline)	before 2014
LM comments	This recommendation is addressed in Chapter 8 dealing with recommendations for studies

19. Methodology for establishment of threshold for which sampling by survey or panel is necessary.	
PGECON 2013 Recommendation	To finally solve the issue of thresholds PGECON suggests to hold a workshop.
Follow–up actions needed	Threshold in activity needs to be defined at regional level
Responsible persons for follow-up actions	PGECON, DG Mare
Time frame (Deadline)	Before 2014
LM comments	LM notes that a workshop on sampling and statistical issues is planned for December 2013.

20. Compare price per capacity unit, depreciation rates and other assumptions applied by MS in estimating capital value and capital costs.

PGECON 2013 Recommendation	PGECON suggested that this subject should be taken up in a workshop this year
Follow–up actions needed	
Responsible persons for follow-up actions	DG Mare
Time frame (Deadline)	
LM comments	LM notes that a workshop on sampling and statistical issues is planned for November 2013.

21. Accuracy indicators and precision targets for different fleet segments and different variables	
PGECON 2012 Recommendation	PGECON recommended that more attention is given to harmonizing the calculation of the CV by inviting a statistician to PGECON 2014 to explain the calculation of CV's for different sampling methods. Moreover, PGECON recommends including a display of the CV by MS in the AER
Follow–up actions needed	
Responsible persons for follow-up actions	DG Mare
Time frame (Deadline)	
LM comments	LM suggests that this is taken up by STECF AER in 2014.

4   PGCCDBS and PGMed

4.1   Main outcomes of the PGCCDBS 2013

The Planning Group on Commercial Catches, Discards and Biological Sampling [PGCCDBS] (Co-Chairs: Mike Armstrong, UK, and Gráinne Ní Chonchúir, Ireland) met in Belfast, Northern Ireland, 18th February – 22nd February 2013, in parallel with the Mediterranean Planning Group for Methodological Development (PGMed).

The PGCCDBS was established in 2002 in response to the EC-ICES Memorandum of Understanding (MoU) requesting ICES to provide support for the EU Data Collection Framework (DCF). It implements the ICES Quality Assurance Framework to ensure that data sets and parameters supporting assessments and advice for the ICES area are based on i) statistically-sound sampling schemes; ii) correct and consistent interpretation of biological material such as otoliths and gonads; iii) technology that improves accuracy and cost-effectiveness of data collection; iv) comprehensive and easily sourced documentation, and v) efficient collaboration between PGCCDBS, expert groups and other bodies in relation to data collection.

The 2013 meeting of PGCCDBS focused on work completed since last year, and planned work for 2013 and 2014, in the following topics which formed the basis of the Terms of Reference:

- Stock-based biological parameters from sampling of fishery and survey catches (age, growth, maturity, fecundity, sex ratio)

- Fleet/métier related variables (discards estimates and length/age compositions of landings and discards) and statistical design of sampling schemes

- Data collection technology (hardware, and software such as WebGR and the Regional Data bases).

- Implementation of the ICES Quality Assurance Framework

- Addressing recommendations and requests for advice from ICES expert groups (including through PGCCDBS data contact persons), and RCMs.

During 2013, the PGCCDBS was requested to address an additional Term of Reference as follows:

a) Identify reasons for differences between raised discards estimates provided by ICES and STECF, and make recommendations on how to resolve this problem in the short and longer term.

The PGCCDBS met in plenary with PGMed to review the outcomes of a wide range of workshops and age exchanges conducted since PGCCDBS 2012 and the workplan for 2013. On the basis of this and the PGCCDBS long term planning process, further workshops and exchanges were proposed for 2014. These include:

- *Age and maturity workshops*: WKSABCAL, the Workshop on the Statistical Analysis of Biological Calibration Studies (which had been postponed);

- *Sampling design workshops*: in order to take forward the work of the series of WKPICS (Workshop on the Practical Implementation of Statistical Sound Catch Sampling Programmes) and SGPIDS (Study Group on Practical Implementation of Discard Sampling Plans) which finish in 2013, PGCCDBS proposes the establishment of a Working Group on Commercial Catches (WGCATCH) to provide ongoing support for the design, implementation and analysis of sampling programmes for commercial fisheries.

- *Large-scale age exchanges*: Whiting (*Merlangius merlangus*); Megrim (*Lepidorhombus spp*); Sole(*Solea solea*); Sprat (*Sprattus sprattus, all areas*); Horse mackerel and Mediterranean horse mackerel (*T. picturatus* and *T. mediterraneus)*

PGCCDBS 2013 also updated the list of national age readers and co-ordinators, and this updated list was uploaded onto the European Age Readers Forum (EARF).

Other proposals developed by PGCCDBS are:

- *Proposals for study contract* on i) anglerfish ageing (*Lophius piscatorius*); This study proposal was previously reviewed and accepted by the Liaison Meeting, with some edits which have been included in this updated version of the proposal.

- A second study contract proposal on the "Age determination and maturity staging of species not previously subjected to biological sampling for analytical assessment." Was also submitted to the Liaison Meeting for consideration but after an extensive discussion it was felt that this proposal needed to be further refined and so the PGCCDBS will review this proposal and re submit for consideration after the PGCCDBS meeting in February 2014.

- *Proposal for a training course* covering the design of statistically sound catch sampling for fisheries monitoring programmes, proposed for implementation in 2014.

- *ICES cooperative research report* (CRR) on the Protocols on the ageing of different fish species in the ICES area. PGCCDBS further developed its proposal for the CRR and developed a work plan for this, which would see it published in 2014.

PGCCDBS developed work plans for intercessional work related to development of Quality Assurance reports for fishery sampling, including testing a prototype QA report with selected ICES stock assessment expert groups, and circulating a questionnaire to collect information on national approaches to the construction and application of age-length keys.

Proposed workshops for 2014

- WKSABCAL, the Workshop on the Statistical Analysis of Biological Calibration Studies. The ToRs for this WK are available in Annex 4 of the PGCCDBS 2011 report. [Postponed until 2014]

Proposed large-scale age exchanges in 2014:

- Whiting (*Merlangius merlangus*)
- Megrim (*Lepidorhombus spp*)
- Sole(*Solea solea*)
- Sprat (*Sprattus sprattus, all areas*)
- Horse mackerel and Mediterranean horse mackerel (*T. picturatus* and *T. mediterraneus)*

Proposals for age exchanges in 2015 (to be evaluated by assessment working groups)

(a) Priority 2 exchanges:

- Witch (*Glyptocephalus cynoglossus*)
- Lemon sole (*Microstomus kitt*)
- Gurnards (*Aspitrigla cuculus, Eutrigla gurnardus, Chelidonichthys lucernus*)
- Pollack (*Pollachius pollachius*)
- Sandeel (*Ammodytes spp*)
- Boarfish (*Capros aper*)
- Ling and blue ling (*Molva molva and Mola dypterigia*)

(b) Priority 3 exchanges

- Conger eel (*Conger conger*)
- Norway pout (*Trisopterus esmarkii*)
- Pouting (*Trisopterus luscus*)
- Wolf fish (*Anarhichas lupus*)

Proposals for maturity exchanges (to be evaluated by assessment working groups)

(a) Priority 2 exchanges

- Mackerel and Horse mackerel (*Scomber scombrus and Trachurus trachurus*)
- Eel (*Anguilla anguilla*)

Proposal for collaborative studies contracts

PGCCDBS 2013 made two proposals for study contracts, one of which is a repeat proposal from the PG 2012 meeting

1. A collaborative study on anglerfish (*Lophius piscatorius*) Priority 1.
2. Study proposal on age determination and maturity staging of species not previously subjected to biological sampling for analytical assessments. – This study proposal is postponed until 2015.

Proposal for ICES Cooperative Research Report

PGCCDBS has proposed an ICES cooperative research report (CRR) on the Protocols on the ageing of different fish species in the ICES area. More details can be found in Section 3.9 and the full draft resolution for this CRR is available in Annex 7 of PGCCDBS 2012.

Proposal for ICES training course

PGCCDBS recommended that ICES provide a training course covering the design of statistically sound catch sampling for fisheries monitoring programmes. The full proposal is detailed in Section 4.3.3 of the PGCCDBS 2013 report.

4.2 The PGCCDBS in 2014 and beyond

The body of data and knowledge, and the competences of PGCCDBS, have increased over time, but this has also served to highlight the limitations in data and understanding. Furthermore, by raising the level of awareness of these issues in other ICES Expert Groups, a wide range of requests for advice are being sent to PGCCDBS. As a result, the scope of the subgroups has expanded over the last few years. For example, the fleet-based subgroup has spent increasing time on issues of statistical sampling design (building on outcomes from the PGCCDBS-derived workshop WKPICS and study group SGPIDS) and how to report data quality, whilst the biological parameters subgroup is facing an ever-increasing body of information from age exchanges and calibration studies, and age/maturity workshops, along with the need to develop quality indicators for assessment expert groups. Whilst the subgroups have remained very productive, the amount and complexity of material being produced, and the volume of responses to external requests, has meant that PG outputs are not being reviewed as comprehensively as desired during the meeting, increasing the amount of post-PG work by the Chairs and subgroup members and reducing the synergy of having many experts together in the same room.

During the 2013 PGCCDBS meeting, members of the fleet subgroup proposed that their work would be better undertaken during a dedicated Working Group - WGCATCH, which would allow more time to focus on its ToRs and develop its role to meet the changing demands for fishery data in coming years. WGCATCH would also build on the comprehensive frameworks developed through SGPIDS and WKPICS and the earlier workshops on data collection and data quality evaluation WKACCU, WKPRECISE and WKMERGE.

During the 2013 meeting of the Workshop for National Age Reading Coordinators(WKNARC), a similar conclusion was reached that PGCCDBS is no longer the ideal vehicle for coordinating and developing the collection, interpretation and use of data on biological parameters, and that a new Working Group on Biological Parameters should be formed.

The draft ICES Science Committee (SCICOM) strategic plan propose the establishment of a join SICOM and Advisory Committee (ACOM) Steering Group dealing with <u>fisheries dependent</u> and independent data - Steering Group on Integrated Ecosystem Observation and Monitoring.

Several options were proposed by the PGCCDBS chairs together with the ICES Secretariat concerning the future setup of PGCCDBS. After consultation with the members, it was decided to have a discussion at the PGCCDBS in 2014 taking to account the pros and cons of each option. The ToRs of PGCCDBS 2014 meeting were revised to accommodate that discussion. The ACOM and SCICOM Strategic Plans should also be taken into account.

The Liaison Meeting highlights that the option taken should ensure the link with the PGMed, which from 2014 will meet back to back with the RCM-Med&BS. The Mediterranean and Black sea experts should be involved in the WGCATCH and WGBIOP initiatives.

The Liaison Meeting also recognises that the PGCCDBS, and associated Workshops, have provided an important input for the Data Collection Regulation and the Data Collection Framework. In the future setup this support should be maintained.

4.3 Main outcomes of the PGMed 2013

The 7th Meeting of the Mediterranean Planning Group for Methodological Development (PGMed) was arranged in parallel with the PGCCDBS in Belfast 18th-22nd February 2013. The conduction of parallel meetings between the two groups ensured the link between them.

The 2013 PGMed was attended by 5 Mediterranean and Black Sea Member States (Spain, France, Italy, Malta and Romania). Greece, Cyprus, Slovenia and Bulgaria were not represented at the meeting.

Before the PGMed, a Data Call was launched in order to obtain information to cover the Terms of Reference proposed by the RCMMed&BS. However, the lack of information avoid the addressing of some of the Terms of Reference or doing it only partially, like the calculation of the number of sampling trips by metier at Geographical Sub-Area (GSA) level and by Member State for those metiers exploiting a shared stock, the analysis of the extension of the problem concerning the fishing performed in a different GSA than their original one or the comparison of discards at regional level.

The Group updated the ranking system and the ranking template for the whole Mediterranean and for the Black Sea, using the most recent available information. The precision, in terms of Coefficient of Variation (CV) of the length frequency distributions was assessed by merging all the information available from different Member States. Similarly, the CV for large pelagic species at regional level was also computed. In both cases, CVs were computed using R scripts developed during the meeting.

For large pelagic species, the sampling share among Member States for metier and stock related variables, based on the most recent available data were computed, based on the minimum total numbers to sample at regional level agreed by RCMMed&BS 2011.

A summary of the progress in the Mediterranean & Black Sea Regional Data Base was presented, including the aspects discussed during the 1st Steering Committee Meeting for the Mediterranean & Black Sea Regional Data Base, including its legal basis, management, kind of data to be included, data ownership, access rights and policy for providing and using data, as well as a road map for the near future.

France (Ifremer) accepted the new chairmanship and, although a person was not assigned during the meeting, Tristan Rouyer agreed to accept the role of new PGMed chair.

5   Regional Database

5.1 Background

The regional database (RBD) was initiated by the RCMs as they realised the need for a common data source to execute their work. Following a recommendation from the Liaison meeting in 2009 the Commission organised the workshop "Regional scenarios and Roadmap on Regional Database" in 2010. A strong need for a regional was expressed by participants from the Baltic and North Sea regions. In 2010, the RCM Baltic and the RCM NS&EA recommended an interim steering group to be set up with clear terms of references and mandates in order to start the implementation of a RDB including a Steering Committee (SC). The RCM NA proposed items to be discussed in such a SC. The 7th Liaison meeting endorsed this recommendation. As a consequence an interim steering group, consisting of representatives from the three RCMs, ICES and the Commission, was put together. This steering group had a meeting in February 2011 in order to elaborate on a governance model for the RDB but also to suggest road maps on how to proceed towards implementation of a RDB. The outcome of the interim steering group was adopted by the RCMs which also appointed participants to the RDB steering committee (RDB-SC) during their 2011 meetings. The first RDB-SC meeting was held in December 2011. ICES took over as a host of the data base in 2012. During 2012 were three training workshops (WKRDB1-3) organized to support MS to upload and work with data in the regional database. The database was populated through a data call from the RCM chairs. The RDB-SC has, following recommendations from the LM, primarily been working with a data policy document and different future development needs. Most of the development needs are summarised in a study proposal that were endorsed by the 9th LM. The study proposal cover an array of development needs, from standard outputs to the RCMs to quality checking tools and envisaged changes in the data structure to support a design based approach to data collection. The study was unfortunately not included in the Commissions work programme for 2013. This implies that presently there are no possibilities to development the RDB since there is no funding.

5.2 RCMs 2013

MS participating in the RCM Baltic, RCM NS&EA and RCM NA uploaded data in the RDB-FishFrame as a response of a data call launched by the RCM chairs in April 2013. The data call covered landing, effort and sampling data for 2009-2012. Two MS were not able to upload data but provided data to the RCMs in the required format. Requests by the MS to the ICES secretariat during the uploading process were answered very fast, suggestions were helpful and MS appreciate the support they received.

The accessibility to data resulted in that the RCM meeting time could be used more effectively. It was relatively fast and easy to produce the common RCM outputs such as ranking of fishing activities in the region. The RCMs could instead focus on examine the completeness and quality of the regional data as well as ideas for future regional sampling designs. Access to data initiated creativity in the groups and there are several ideas in the reports on what future regional data collection programmes could look like. It also became evident how important the regional database is for the RCM work to be effective. Several recommendations from the RCMs were directed to the RCM-SC in order to improve the data and data analysis within the RCMs. These recommendations covered: completeness of data, harmonisation of input data and suggestions for revisions of exchange format.

5.2.1   Completeness of data

All RCM s emphasize (recommendation B2, N3 and A5) how important it is to understand how complete the data in the RDB is. The RCMs recommend repository for uploading successes, status reports on content in the database as well as reference lists and guidance notes.

The Liaison Meeting supports the idea of a repository with status reports on data available in the RDB. This meta data could then be compared with, for example, Annual Reports from the MS to check for completeness. This analysis of completeness should be carried out at the MS level by the MS and at the regional level by the RCG. This means that different types of diagnostics are required both at national and regional level. Development of such diagnostics needs to be incorporated into the workplan of the RDB and into the roadmap towards regional data collection programmes.

The responsibility to upload complete data into the RDB remains in the MS. If MS encounter problems to upload data this need to be reported to the host (technical issues) or the RCG (content issues). Guidelines on how to deal with missing data, e.g. values missing for part of the landings (recommendation N2), need to be developed. Suggestions for such guidance should be produced by the RCG-SC and endorsed by the RCG.

5.2.2   Harmonisation of input data

The RCMs realised that the harmonisation of input data to the RDB need to be improved (recommendation N5 and A7). The RCMs recommend that reference lists for harbours, metiers and species are implemented.

The Liaison Meeting considers that common reference lists are crucial for auditing, quality control as well as future design and monitoring of regional programmes. It is beneficial if species are restricted to the WoRMs list. RCMs need to provide RDB-SC with reference lists of harbours and metiers of relevance for the region. The reference lists for metiers need to be implemented by region in the RDB. The reference lists need to be produced intersessionally for implementation in the next data call. The RCM chairs should provide the lists to the RDB-SC. RDB-SC/host responsible to implement the lists in the database.

5.2.3   Suggestions for revisions of the exchange format

The RCMs suggest changes or inventories of needed changes to the present exchange format of the RDB (recommendation N4 and A11). NS&EA suggest a field to be inserted allowing for identification of the sampling country while NA want WKPICS/WGCATCH to examine what fields and relationships in the exchange format that are needed to support regional design based data collection programmes.

The Liaison Meeting consider it important to avoid frequent changes of the exchange format. Preferably should all changes be done at "one go". It is therefore of high importance that changes needed to support the design based approach are identified by the expert groups so it can be implemented in the RDB when funding are made available.

5.3 Mediterranean & Black Sea Regional database (Med&BS-RDB)

The 1st Steering Committee Meeting for the Med&BS-RDB was held in Rome, kindly hosted in the GFCM headquarters, from 29 to 30 November 2012. The Steering Committee (SC) met in response of a recommendation by the 2012 Regional Coordination Meeting for the Mediterranean and Black Sea (RCMMed&BS - Madrid July 2012), in order to set up some principles for a Regional Database hosting the data collected under the Data Collection Framework (DCF). The meeting was attended by 18 scientists from 6 MS (Bulgaria, France, Greece, Italy, Romania and Spain), by the chairs of MEDITS and MEDIAS surveys at sea, by the representatives of the GFCM, plus two external observers.

During the SC meeting has was proposed that all MS, uploading their data, should follow the document on confidentiality and data ownership policy for the Med&BS-RDB. This document was discussed and revised during the RCMMed&BS 2013.

The table below shows the governance model that has been suggested by the SC 2012 and thereafter discussed and agreed during last RCMMed&BS 2013:

RCMMed&BS	*Steering Committee*
Content governance	Technical governance
Prioritise and develop road map for data upload	Strategic planning
Monitoring general problems (i.e. data upload, data processing)	Operational issues
Suggest area for development	
Appoint member to SC	
Estimate of cost and any financial issues	Estimate of cost and any financial issues
Type of data	
Data access and sharing	
Terms of reference for the SC	Terms of reference for the SC

The RCMMed&BS 2013, decided that for the time being the MED&BS-RDB will include biological and transversal data. Next SC meeting should better investigate the format and which data should be incorporated.

For the economic data, RCMMed&BS 2013 agreed that they should be included in the Med&BS-RDB. Next SC meeting should evaluated which economic data should be incorporated.

 Regarding the surveys:
   - MEDITS (Mediterranean Demersal Survey) is developing a regional database. So, for the future will be evaluated the possibility to include a link of this database under the RDB-Med&BS;
   - MEDIAS (Mediterranean Pelagic Survey) also is developing a database. The MEDIAS Steering Committee decided to maintain the MEDIAS database separate from the MEDITS one and to include a simple link into the Med&BS-RDB.

Any proposal regarding surveys data should be further discussed during the 2014 surveys working and the next SC.

General Fisheries Commission for the Mediterranean and the Black Sea (GFCM) has been identified as the best option to host and to maintain a regional database for the Mediterranean and Black Sea region. It has been recognised that hosting the Med&BS-RDB by an international organisation such as GFCM should be preferred considering that GFCM is the body covering Regional needs and it has wide experience in maintaining international data bases. GFCM was approached during the SC meeting and was asked whether it would be willing to host the Med&BS-RDB. GFCM had answered positive to do so as long as costs and practical issues could be resolved (both internally and with European Commission). Several types of costs related to maintenance (hardware, upgrades etc), support to users, management and further development of the database should be investigated. It will be necessary to elaborate the cost estimate in more detail and the EC need to approve this cost.

Upon the clearance of the RCMMed&BS, a formal procedure will be activated in order to contact GFCM officially and consequently evaluate the related feasibility and necessary funding.

Upon availability of the required funds, GFCM would dispose human resources, technical expertise and IT infrastructure that can be up-scaled in order to provide database development, administration and security.

6   End Users Feedback from ICES

6.1 Background

According to the EU-ICES MoU, "*ICES will communicate to EU problems regarding access to data, data quality, and completeness of data. This shall in particular apply to data collected through the data Collection Framework (DCF) established by the Commission Regulation No. 199/2008 of 25 February 2008).*

ICES will provide information on coverage and quality of collected data which are of relevant use for the advisory deliverables.

The information on the coverage and quality of data available for the advisory process will consist of an account of the types of data available internationally for each stock and comments regarding their quality and coverage where specific shortcomings will be highlighted per Member State. Ices will indicate how these shortcomings need to be complemented to obtain a dataset sufficient for scientific use."

In December 20012, ACOM concluded that the previous approach to inform the European Commission on data transmission (a.k.a. Data tables) was not effective and a wrong use of the human resources in the ICES community. The workload involved in the production of the "data tables" was substantial. Also, the information of data collected (i.e. potentially available and transmissible) is not easily available. Stock coordinators were not aware of bilateral agreements and derogations of data collection. Considering all these aspects, ACOM decided to not use a new approach in 2013.

6.2 Example prepared by ICES in 2013

An example was prepared by the ICES Secretariat for discussion at the Liaison Meeting. The example is based on the advice sheets of a few stocks, covering several ecoregion. The information is essentially available under the "Quality Consideration" and "Data Requirement" section of the ICES advice sheets.

The new approach aims to i) be a more transparent approach since the basis for information is the text in the ICES advice sheets which are publically available.; ii) reduce the workload of ICES experts, since there is no need to fill-in another table and only the main issues are highlighted in the advice sheets.

In this compilation the issues highlighted for each stock were categorized. Based on the examples encountered so far it could be: i) data transmission; ii) data quality: iii) data coverage; iv) recommendations.

 In some cases the Members States are not identified in the original text. In some cases the Members states for which the issue with data transmission/ coverage / quality are not identified in the advice text. In these situations, information on the respective ICES Expert Group report or contacts with the Expert Group chair will be used to identify the countries. Also when in the ICES advice is a remark on data transmission, but the data was NOT been request, either in a formal data call or informally, this should be noted in the feedback from ICES.

6.3 LM views

The LM agrees with the proposal prepared by ICES, and considered an improvement in relation to the previous approach.

The LM recommends that the ICES feedback is forward to the European Commission, which will compile the feedback for all the other end-users. This compilation should be send to the Members States, via DCF National Correspondents for comments. The communication at this stage should be clear that

the aim is only for a quality checking. After the Members States comments the final screening on data transmission failures should be performed by the STECF-EWG dealing with National Programmes evaluation. Only after this process the Member Countries will be officially notified by the European Commission.

The LM also noted that in the future the feedback on data transmission and evaluation on data quality and coverage will be solved with an optimal use of the Regional Database.

7   Review of the DCF

7.1 Future role of Regional Coordination Groups

The role or regional coordination groups (RCG) has been addressed at previous EWG, Regional Coordination Meetings and Liaison Meetings and the LM noted that the role of was discussed in some details by STECF EWG 13-02. The LM furthermore noted that the issue will likely be discussed again by the STECF EWG 13-18 scheduled to meet in the last week of November 2013. The LM therefore decided to await the outcome of the STECF EWG meeting in November 2013 before addressing the item.

7.2 TOR for STECF EWG 13-18

Discussions on revision of both the DCF and the EU Multiannual Programme have been ongoing for over two years and the key issues that need to be addressed have been identified and discussed to various extents in STECF expert working groups and other fora. EWG13-18 will be the last STECF EWG before the Commission prepares a draft Commission proposal for a revised Regulation 199/2008. The aim of the meeting will therefore be to advise the Commissions on issues of relevance for the revision of 199/2008.

The LM did not discuss the TOR of STECF EWG 13-18 in details.

8   Study proposals 2013

8.1 Studies and pilot projects proposed by DCF Regional Coordination Meetings (RCMs)

1. Title: "Exploration and Development of new facilities in RDB-FishFrame 5.0"

Background:

The demands from the users to a regional Database is under constant change; in the first hand, because the users discover new possibilities in the use of the data as they get more familiar with the use of the database and secondly because the data collection, fish stock management and modelling environment changes and new data types and processing facilities become important. The first one mostly requires design of new output reports to tabulate new combination of the existing variables, while the second one quite often requires adding of new variables and processing functionality. A central point is the design based approach in data collection, and eventually regional data collection programs, which is foreseen in the DC-MAP. Furthermore, RDB- FishFrame has now been introduced to additional regions. This has given rise to additional requests how data should be centrally processed due to new sampling stratifications practiced in the member states included compared to the existing. It is essential that a database reflects on new demands and not act as a straightjacket preventing new progressive initiatives. A constant development is therefore very important in order to keep the momentum.

The development will be outsourced to the extent that external expertise is necessary in order to follow the time schedule.

Indicative budget: € 450,000

Development

The main fields for development in 2013-14 are identified by the RDB-Steering Committee and presented in no specific order of priority:

1. Development of additional tools for analysis and data tabulating to support regional coordination. (20% of total budget)

    Outputs: Technical report, programming development

    Development of output reports which provide:

    - Overview of data status by region; data coverage;
    - Support the planning of future regional based sampling schemes;
    - Overview of potential areas for task sharing between member states.

2. Testing of trial stocks from different expert groups for national raising, by borrowing age-length keys from own and/or other countries and correct functionality according.
    - All data submitters for the selected stocks raise data in the RDB
    - Output compared and corrections made where needed

3. Stream line the interfacing with InterCatch

    - Develop functionalities which when data have been raised to a certain level automatically will move data to InterCatch

4. Explore options and cost implications of implementing of external tools (i.e. COST) in the RDB-FishFrame. (35% of total budget)

Outputs: Technical report, Technical Workshop(s), programming development

Such analysis should include the following elements:

- An inventory to collate and examine the tools present but also tools missing
- What level of documentation/quality controls would be required of a tool to be accepted into the RDB?
- What exports should the RDB provide to other formats/tools?
- What changes need to be made to the COST format/coding to comply with the RDB?
- Is COST sufficiently documented (methods, quality controls etc.)?
- Which level of integrating should the RDB.-FishFrame provide to COST (just export to COST or an interface that allows users to manipulate RDB data using COST tools/functions)?
- Proof of concept of programmatic interface to RDB-FishFrame

5. Requirements and automatisation of Data calls procedures. (20% of total Budget)

Outputs: Technical report, programming development

- What is formally required from the regional database to reply to data calls?
- What data calls can we respond to at present/future? (The present functionalities and documentations in the regional database need to be compared with most common data calls)
- Alignment with FLUX developments

6. Development of more flexible structure to handle correct processing of design based sampling schemes to address regional differences in approach. (25% of total budget)

Outputs: Technical report, Technical meetings/workshops covering all regions

- What changes need to be made in the Exchange Formats in order to comply with design based sampling schemes?
- Which additional processing functionality need to be developed in order to comply with design based sampling schemes?

7. Development of procedures to ensure confidentiality on individual vessel level for CL, CE and on value.

LM Comments: This study has been supported by the PGCCDBS, the RCM Baltic, RCM NS&EA and the RCM NA and has been endorsed by the 9th Liaison Meeting.

2 Title: "Support design based regional data collection programmes"

Objective of proposed study

The Study will develop an operational framework for establishing and coordinating design-based sampling programmes at a regional scale for the most cost-effective delivery of fishery and biological data required by the revised DCF and any specific additional needs to support assessment and fishery management.

Duration of project

It is anticipated that the project would run for two years, and cover two periods of RCM and Liaison meetings to allow consultation and discussion of proposals.

Indicative budget: € 450,000

The need for the proposed study

A design based sampling strategy is a prerequisite for transparency in the data collection-assessment-advice process since it allows for straightforward estimation processes, assessment of bias as well as variance associated with different estimates. In particular, it supports estimators that do not depend on complex models and assumptions about the underlying stochastic process of the catching operations of the fleet. It also enables the use of DCF data in the wider scientific/management community since data are collected in a transparent way following sound statistical procedures including documentation of sampling protocols and sampling designs.

Due to severe logistical constrains in sampling of fisheries, many national sampling programmes may in reality be more or less ad hoc based. Recent ICES workshops including WKPICS and WKMERGE have started to examine how sampling schemes can be adapted to deal with different types of logistical constrains without compromising the basic requirements of statistical design. Within these workshops it has become evident that countries need support to design and implement such statistically-sound sampling schemes.

Currently, the DCF Regional Coordination Meetings (RCMs) focus heavily on "task sharing" for metier and stock based sampling. It is foreseeable that in the new DCF, the role of RCMs may evolve more towards establishing and coordinating statistically-sound programmes of data collection to deliver the estimates for stocks and fleets required at the regional scale. This could include agreement of sampling frames, allocation of sampling effort amongst Member States, documentation of sampling schemes, and review of achievements and data quality. To adopt this role, RCMs would require guidance and a system of support because the sampling problems already encountered by individual countries will remain at the regional scale. If true progress should be made towards regional data collection programmes, it is crucial that sufficient resources and expertise are available for Member States and RCMs to carry out the necessary tasks.

Study specifications

The study will require setting up a core project team to work out principles for regional sampling designs, and to work closely with RCMs, ICES PGs, European Commission and Liaison meeting to review how the structure and operation of RCMs should be adapted to best serve the needs of the revised DCF. The project team will focus particularly on:

- Understanding the fleet-based and stock-based estimates that are required to support assessments and advice at a regional scale.
- Defining an operational framework for RCMs to coordinate annual or multi-annual regional sampling programmes to deliver the estimates.
- Identifying logistical constraints to national sampling schemes within a region, and proposing solutions for how these could be handled in regional sampling plans and within the component national strata (ref: WKMERGE; WKPICS1–3).
- Establishing procedures for optimising sampling schemes and allocation of sampling amongst Member States in relation to regional objectives and available resources.
- Identifying the procedures for estimation and sample raising at the regional scale.
- Developing Quality Indicators for regional datasets.
- Identifying developments needed in the Regional Databases to support regional sampling programmes.
- Propose future support systems to help RCMs implement and evaluate regional sampling programmes.

RCM areas to be covered

The project will initially scope out the problem across all DCF regions in consultation with RCMs, European Commission and PGs, but depending on resources may then focus on one or two regions as case studies.

Project tasks

Subject to discussion with the European Commission, it is anticipated that a two-year Study would involve the following tasks:

- Initial workshops and WebEx meetings with key RCM, ICES Planning Group and European Commission representatives, and invited external experts, to agree the basic principles of implementing and optimising a regional programme of sampling to deliver the required estimates.
- Identification of the structure of a regional sampling programme allowing a fully coordinated international approach to delivering the required data and estimates, including documenting the characteristics of the fisheries and stocks to be sampled in each country, development of sampling frames, stratification schemes, sample selection procedures, optimal allocation of sampling effort amongst countries, estimation procedures and production of quality indicators.
- Presentation of proposals to RCMs, ICES PGs, European Commission and Liaison Meeting, for discussion and further development.
- Development of final proposals and report.

LM comments. This study has been proposed by the PGCCDBS and supported by the RCM Baltic, RCM NS&EA and has been endorsed by the 9th Liaison Meeting.

3 Title: Study on European anglerfish (Lophius piscatorius and Lophius budegassa) in all ICES areas and megrim (Lepidorhombus whiffiagonis) in VII and VIIIa,b&d

Proposed by the DCF RCMs.

Objective:

Improvement of the assessment and management of three important demersal stocks in western waters: Megrim (*L. whiffiagonis*) in VII and VIIIa,b,d and White and Black anglerfish (*L. piscatorius and L. budegassa*) in all ICES areas IIa to IXa, including Va,b for accomplishing sound scientific advice. Based on reviewing data collected under DCF and industry related variables and parameters to be included in the assessment.

Base line:

ICES deployed a Benchmark in March 2012 to solve data and methodological problems detected in megrim and angler assessment. The result of an intensive work previous and during the ICES Benchmark did not accomplish the objectives of obtaining analytical assessment for these stocks and thus provide sound scientific advice.

Main drawbacks detected in Megrim VIIb, c, e-k and VIIIa, b, d data and assessment during ICES Benchmark:

1. Incorporate annual estimates of discards (France) to explain some possible recruitment, also to obtain consistent data along the series.
2. A complete revision and in depth analysis for checking changes detected in the data homogeneity of three time period identified: 1984-1989; 1990-1998 and 1999-2010.
3. The distribution of megrim stock does not include ICES Division VIIa and VIId. Further work is needed to assess the stock identity of megrims in this area.

Main drawbacks detected in Anglerfish data and assessment during ICES Benchmark

1. No clear evidence of the current stock or population definition. There is a lack of information concerning their biology, movements and possible migratory patterns. This information is fundamental to reduce uncertainties regarding stock boundary,
2. No accepted ages are used in the assessment since more growth studies are necessary for validation of growth estimates.

3. The incorporation of good discard estimates in order to have information about individuals less than 0.5 kg in weight.
4. Better maturity estimates are needed in order to have a good S/R relationship, it is clear that with the sampling level from DCF and using the data from surveys the information for larger females is not available.

Objectives and action required based on data drawbacks.

Objective 1. Improvement of catch data (Megrim and Anglerfish)

It is necessary to develop catch data series (landings, discards) for evaluating historical fishery impacts. There are major uncertainties in accuracy of reported landings, and estimated discards in many areas. This aspect of the project will extract and review existing data, and consult with stakeholders to agree data series or alternative possible catch histories for use in assessments, with suitable quality indicators. Some specific tasks will include:

1. Historical discards data (2000-2011): a. Data recovery; b. Review and analyse data.
2. Quality of historical landings data including splitting catches for combined-species categories.
3. Onwards: a. Workshops with Advisory Councils to review data quality issues and explain the importance of obtaining discard data.

Objective 2. Development of commercial tuning fleets (Megrim and Anglerfish):

For both actions: data availability and results of the analysis will be reviewed in consultation with the industry. This is linked with objective 1 in terms of historical data quality. A specific example is revision of the French trawling data series in Subarea VII and of the Basque "Baka" Otter trawl fleet to check for suitability in being included as new commercial abundance indices.

Objective 3. Improved biological parameters of anglerfish.

There are large uncertainties in important biological parameters particularly ageing, growth, and maturity, which have considerable impact on estimates of stock productivity and biological reference points, and ability to fit models to data. Large discrepancies in the interpretation of age from otoliths and illicia remain a concern, and validation studies are needed. Natural mortality rates are poorly understood. Impacts of sexual dimorphism on assessments also need consideration.

1. **Reproductive parameters: a. Scientific work:** will focus on revision of the maturity ogives. **b. Industry involvement from all countries collecting data**. Support in the collection of biological data. Development of a simple "on board sampling method" which is required due to landing of fish gutted.
2. **Growth parameters (Anglerfish): scientific work** will focus on methods to validate ages derived from otoliths and illicia, developing agreement on approaches for ageing fish from each stock, and agreeing growth parameters and age composition data for use in assessments. Validation methods may include: **a. Indirect growth validation** e.g. cohort tracking; **b. Direct growth validation** studies, for example from tagging–recapture studies. Some detailed information on previous studies on ageing anglerfish and validation methods is given below.
3. **Natural mortality.** A better understanding of potential rates of natural mortality will be obtained from better knowledge of life history parameters. Tag-recapture data may also provide some insights.

The age estimation of anglerfish in the ICES area for stock assessment has been traditionally based on two different calcified structures (CS), the illicium (used by the majority of the European countries) and the sagitta otolith (used only by two countries). Growth studies alternative to the age estimates on CS of white anglerfish, such as tagging-recapture (Laurenson et al., 2005; Landa et al., 2008a), daily growth (Wright et al., 2002) and length frequency distributions of catches (Dupouy et al., 1986; Thangstad et al., 2002; Jónsson, 2007), showed that the growth pattern estimated using the traditional standardized age estimation criterion based on illicia (Duarte et al., 2002) was underestimated and that

criterion was not accurate, although it was standardized and used in several age estimation anglerfish workshops (Anon 1991, 1997, 1999; Landa et al., 2002; Duarte et al, 2005). The age estimation using illicia of a decadal time-series was performed for the southern stock assessment of white anglerfish using the traditional standardized age estimation criterion (Duarte et al., 2002). A catch-at-age by year matrix was built, but inconsistencies in cohort tracking were found (Azevedo et al., 2008).

Modifications in the methodology of illicia preparation and in the traditional standardized age estimation criterion have allowed obtaining a new age estimation criterion on illicia (Landa, pers. com.). Using it, the catches-at-age have been able to be more successfully tracked. Therefore this new criterion was judged to be more accurate and it was used for the age estimation in the "Anglerfish (*Lophius piscatorius*) illicia and otoliths exchange 2011" (a working document presented to the 2012 PGCCDBS Meeting). The results of this exchange have showed similar results to those from the 2004 workshop (Duarte et al., 2005):

i. Illicia and otoliths age readings comparison. Strong discrepancies be-tween illicia and otoliths readings were found. It is not possible to use the age estimates of both CS together, illicia and otoliths, for stock assessment purposes.

ii. Illicia. Although the relative bias values among the assessment readers can be considered good, the agreement values and precision suggest that they are not still sufficiently acceptable for building a valid ALK. The search for a reliable criterion for age estimation of anglerfish based on CS is more advanced in illicia than for otoliths. There is an illicia age estimation criterion that allows cohort tracking (indirect age validation) but only in the Porcupine Bank of the Atlantic.

iii. Otoliths. The age estimation of anglerfish, based on otoliths, is difficult mainly due to the occurrence of confusing false annuli and to the increase of opacity with age. The location of the first annulus is also a problem, even among expert readers, in the last and present exchanges. There have also been advances in daily growth studies (Wright et al., 2002; Woodroffe et al., 2003) that can help locate the first annulus more precisely. Analysis of age composition data from the Scottish industry-science partnership trawl survey in Area VI and IVc show tracking of cohorts in data derived from otolith readings (ICES WKROUND meeting 2013).

Further research should enhance our knowledge of the true growth of anglerfish by developing and using methodologies that allow validation, before the attempt to standardize reading criteria. It is unproductive to go further in estimating anglerfish growth patterns and age without progress being made in age validation (Duarte et al., 2005). Improving the precision in the absence of accuracy cannot, under any account, guarantee data quality (de Pontual et al., 2006).

The proposed collaborative study among several European countries could be based on the following tasks:

i. Indirect growth validation based on the ability to clearly track cohorts in time series of catch-at-age data or progression of length modes in survey data.

ii. Direct growth validation studies. Tagging is a direct method of validating the growth of a fish during its time at liberty, including for large specimens, where validated in-formation is very scarce. Two tagging programs have been undertaken for white anglerfish, one on the Atlantic northern shelf stock (Laurenson et al., 2005) and another on the two stocks of the Atlantic southern shelf (Landa et al., 2008b). Recovery rates the two studies were 3.8–4.5%. Given the difficulty of tagging a large number of specimens of this species, it was not possible to obtain information from specimens which had spent much time at liberty. Most of the available in-formation from those tagging-recapture programs corresponded to information from small and medium specimens, but not from large specimens. Despite this, invaluable information was obtained to advance on the validation of the growth pattern of white anglerfish, and to obtain more information on the movements and interaction be-tween stocks (Laurenson et al., 2005; Landa et al., 2008b).

Objective 4. Compilation of high-resolution catch and effort data

Scientist and Advisory Councils will require from national administrations high resolution spatial data (VMSs/AIS). The importance of this objective is based on the actual situation of all data being transmitted electronically and the rapid disappearance of the hand-written logbooks. However, some administrations appear to be reluctant to provide of these data to scientist for assessment and management purposes.

Objective 5. Exchange of knowledge with scientist assessing other Megrim and Anglerfish stocks.

This objective will involve collaboration with scientists involved in biological studies and assessment of other megrim and anglerfish stocks to identify common problems, data deficiencies, methodological possibilities and proposal of solutions.

Objective 6. Exploring alternative methodologies not fully dependent on resolving the biological issues (ageing and reproduction). Choosing the most suitable assessment models.

Based on the results of work addressing Objectives 1 – 5, the project will evaluate how the stocks may be assessed using a range of approaches suitable for stocks characterised by types and quality of data (as defined by ICES). The relative performance of the resulting assessment for different stocks and methodologies, and the likely impact on the form and quality of advice, will be evaluated. The impact on future data requirements in the DC-MAP will be evaluated.

<u>**Justification of why a dedicated research project is needed:**</u>

No progress can be expected if there is no international commitment from countries exploiting these stocks to carry out the necessary work on data and methods to assess these stocks. However it appears unlikely that time between possible future Benchmarks and Working Groups would be enough for: i) solving data availability, ii) reviewing their quality, iii) new model trials and even iv) exchange of experiences between researches working in same species but different stocks. That is why it would be recommended that resources could be made available for a real improvement in the assessment of these stocks. The present study is proposed for in a depth treatment of data quality, improvement in data collection and interpretation, and model selection.

Proposal of research team: AZTI-tecnalia (Basque Country Spain); IEO (Spain); IPMA (Portugal), IFRE-MER (France); Marine Institute (Ireland); CEFAS (United Kingdom); Marine Scotland; Advisory Councils.

This study should include the anglerfish stocks in all ICES areas, and megrim in VII and VIIIa,b,d, and therefore other institutes might also be involved.

Indicative budget: €500 000, 3 years duration.

LM Comments: The study was endorsed by the 9th Liaison Meeting.

4. Proposed title: Defining sampling scheme and collecting diet data for multispecies evaluation and management in the English Channel and the Celtic seas

Proposed by RCMs

Brief description of the study

In 2011, the Advisory Committee (ACOM) of ICES produced a roadmap for Provision of Integrated Advice by ICES on the request of the EU. This roadmap foresaw, among others, that multi-species (i.e. including biological interactions) advices and management plans will be developed for all eco-regions by 2017 at the latest. Multi-species assessments are already available for the North Sea and the Baltic but are still to be developed for the other eco-regions. Existing methodological tools such as the Sto-

chastic Multi Species (SMS) model developed by DTU-Aqua (Lewy and Vinther, 2004) and used for the Baltic and the North Sea could be transferred to other eco-regions provided two main steps are taken beforehand: first, defining the structure of the multi-species model in terms of species composition based on a review of existing knowledge on the food web in the focal eco-region and, second, collecting diet data on the species identified in the first step by stomach content analysis.

The objective of this project is to take these two steps forward for the eastern and western English Channel and the Celtic sea eco-region in order to move towards multispecies assessment in these areas. The three main outputs of this study will be (i) recommendations regarding the species composition of the multispecies model to be implemented for the various concerned areas, (ii) sampling protocols for the collection of diet data for the relevant species and (iii) the resulting database of stomach content data.

Background

Since its reform of the Common Fisheries Policy (CFP) in 2002, the European Commission endorsed an ecosystem approach to fisheries in agreement with international commitments at The World Summit on Sustainable Development in Johannesburg (WSSD 2002) and the recommendations of the FAO Code of conduct for responsible fisheries. Since then, European maritime policies, including the CFP and the Marine Framework Strategy Directive (MFSD), converged towards common objectives, among which (i) developing an ecosystem approach towards maritime activities management, (ii) reaching good ecological status of European waters, (iii) reaching maximum sustainable yield for most fisheries, and (iv) protecting marine biodiversity, notably through a network of marine protected areas. Within this context, there is a growing need for integrated ecosystem assessment and advices. Such integrated approach is currently pushed forward by the ICES scientific community through dedicated groups or workshops such as the Workshop on Ecosystem Overviews held in January 2013 (ICES 2013). Among others, integrated ecosystem assessment requires the development of the multiannual multispecies management plans based on multi-stock assessment models including biological interactions (competition and predation) as well as technological interactions.

Although methodological tools are available (e.g. SMS model), the move towards generalized multispecies assessment is impeded by the fact that for most eco-regions, including the English Channel and the Celtic seas, there is currently no guidance as to which species should be included in a multispecies assessment nor is there the necessary diet data available to implement the multispecies models. A way to move forward to develop multispecies management plans is therefore, for each area, to provide clear guidance, coordinated by the RCM, on the species to be considered within multispecies assessment models, on the sampling protocols to be implemented for diet data collection and to start building a database of stomach content data.

Terms of reference

The main outputs of this study will aim at enabling the development of multispecies assessment and management plans in the English Channel and the Celtic seas eco-region. These will include guidance regarding the structure of the multispecies model to be implemented as well as sampling protocols for the relevant species together with stomach content data.

More precisely, for each area, the main tasks will consist in

- compiling existing knowledge on the structure of the ecosystem and its food web

- compiling existing knowledge on target species of fisheries in the different areas

- combining previous information, identifying the structure of the multispecies model in terms of species composition

- compiling historical stomach content data, if any, for the identified species

- defining sampling protocol in space and time for collecting (complementary) diet data

- sampling identified species according to the previous protocols and carry on stomach content analysis

Timetable and Final Report

The duration of the study shall not exceed 36 months from the signature of the contract. An interim report of the study should be made available after 18 months of the signature of the contract and a final report should be made available within one month of the termination of the project.

Budget

The indicative budget for this study is € 1.000.000 covering all expenses, including personnel, sampling, laboratory consumables and overheads.

References

Lewy and Vinther, 2004. ICES C.M. 2004, FF:20, pp 1-33.

LM comments: LM suggests that the proposal be reviewed by STECF as the LM was not in the position to review the need for the study.

5. Proposed title: Tagging program for validation of Baltic Sea cod age estimation and migration rates

Proposed by RCMs

Brief description of the study

The assessment of the Baltic Cod stocks is becoming increasingly difficult. The well-known inconsistencies in age determination of the Eastern stock persist despite a wide range of efforts. Two main factors contribute to further complicate the management of the two stocks, i.e. the increasing age determination problems in the Western stock as well as the considerable, however not yet quantified migration rates between the two stocks. These inconsistencies result in poor quality of the catch-at-age composition, the abundance indices obtained from surveys at sea and possibly local depletion of the Western stock.

The objective of this study is to validate age structure and migration rates with a large-scale tagging program including all Baltic cod stock components. This is agreed by the age reading experts to be the best option to improve the quality of the assessment and the scientific advice for the two cod stocks.

Background

The age of Baltic cod is at present determined by the traditional method of annual ring interpretation. It is well known that this method is not an optimal method for the Eastern Baltic cod stock since no clear annual rings are deposited. Severe inconsistencies in age readings between readers and institutes have existed since the beginning of age determination. A wide range of less subjective methods have been evaluated. Even though some attempts do look promising, it is impossible to implement these without proper validation with an appropriate "known-age" sample.

For unknown reasons, this problem now also seems to extend well into the Western Baltic cod stock. This may be the result of changes in environmental conditions, but it may also be related to the migrations across management area boundaries observed by genetic analyses and tagging studies. The extent of these migrations is unknown, but preliminary observations indicate that they may be extensive.

External marking of fish is a cost efficient method that is used worldwide to evaluate migration patterns, growth and mortality rates and validate otolith structures in a wide range of species, including

cod. Coupling this external marking with chemical marking of the otolith in a release/recapture program provides the most reliable method to validate fish age and at the same time quantify the extent of migrations.

Terms of reference

The study will be based on the preliminary results that have been achieved within the EU Call for Tender DECODE: *ImproveD mEthodology for Baltic COD age Estimation* (FISH/2006/15; Studies and Pilot Projects for carrying out the common fisheries policy), the EU-funded R&D project CODYSSEY: *Cod spatial dynamics and vertical movements in European waters and implications for fishery management* (QLRT-2001-00813) and the ICES Study Group on Ageing Issues in Baltic Cod (ICES SGABC) and the ICES Working Group on Baltic Fisheries Assessment (ICES WGBFAS) with spin off into the ICES Baltic International Fish Survey Working Group (ICES WGBIFS) and the ICES Study Group on Multispecies Assessment in the Baltic (ICES SGMAB).

The main product would be to carry out a tagging program with external and internal marking of the fish, comprising all stock components within the Baltic Sea. The main tasks to be undertaken by the contractor are the following:

1. Conceive optimal design of the tagging program to cover all stock components
2. Carry out the tagging program
3. Analysis of results (age validation and migration pattern delineation)

Timetable and Final Report

The duration of the study shall not exceed eighteen months from the signature of the contract. An interim report of the study should be made available after nine months of the signature of the contract and a final report should be made available within one month of the termination of the project.

Budget

The indicative budget for this study is € 500.000 covering all expenses, including personnel, transport, charter of vessel, consumables and overheads.

Estimated allocation of resources in percent of total:

Charter of vessel	22
Consumables	5
Reward	11
Travel	15
Personel	48

LM comments: LM endorses the proposal.

6. Identification of stock boundary/unit of the turbot in the Black Sea

Recommended by RCM Med&Black Sea 2013

Objective: Correct and efficient management of the turbot stock/stocks in the Black Sea Community waters

Activity: Getting information on the Black Sea turbot population (distribution and migration) through research, monitoring and exchange of information.

Involved countries: Romania and Bulgaria

Collaborating countries for monitoring and exchange of information: Turkey and Ukraine

Period: 2-3 years

Indicative costs: 350,000-400,000 €

LM comments: LM suggests that the proposal be reviewed by STECF as the LM was not in the position to review the need for the study.

7. Proposal for a multinational exercise in age determination methods in order to harmonize age reading

Recommended by RCM Med&Black Sea 2013

Objective:

Multilateral cooperation on age reading calibration and harmonization of otolith processing techniques for Merluccius merluccius in the Mediterranean Sea between Croatia, Italy and Slovenia.

Activity: It is necessary to establish a common methodology for age determination in order to provide compatible age results for Merluccius merluccius which is a shared stock between these countries and the most important commercial species in trawl fisheries in the Adriatic and Mediterranean Sea. Furthermore, Merluccius merluccius is a G1 species according to Appendix VII of Council Regulation (EC) No 199/2008, for which age determination is required. As Croatia has not been able to participate in the efforts made in the field of age determination it is necessary to ensure a multinational cooperation and coordination in order to harmonize age reading so as to provide relevant data for stock assessment.

The cooperation would include:

• Coordination meeting for the identification of age determination methods and experts from the specialized EU laboratories

• Inviting/contracting experts

• Multinational exchange of otolith samples

• Multinational processing of samples for age determination and calibration of readings in order to harmonize age reading

Involved countries: Croatia, Italy and Slovenia

Period: 1-2 years

Indicative costs: 50.000 €

LM comments: LM suggests that the proposal be reviewed by STECF as the LM was not in the position to review the need for the study.

8. Structure of Mediterranean fish populations based on otolith shape

Recommended by RCM Med&Black Sea 2013

Objective: Assessing whether neighbouring countries exploit two populations of the same species or share the same one is of great ecological interest and has important applied consequences, particularly to achieve sound fish stock assessments and efficient fisheries management under the CFP.

Activity: In practice, this remains complex as adjacent populations are not separated by clear geographical barriers. For Mediterranean stocks, only little is known on that issue. Recent techniques make use of otolith shape as an efficient way to make distinctions between populations. Such an approach requires otolith sampling that could be implemented at the Mediterranean scale taking advantage of the scientific surveys that are already carried out for the DCF (MEDITS and MEDIAS surveys in the Mediterranean). A study could be carried for a pre-defined set of commercially important demersal and pelagic species, (e.g., hake, red mullet, sardine and anchovy). An emphasis could be put on methodological development around the processing of otolith images. By targeting several species, such a study would allow to investigate connectivity between stocks at a broader scale than more classical monospecific approaches, which complies with the ecosystem approach to fisheries. A pilot study between two neighbouring member states, such as France and Spain, focussing on two commercially important species, hake and red mullet, would allow to assess the feasibility and the performance of such an approach.

Involved countries: France and Spain. However, depending on the funding available more member states could be involved for a wider-scale study

Period: over 18 months

Indicative costs: 150.000 € for 2 member states.

LM comments: LM suggests that the proposal be reviewed by STECF as the LM was not in the position to review the need for the study.

9. Tagging experiments for red mullet and striped red mullet

Recommended by RCM Med&Black Sea 2013

Objective: The lack of validation for ageing is a major source of uncertainty, which directly affects the reliability of stock assessments a tag experiment, is needed.

Activity: Several methods exist to validate age readings of calcified structures (i.e. otoliths), like the mark and re-capture method. So far, tagging experiments for *Mullus* spp. have neither been done in the Atlantic nor in the Mediterranean Sea. Within the framework of the WKCAM2, a recommendation to use validation methods independently from annual growth ring interpretation was made. The tagging experiments presently proposed could be carried out by France and Spain, two countries that cover both the Atlantic and the Mediterranean regions, as a first attempt to evaluate the suitability of tagging approaches for these species.

Involved countries: France and Spain, two countries that cover both the Atlantic and the Mediterranean regions, as a first attempt to evaluate the suitability of tagging approaches for these species

Period: over 18 months

Indicative costs: 300,000 €

LM comments: LM suggests that the proposal be reviewed by STECF as the LM was not in the position to review the need for the study.

8.2 Studies proposed by ICES PGCCDBS

1 Title: "WebGR 2 - Web services for support of Growth and Reproduction Studies"

Proposed by: ICES PGCCDBS

Objective

The objective of this study is to substantially improve the first version of WebGR developed with-in an EU tender project in 2008. WebGR is a set of web services to support fisheries scientists in the organization and data analysis of calibration workshops for biological structures classification and provide means to analyse the results of such exercises.

Aim

The project aims to improve the Open Source software previously developed to support studies of fish growth and reproduction. This will contribute to improve the quality of growth and reproduction studies, by guaranteeing a consistent application of age reading protocols and maturity scales, ultimately influencing fisheries management advice. However the use of this tool is not necessarily limited to age and maturity studies. In principle WebGR can be applied to all situations, where individual scientists need to discuss the interpretation of a protocol, for the identification of the status of biological material.

Indicative budget: € 100,000

Study specifications

Presently, the WebGR consortium provides the Internet service in http://webgr.azti.es. The service is provided freely but without any warranties and the tool has not been developed since 2010.

Nevertheless, since 2010 several workshops and exchanges have used WebGR with variable success. Unanimously, the members of these expert groups saw a great potential in using this soft-ware and its tools. However they experienced different problems while using it and at the same time had several requests on how to improve this tool and obtaining more complex outputs. This feedback highlighted the strong need for further improvement of WebGR and is the basis for this study proposal.

The desirable improvement of WebGR is 2-folded. On the one hand it is necessary to upgrade the user interface, improve picture uploading and enhance exploring tools, in terms of new measuring tools. Moreover, at the moment the most basic features are implemented and the easy export procedure allows users to use the data on a standard statistical package or spreadsheet. The original idea is to develop an R package and implement a set of statistical methods. An extended statistical output will give a more complete evaluation of potential differences among readers/stagers, i.e. a step forward towards the standardization.

Concerning the hosting institute, it would be beneficial both for ICES and the users, if ICES could host the server. This would guarantee a wider dissemination of this useful tool and ensure a better site management.

Furthermore, an offline access to the workshop is to be aimed for. This features needs to be implemented so that all individual users' annotations will be synchronized with the server as soon as one goes online again.

The project will be conducted by the participating laboratories and will consist in 4 Units:

WP 1: Training and dissemination

WP 2: Development

WP 3: Statistical methods

WP 4: Site management

Specific work packages

Work Package 1. Training and dissemination

The objective for WP1 is to disseminate WebGR, train users and channel feedback to others. It will divided into the following two subtasks:

- WP 1.1. Training by the means of a widely used web conferencing tool (i.e.Webex). This will include at least three online meetings, one for coordinators and two open trainings.
- WP 1.2.Dissemination through the drafting of working documents or flyers to be distributed to different fora. Furthermore, review and maintenance of the WebGR website is also essential. The use of this tool will continuously produce feedback that needs to be organized and distributed internally

Work Package 2. Development

This WP has two objectives

- WP 2.1. Implement new features in terms of developing new measuring procedures.
- WP 2.2. Resolve issues with the detected bugs

Work Package 3. Statistical methods

This WP has the objective to extend and improve the present statistical analysis and it is divided into the following subtasks:

- WP 3.1 Review literature
- WP 3.2 Test methods with R and develop R package
- WP 3.3 Support implementation in WebGR
- WP 3.4 Promote reproducible research

Work Package 4. Site management

The final work package has the objective to update and maintain the site.

The increasing amount of pictures uploaded and stored on the server during each exercise intensifies the demands for the site maintenance. Moreover, WebGR has a wiki-page that requires as well be reviewing and keeping updated.

LM comments: LM endorsed the study.

2 . Proposed title: Age Determination and Maturity Staging of species not previously subjected to biological sampling for analytical assessments

Proposed by ICES PGCCDBS 2013

Duration: 18 months

Objective: The new DCF generates the need for biological information on species not previously subjected to biological sampling, in order to establish parameters for application in analytical assessments. The development of a methodological protocol on how to handle a new species, laying out a general procedure to achieve sound parameters for analytical assessment is highly warranted to enable the community to be proactive when alerted of a new stock appearing in the fishery.

When handling a new stock, a 'toolbox' needs to be consulted, encompassing base-lines on ageing procedures, growth parameters, sex-ratio, age at maturity, spawning time, and potential stock identification structures.

Based on existing validation techniques and further development of applied method-ology, ageing and maturity staging techniques must be developed and these should be stated in agreed manuals through a network of excellence. The manuals will then form the general protocol (the 'toolbox') that subse-quently will be used in selected case-study stocks to test the applicability of the protocol and achieve sound parame-ters for analytical assessment for the particular stocks.

PGCCDBS 2011 used the following criteria for the selection of species for this project-proposal:

- No previous internationally coordinated work has been done with respect to age determination and maturity staging for these species, but the required biological ma-terial and some experience (and view on potential problems) is already available in at least one national institute (all species).
- The species are included in the MoU between ICES and the EC (all species except tub gurnard and John Dory) OR were included in the NESPMAN-project but not subject to age determination and maturity staging studies (tub gurnard and John Dory).
- No ICES-advice was given for these species before 2011.
- No elasmobranch and deep-water species were included in the proposal since these are subject to specific research by dedicated expert groups making separate requests and recommendations.

Species/area-combinations were selected on the basis of species/area-combinations for which ad-vice is requested by the EC for the first time under the MoU 2011 (all species except tub gurnard and John Dory), extended with areas not in the MoU where the selected species occur, and where current or potential future fisheries for these spe-cies exist. A good spatial coverage of the DCF-area was developed this way.

Following these criteria, PGCCDBS 2011 identified the following species/area-combinations as the most appropriate for this project-proposal.

- Pollack (*Pollachius pollachius*) (MoU 2011 in all three areas)
- Greater North Sea
  - Celtic Seas
  - Bay of Biscay and Iberian Coast
- Grey gurnard (*Eutrigla gurnardus*) (MoU 2011 in first four areas / NESP-MAN)
  - Greater North Sea
  - Celtic Seas
  - Bay of Biscay and Iberian Coast
  - Azores
  - Mediterranean
- Red gurnard (*Aspitrigla cuculus*) (MoU in first four areas / NESPMAN)
  - Greater North Sea
  - Celtic Seas
  - Bay of Biscay and Iberian Coast
  - Azores
  - Madeira and Canary Islands
  - Mediterranean
- Tub gurnard (*Chelidonichthys lucernus*) (NESPMAN)
  - Greater North Sea
- Boarfish (*Capros aper*) (MoU 2011 in first two areas)
  - Celtic Seas
  - Bay of Biscay and Iberian Coast
  - Azores
  - Madeira and Canary Islands
  - Mediterranean
- John Dory (*Zeus faber*) (NESPMAN)
  - Greater North Sea

- Celtic Seas
- Bay of Biscay and Iberian Coast
- Madeira and Canary Islands
- Mediterranean
  - Lemon sole (*Microstomus kitt*) (MoU 2011 in first area / NESPMAN)
    - Greater North Sea
    - Celtic Seas
  - Witch flounder (*Glyptocephalus cynoglossus*) (MoU 2011 / NESPMAN)
    - Greater North Sea
  - Ballan wrasse (*Labrus bergylta*)
    - Greater North Sea
    - Celtic Seas
    - Bay of Biscay and Iberian Coast

WORK PACKAGES:

Work Package 1. Stock Identity and Age Determination Material

The objective for WP1 is to compile an inventory of available CS for the selected species through various channels. The WP will collate otoliths and other calcified structures from material already in store at national laboratories; port sampling; fish auction sampling (buying fish) and concurrent sampling on already decided scientific cruises. Then all available material will be the basis for WP 3 for the selected species.

As much as possible otoliths will be taken from the same specimens as gonads (WP2.1)

Work Package 2. Maturity Staging Material

WP 2.1. To collect a sufficient amount of gonads (ovaries and testes) for the selected species in each proposed area. This collection should consider temporal variation, i.e. sexual cycle of each species, so the collection of material will be distributed along the year to determine the optimal sampling period, normally the spawning period. In the case of males, the majority of the collected data will be based on macroscopic determination of maturity, although a limited number of testes will be collected for histological analysis for the maturity ogive validation. Ovaries of females will be regularly collected and stored in formaldehyde. Macroscopic determination will always be recorded.

WP 2.2. Histological analyses of the selected males and all females will be conducted in this WP. Only histology produces accurate maturity staging, and this will be the basis for WP4. Considering the use of this methodology, it is important that institutes with relevant skills on histology and microscopic determination of maturity are being involved here.

Work Package 3. Revision and validation of methodology for Stock Identity and Age Determination

WP 3.1. Compile inventory of age determination practices used in different institutes, and compare results obtained from different methodologies.

WP 3.2. Review and summarise stock identity literature using CS and genetic information for the selected species.

WP 3.3. Validate age determination and stock identity methodologies applying avail-able methods such as known-age CS if available, otolith microstructure analysis of marginal increments, otolith shape and modelling exercises (length distributions, otolith weight distributions, etc.)

Work Package 4. Revision and validation of methodology for Maturity Staging

WP 4.1. Review of maturity staging protocols and methods developed in latest years in the context of ICES Workshops and the COST Action Fish Reproduction and Fisheries.

WP 4.2. Microscopic determination of maturity, ovarian developmental stage and definition of key periods of sexual cycle, particularly spawning.

WP 4.3. Definition of optimal sampling strategy for maturity on the selected species based on the results on WP 4.1 and WP 4.2;

Work Package 5. Collation of the 'Toolbox'

The final work package will synthesize the results from WP 3 and WP 4 in terms of what biological information that is deemed necessary to subject a species to an analytical assessment and the recommended methodology to achieve such knowledge when dealing with a 'virgin' species. The 'Toolbox' will be in the shape of a roadmap guiding any new species through the necessary analyses in order to uncover the bio-logical parameters of the species in question.

EXPECTED RESULTS

The expected outcome of the Study is a 'Toolbox' encompassing a roadmap based on existing validation techniques and further development of applied methodology for ageing and maturity staging techniques. These will be stated in agreed manuals through a network of excellence. The manuals will then form the general protocol (the 'toolbox') that subsequently can be used in order to achieve sound parameters for analytical assessment on any stock not previously subjected to an analytical assessment. The 'Toolbox' will be available to the public through the upload of the documents in selected document repository.

The results of the project should allow to managers to implement basic regulations based on sound biological information of currently unregulated species. This will reduce the risk of over-exploitation in species where their status is ignored.

Also it is expected to produce an optimal sampling scheme that will ease the collection of key biological information for the future implementation of analytical assessment for these species.

DISSEMINATION OF RESULTS

The results from the Study will be disseminated through various channels providing information to stakeholders (the EC, the Science community, the Fishery Industry):

The National Correspondents in the DCF system will be informed on the Study progress by a News Letter every 6 months of the duration of the Study.

Specific species information will be reported in ICES Working Documents and presented to the relevant Expert Groups within the ICES system and more broadly at the ICES Annual Science Conference. For the Mediterranean stocks, relevant GFCM ex-pert groups will be addressed. If so evaluated by the participating partners, peer-review papers will be produced on relevant parts of the Work Packages, however, this is not a success criterion for the Study.

Finally the 'Toolbox' will be made fully available on the internet by uploading the Final Scientific Report in a selected document repository which will provide a DOI (digital object identifier). In this way, the results are always available for the entire scientific community.

LM Comments: LM supported the idea of developing a toolbox for ageing and maturity staging techniques but considered it important that the need for the data is evaluated before a study is initiated. LM therefore suggests PGCCDS to revised the "Age Determination and Maturity Staging of species not previously subjected to biological sampling for analytical assessments" in PGCCDBS 2014 meeting.

8.3 Studies proposed by PGECON

LM regards all studies as suggested by PGECON relevant and in general supports them all. However, in parallel LM does not feel to have sufficient expertise to endorse or prioritise the requested studies.

1. Study to propose methodologies for estimation of intangible assets in EU fisheries.

Background

Implementation of the CFP in the various MS has led to an introduction of various types of rights (licenses, ITQs, etc.). Some of these rights are freely tradable; others can be only transferred together with the vessel to which they are attached. Still other rights are officially not transferable, but in reality they too can be transferred. In many countries the value of these intangible assets approaches or even exceeds the value of the tangible assets and it plays an important role in operational decision of fishing companies.

In the near future, it has also to be considered that the proposed Basic Regulation for reform of the Common Fishery Policy (COM(2011),425) introduces a system of transferable fishing concessions that should constitute a major driver for fleet capacity adjustment.

However, until now, capital valuation in fisheries focused primarily on the vessel and its equipment. Methodology for estimation of the capital value developed within the EC study No. FISH/2005/03 allows estimating the value of tangible assets. In case intangibles are part of the asset value, the suggested method requires to separate them from the tangibles so that the determined value per capacity unit refers exclusively to physical assets.

However, attaching value to the intangible assets faces several conceptual as well as practical problems:

Ideally the value of assets should include all assets of the company including the intangible assets, especially the value of fishing rights. And tangible assets should be separated from intangibles. However there should be common methodology to separate and value these assets.

When intangibles are freely tradable, observation of their prices in the market is often difficult because the number of transactions is small and they are not recorded.

When the intangibles are attached to vessel, direct observation of the price is impossible. The value has to be estimated.

In many cases, the fishing companies have not yet acquired any intangibles, but simply hold the rights which they have received free of charge from the government, when they were introduced. In that case it is not clear if these rights should be valued as an asset, increasing substantially the total asset value of the company, or not.

For all the above considerations, evaluation of intangible assets is a difficult exercise. The EC study No. FISH/2005/03 proposed to apply the approach established by FADN, i.e. tradable intangibles should be valued at current market price (or a multi year average), independently of the question whether they have or have not been acquired or whether they are or are not linked to specific tangible (e.g. vessel). However, price information on intangibles is scarce and estimations of their value when linked to tangibles are far from simple. Further research in valuation of intangible will be essential, as their value probably exceeds the value of tangible assets in many fisheries. In addition, estimation of intangible assets is required by the DCF and common methodologies should be defined.

Terms of References of the study

- ensure a coverage as large as possible so to address all the possible type of fishing rights present at EU level.
- define a methodology for estimation of the value of different types of rights (license, quota, transferable and non-transferable, etc…)
- define a methodology to separate the intangible part of capital (quota, license, etc…) from the overall capital value when this value is not directly observable;
- investigate factors determining changes in values of intangible assets.

Duration of the study: 10 months

Phase 1: Identify different types of fishing rights and identify the available data in relation to fishing rights

Phase 2: Define methodologies, collect data and apply appropriate methodology in each member state

Budget: 275k€

LM Comments: As the issue is going to be partly discussed at the November workshop on the value of fishing rights, the findings of that workshop should be implemented in the terms of reference for the study.

2. Study to disaggregate economic variables by activity and area

Recommended by PGECON 2013

Background

There have been two workshops on the disaggregation of economic data. The 1st DCF workshop on "allocation of economic data on disaggregated level was held in Hamburg (4th- 8th, July 2011) and discussed a general approach of disaggregation of variable cost data by using correlated data which are available at higher resolution. One major task during the WS was to compare different correlations between variable cost data at annual resolution and transversal variables (effort, landings) which are available at higher resolution, also taking in to account capacity data. A 2nd DCF workshop was held in Malta (2012) where correlation of economic data with transversal data was explored. as a way for disaggregation of economic data. As transversal data are in most cases available at the required resolution, the plan was to find correlations between those two groups. For this analysis individual vessel data from several member states have been analysed using different software (SPSS, Excel, R, SAS).

After two workshops on this issue which provided a broadened insight into the issue PCEGON strongly recommends a study on the disaggregation which delivers a comprehensive analysis of different approaches and methods, addressing also the availability of individual data which varies by MS.

Terms of References of the study

   Determination of cost structures within disaggregated units (e.g. metiers): Thus far, cost structures of operations of the same vessel in different fisheries (e.g. metiers) are regarded constant. This is not necessarily realistic, particularly when both passive and active gear operations are compared. The study should provide a method to break down cost structures with respect to the fishing activity performed. The method should as much as possible operate with data that are already available.

   Procedures to derive proper correlations of variable cost data with transversal and capacity data

to be applied for specific disaggregation tasks (having specific requirements of spatial, temporal or activity-related resolution): The outcome of this point should be a tool, requiring only standard software, which allows for modelling correlations, including an indication of the reliability of the result. The end user should then be able to calculate correlations using data which is by default available (e.g. through the DCF or the logbook regulation). The end user should also be able to assess the robustness of the estimated correlation. The method should be applicable to all DCF segments, allowing the end user to disaggregate variable cost data.

   Validation procedure: A method should be provided to enable MS to validate the results of the disaggregation procedure. Specifically for the purpose of validation more disaggregated input might be required, e.g. daily cost data.

Duration of the study: 12 months

Budget: 300k€

LM Comments: The issue is regarded crucial also from the biological perspective. It also refers to the approach of regional databases. LM points out that both budget and duration might be too tight given the listed tasks. It would require that data availability within all participating MS is guaranteed prior to the beginning of the work.

3. Harmonise quality reporting and propose methodology in the case of non-probability sample survey

Recommended by PGECON 2013

Background

The DCF, in the section concerning the economic data of the fleet, requires MS to include in their annual report information on the quality (accuracy and precision) of estimates. In case of non-probability sampling, the European Statistical System (ESS) suggests assuming probability sampling even in the case of non-probability sampling in order to be able to use the CV, but the value of this measure is questionable. Other methods to get some indication of the precision of the estimate include e.g. non-parametric tests and regression modelling, but, even in these cases, it is not clear which outputs could be used in the quality report to give information on the quality of the estimates.

Another common problem affecting the quality of economic data concerns the non-response that is likely to introduce a bias and increases the sampling error. Assessment of the impact of non-response is important in all the different types of data collection (probability sampling, non-probability sampling and census).

Considering that non-probability sampling and low response rates are rather common in the collection of economic data of the fleets, and also considering that there is very little published information on these questions, a study has been recommended by SGECA 09-02. The results of this study should be then taken into account by MS when presenting quality indicators in the 2011 technical report on activities performed in 2010.

Terms of References of the study

Investigate examples of the assessment of the quality of non-probability sampling strategies applied in other sectors which could be adapted to fisheries

Propose a suitable methodology for the estimation of economic variables in case of nonprobability sampling

Propose indicators for the assessment of the quality of estimates of economic variables in the case of non-probability sampling

Propose a common format for the presentation of these methodologies in the NP and in the TR in order to harmonise quality reporting

Propose methods to evaluate the impact of non-response in case of non-probability sampling and also in case of probability sampling and census with low response rates

Perform a comparative impact on data quality of different sampling strategies (e.g. is sampling preferable to census with low response rate? When a response rate should be considered too low with respect to the reliability of final estimates?).

Duration of the study: 4 months

Budget: 40k€

LM Comments: The study has been suggested several times. It appears worth including expertise from Eurostat. The wording of the title should be clarified.

4. Feasibility study on the collection of raw materials in the fish processing sector

Recommended by PGECON 2013

Terms of References of the study

- Investigate the volume and value of raw materials are used in the fish processing industry in each MS and investigate their source and origin. Raw materials should include fish and other aquatic species.
- Investigate the type of processed material used in the fish processing industry in each MS
- Investigate the price of raw materials used in the processing sector of each MS
- Investigate percentage of income account from processing and from other activities (selling)
- Estimate the feasibility of linking the raw material use in the fish processing industry to the fishing sector or aquaculture sector by MS
- Estimate the cost of permanent data collection of raw materials used in the fish processing industry

Durations of the study: 18 months

Budget: 1.000.000 €

LM Comments: From the LM point of view the issue is crucial for the meaningfulness of data collection on fish processing. If the collection of data on fish raw material proves to be unfeasible, the entire data collection in that field appears questionable. The issue has also been taken up by STECF EWG 13-05 The outline of the study appears somewhat equivalent to an EU-wide comprehensive data collection and therefore turns out to be quite expensive. In order to gain information on feasibility it might be sufficient to launch the study as a set of case studies. If that option is pursued, the cases should represent the various circumstances in the context of data availability in different MS.

9   2014 Meetings of relevance for DCF

The LM notes that because of the change in the financing of the national programmes from direct management to shared management in 2014 a list of meetings eligible for funding under the DCF will not be required for 2014. The LM, therefore, took note of the list of ICES meeting of relevance for DCF and did not discuss the priority of meetings in 2014. The draft list of ICES meetings of relevance for the DCF is provided in Table 1. ICES will inform the European Commission about revision/ additions of draft list provided after their ACOM meeting in December 2013.

Table 1. List of ICES meetings related with data collection.

List of ICES EG meetings related with the EU Data Collection Framework. Note: Meeting listed below and respective days are provisional. Final list would be available in December. For information on dates and venue consult the ICES meetings calendar (http://www.ices.dk/news-and-events/meeting-calendar/Pages/default.aspx).

Acronym	ICES EGs meetings	Estimated number of meeting days	Comments
ICES Planning Groups or Workshops related to the Data Collection Framework			
PGCCDBS	Planning Group on Commercial Catches, Discards and Biological Sampling (PGCCDBS)	5	
WKSABCAL	Workshop on Statistical Analysis of Biological Calibration Studies (WKSABCAL)	5	
WGRFS	Working Group on Recreational Fisheries Surveys (WGRFS)	5	
WGCATCH	Working Group on Commercial Catches Sampling (WGCATCH)	5	
SC-RDB-1	Meeting of the Steering Committee of the Regional Database - 1	3	
SC-RDB-2	Meeting of the Steering Committee of the Regional Database - 2	3	
Planning Groups on surveys at sea			
WGEGGS2	Working Group 2 on North Sea Cod and Plaice Egg Surveys in the North Sea (WGEGGS2)		
WGIPS	Working Group of International Pelagic Surveys (WGIPS)	5	
WGBIFS	Baltic International Fish Survey Working Group (WGBIFS)	5	
IBTSWG	International Bottom Trawl Survey Working Group (IBTSWG)	5	
WGMEGS	Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS)	5	
WGISUR	Working Group on Integrating Surveys for the Ecosystem Approach (WGISUR)		
WGFTFB	ICES-FAO Working Group on Fishing Technology and Fish Behaviour (WGFTFB)	5	
WGFAST	Working Group on Fisheries Acoustics Science and Technology (WGFAST)	5	
JFATB	Joint Session of the ICES-FAO Working Group on Fishing Technology and Fish Behaviour [WGFTFB] and the Working Group on Fisheries Acoustics Science and Technology [WGFAST] (JFATB)	1	
SGELECTRA	Study Group on Electrical Trawling (SGELECTRA)	3	
WGBEAM	Working Group on Beam Trawl Surveys (WGBEAM)	4	
WGNEACS	Working Group on North-east Atlantic continental slope surveys (WGNEACS)	5	
WGISDAA	Working Group on Improving use of Survey Data for Assessment and Advice (WGISDAA)	3	
WGTB	Working Group on Target Classification (WGTC)	2	

WGIDEEPS	Working Group on International Deep Pelagic Ecosystem Surveys (WGIDEEPS)	3	former WGRS
WGACCEGG	Working Group on Acoustic and Egg Surveys for Sardine and Anchovy in ICES Areas VIII and IX (WGACEGG)	5	
WGNEPS	Working Group on Nephrops Surveys (WGNEPS)	5	
WGALES	Working Group on Atlantic Fish Larvae and Eggs Surveys (WGALES)	5	
Support to Scientific Advice: ICES			
WGCHAIRS	Annual Meeting of Advisory Working Group Chairs (WGCHAIRS)	3	
AFWG	Arctic Fisheries Working Group (AFWG)	7	
HAWG	Herring Assessment Working Group for the Area South of 62°N (HAWG)	10	
NWWG	North-Western Working Group (NWWG)	8	
WGBAST	Baltic Salmon and Trout Assessment Working Group (WGBAST)	8	
WGNAS	Working Group on North Atlantic Salmon (WGNAS)	10	
WGBFAS	Baltic Fisheries Assessment Working Group (WGBFAS)	8	
WGBIE	Working Group on the Assessment of Bay of Biscay and Iberian Ecosystem (WGBIE)	7	former WGHMM
WGCSE	Working Group on the Assessment of Celtic Seas Stocks (WGCSE)	10	
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK)	8	
NIPAG	Joint NAFO/ICES Pandalus Assessment Working Groups (NIPAG)	7	
WGWIDE	Working Group on Widely Distributed Stocks (WGWIDE)	7	
WGHANSA	Working Group on Southern Horse Mackerel, Anchovy and Sardine (WGHANSA)	6	
WGDEEP	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)	7	
WGEEL	Joint EIFAC/ICES Working Group on Eels (WGEEL)	7	
WGEF	Working Group on Elasmobranch Fishes (WGEF)	10	
WGNEW	Working Group on Assessment of New MoU Species (WGNEW)	5	
WGMIXFISH - NS	Working Group on Mixed Fisheries Advice for the North Sea(WGMIXFISH - NS)	5	
WGMIXFISH - CS	Working Group on Mixed Fisheries Advice for the Celtic Sea (WGMIXFISH-CS)	5	to be confirmed
WGMIXFISH - METH	Working Group on Mixed Fisheries Advice - Methodology (WGMIXFISH-METH)	5	
WGECO	Working Group on the Ecosystem Effects of Fishing Activities (WGECO)	8	
WGMME	Working Group on Marine Mammal Ecology (WGMME)	5	
WGBYC	Working Group on Bycatch of Protected Species Fishing Behaviour (WGBYC)	5	
WGDEC	ICES/NAFO Joint Working Group on Deep-water Ecol-	5	

	ogy (WGDEC)		
WKPELA	Benchmark Workshop on Pelagic Stocks (WKPELA)	5	
WKHAD	Benchmark Workshop on northern Haddock stocks (WKHAD)	5	
WKCELT	Benchmark Workshop on Celtic Sea stocks (WKCELT)	8	
WKDEEP	Benchmark Workshop on Deep sea stocks (WKDEEP)	5	
WKSOUTH	Benchmark Workshop on Southern megrim and hake stocks (WKSOUTH)	5	
WKBALFLAT	Benchmark Workshop on Baltic Sea flatfish stocks (WKBALFLAT)	5	
WGScallop	Scallop Assessment Working Group (WGSCALLOP)	5	
WKINTRO	Workshop to draft general advisory guidance document (WKINTRO)	2	
WKMSYREF2	Workshop to considered reference points for all stocks (WKMSYREF2)	5	
WKFooWI	Workshop to develop recommendations for potentially useful Food Web Indicators	5	
WKSALDAT	Workshop on salmon catch data in the Baltic	5	
WGBIODIV	Working Group on Biodiversity Science (WGBIODIV)	5	
WGOH	Working Group on Oceanic Hydrography (WGOH)	3	
WGCRAN	Working Group on Crangon fisheries and life history (WGCRAN)	5	
WGCEPH	Working Group on Cephalopod Fisheries and Life History (WGCEPH)	5	
SIMWG	Stock Identification Methods Working Group (SIMWG)	5	
WGFSD	Working Group on Spatial Fisheries Data	5	former Study Group on VMS data, its storage, access and tools for analysis (SGVMS)
WKMG	Working Group on Methods of Fish Stock Assessments (WGMG)	5	
WGSAM	Working Group on Multispecies Assessment Methods (WGSAM)	5	
	Workshop on data compilation for the 2015 benchmarks 1	3	The workshop will be renamed
	Workshop on data compilation for the 2015 benchmarks 2	3	The workshop will be renamed
	Workshop on data compilation for the 2015 benchmarks 3	3	The workshop will be renamed
	Workshop on data compilation for the 2015 benchmarks 4	3	The workshop will be renamed
	Workshop on data compilation for the 2015 benchmarks 5	3	The workshop will be renamed