Report of the Regional Co-ordination Meeting for the North Sea and Eastern Arctic (RCM NS&EA) 2014

Swedish University of Agriculture Sciences (SLU Aqua)
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1. Executive summary

The RCM NS&EA met in Lysekil (Sweden) between 8-12 September 2014. The main purpose of the RCM is coordinate the National Programmes (NP) of the Member States (MS) in the North Sea region for 2015.

The Data Collection Framework (DCF) is under revision to adapt it to the changes in the current Common Fishery Policy (CFP). In 2015, a landing obligation will be introduced to pelagic fisheries in EU waters. In the following years, this landing obligation will be extended to all fisheries. The landing obligation will affect the biological sampling and it is likely that already in 2015 changes in the scientific sampling need to be introduced.

At present there is little clarity about the conditions or rules of how exempt discards at-sea may take place. Further, it is unclear how storage of unwanted catch on-board should be handled. All these factors have the potential to effect the condition of the landing with ramifications for the quality of the biological data that can be obtained from this fraction. Specific concerns include the species composition and identification, the ability to estimate the demographic structure of the sampled trips catches, the estimates of sample numbers, the ability to measure fish and collect otoliths and even the ability to access samples at all (e.g. under health and safety regulations). The landing location and fate of this unwanted catch on shore is also as yet unclear and will remain so until the landing obligation actually comes into force. The unwanted catch fraction will almost certainly not be available at the fish auctions where much of the present sampling of the landed catch occurs. This has implications for on-shore sampling designs and data collection protocols. The representative of the Commission indicated that, in this case, changes in the scientific sampling could be made during 2015 without adjusting the NP. Instead, these changes should be explained in the AR for 2015. It is likely that the changes in sampling require some international coordination which will be carried out intersessionally by the RCM.

Also concern was expressed on the quality of monitoring catch data. The landing obligation will lead to different destinies of the catch and procedures and facilities to record and document the catches need to be adjusted to the new situation. It was recognised that in order to obtain qualitative acceptable data that both catch data should be reliable and scientific sampling programmes of these data should follow sound statistical procedures.

Further consideration was given to the introduction of the revised DCF. RCM NS&EA considers there to be three over-arching drivers that will lead the development of regional coordination within the future EU-MAP: (i) the legislative framework governing obligations, (ii) adherence to the principle of statistical best practice and (iii) the availability of an appropriate tool-set, specifically, adequate IT provision. Specific comment relating to these drivers are discussed elsewhere in this report.

In order to achieve an efficient way to implement the new upcoming data collection legislation and to support the new CFP in an optimal way, RCM NSEA 2013 initiated a road map. The initial road map was taken further by the RCM NA 2013. The RCM NS&EA 2014 reviewed the text of both RCM NSEA 2013 and RCM NA 2013 and notices that the speed and the actual implementation of the road map is hampered by the absence of the new legislation, the lack of development of the RDB and the lack of establishment of the RCG process yet. The road-map will need to be adjusted as experience is building up and this could be done within the remits of future RCGs. Future STECF EWGs can also suggest actions and adaptations to the road-map. RCM NS&EA 2014 notices that due to delays in adoption of a proposal for the revision of the DCF and the lack of funds for the progressive RDB development and relevant study proposals, the entire timeline has now slipped and has become uncertain.

Previous meetings of the RCM NS&EA have explored the RDB as tool to demonstrate its utility in analysing quality and consistency of data on a regional level. This year the RCM NS&EA focused on the processes which need to be established for obtaining and demonstrating high quality data. Several stages can be defined in the quality assurance process which are discussed in this report. The most relevant are: identifying the most appropriate (statistical) design of data collection schemes, implementation of the scheme, monitoring of performance, data archiving and validation of data, data analyses to investigate quality of the data, documentation, feedback from the end users and adaption of the sampling schemes as required. This report discuss the responsibilities in this process (MS, RCG, end users). It is recognized that within ICES considerable progress has been made in developing a framework and tools for the evaluation of the quality of data which are relevant for the DCF. Also it is

noted that some MS already have established procedures and protocols which ensure the quality of data. The report of RCM NS&EA 2014 provides extensive guidelines to the MS how to implement quality assurance procedures.

MS were requested, through a data call, to upload data for 2009-2013 in the regional data base (RDB). Most MS complied with this request. Spanish data were not uploaded but available to the meeting. French data for 2014 were available by not uploaded. Some Portuguese data could not be uploaded because of technical problems. The fact that all MS have committed themselves to provide the requested data to the RCM must be considered as great progress.

Evaluation of the data call for submission of data to the RDB revealed large differences between the MS in the number of species subject to scientific sampling, indicating that data uploads by several countries is still incomplete. This needs to improve in future years. The main conclusion is that by exploring the content of the DB we identified the urgent need to develop software to be able to run queries that give us an answer to the questions we address. Also reference lists have to be implemented for species, harbours and metiers which prevent to upload invalid data.

A general cost sharing model was proposed for surveys carried out by MS jointly on the vessels of one or two MS. The National Correspondents (NC) present in the RCM NS&EA 2014 agreed that the proposed cost sharing model be used for the International Ecosystem Survey in the Nordic Seas (IESNS) carried out by the Danish R/V Dana and the Blue Whiting Survey carried out by the Irish R/V Celtic Explorer and the Dutch R/V Tridens for years 2014 and 2015 or until a new DCF? regulation is in place. The agreement has been forwarded to the RCM NA 2014 for agreement between the NC's, not present at the RCM NS&EA.

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 feedback from expert groups on data needs, projected benchmark meetings in 2015, and changes in the structure of relevant ICES WG.

A number of recommendations and agreements were made dealing with the landing obligation, quality assurance, RCB and cost sharing of surveys.

2. Introduction

2.1 General

The RCM North Sea and Eastern Artic (RCM NS&EA) met in Lysekil (Sweden) between 8-12 September 2014. It was the 11th meeting of the group. RCM NS&EA appreciates the facilities offered by the Swedish Board of Fisheries Institute of Marine Research. The availability of SharePoint offered by ICES proves to be very efficient in organising the work before, during and after the meeting.

The meeting dealt with all terms of reference and considered whether here was a need to adjust the National Programmes (NP) in 2015. Most of the work was done in four subgroups.

Previous RCM meetings focussed on developing examples how quality of data could be demonstrated on a regional level making use on data provided my Member States (MS) in a Regional Data Base (RDB). This year, a process, has been proposed, how to deal fish quality control and reporting of data quality on a regional scale in the future. The work has been carried out in subgroup A.

The new Common Fishery Policy (CFP) has introduced an obligation to land all catches. This means that fish, which previously was discarded needs to be landed and reported. The landing obligation will become effective to pelagic fisheries in 2015 and in demersal fisheries in 2016. The landing obligation has a big impact on the biological sampling of the catches. Subgroup B considered the impact of the landing obligation on the sampling programmes and the consequences for coordination.

On the basis of the principles established in the new CFP, the Data Collection Framework Regulation and the EU multiannual Programme will be revised. It is foreseen that data collection programmes will be set up on a regional level, taking better into account the data needs from end-users like ICES, STECF, ICCAT, GFCM etc. This requires a different kind of coordination. Sub-group C dealt with the process how coordination of data collection could be organised in an effective way under the revised DCF.

Since 2011 a RDB has become operative to support the RCM in coordinating the MS NPs. The quality and completeness of the data submitted by the MS to the RDB has increased over years but has still shown deficiencies in every year. This devalues the usability of the RDB as a tool for coordination and evaluation of quality of data. Subgroup D investigated the compliance of the MS with the 2014 data call and provided an overview of submitted data and data gaps.

2.2 Background & legal requirements

The EU Data Collection Framework (DCF; EC 2008a, 2008b, 2008c, 2010) establishes a framework for the collection of economic, biological and transversal data by Member States (MS). This framework provides the basic data needed to evaluate the state of fishery resources and the fisheries sector and the impact of the fisheries on the marine ecosystems.

The Regional Coordination Meeting for the North Sea & Eastern Artic (RCM NS&EA) proceeds from the present Data Collection Framework (EC Regulation no. 199/2008) establishing a community framework for the collection, management and use of data in fisheries sector for scientific advice regarding the CFP. According to this regulation and without prejudice to their current data collection obligations under EU law, Member States (MS) shall collect primary biological, technical, environmental and socio-economic data within the framework of a multi-annual national programme drawn up in accordance with the EU programme.

According to EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its technical Decision 2010/93/UE specifying practical aspects for data collection, actions planned by MS in their national programme shall be presented according to the predefined regions.

The coordination of the data collection are carried out at a regional level and specific Regional Coordination Meetings (RCMs) are in charge of facilitating this and these meetings aim to identify areas for standardisation, collaboration and task sharing between MS. RCMs are held annually and involve participants from each MS involved in the DCF.

At present, five RCMs are operative: 1) the Baltic Sea (ICES areas III b-d), 2) 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. 3) the North Atlantic (ICES areas V_X, excluding Va and VIId), 4) the Mediterranean Sea and the Black Sea and 5) long distance fisheries : 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.

The regional split over 5 regions allows for coordination while taking into account regional aspects and specific problems. Regional Coordinating Meetings (RCMs) are held annually and involve National Correspondents and both biologists and economists from each MS involved in the DCF programme. The key objectives of the RCMs are to identify areas for standardisation, collaboration and cooperation between MS.

A Liaison Meeting (LM) between the chairs of the different RCMs is being held annually to analyse the RCM reports in order to ensure overall co-ordination between the RCMs.

Within the DCF, the role of the RCMs and their tasks in regional coordination are clearly defined in various articles of the Council regulation.

Council Regulation 199/2008 Article 5: Coordination and cooperation

1. Member States shall coordinate their national programmes with other Member States in the same marine region and make every effort to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same marine region. For this purpose the Commission may organise Regional Coordination Meetings in order to assist Member States in coordinating their national programmes and the implementation of the collection, management and use of the data in same region.

2. In order to take into account any recommendation made at regional level at the Regional Coordination Meetings, Member States shall where appropriate submit amendments to their national programmes during the programming period. Those amendments shall be sent to the Commission at the latest two months prior to the year of implementation.

Commission Regulation 665/2008 Article 4: Regional co-ordination

1. The Regional Coordination Meetings referred to in Article 5(1) of Regulation (EC) No 199/2008 shall evaluate the regional co-ordination aspects of the national programmes and where necessary shall make recommendations for the better integration of national programmes and for task sharing among Member States.

2. The Chair of the meeting shall be designated by the Regional Coordination Meeting in agreement with the Commission for a two year period.

3. The Regional Coordination Meetings may be convened once a year. The terms of reference for the meeting shall be proposed by the Commission in agreement with the Chair and shall be communicated to the national correspondents referred to in Article 3(1) three weeks prior to the meeting. Member States shall submit to the Commission the lists of participants two weeks prior to the meeting.

2.3 Terms of Reference

1. Review progress in regional co-ordination since the 2013 RCM (follow-up of recommendations and 10th Liaison Meeting report). Evaluate the outcomes of the RCMs that took place in 2013 & of any other RCMs that took place in 2014, pending availability of outcomes, in terms of complementarities and actions to be carried out by MS in the RCM region of competence.
2. Review feedback and recommendations from data end users (STECF, ICES, GFCM, and ICCAT).
3. Regional coordination
    1) Review the reports from the RDB-steering Committee meeting.
    2) Update on regional databases since RCMs 2013.
    3) Structure of the regional databases and identify needs of the RCMs that could be addressed by the RDB SC and suggest any new features/reports to be developed.

4. New CFP
    - Consider impact of the implementation of the landing obligation, the discard plans and the programmes for monitoring of compliance of the discard ban for the data collection.
    - Consider need for adjustment to be implemented in the NP's for 2015
5. Review progress on quality control, validation etc. procedures and suggest any changes or new procedures that may improve the data quality control. Consider processes how quality of data can be evaluated before the are used by the end-user
6. Revision of the DCF Regulation and development of a new EU Multiannual programme (EU MAP) for data collection
    - Provide feedback on the STECF reports since the last RCMs, focusing on aspects related to regional coordination. Prepare a roadmap for the development of a regional sampling programme.
    - Consider how the future role of RCGs (preparing sampling, allocating tasks, quality assessment at a regional level) can be achieved and what steps are required to get there. What can already be done before adoption of revised DCF?.
7. Direct management programme of EMFF
    - Propose studies and pilot projects (EMFF Article 86(2)a)
    - Consider Direct management funding possibilities under the EMFF (Article 86(2)d on research surveys under SFPAs
    - Explore interest of MS in participating in 'pilot RCG' projects funded under 86(2)f on regional cooperation
8. Propose a model for cost sharing of joint surveys
9. Analyse data from 2014 RCM data call (TBC).
10. Any other business

2.4 Structure of the report

The following table lists the sections in the report where the various t.o.r. have been addressed.

t.o.r	section
1	3
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2.6 Swedish University of Agricultural Sciences, Department of Aquatic Resources, Institute of Marine Research (SLU)

The meeting was hosted by the Institute of Marine Research in Lysekil which belongs to the Swedish University of Agricultural Sciences since July 2011. The institute has a long history going back to 1929.

The main work at the institute is focused on biological data collection, population and ecosystem analysis and scientific advice as a basis for management decisions both nationally and internationally. The work is conducted in all Swedish sea areas, both in coastal waters and the open sea.

The scientific work is mainly based on cooperation within the International Council for the Exploration of the Sea (ICES), European Commission expert groups and with Universities and research institutes in Sweden and elsewhere in Europe.

Most of the collection, data analysis and counselling conducted at the Institute of Marine Research is regulated in the EU Data Collection Regulation (EC No 199/2008) and partly financed by the EU.

Another important part of the work is to scientifically evaluate if management regulations have had the desired effect or if there is a need for changes to achieve the objectives.

3. Progress in regional co-ordination since the 2013 RCM

The delayed adoption of the revised DCF has also delayed the introduction of the new Regional Coordination Groups (RCG). In 2013, the Commission decided to roll-over the National Programmes from the Member States for 2011-2013 unchanged to the period 2014-2016.

The RDB has been populated through data calls from the RCM chairs. The database has increased the common understanding of the fisheries and the sampling in the regions. RCM tasks such as ranking of metiers to sample within a region and overviews of sampling that have been carried out have been much less time consuming since the introduction of the RDB. The foreseen movement from national sampling programmes to regional ones as well as implementation of statistically sound sampling and estimation, though however require further development of the RDB. Without such development it is difficult to utilize the full potential of the database, which in turn have an impact on the scope and speed in the development of regional programmes.

The chairs of the RCMs cooperated in the formulation of a common data call for 2014 and preparing the terms of reference of this meeting.

3.1 Follow-up of recommendations from the 2013 Liaison meeting

The 10th Liaison meeting (November 2013) considered all recommendations made by the RCMs and PGECON. These recommendation are listed below. The Liaison identified overlap between some recommendations made by the different RCMs and decided to merge these. Note that recommendations 1-6 are merged and composed from elements provided by several RCMs.

The recommendations are complemented comments from the RCM NS&AEA 2014 in the field 'follow up in 2014'.

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	LM endorses the recommendation. The recommendation is based on Baltic Rec 1 & NA Rec 10.
Follow up in 2014	A training course on this subject was given by ICES on 23-27 June 2014 in Copenhagen. RCM NS&EA is of the opinion that the low demand for participating to the course may be due to the period of the year chosen, and that there is potential for further courses

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 upload 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	LM endorses the recommendation. This recommendation is a merge of Baltic Rec 2, NSEA Rec 3 & NA Rec 5.
Follow up in 2014	The RDB-SC will compile list of parameters to be included in the status report; number of trips, number of measurements, number of ages, list of species uploaded, missing data, empty cells (see section Sophie's group) RDB-SC considers the use of external reference lists as a concern for the RCMs as data user. Testing RDB data against external sources, e.g. EUROSTAT, will not be included at this stage. The possibility of the RDB-SC to act upon recommendations is limited as funding only have been available for maintenance

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	LM endorses the recommendation. This recommendation is a merge of Baltic Rec 3 & NSEA Rec 8.
Follow up in 2014	The Commission will launch call for proposals for 2 RCG pilot projects (in 2 separate regions) in 2014 which will provide funding to develop a regional sampling scheme.

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	LM endorses the recommendation. This recommendation is a merge of NSEA Rec 1 & NA Rec 4.
Follow up in 2014	Addressed in section 2.3 and 2.4 of WKPICS3 report

5. Regional Database: Code lists and Reference tables for regional data base	
RCMs NS&EA 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	LM endorses the recommendation. This recommendation is a merge of NSEA Rec 5, NA Rec 1 & NA Rec 7.
Follow up in 2014	The process of setting reference tables is ongoing and RCM NS&EA made progress on this issue (see section 9)

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	LM endorses the recommendation. This recommendation is a merge of NSEA Rec 5 & NA Rec 11.
Follow up in 2014	A compilation will be made by SC RDB on all recommendations for new fields in the RDB, in order to consider these and propose one modification of the standard exchange format. It is important to limit the number of such modification since this requires all the settings and tools developed in the RDB to be revised.

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 modelling 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.
Follow up in 2014	The Commission continues to support financially the hosting and maintenance of the RDB FishFrame through its MoU with ICES. However, no support for development will be provided until a line is taken regarding the future DCF database(s)/IT platform. (Background: The Commission has carried out the DCF database Feasibility Study which will be finalized and published in the second half of 2014. Consultations will follow in the autumn 2014 on the best set up for future DCF database(s)/IT platform.) RCM NS&EA underlines that maintaining the RDB is not sufficient for fulfilling the associated objectives of quality evaluation and data preparation for assessment purposes. Urgent development needs are exposed in a project proposal (see section 7)

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.
Follow up in 2014	Addressed by the 2 EU grants (see recommendation 7)

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.
Follow up in 2014	Addressed in recommendations no 6

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.
Follow up in 2014	Not done, will be dealt with in the WKRDB5 workshop to be held later in 2014

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.
Follow up in 2014	Work in progress, discussion to take place in 2014 ICES Annual Science Conference on the terms of reference for the ICES Steering Group on Integrated Ecosystem Observation and Monitoring which relates to quality assurance of fishery independent and fishery dependent survey data.

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.
Follow up in 2014	Some MS have produced this type of documents Further work needs to be developed and guidelines are given in section 5 of the 2014 report of the RCM NS&EA.

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.
Follow up in 2014	Official landings used by ICES are the same as Eurostat. The so called "ICES landings" are ICES estimates to cope with miss and underreported landings. When available, the ICES estimates are the landings values used in the assessments and therefore are the ones uploaded in InterCatch.

14. MARE/2012/22 LOT 2 scientific data storage and transmission under the 2014-2020 DC-MAP	
RCM NA 2013 Recommendation 6	RCM NA 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.
Follow up in 2014	DG MARE communicated that the study was completed and the final report will be published in the second half of 2014, followed by consultations on its conclusions and outcomes. Moreover, the chair of the RDB-SC and some representatives from MS were invited to a focus group in which some consultation took place. The RCMs have however not been consulted. Functioning RDB is a prerequisite for regional cooperation and the RCM NS&EA consider this unsatisfactory. The RCM strongly advises the Commission that the RCM are properly consulted and their needs considered in the forthcoming process. (see recommendation section 4.4 in the 2014 report of the RCM NS&EA)

15. Eels and Salmon and DC-MAP	
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 expressed in the text of the DC-MAP.
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 DC-MAP and the roadmap for the development of a regional sampling programme. Representation of eels and salmon data collection in DCMAP to 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.
Follow up in 2014	This topic was addressed by STECF EWG 14-02. Guidelines were given on the inclusion of data collection for eel and salmon.

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.
Follow up in 2014	The recommendation was put forward at the National Correspondents meeting in July 2014 for agreement but send back to the RCMs. The Commission considers this to be a regional issue to be solved by the RCM. In the 2014 meeting of the RCM-NS&EA , a draft agreement was prepared to be considered and agreed by the relevant MS in the RCM-NA. (see section 10 of the 2014 report of the RCM NS&EA)

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
Follow up in 2014	no response needed by RCM NS&EA

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
Follow up in 2014	no response needed by RCM NS&EA

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.
Follow up in 2014	no response needed by RCM NS&EA

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.
Follow up in 2014	no response needed by RCM NS&EA

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.
Follow up in 2014	no response needed by RCM NS&EA

3.2 Bilateral and multilateral agreements in place

The bilateral agreement were available in an Excel document on the SharePoint. Some MS indicated that they will update some bilateral agreements. The required changes are related to make clear how data are raised before they are send to the end-user. The Baltic RCM also wants to make some changes to the bilateral agreements. It was agreed that the Baltic RCM would make changes to the file first. Thereafter, members of the RCM-NS&EA would make their changes before the end of next week. The chair of the RCM-NS&EA would bring the document to the RCM-NA. When making the changes, note that the changes have to be made twice (in the sheet of both countries)

3.3 Relevant comments from the 10th LM meeting

A Liaison Meeting (LM) 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 is held annually to analyse the RCMs, PGCCDBS, PGECON and PGMed reports in order to ensure overall coordination between the RCMs. The LM prioritises RCMs' recommendations and reviews the follow up actions required and makes recommendations to the Commission.

The 10th Liaison Meeting was held at DG Mare, Brussels from 8th to 9th October 2013. The main outcomes and recommendations from the RCMs, PGECON, PGCCDBS and PGMed were presented by the respective chairs and discussed by the LM.

Regarding the RDB, the LM took note that majority of MS uploaded the landing, effort and sampling data for 2009-2012 in the RDB-FishFrame as a response to a data call launched by the RCM chairs in 2013. The assistance of the ICES secretariat during the uploading process were very fast and helpful. MS who were not able to upload data to FishFrame provided data to the RCMs in the required format. The LM acknowledged the facts that access to data initiated creativity in the groups and that it became evident how important the regional database is for the RCM work to be effective.

With regard to ICES reports on data transmission, the LM noted that ACOM concluded that the previous approach to inform the European Commission on data transmission (Data Tables) was not effective and a wrong use of the human resources in the ICES community and decided to not use the same approach

in 2013. Instead, the ICES presented an example of proposed new approach, 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 LM agreed with the proposal prepared by ICES and recommended that the ICES feedback was forwarded to the European Commission, which would compile the feedback for all the other end-users. This compilation should then be send to the Members States, via DCF National Correspondents for comments. 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 States 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.

The LM addressed the plans for changing the structure and way of functioning of the PGCCDBS and converting it into two Working Groups – one dealing with the fleet and fisheries related data collection (WGCATCH) and other dealing with biological parameters (WGBIOP). The LM also noted that the draft ICES Science Committee (SCICOM) strategic plan propose the establishment of a join SICOM and Advisory Committee (ACOM) Steering Group dealing with fisheries dependent and independent data - Steering Group on Integrated Ecosystem Observation and Monitoring.

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

3.4 Introduction of Agreements

The RCM NS&EA discussed the issue on the status of recommendations and whether a recommendation is legal binding and becomes an obligation. The RCM was of the opinion that in order to ensure recommendations are taken into account by the MS and actions are taken that a new setup should be introduced. Therefore, instead of using the term "recommendation" for tasks that have been agreed the term "Agreements" should be used. When an agreement is made and all MS have agreed to it the agreement becomes an obligation to the MSs.

By implementing of this term it is the hope that the whole cooperation process can be speeded up and that regional data collection can be improved.

3.5 Feedback and recommendation from data end users

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

Two relevant STECF EWG meetings (where regional co-ordination issues were dealt with) took place since the last RCM NS&EA:

- STECF EWG 13-18: Revision of DCF part 3 (Brussels, 25-28 Nov 2013)
- STECF EWG 14-02: DCF revision part 4 (Hamburg, 24-28 Feb 2014)

The main task of the EWG 13-18 was to revise the current framework regulation (199/2008) and to propose elements for legislative text in order to implement the new CFP objectives and new data collection needs. The report contains text proposals for an improved role of RCGs, task-sharing mechanisms and end-user consultation, based on work of previous EWGs (mainly EWG 13-02).

The EWG 14-02 concluded on regional co-ordination (endorsed by STECF Plenary):

- Core variables should be defined in the EU MAP, while additional variables should be left to the end-user consultation process on regional level. Unless a Regional Coordination Group (RCG) agrees on

changes, these variables should be left on the EU level. In the case of RCG decisions on changes, these would override the EU MAP;

- Efficient regional coordination requires clear rules for task-sharing in the DCF;
- Apart from IT support (databases) for regional coordination, quality-assured standardised tools and algorithms to support data processing and reporting in the context of regional sampling plans based on statistically sound sampling should be developed;
- In addition to previous recommendations by STECF with regard to end-user involvement in the regional data collection process, the removal of data requirements after end-user consultation has to be considered using the same criteria as the addition of data requirements.

3.5.2 ICES

ICES secretariat gave an update of the 2014 activities on future activities that will take place in 2014 and beginning of 2015.

Also the procedure to provide feedback on data transmission to ICES was discussed.

3.5.2.1 ICES assessment WGs and benchmark meetings

Recommendation from 2014 ICES EGs

A list of recommendations from ICES Expert Groups (EGs) concerning data issues were presented to the RCM-NS&EA (see Table 3.5.2.1).

Table 3.5.2.1 Recommendation from 2014 ICES Experts Groups to the RCM-NS&EA. Only recommendations that were available on the ICES recommendation database by the start of the RCM meeting were considered.

ID[1]	EG	Recommendation	RCM-NS&EA comments
232	PGCCDBS	Proposal for collaborative study on improvement of **WebGR** (Priority 1)	See RCM-NS&EA comments under section7
234	PGCCDBS	Proposal for collaborative studies contracts on Exploration and Development of new facilities in **RDB-FishFrame** (Priority 1)	See RCM- NS&EA comments under section 7
235	PGCCDBS	Proposal for support **design based regional data collection programmes** (Priority 1)	See RCM- NS&EA comments under section 7
233	PGCCDBS	Proposal for **improving accuracy in fish age estimation** through understanding of the link between environmental conditions and physiological responses recorded in the otolith macrostructure (Priority 2)	See RCM- NS&EA comments under section 7
232	PGCCDBS	Proposal for collaborative study on improvement of **WebGR** (Priority 1)	See RCM- NS&EA comments under section 7
1	WKREDMP	As there is a clear lack of age data for the assessment of redfish, age determinations should be carried out on existing and newly collected otoliths from the following stocks in accordance with the latest age reading guidelines (WKADR 2006, 2008): Golden redfish (*Sebastes marinus*) in Subareas V, VI, XII, and XIV [primarily those from East Greenland]; Beaked redfish (*S. mentella*) in Subareas V, XII, and XIV and NAFO Subareas 1+2 (Deep pelagic stock >	

[1] For future feedback and communication to ICES secretariat keep the ID of the recommendations.

ID[1]	EG	Recommendation	RCM-NS&EA comments
		500 m); Beaked redfish (*S. mentella*) in Division XIVb (Demersal). The minimum to be age-read and reported to NWWG should be 100 otoliths per stock per year. The interval between sampling years could be 2–3 years.	
241	WGNEW	**Recreational catch data on pollack catches** Considering that catches of pollack by recreational fisheries may be substantial, data are required on the quantities of those catches. This relevant to pollack in all areas.	
-	WGNSSK	An increasing number of beam trawlers (in the Dutch fleet) are using '**Pulse trawl**' gear. There is no recognised gear code for this gear and catches etc. are still registered as TBB, grouping them with the traditional twin beam trawl fleet. It is felt that this gear is likely to have different selectivity (for discards and landings) as well as different catch per unit effort as the traditional beam trawl gears. This has implication for the assessment of sole and plaice. In the first case, for the raising of discards and landings data. In the second case for the determination of the CPUE index used in the sole assessment. It is necessary to create a separate gear code / gear type category for pulse trawls. This would allow for improved raising of data and prevent a discontinuity in the CPUE index used for sole.	The RCM-NS&EA took note
-	WGNSSK	**Lack of Scottish effort data** Anomalies in effort extractions from different Marine Scotland databases require further investigation to be resolved. Ability to provide an LPUE series for FU 10 (no UWTV survey) would improve basis for advice.	The RCM-NS&EA took note

In relation to the recommendations #232-235 from Table 3.5.2.1, the full description of the studies proposed by PGCCDBS 2014 (ICES, 2014) were presented to the RCM-NS&EA. PGCCDBS 2014 also recommended the RCMs to improve the existing proposal for anglerfish. The revised proposal from the RCMs (RCM-NS&EA and RCM-NA) should then be looked by the ICES compilation workshop on anglerfish stocks in the ICES area (November 2014). See section 7 of the report concerning the studies proposals.

A study proposal from the ICES Working Group of Recreational Fisheries Survey (WGRFS) on the mortality of discards in European hook-and-line fisheries, their consequences and potential mitigation, was also available to the RCM –NS&EA.

Incoming ICES activities in 2014 and 2015

a) Benchmark workshop on plaice stocks (WKPLE)

ICES is planning a benchmark on plaice stocks. The following stocks will be benchmarked:

- Plaice in Skagerrak
- Plaice in Subdivision 21-23
- Plaice in Subdivision 24-32
- Plaice in Division VIId

The results of a stock id project, conducted by DTU-Aqua, will be relevant for the stock definitions considered at the benchmark. A data call requesting data for the two Baltic stocks, where Subdivision 21 is included, were launched on August, 15th. The deadline of the data call is September 15th. Failing to deliver the data by the deadline will compromise the benchmark and it cancelation will be considered. Another data call was launched for the remaining stocks on 5th September, with a deadline on 6th October. The benchmark will be preceded by a Data Compilation Workshop, planned to take place in

December (dates not yet defined, after the results of the stock id project). The benchmark meeting will be held in ICES headquarters 23-27 February, 2015.

b) Benchmark workshop on North Sea stocks (WKNSEA)

ICES is planning a benchmark on North Sea stocks. The following stocks will be benchmarked:

- Cod in Subarea IV (North Sea) and Divisions VIId (Eastern Channel) and IIIa West (Skagerrak)
- Witch in Subarea IV (North Sea) and Divisions IIIa (Skagerrak–Kattegat) and VIId (Eastern Channel)
- Sole in Subarea IV (North Sea)
- Striped red mullet in Subarea IV (North Sea) and Divisions VIId (Eastern English Channel) and IIIa (Skagerrak)

A Data Compilation Workshop is planned for 10-12 November, 2014, and the Benchmark Workshop planned for 2-6 February, 2015. A data call was laughed, with a deadline to submit the data on 6th October.

c) Benchmark workshop on Arctic stocks (WKARCT)

ICES is planning a benchmark on Arctic stocks. The following stocks will be benchmarked:

- Cod in Subareas I and II (Northeast Arctic cod)
- Cod in Subareas I and II (Norwegian coastal waters)
- Haddock in Subareas I and II
- Barents Sea capelin

A Data Compilation Workshop is planned for 5-7 November, 2014, and the Benchmark workshop planned for 26-30 January, 2015.

3.5.2.2 ICES data calls planned for 2015

ICES is planning to send data calls for all the assessment working groups in the begging of 2015. The aim is to harmonise the format of data calls across different assessment working groups.

3.5.3 New ICES strategic plan

ICES has a new strategic plan, which considers the following Committee and Steering Groups:

- Advisory Committee (ACOM)
- Science Committee (SCICOM)
- SCICOM Steering Group on Ecosystem Processes and Dynamics (SSGEPD)
- SCICOM Steering Group on Ecosystem Pressures and Impacts (SSGEPI)
- SCICOM/ACOM Steering Group on Integrated Ecosystem Assessments (SSGIEA)
- SCICOM/ACOM Steering Group on Integrated Ecosystem Observation and Monitoring (SSGIEOM)
- SCICOM/ACOM Benchmark Steering Group (BSG)

The SCICOM/ACOM Steering Group on Integrated Ecosystem Observation and Monitoring (SSGIEOM)is the primary body related with the data collection. The SSG consists of by the chairs of the EGs under the SSGIEOM umbrella (i.e. EG on surveys coordination; WGCATCH (commercial catch sampling), WGBIOP (biological parameters such as age reading and maturity) and WGRFS (recreational fisheries)). Further information is available at: http://www.ices.dk/community/groups/Pages/Steering-Group-on-Integrated-Ecosystem-Observation-and-Monitoring.aspx?PagePreview=true.

Two main ICES experts groups were established based on the work prepared by the ICES Planning Group of Commercial Catch, Discards and Biological Sampling (PGCCDBS): a) WGCATCH, dealing with methodological issues on commercial catch sampling; and b) WGPOIB, dealing with the quality assurance of the biological parameters used of stock assessment. The first WGCATCH meeting will take place this November, 10-14. WGBIOP will take place in 2015.

PGCCDBS also recommend that a new ICES expert group is established, PGDATA, to replace the current PGCCDBS work, considering the existence of the other two new EGs. More details of PGDATA proposal are available in section 7 of PGCCDBS 2014 report (ICES, 2014). This is a proposal that was not approved yet by the ICES Committees and to will be discussed at the ICES Annual Science Conference in

September. One of the main goals of PGDATA is to have a key role on the feedback from ICES as an end-user on data needs.

The RCM-NS&EA acknowledge the link that PGDATA may have with the future Regional Coordinating Groups (RCGs). PGDATA could play an important role on setting guidelines and tools for the RCG work.

The RCM-NS&EA also noted that to achieved PGDATA's goal the membership of the group needs to be based on a core group of experts with strong background on statistics, fish stock assessment and sampling design.

3.5.4 ICES feedback on data transmission and quality

3.5.4.1 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, the ICES Advisory Committee (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.

3.5.4.2 New approach, ICES feedback on 2013 and future data

The new approach is based on the advice sheets of each stock. The information is essentially available under the "Quality Consideration" and "Data Requirement" sections of the ICES advice sheets.

The new approach aims to i) be a more transparent approach since the basis is the text in the ICES advice sheets which are publically available and when through all the advisory process (expert group, advice drafting group and ACOM approval); 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 as: i) data transmission; ii) data quality: iii) recommendations.

In some cases the Members States are not identified in the original text of the advice sheets. In order to provide that information, ICES checked what the relevant countries were based on the respective assessment working group reports and on communication with the EG chairs or the stock assessor.

Also when in the ICES advice is a remark on data transmission, but the data was NOT request by a data call that is noted in a comments field.

When the data issue is a generic matter of all the countries, instead of identify the individual countries, the ICES feedback has been "All countries exploring the stocks" which has been problematic for Member States and Commission to deal with.

3.5.4.3 RCM-NS&EA comments on the new ICES feedback on data transmission / quality

The RCM-NS&EA members acknowledged the improvements of this new approach compared with the previous. Also the informal clarifications between the Members States and the European Commission on data issues are appreciate by the EU Members States of the RCM-NS&EA.

The RCM-NS&EA highlighted that, in previous years, the comments concerning the feedback provided on the quality of the data were outdated and not based on the most recent benchmark meetings. The RCM-NS&EA would like that the feedback has some information on priorities (i.e., what needs to be addressed with urgency and what is a whish). The ICES observer explained that since the new info is based on the "advice sheets", this is no longer an issue because only relevant issues are included in the advice sheets.

The RCM- NS&EA 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.

References:

ICES. 2014. Report of the Planning Group on Commercial Catches, Discards and Biological Sampling (PGCCDBS), 17–21 February 2014, Horta (Azores), Portugal. ICES CM 2014 / ACOM: 34. 103 pp.

3.5.5 other end-users

There is no feedback or recommendations from other end-users. No other end-users are relevant at this moment.

4. Regional Data Base

4.1 Introduction

The RDB is a complex and comprehensive internet application for fisheries data. The system includes transmission of data from any country in any of the regions using an international standardized protocol. The data are checked before transmitted into the build-in relational database. The RDB also includes a complex tool for estimating the biological data relating to the landings and the discards at typically division or subdivision level. This part of the RDB is the largest part of the system, and the estimations are done by comprehensive processing and the use of complex algorithms. All the processing is documented and transparent in the system.

The data in the RDB are the fundamental data used for coordination the sampling among all the countries in the three RCMs; the RCM Baltic Sea, the RCM North Sea & Eastern Arctic and for the RCM North Atlantic region. The estimated data can be used as the reply for ICES data calls for Expert Group, which will mean that the resource spend in all the countries preparing and replying the ICES data calls can be saved.

Any demand from the RCM regarding even better data quality can be implemented by development of further data checks. The development of the statistical sound designed based estimations of fisheries data should be developed and added in along with existing method.

4.1.1 The estimations or raising described in more detail

There are different types of sampling where different parameter can be measured; weight, length and age, but also gender, size category, maturity stage etc. Depending on what measurements have been taken at the sampling event, relationships are calculated like weight-length relations, age-length keys, landing-discard ratios and allocations of weighted age or length distributions. These keys are then used in all possible combinations of different sampling for landings and discards for the strata. So all combinations from strata where the landings and the discards are completely sampled, to strata where there only are landings, which is the most frequent case. In all the cases the different relationships/keys are use and weighted according to the most appropriate weighting algorithm according to the knowledge of the fishery and sampling taken. In all these calculations there is only one calculation which is a simple summation.

4.2 Development funding approved by ICES Council

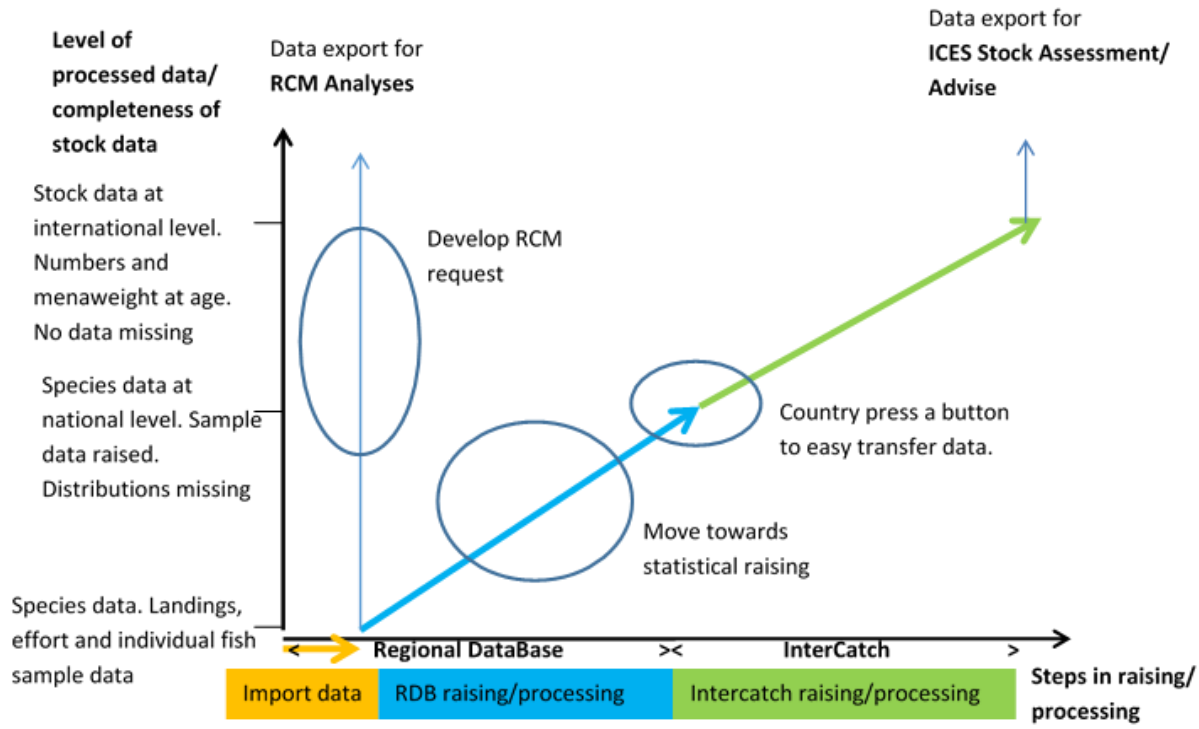
It is essential for all systems that they are continuously developed and follow the new needs and demands from the surrounding users. Though the European Commission could see the use and benefit of the RDB, the EC have not supported development of the RDB. The ICES Council have seen it necessary to support a minimum of development need to have some progress of the RDB. The ICES Council have therefore in September 2014 approved the development of the RDB to support end-users of the data in the RDB, which are the RCMs and the ICES stock assessment working groups (WG). The total budget is 91,000 Eur. The development will focus on the following tasks:

- General reports for RCMs
- Known bugs for the raising
- Interface to InterCatch
- First steps in moving towards statistical raising
- Structure for split and estimation of gender

4.3 The Regional DataBase in connection with InterCatch

The RDB is an important part in the quality assurance and documentation of data and processing, The RDB also ensures the use of validated standardised methods for raising the data. Using the RDB for raising the national data to national level, help the counties to save many resources in answering ICES stock assessment data calls, because the data (with the approved funding for development from ICES

Council) can be transferred easily to InterCatch. In the Figure below the 'Steps of raising' and the 'Level of processed data' can be seen through the RDB and InterCatch.



4.4 RDB in in the future

The Commission announced that the DCF Database Feasibility Study was nearly finalized and would be published soon. The Commission emphasized that this study is just the first step of the process and that a consultation process would follow. There was great interest from RCM (& ICES) in the outcomes of this study and serious concern expressed that the Commission may not choose a scenario that includes the regional databases. RCMs, as key end users of DCF data, urged the Commission to include them in the consultation process, as well as STECF, data quality experts and database experts.

In the study different database systems are compared which could be implemented in the future. The RCM recognizes that database systems in the future would need to support several functionalities. All systems considered have advantages and disadvantages. Also the implementation of some systems may take much longer time than other systems and are unlikely to be ready at the time of the implementation of the DC-MAP and the RCG. The RCM notes that in the meantime current RDBs need to be maintained to support current coordination of data collection and evaluation of quality.

The RCM NS&EA considers the RDB to be of crucial importance for future end-user driven regional data collection programs. The RCMs vision for these future programs are expressed in the Oostende declaration (RCM NS&EA 2012) and include that sampling programs should be based on statistically sound designs, data should be of known quality and estimates should be produced in a transparent way. Development and support of a well-functioning and up to date RDB is crucial to reach the objectives. If development and support cannot be secured will improvement be slow, time and cost consuming in the MS and real progress impossible to reach. The RDB is not only a tool for data storage and transmission but also for complex transformation, raising and estimation of data that origins from different sources.

Regional Database – Consultation of RCMs	
RCM NS&EA 2014 Recommendation 1	**RCM NS&EA** recommends that the RCMs are consulted before the Commission takes decision on future database structure for DCF data and that the future RCG needs are properly considered
Justification	The RDB is the backbone in present regional coordination of data collection between MS and the RCM Baltic foresee that the importance of a well-functioning database adapted to the needs of the regional coordination group will be even more crucial in the future when moving towards regional programs, design based approach as well as stronger focus on quality assurance and end-user interactions. It is thereby of urgent importance that the RCM needs are carefully considered when the Commission choose system for storage and management of DCF data.
Follow-up actions needed	COM to properly consult RCMs before decisions are taken on future database structures and to properly consider RCM/RCG needs
Responsible persons for follow-up actions	
Time frame (Deadline)	2014

4.4.1 WKRDB 5 role in the road map

A workshop to develop the RDB data exchange format to enable design based sampling will be held in Oct 2014 in Aberdeen. For the CS data format the workshop will explore the appropriate additional tables and fields needed to record sampling information at the scheme and primary sampling unit level. A new form of data structure that combines aspects of the population data, at present stored as cl landings data, and CE effort data, will also be explored. It is hoped that prototype structures will be generated in the R statistical software language and that the R package "survey" (Lumley 2010) will be used to explore the estimation stage of data in these new structures. The work will be based on case studies and it is hoped that examples of sample data collected by different national fisheries laboratories will be tested. The use of dedicated statistical software in conjunction with RDB data was recommended by WKPICS 2 (2011) and is a key stage in the development of the RDB (ref RDB report)

4.5 RDB steering Committee meeting

The steering committee for the regional database (RDB-SC) met 8-9 January in Copenhagen, Denmark. It was the fifth meeting of the committee. Participants were representatives from the RCM Baltic, RCM North Sea & Eastern Arctic, RCM North Atlantic, ICES as well as observers from the RDB-SC for large pelagic fish (LPF) and Spain. The RDB-SC is responsible for strategic planning, technical governance, operational issues and estimates of costs in the overall governance of the regional database (RDB). The RDB-SC interacts with the Regional Coordination Meetings (RCMs) and Liaison Meeting (LM) on other tasks such as development needs and content governance.

The RCMs worked during their meetings on the basis of the RDB-FishFrame and put forward recommendations via the LM to the RDB-SC. The RDB-SC has also received recommendations from ICES SGPIDS. The recommendations covered issues such as completeness of data, harmonisation of input data and suggestions for revisions of exchange format aiming to improve the data and potential for data analysis. The RDB-SC considers it important to avoid frequent changes of the exchange format. Preferably should the changes be done at one go. Changes may also be coordinated with other SC for RDBs as they may utilize the same format. The RDB se thereby suggest the establishment of a supra regional RDB format and tools governance group to govern the revision process in a transparent way. This group should primarily work by WebEx.

The RDB-SC have so far received recommendations from RCMs and SGPIDS on revisions needed to support a regional approach to data collection and estimation as well as statistically sound sampling for sea-sampling programmes. Less work have been done for shore sampling programs. The RDB-SC thereby initiated a workshop "Developing the RDB data format for design based sampling and estimation for on shore sampling". The WK should document a range of on-shore sampling protocols, determine the extent to which these sampling protocols can be recorded by the exchange format, suggest modifications and combine these modifications with findings from previous meetings. The WK will take place in Aberdeen 27- 31 October 2014 and will be chaired by Alastair Pout and Liz Clarke.

The RDB-SC did further initiate a revision of the data policy document with the aim to make access rights and routes clear for data providers, data users and the host. The idea is to split into "pre-approved uses" and "other uses". Pre-approved uses mean that the MS give their approval beforehand to a limited number of expert groups, preferably during the RCMs (were national correspondents are present) each year. Expert group for which the usage of data could be pre-approved should be the regional coordination groups (detailed data) and some ICES expert groups involved in scientific advice to the Commission and its partners (aggregated data). The ICES secretariat should each year provide the RCMs with a list of relevant ICES groups which then could be finally agreed. For other users MS should be contacted for approval before FishFrame data is used. The RDB-SC suggests that MS should have one month to replay and that failure to reply is considered as a denial. The revised policy document has been submitted to the National Correspondents for approval. Most MS have responded in a positive way.

The revision of the Data Policy was sent out to all national correspondents the 16th April 2014 for approval and comments. All countries in the RCM NS & EA (Belgium, Denmark, Estonia, Germany, Ireland, Lithuania, Netherlands, Poland, Portugal, Spain and Sweden) except France have replied, most countries have approved with no comments, a few countries have comments to the revised Data Policy. The RDB-SC await responses from countries from all RCM BS, RCM NS & EA and RCM NA before answering the comments.

4.6 Update on Regional databases

ICES Secretariat have since last year's RCM NS&EA performed a lot of very different tasks:

- Supported national data submitters
- Corrected and updated codes and change check ranges like species, Size category, LatDegrees
- Fixed the bug that data submitter could edit stocks
- Dealt with statistical rectangles for NAFO areas
- Reports: Ranking of metiers according to landing weight, value and effort
- Data extracts to RCMs
- Steering Committee RDB work
- Data policy final version send to National correspondent for approval
- Harbour code: It has been decided to use EU standard LOCODE as the standard harbour code list. In the process of updating codes
- EC Database feasibility study on storage and transmission reg. RDB, IC and DATRAS

4.6.1 Data uploaded to the RDB

See section 9: Analysis of data from 2014 RCM data call

4.7 Membership of RDB North Sea

There were two vacancies for membership of the steering committee of the regional data base to be nominated by the RCM NS&EA. The two new members proposed are Peter van de Kamp (Netherlands) and Sofie Nimmegeers (Belgium). Peter is replacing Sieto Verver. He has a IT background but has also been involved in data management and processing data calls. Through STECF expert groups he is also been involved as end-user of the data. Sofie is replacing Richard Ayres. She is a biologist involved in data processing. Through ICES working groups and STECF expert groups she is also involved as end-user of the data.

The RCM considered it important that various expertises are represented in the steering committee. It would be also desirable to attract members with statistical expertise in the new future.

5. Data Quality issues

ToR (5) requires the RCM to review progress on quality control, validation etc. procedures and suggest any changes or new procedures that may improve the data quality control, and to consider processes for how quality of data can be evaluated before they are used by the end-user. Section 5 reviews developments on DCF data quality evaluation in the last year; considers the stages of quality control and who should be responsible; considers the distinction between data quality evaluation and demonstrating compliance with DCF requirements; and further develops the proposals for quality control checks on data presented by RCM-NSEA in 2013 and further developed by WKPICS-3 (ICES 2013).

5.1 Developments on data quality evaluation in the DCF since RCM NEA 2013.

Data quality, and the reporting of data quality, has been a major theme in the revision of the DCF, and has been discussed at length by STECF, RCMs and ICES expert groups dealing with quality assurance of data collected under the DCF (PGCCDBS, SGPIDS, WKPICS, WGRFS etc.). STECF EWG 13-18, on the revision of the DCF (STECF, 2014), included a substantial report on data quality indicators for biological data as input to discussions on revision of the DCF (also given in WKPICS3 – ICES, 2013). The conclusions of STECF 13-18 was that: "*The quality of a sampling programme should be evaluated in relation to two aspects of sampling: 1) the ability of the programme to deliver data that are unbiased and fit for purpose; and 2) evaluation of the quality of the data and estimates following implementation of the sampling survey, covering bias and precision. Quality evaluation should ideally be through a well-structured peer-review process supported by clear documentation of the sampling programmes and the sampling outcomes. The main message for the future DCF is that quality assurance needs to be assured for all components (including design and implementation of data collection schemes, data archiving as well as methodologies to derive final estimates). Member States need to establish documented quality assurance frameworks which can be compared with future agreed international standards. Another main message is that quality evaluation need encompass all types of data, including transversal data.*"

For a subsequent consultation with stakeholders on the revision of the DCF on 16 January 2014, a discussion paper by the Commission included the following comments addressed to stakeholders (and not to be regarded as the official position of the Commission):

"…a new provision in the DCF should require Member States to set up ***a process whereby they will ensure "quality certification" at national level****. This would involve Member States establishing documented quality assurance frameworks which can be compared with future agreed international standards and evaluated by STECF. Special attention needs to be given to the design of collection schemes to make sure that data is collected in a statistical robust way that is fit for purpose and allows for further assessment of the quality of the data. The concrete set up of this process should be explained in the national programme.*

In addition to this legislative requirement, data quality will also be improved through a ***move to regional, statistically-sound sampling****, following best practice guidelines. By improving and harmonizing the data collection methods, the quality of the data collected should inherently improve.* ***RCGs (for biological sampling) and the Planning Group for Economic Issues (PGECON) for economic sampling should advise*** *on the best practice guidelines that should be followed by their regions. As best practice evolves over time, the best practice guidelines themselves should not be set in the regulatory framework. Instead,* ***the DCF Regulation will specify that Member States should follow the recommendations of the RCG/PGECON, once these have been validated by STECF or the Liaison Meeting, regarding methodologies*** *for sampling. RCGs and PGECON should also be tasked with evaluating the quality of the collected data at the regional level (e.g. at the stock level for biological data).*

The future IT systems/databases for DCF data provision to end-users should include ***automated quality checking procedures****, building on those already being piloted by Member States, the JRC during their data calls, and in the DCF Regional Databases.*

The fact that Member States follow best practice in terms of sampling methodology does not necessarily guarantee that the outcomes of the sampling (i.e. the data collected) are of sufficient quality for end users. ***The question therefore remains as to whether some quality targets should remain at a***

***national or a regional level**, and if so, what these should be, and who should set them (the EU multiannual Programme, the RCGs/PGECON?). Conversely, is it sufficient that Member States provide quality indicators (e.g. agreed on a regional base, depending on the regional sampling programme) to end users (e.g. via their Annual Reports), and that RCGs/PGECON assess these quality indicators and recommend remedial action if they are considered insufficient."*

The minutes of the January 2014 DCF stakeholder meeting recorded that some participants highlighted that STECF might not be the appropriate body to review the procedures on best practice guidelines regarding methodologies. As an option, it was suggested that a quality assessment panel should be formed and that this panel will review the procedures proposed by Member States. Regarding the concept of minimum sampling levels, different views were expressed by the stakeholders. Some participants were convinced that Member States should establish a minimum sampling effort, in accordance with a regional statistically sound sampling programme. For others, minimum sampling levels is not the way forward as it has not delivered the required results under the current DCF. There should be further quality control assurances by Member States, and this should be coherent with requirements under other regulations. An evaluation is needed on the quality of Member States' data. However, there were mixed opinions on which body should be in charge of such an evaluation. One subgroup of the stakeholder consultation meeting mentioned that there are two elements to be checked: compliance and quality. One option could be that STECF verifies compliance and quality at Member States level. Regional Coordination Groups (RCGs) could check quality at the regional level. End-users could be involved in the quality check. Overall, it was noted that appropriate IT tools need to be available on time to facilitate the evaluation of Member States' implementation and data quality and to support the work of RCGs in planning statistically sound sampling, allocating tasks and to assess quality as a regional level.

The RCM-NSEA is in general in agreement with the views expressed above, and notes that these place considerable responsibilities on the future Regional Coordination Groups for supporting development of statistically-sound regional sampling schemes, for evaluating the quality of the resultant data including establishing quality control procedures in the regional data base. The role of the RCGs for establishing data quality targets at a national or regional level, or simply advising remedial measures in response to national data quality indicators, appears still an area of discussion.

5.2 Stages in data quality assurance and quality control, and who is responsible

The design, collection, quality control and use of DCF data involves many stages and groups of people. In general the procedure should follow a well-defined series of steps. For an example of a regional sampling programme coordinated by the RCGs for use in assessments conducted by ICES, the steps are listed below, together with an indication of who should have the primary responsibility:

- **Specification of the objectives of the data collection in terms of end-user needs** - what estimates are required (e.g. catches and size/age compositions for metiers), and what precision is needed (*responsibility of end users in consultation with RCGs*). There are usually multiple objectives, and the relationship between precision of individual data collections and precision of fish stock assessment results has had only limited investigations in Europe. This is a key area of work to help define objectives for data collection.
- **Identifying the most appropriate statistical design of data collection schemes** to provide the estimates required by end users, how these can be implemented in practice, and what quality assurance procedures are needed (*RCGs and ICES collaborate to provide guidance, ensuring that national data can be combined robustly for end use; individual countries are then responsible for putting this in practice in their own schemes*).
- **Evaluating the sampling effort and its distribution across strata needed to deliver the required estimates and precision, and quantifying the relationship between costs and precision**. At this stage, there should be an agreement with end users on an acceptable trade-off between precision and costs of data collection (*RCGs in consultation with end users and individual MS*).
- **Implementation of the scheme** (*national responsibility*)
- **Continuous monitoring of performance** (e.g. achievement of sampling targets across strata; refusal rates; problem solving; responsive actions…) (*national responsibility; reporting to RCGs in relation to regional data*)

- **Data archiving and quality control /validation of data** (*national responsibility for archiving, checking and then uploading national data on RDB; RCGs for checking data in regional data base and ICES for data in DATRAS etc.- though for the RDB this could be a role of ICES, the database host). Any detected data errors in the RDB also need to be corrected on the national data base from which they originate*
- **Data analysis to investigate quality of the data (bias / precision) and provide quality indicators** for data supplied to end users (*RCGs for data in RDB – also using other information on national data quality from MS; ICES for data in DATRAS etc.; stock assessment scientists or others may also carry out their own checks*)
- **Preparation of full documentation of design, implementation, analysis, estimates and quality indicators** (*RCG/ICES for regional coordinated programmes, based on national documentation*) .
- **Use of the data, for example in stock assessments**. In ICES, this includes a full review of the data collection schemes and data quality during the benchmarking process (*ICES*).
- **Feed-back on quality issues arising from the assessment process** (*ICES*) and establishment of responsive actions such as targeted studies, workshops, inter-calibration exercises etc. (*ICES collaborating with RCGs*).
- **Adaptation of the sampling schemes as required** (*RCGs initially, then individual countries as required*).

An example of where this process occurs in support of stock assessment and advice conducted by ICES is given in Fig. 5.2.1. The process starts with the end-user needs for data, in this case the obligations of RFMOs such as the European Commission to manage fisheries. In EU waters the data needs are specified through the DCF. End users such as ICES, STECF or others then issue data calls or other specific requests for data at various levels of aggregation. Currently the data needs translate into sampling programmes, data archiving and associated quality control procedures at a national scale. In future it is envisaged that the RCGs will propose an optimization of sampling effort between countries, collate data in a regional data base and carry out quality control on the regional data sets. This process is currently in development.

The ICES assessment procedure works with aggregated international data by stock and metier. These data are compiled and evaluated during benchmark data compilation and evaluation meetings, and agreed data sets and parameters are carried forward into regular update assessments which provide the basis for management advice to the Commission or other RFMO. In principle, the benchmark assessments should include a full evaluation of data quality, and for this to occur, they must have data quality indicators that can have several uses – i) to decide on whether the data are usable; ii) decide on relative weighting of data series, either manually or automatically within a model (this could be based on precision estimates or indicators); iii) to help interpret model diagnostics; iv) to consider impacts of biases in estimates and if necessary develop plausible alternative scenarios for sensitivity testing; v) to consider where improvements to data are needed.

In 2002, ICES, under its MoU with the Commission, established the Planning Group on Commercial Catches, Discards and Biological Sampling (PGCCDBS) to develop and implement a quality assurance framework for the collection and interpretation of fisheries and biological data, and hence to improve the quality of assessments and advice. The PGCCDBS has liaised strongly with the RCMs and the Commission. Much of the work has centred around consistency and accuracy of age and maturity estimates, the statistical design and quality assurance of fishery sampling, and development of technology for more efficient and accurate data capture. This work is continuing under separate Working Groups on commercial catches (WGCATCH), biological parameters (WGBIOP) and recreational fisheries surveys (WGRFS). In addition, there are ICES expert groups dealing with fishery-independent surveys (e.g. IBTSWG) where establishment of international coordination and quality assurance are key components.

These initiatives within ICES have undeniably led to improved quality of data, and have caused a rapid change in the culture of fishery sampling schemes towards statistically-sound designs. However, it has been apparent that the end users of the data, specifically in the stock assessment process, are not making full use of information on data quality. This leads to a loss of transparency in the assessment process, inefficient use of information that could improve the assessments, and difficulty in identifying and prioritizing necessary improvements to future data collections. To overcome this, a new ICES Planning Group on Data Needs for Assessment and Advice (PGDATA) has been proposed for

consideration by ACOM and SCICOM. A responsibility of this group will be to develop guidelines and procedures for information on data quality to be provided to and incorporated into stock assessment benchmark processes. In addition, PGDATA will develop tools to evaluate the impact of data quality on assessments and advice, and to evaluate the cost-effectiveness of changes in data collection. These will be of high relevance to the RCGs, and PGDATA will work closely with the RCGs on this.

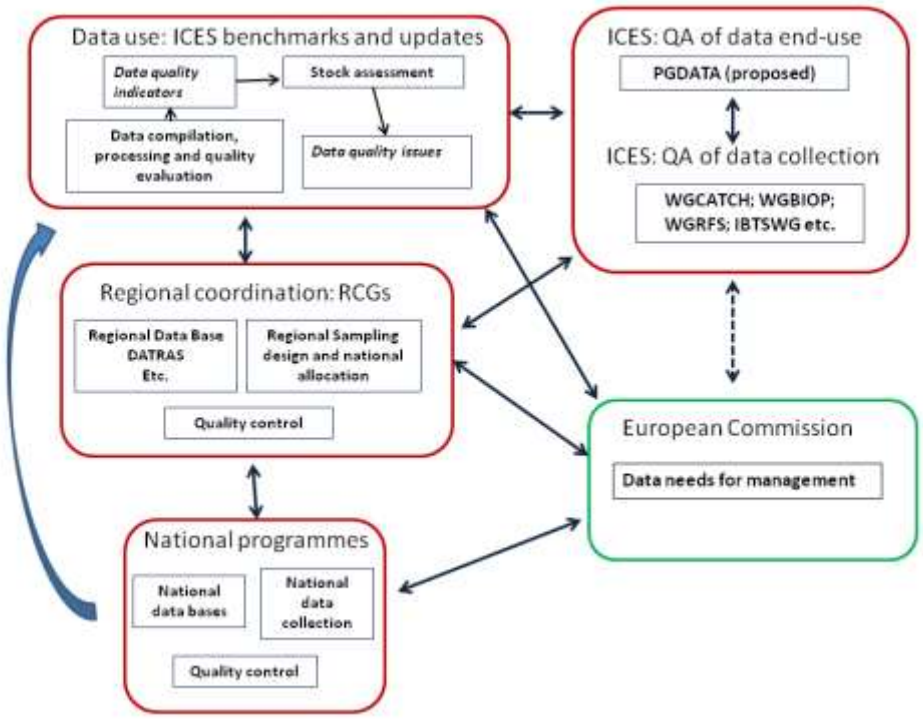


Fig. 5.2.1. Schematic of where data quality assurance and quality control will take place for the systems of stock assessments and management advice in the ICES area, once the Regional Coordination groups and regional data bases are fully operational.

Major benefits to cost-effectiveness can be achieved once statistically-sound regional sampling schemes for fisheries are established. The possibility arises to obtain more reliable estimates of sampling variance, and hence to evaluate the relationship between precision of estimates and the cost of data collection, and also to investigate ways of optimizing the sampling to reduce costs for a given precision. WKPICS2 (ICES 2012) reviewed some general principles for optimizing sampling effort over strata once a practical and efficient stratification of the primary sampling units has been established, and also provided examples of improving cost-benefit in multi-stage cluster sampling (typical of fisheries) by optimizing the balance of numbers of PSUs sampled and numbers of fish sampled within PSUs. WKMERGE (ICES 2010) described a statistical optimization procedure developed in France to establish the relationship between the number of sampling trips and the proportion of species for which discard quantities are estimated with a precision of no worse than +/- 40% for a specified proportion of species (including only species with discard rates >10%).

5.3 Data quality vs data compliance– suggestions for new tables in Annual work plan (AWP) and Annual Report (AR)

The European Commission and STECF have struggled with developing a clear procedure by which Member States can demonstrate compliance with DCF obligations for data collection. Their view is that the quality of sampling schemes can be evaluated by auditing them against standards for best practice, but that may not be enough and some means is needed of also ensuring that the Member States have achieved a minimum sampling threshold. In the previous and current DCR/DCF, the MS have been required to achieve unrealistic precision targets but with a very limited documentation on how this data has been collected. Data collected in MS for a year are reported in the Annual Report and this is

evaluated in respect of compliance within the STECF EWG annual meetings. The tables used in the AR are presently very detailed, time consuming to fill in and to some extent filled with irrelevant information. They include voluminous tables of information on numbers of samples collected and numbers of fish measured or aged relative to expected numbers, achieved CVs etc. This has confused data quality indicators with compliance indicators, which are not necessarily the same thing.

Since the Commission is one of the end users for evaluating the data quality but in the respect of compliance, the RCM NS & EA was asked to give some advice on what essential information should be reported in the AWP and AR to ease the evaluation process in respect of compliance.

In the process of moving towards statistically sound sampling schemes it becomes obvious that other quality indicators than CV may be used for reporting and which has been elaborated within WKPICS3. Based upon the outcome from the WKPICS3 the RCM NS & EA suggests following tables to be put in AWP and AR and should replace tables III.C.3; III.C.4; III.C.5 and III.C.6. These are based on defining the intended work in relation to the planned numbers of primary sampling units (e.g. port x day; vessel trip at sea), and reporting on the number of PSUs actually sampled in each frame.

Updated Table III.C.3.a - At sea sampling. Expected sampled trips by sampling frame | NP year | | AR Year |

MS	Sampling Year	Region	RFMO	Sampling frame code	Sampling frame description	Average total no. of trips in the reference years	Total No. of trips during the Sampling year	Planned no. trips/PSUs to be sampled by MS	Achieved number of trips/PSUs	Sampling effort (staff days)
UK	2014	North Sea and Eastern Arctic	ICES	S_T *	Trawlers	368	581	33	33	38
UK	2014	North Sea and Eastern Arctic	ICES	S_N *	Netters	178	17	14	14	52

* Code based on At sea sampling = S; Trawlers= T: Netters= N

Updated Table III.C.3 b - Harbour sampling - Expected sampled events by sampling frame | NP year | | AR Year |

MS	Sampling Year	Region	RFMO	Sampling frame code	Sampling frame description	Average total landings in the reference years	Total landings in the sampling year	Planned no.events/ PSUs to be sampled by MS	Achieved number of events/PSUs
UK	2014	North Sea and Eastern Arctic	ICES	H_D*	Demersal	10 000	8000	19	3
UK	2014	North Sea and Eastern Arctic	ICES	H_S*	Shellfish	5000	5500	14	11
UK	2014	North Sea and Eastern Arctic	ICES	H_I*	Industrial				

* Code based on Harbour sampling = H; Demersal= D; Industrial= I

Table III.C - Expected sampled events by sampling type, sampling frame and species | NP year | | AR Year |

MS	Sampling Year	Region	RFMO	Sampling type	Sampling frame description	Sampling frame code	Area	Species	Planned number of events /PSUs	Achieved number of events/ PSUs
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Demersal	H_D	IV	Gadus morhua	40	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Demersal	H_D	IV	Scophthalmus maximus	12	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Demersal	H_D	IV	Merlangius merlangius	12	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Demersal	H_D	IV	Melanogrammus aeglefinus	12	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Industrial	H_I	IV	Clupea harrengus	19	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Industrial	H_I	IV	Sprattus sprattus	19	
UK	2014	North Sea and Eastern Arctic	ICES	Harbour sampling	Shellfish	H_S	IV			
UK	2014	North Sea and Eastern Arctic	ICES	At sea sampling	Trawlers	S_T	IV			
UK	2014	North Sea and Eastern Arctic	ICES	At sea sampling	Trawlers	S_T	IV			
UK	2014	North Sea and Eastern Arctic	ICES	At sea sampling	Netters	S_N	IV			

For surveys, quality indicators like *number of days* and *number of hauls* by survey should be presented as planned and achieved in line with the present table III.G.1 in AR.

To ease the evaluation of the recreational fishery a table is needed for reporting. A suggestion given by STECF EWG 14-07 does not appear to adequately address the possible designs of recreational fishery surveys, as documented by the ICES Working Group on Recreational Fisheries, and also refers to "numbers of samples" rather than numbers of PSUs planned and achieved. RCM-NSEA proposes the following reporting structure with an example.

Table III.D.1 - Achievements in recreational fisheries sampling [NEW TABLE]										NP years	
										AR year	
Region	R(FM)O	DCF species included	Country	Year	Derogation in place?	Type of estimates	Type of survey	Survey description	Type of PSU	No. of PSUs planned	No. of PSUs achieved
North Atlantic	ICES	Seabass, sharks	*country code*	*2012*	*No*	*Effort*	*off-site*	Nationwide telephone survey	Household	12,000	10,000
North Atlantic	ICES	Seabass, sharks	*country code*	*2012*	*No*	*CPUE*	*on-site*	Shore and private boat interviews	Site x day	500	600
North Atlantic	ICES	Seabass, sharks	*country code*	*2012*	*No*	*catches*	*off-site*	Charter boat diary survey	vessel x month	100	60
North Atlantic	ICES	salmon	*country code*	*2012*	*No*	*catches*	*off-site*	Questionnaires	License	2000	1200
North Atlantic	ICES	eels	*country code*	*2012*	*Yes*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	n/a

5.4 Quality control procedures

Historically RCMs have focused on the data collection and quality of the sampling data in reference to fleet components and historic landings. The expertise within the RCMs, with the exception of the National coordinators, predominately relates to the collection and use of the biological data. The transversal data has a huge influence on any weighting of the sampling data and the quality of the transversal data in this context is accepted. The first section below refers to the quality of the sample data with reference to the transversal data (once raised) and the last section considers the quality of the transversal data.

5.4.1 Biological data

RCM NSEA 2013 provided a table detailing quality issues, example of diagnostics and examples of mitigation procedures at different stages from sampling design through to supply of processed data and estimates, for the process leading to uploads to RDB and subsequent regional data analysis. Following a recommendation, from the RCM to evaluate aspects of data quality and provide further guidance and diagnostic tools WKPICS 2013 developed this table further to reference implications for the development of the RDB – how the RDB could be developed to further support the QA process. Examples of diagnostic methods already developed by some MS were demonstrated by WKPICS and will be referred to later on in this section but the chapter on data quality in the WKPICS report provides very good examples of standard reports or data checks which easily identify potential data issues that could be corrected by national institutes before the data is processed or distributed further.

The Data Collection Framework Regulation 199/2008 Article 14 details that Member States are responsible for the detailed primary and aggregated data. If the data is uploaded in its raw state then any aggregation has to be made in reference to how it was collected – following statistically based sampling programme. The data users should be able to follow the design and aggregate the data in reference to it but that does require further development of the RDB.

Taking each stage detailed in table 5.1 in the RCM NSEA (2013) report in turn, this RCM will provide more detailed guidance on the minimum level of checking required and reference tools or methods to assure data quality.

	Stage	Quality issues	QA/QC procedures	Example diagnostics
1.	Sampling design	Statistical sound design (bias)	Description of national survey design against best practice guidelines	Evaluation against best practice guidelines
2.	Sampling implementation	e.g. sampling levels (precision); data gaps, non-response, observer effects (bias)	Description of national survey implementation against best practice guidelines. e.g. Ensure adequate samples within strata; record refusal rates and details;	data quantity and coverage from RDB data summaries; use of COST diagnostic tools; comparison of other data from observed & non observed trips

Responsible: MS, RCGs, SC-RDB

Recommended checks

Design

MS will be responsible for designing and implementing their programme with reference to a Regional sampling plan. RCMs acknowledge and support statements and recommendations from WKPICs and SGPIDS and PGCCDBS that MS and Regional bodies need good documentation of MS Sampling programmes as assurance that they are following good sampling practice. Work at PG, WKPICS, WKRFS and SGPIDS have provided draft templates of QA reports or advice on score cards and Quality Indicators for monitoring sampling schemes and qualifying achievements. QA reports need to be tested (PGCCDBS, 2014. Section 4.2.4 pp50) but their recent use at the WGBFAS (2014) suggest that for them to be more effective they need to be carefully scheduled and the recipient considered so that any issues contained within them can be acted upon – they may be more relevant to Benchmark Workshops or RCGs.

Templates for documenting these sampling schemes to satisfy auditors and assessors have not been set out as yet but ANNEX 3 provides an example of a draft prepared by the UKE using the 'best practice' table drafted at WKPICS2 (WKPICS2, 2013 ANNEX 3). RCMs 2013 recommended a regional repository for holding this documentation and this still needs to be considered.

Many MS are adapting their current sampling schemes to meet the definition of a statistically based sampling scheme. The resources have probably already been set based on previous sampling programmes. MS should consider what they need to collect without prior reference to what is currently being collected and redesign their sampling schemes around that – the result might not be a far departure from their current programme but it might highlight ways of simplifying a programme which may have become over complex and over stratified as a consequence of trying to satisfy too many masters.

The technical expertise for designing statistically based sampling schemes is thin on the ground, ideally statisticians or statistical expertise must be employed in designing these schemes. ICES held their first Training Course on Design and Analysis of Statistically Sound Catch Sampling Programmes in June 2014. It was designed to plug the gap and help MS move towards a more statistically based sampling approach. It was well received and ICES should be encouraged to continue to offer this and similar courses in the future.

WGCATCH will provide further guidance on what is required to optimise sampling.

RCGs should consider employing expert panels to carry out quality audit on MS sampling schemes – something like the recent Devstat audits - but with reference to the Regional Plan.

Implementation

As a minimum MS should be recording PSU selection, vessel, trip or port day and a means of recording success or refusal rates. SGPIDS (2013) provides, in section 3 of the report, important guidance on recording the selection process for vessels in an observer programme.

At the design stage you need to consider and thereby ensure that samplers will have access to the appropriate data required for the raising and weighting samples - this means recording the trips or number of trips and vessels that you did not sample as well as those you did. All raising will need to be in relation to the design – using this weighting you can post stratify but these sampling probabilities need to be preserved and used appropriately.

MS should regularly test their sampling design using known or retrospective data – for example using recorded landings. RCGs with the RDB should provide the tools and advice and support training to allow practitioners to test and report on their sampling schemes.

Section 5.3 provides a suggested amendment to the current technical report on national achievements submitted annually to the commission.

	Stage	**Quality issues**	**QA/QC procedures**	**Example diagnostics**
3.	National data capture	Transcription errors; data entry errors; incomplete entry; ancillary data missing (e.g. missing link between a length sample and vessel data)	Electronic data capture; range checks and other error traps in input software; cross checking of DB content and independent inventory or metadata – in relation to missing data; cross checking biological and fleet data; DB consistency checks and reports.	Outlier detection; data values beyond range checks; Differences between DB content and independent inventory or metadata; inconsistencies between biological and fleet data.

Responsible: MS

Frequency: Real time when the data is entered and/or immediately after.

Recommended checks.

WKPICS3 and SGPIDS 2012 provided some guidance on internal data integrity checks and summaries of current practice.

The list below is not exhaustive and demonstrates the ways of capturing keying errors or issues with the collected data. Some of the checks could either be captured at the point of sampling, if using Electronic measuring boards for example, hard coded into the database as part of the validation when keying in the data or included in the production of validation reports. These checks are not necessarily therefore exclusive to anyone of these stages but for ease are listed in relation to at least one of the sampling stages below. This list is based on the limited response from RCM NA 2013 Recommendation 2 and to avoid repetition it does not distinguish between the different sampling environments, onshore, at sea or on surveys. MS should compile their own lists in their quality assurance port folios but they should consider each environment independently. This forms the basis of Agreement 1.

These lists assume the staff collecting and entering the data have had sufficient training, are competent and are following documented standard protocols and procedures and are subject to documented QA checks.

Biological Data screening (survey and commercial onshore and offshore catch sampling)

1. Data capture
    - Standard data recording forms with unambiguous data fields for capturing all the crucial data for each sampling event. Consider water proof paper or white boards.
    - Standard calibrated sampling tools – measuring boards/callipers
    - Electronic data capture
        - Limits transcription errors
        - Can provide a time stamp for each fish sampled
        - Pre-screening to capture incomplete fields

- Upload validation (*see Data entry checks below*)
- Post notifications including upload success

2. Data entry

- Qualifying data
  - Reference to data source – recorded rather than assumed.
    - Environment - Vessel, Quay, Market, Merchants
    - Catch details -Skipper, logbooks, merchant, Official records
    - Sampler ID – this might refer to staff profile which could include references to relevant, training, competencies and experience.
    - Sampling information
      - Vessel selection method - *Drawlist or other*
      - Sampling unit (sub gear) - *Codend, Combined codends, Port side, starboard side etc.*
      - Gear parameters - *Fishing length, Headline length, footrope, Fleet length etc.*
        - Relating to specific gears
          - *Cod end mesh, Mesh size, Tooth bar length etc.*
          - Presence or absence - SQMP and mesh size, Chain mat, Veil nets, etc.
    - Sampling details
      - Catch component
      - Raising factors
      - Sampling unit – *Count, Measure, Volume*
  - Units of measurement, weight, volume, count
    - Whether estimated or not
    - Reference number of the calibrated measuring tool
- Compulsory fields - Ensures no crucial information is missed.
- Data checks
  - Relative values
    - Date of landing - *relative to current date and date of sampling*
    - Date of sampling - *relative to current date and date of landing*
    - Port of landing - *relative to port of sampling*
    - Port of sampling - *relative to port of landing*
  - Limited lists (for example 'drop down lists')
    - Qualifying data *(see above)*
    - Vessel list
      - Registered vessels - *No dummy*
      - More than one vessel can be attributed to a sample if the vessel is not known
    - Gear
    - Ports
    - Area – *dependant on rectangle*
    - Rectangle – *dependant on area*
    - Species
  - Range limits
    - Min and max lengths by species
    - Length weight checks
    - Sample weight within a range based on the calculated weight from the length distribution
    - Individual weight v calculated weight (based on length)
    - Calculated sums v entered total
    - Shoot and haul positions within rectangle and area information
    - Gear parameters - Fishing length, mesh sizes etc.
    - Length v. age and Length v. weight relationships
    - *Length age relationships (see below)*

3. Post validation (see document)

- Status
  - A record of what stage the data is at – *Complete, Checked, Valid and available for use*
- Double checking
  - All trips checked against paperwork - all errors corrected, scored and recorded
  - Persistent errors investigated.
- QC reports which summarise the data and data ranges.
  - Relational data - comparing the current trip data with similar data stored on the national sampling database. See Irish example WKPICS 3 Section 2.4.2 pp. 33.

Catch ratios, Raising Factors, Trip length, Tow length, Tow duration, Soak time, Regional species lists – relating to the likelihood of its occurrence.

- Cross checking with other data sources
  - Comparing sample details against - official data and sales notes recording commercial catch and effort data and details recorded for trip sampled. Presence or absence
  - VMS data
- Otolith processing and ageing
  - Refer to PGBIOP guidance
  - Use trained and competent staff. Record of competency
  - Proportional checks.
  - QA - otolith exchanges

	Stage	Quality issues	QA/QC procedures	Example diagnostics
4.	National data processing	Incorrect allocation of trips to métiers or strata; use of weight-length relationships; errors or undetected changes in analysis software; Problems with code lists such as vessel tables; Failure to take sampling strategy into account. Use of inappropriate auxiliary (raising) variables. Wrong species code	Document the national Quality assurance procedures; checking analysis routines using standard test datasets; Following guidelines for raising data; checking for correlation with aux variable; checking species distribution. Comparing observer data with landings on a broad scale.	Unexpected changes in processed data from previous years; Length-weight diagnostics; Comparing raised retained catch (using aux variable other than landings) to the official landings; Check number of samples in strata; Check contribution of each sample to final estimate.

Responsible: MS

Frequency: Annually, however part of the data processing checking can be done on a more regular basis.

Recommended checks:

What the data is required for will affect what pre-processing checks are needed however to ensure confidence in the underlying data more regular checks should be carried out. Most of the recommended checks in the processing phase compare current and historic data. Current data values should fall within acceptable limits/variance this year's annual data with a timeline or the full dataset.

In the post data validation checks and pre–processing checks it is more difficult to correct data and therefore its more likely the data or information will be excluded or deleted if the correct value can not be established.

Relational checks

- Monitoring achievements
  - Review data collected in relation to the sampling design – number of samples against strata and commercial effort
- Spatial plots – sampling events compared to fishing effort – see SGPIDS 3
- Temporal plots – trends analysis
  - Changes in mean weight and length at age
  - Changes in discard rates, catchability
  - Changes in catch rates
- Length – weight relationship. Find outliers
- Otoliths – consistency plots – can cohorts be followed (age – age +1), length at age, weight at age

- Species – checking species codes in relation to caught weights and area

Raising

- Use of appropriate auxiliary (raising) variables, there should be a positive correlation between what you need to raise with what you are raising with.
- Compare the raised values with last years values for the same strata

Observer trips

- Weights of samples and landings provided could be obtained in a number of different ways including; actual weights, volumetric estimate, or a guestimate. These weights can be checked by comparing them with the total calculated weight from an length weight relationship applied to the length frequency distributions.
- Compare the logbook information from the observer trip with sales slip
- Check the observers record of the gear with the official logbook and any regulations for that area

Scientific surveys

- Plot planned stations and conducted stations on the same map

Annual reports

- Internal QA reports?
- Quality indicators
- Effective sample size.
- N on response rates

	Stage	**Quality issues**	**QA/QC procedures**	**Example diagnostics**
5	Upload to RDB	Incomplete uploads; undetected errors in national database.	Range checks and other error traps in RDB; cross checking of RDB and national DB content and ICES landings etc.	Outliers; data values beyond range checks; Differences between RDB content and national DB content.
6	RDB data extraction and analysis	Compatibility of national data sets (e.g. metier definitions; different forms of bias); imputation or other handling of missing data; national sampling design or cluster effects not properly reflected in data analysis; errors or undetected changes in analysis software	Suite of diagnostic checks for RDB data; Full documentation of national sampling programmes; Cross checking data analysis procedures and national sampling design; Test data sets for analysis software.	Gaps / inconsistencies revealed in RDB diagnostic outputs or other data quality reports. Proportion of catch comprising strata with missing or imputed biological data. Differences between national survey design descriptions and analysis hierarchy. Unexpected changes in processed data from previous years.

Responsible: MS, RCG, ICES, SC-RDB

Frequency: In line with annual data calls and data corrections and recycling processes. Should also cover ad hoc uploads in relation to study specific data calls.

Recommended checks.

Data administration package

The standard data checks for this part of the data management process forms part of the conclusion and recommendations in section 9 of this report. The key component to this process is knowing who has uploaded their data and whether it is complete. This recommendation from previous RCMs still stands. This should either form part of a data administration package which documents the process outside the system or forms part of the RDB framework.

RDB upload test

The responsibility lies with the MS to ensure that the data uploaded is correct and is in the format required for the uploading. So, assuming there is nothing wrong with the MS data and it has passed all MS internal integrity checks and they have confidence in the data that they have collected and stored, then errors in the uploaded data are more likely to occur as a consequence of misinterpreting the format in which the data is required or forcing incompatible data to fit. This might not be readily visible as it could still pass the data upload test currently available.

RDB data checks

The RDB upload test is good at trapping mismatches of data in relation to internal reference lists and range limits – Species, Harbours, Metier definitions, limits on the number of hauls, min and max weights and sizes for example. These could be improved by including some of the relative values, limited lists and range checks listed above in relation to National data capture.

However, there is no reference to failed uploads and missing and reinterpreted data (calculated weights or lengths for example) this should form part of any upload documentation or part of the data administration mentioned above.

Section 9 provides a list of minimum requirements for upload status and data integrity checks.

Some of the diagnostic checks in relation to national data processing (see above) can be applied to the uploaded data at a regional scale assuming the underlying data is comparable.

MS RDB data maps

Some MS have had to re-interpret data fields or provide 'dummy' data values to fit their data to the current RDB format. This has not always been catalogued anywhere and this can lead to the data being misinterpreted (See section 9).

As recommended in RCM-NSEA 2013 (Recommendation 6) MS should, as a minimum, prepare a summary document of their interpretation of all the key fields in the upload data formats. Annex 4 provides an example of a draft summary from UKE onshore sampling data. This may form part of the QA documentation but at the very least it should be submitted to the SC-RDB to provide them with an overview of any issues and to help with ensuring consistency in how the data within the RDB might be interpreted.

An RDB workshop in October 2014 will go someway to resolve some of the data interpretation issues raised in RCM-NSEA 2013 and will improve on the potential for documenting and reporting on sampling against national and regional sampling schemes. It will focus on providing reference to the structure of sampling schemes.

Data corrections

There is an assumption that any error or issue found with the data will be corrected or deleted. There currently does not appear be a process for this with data uploaded to the RDB. But this can only properly be done in reference to the data provider. The raw data will need to be corrected and then re-uploaded.

	Stage	Quality issues	QA/QC procedures	Example diagnostics
7	Supply of data / estimates to end users	Transmission of data quality indicators to end users for data and estimates at stock / fleet / region scale.	Compilation of data quality reports.	Precision & bias indicators; Nos. of primary sampling units achieved by country / stratum; effective sample sizes; other diagnostic plots

Responsible: MS, RCG, ICES

Frequency: In line with annual data calls and data corrections and recycling processes.

Recommended checks.

The links between the data providers and data users discussed in section 5.2 provides guidance on responsibilities. MS will still provide data via the usual course which can include InterCatch at ICES, the survey database in ICES DATRAS and through the benchmark process. Data quality reports may be provided by MS but RCGs should provide overall reports at a regional level using the regional database. QA reports have been mentioned before in relation to National Data processing and these can be compiled or even produced at the RCGs. A QA report which refers to how well the combined national programmes are meeting the regional sampling plans may form part of the auditing required by the RCGs but the diagnostics and quality indicators calculated at a regional scale using the RDB data will also need to be fed through to the benchmark meetings. It needs to be clear at the benchmark workshops where the gaps in quality are, if any, whether the data can be used and how they might interpret the results of an assessment as a consequence of any data issues.

5.4.2 Transversal data – control

Control and capture of this data usually falls within the remit of Enforcement or Control Agencies – quality is often assumed or accepted. Some of the aspects or processes used to validate the biological data can highlight issues with the transversal data. These data are crucial to weight the samples collected for the assessments. The quality of these data have to be considered in the same context therefore as the biological data. The impact of the landing obligation on the quality of catch estimates is discussed in section 8. Compliance and Science might work hand in hand in some MS and they may have ways of communicating and correcting concerns. There will be data checks as required under the control regulations but the relevance of this data is not wholly outside the remit of the RCGs. Although RCGs might have little control over the quality of these data it is important to understand where the data comes from how the data is derived and how it is quality assured. At a national level any data checks and assurance should be documented and should form part of a MS QA portfolio.

Transversal data collected by Member States are for the most part collected under procedures introduced for control and enforcement purposes under the Control Regulation (EC) 1224/2009.

General principles for the analysis of 'control' data including validation are set out in Article 109 of the Regulation which requires Member States to ensure that they are accurate, complete and submitted within set deadlines. Member States are also obliged to perform cross-checking, analyses and verifications of data through automated computerised algorithms and mechanisms. The data to be cross checked and verified are set out in Article 109.2 and include fishing activities data (in particular the logbook, landing declaration, transhipment declaration, sales notes and takeover declarations etc.); and information from various electronic sources including VMS, ERS and AIS. Article 9.8 further obliges Member States to establish national plans to implement at a validation system covering these. The plan allows Member States to prioritise validation and cross-checks and subsequent follow up of inconsistencies on a risk management basis.

AGREEMENT	
Quality control documentation	
RCM NS&EA 2014 Agreement 1	It is agreed that all MS attending the **RCM NS&EA** will document their data checks and quality control procedures in reference to the data capture and data processing stages of their national sampling programmes.
Justification	To be able to compare and improve national quality standards, RCM should have access to all national check procedures. Hereafter improvements can be recommended.
Follow-up actions needed	ICES to develop an easier procedure for comparing the data.
Responsible persons for follow-up actions	MS within RCM NSEA
Time frame (Deadline)	RCMs 2015

6. Introduction of the revised DCF

6.1 Recent developments

The COM presented an overview of two key DCF meetings that took place recently: a meeting on the revised DCF held with stakeholders (January 2014) and National Correspondents (July 2014). The meetings were made available to the RCG for further detail. The COM presented the latest developments with regard to the development and implementation of the revised DCF: Article 25 of the CFP Regulation provides the key principles for a future DCF. The DCF Reg. 199/2008 therefore needs to be amended to align it with the CFP, as well as other developments (EMFF, Marine Knowledge 2020, Lisbon Treaty). The future DCF legal set up would consist of 1) a Council & Parliament Regulation with key provisions relating to data collection, management and availability 2) an EU Multiannual Programme containing detail on what should be collected and made available. Compared to the current EU MAP, the future EU MAP should be simpler, less detailed, and contain fewer provisions regarding how data should be collected.

The RCM expressed its disappointment on the delays in having a proposal for DCF revision and EU MAP.

6.2 New advice from STECF

see section 3.5.1

6.3 Proposed structure of co-ordination of a regional sampling programme

Under ToR 6 of the present RCM NS&EA (Revision of the DCF Regulation and development of a new EU Multiannual programme (EU MAP) for data collection), meeting participants were asked to develop the roadmap for the implementation of a regional sampling programme and to consider how the future role of RCGs (preparing sampling, allocating tasks, quality assessment at a regional level) can be achieved and what steps are required to get there.

Background:

- RCM NS&EA 2013 previously reported on the development of a roadmap towards the implementation of a regional sampling programme (section 6.4, Report of the Regional Co-ordination Meeting for the North Sea and Eastern Arctic (RCM NS&EA) 2013).
- RCM NA 2013 also considered this Participants at RCM NS&EA 2014 were unable to locate a copy of its final report, but were provided with text that had been drafted for its report. The status of that text is unknown, in particular whether it was endorsed by the relevant RCM and/or the STECF. Nevertheless, RCM NS&EA 2014 has made reference to it.
- Since the last RCM NS&EA, there has been several STECF expert group meetings to consider the future DCF and EU MAP and these have been considered by the present RCM NS&EA. Notwithstanding that, the coordinating role of the future RCG has also been considered in light of earlier STECF EWG reports; notably the diagrammatic representation of RCG and end-user consultations (Review of DC MAP - part 1 (STECF-13-06)) – see text figure, below.

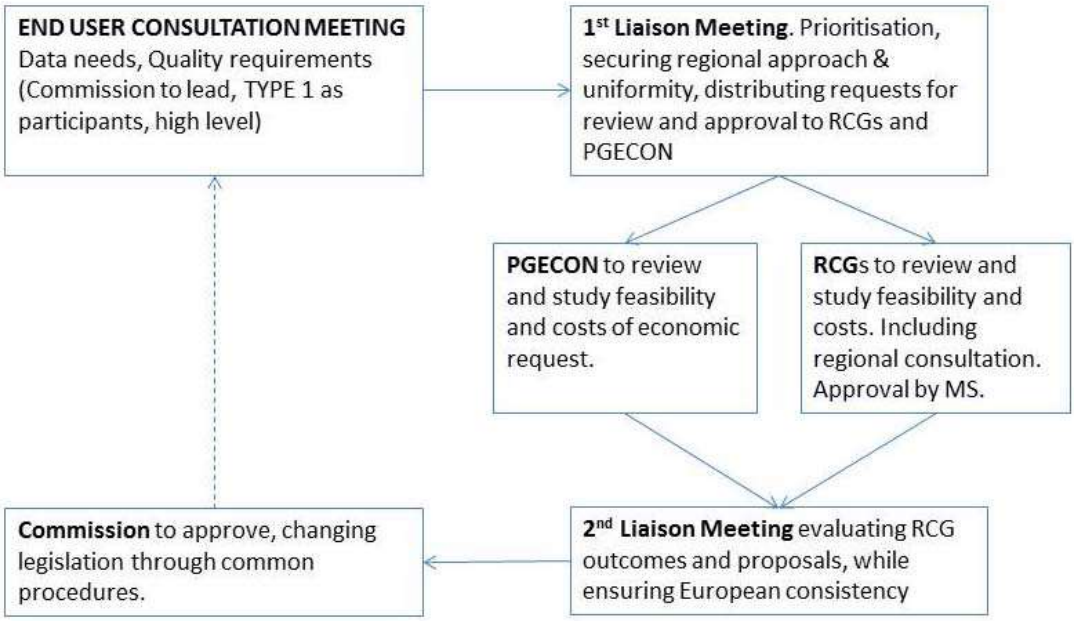


Figure 6.3.1 flow chart on end-user consultation process in the future EU-MAP

RCM NS&EA considers there to be three over-arching drivers that will lead the development of regional coordination within the future EU-MAP: (i) the legislative framework governing obligations, (ii) adherence to the principle of statistical best practice and (iii) the availability of an appropriate tool-set, specifically, adequate IT provision.

Legislative framework (or "What is an obligation?)

During 2013, STECF EWGs on the future DCF were presented with a Commission view that a proposed document, the master reference register (MRR), held and updated by RCMs and which identified Member State sampling 'obligations', would not have legal authority. This was because it was not a specific Commission legal text. Consequently, the legal authority of, for example, Liaison Meeting or STECF recommendations was questioned. Without clarity on this, the whole question of "what comprises an obligation?" was raised.

RCM participants are not legal experts and are keen to understand better their legal obligations under a new EU MAP, but without resorting to an unnecessarily detailed, point-by-point and prescriptive legal text. For 'recommendations' made by RCMs or STECF that may apply to a Member State's work programme, comment was made on the apparent 'indirect' obligation of Member States whereby in Commission Regulation 665/2008, articles 2 and 5, reference is made to Member States' requirement to observe: "*the templates and guidelines established by STECF with regard to the technical and scientific aspects of the programme*", in which the guidelines indicate that Member States should: "*List the appropriate recommendations from all relevant RCMs and give a brief description of the responsive actions that will be taken*". It is not immediately apparent that this obliges a Member State to fulfil the terms of the recommendation; only that it should describe its response which could, of course, be to consider the recommendation and to decide to take no action upon it.

RCM NS&EA recognises the tension that exists between the desire to avoid unnecessarily prescriptive and highly detailed legal texts and the need to ensure that Member States undertake the necessary data collection both for that data collection to be proportionate and to encompass flexibility where it is needed. RCM NS&EA proposes the following:

- For EU MAP to follow the approach advocated by STECF (STECF-14-07) whereby: "The current highly prescriptive requirements of the DCF regarding sampling size have resulted in both under- and over-sampling of data. STECF observes that there is a need to increase the flexibility in the sampling methodology and sample size by delegating decisions on sampling levels to the regional

level. The STECF therefore considers that a move towards a model with greater delegation to Regional Coordination Groups (RCGs) and PGECON, leaving key aspects (species, variables and periodicity) at the EU level, is desirable";

- Within the constraints of this, the "greater delegation to RCGs" would entail both agreements and recommendations to be considered. RCM NS&EA proposes that ultimately, recommendations made by the RCMs and / or STECF should be considered by the relevant Member States' National Correspondents (in consultation with their national agencies that undertake data collection) with the aim of reaching agreement between Member States on the actions necessary to fulfil such recommendations and for those agreements to be binding. Where agreement cannot be reached, for the RCM to advise the Commission of such a failure and for the Commission thereafter to consult with the STECF on whether the recommendation merits inclusion in a revised legal instrument (e.g., Commission Decision) that obliges Member States to fulfil the particular activity.
- For recommendations to adhere to a best practice guidelines and template, outlining the recommendation, its justification and priority (based on relevance, complexity and importance) and the consequence of non-compliance (such a template and guidelines would need to be developed as a part of the roadmap).
- For RCM reports to maintain separate annexes of agreements (binding upon Member States) and recommendations (non-binding, but subject to review and possible legal implementation as described above).

This approach comprises a pragmatic means to avoid the likelihood of a 'blank cheque' approach to the creation of obligations upon Member States and may also have the advantage of concentrating minds on what it takes to develop a considered and well-thought-out recommendation.

(NB. elements of this approach are derived from earlier discussion in STECF EWGs on the proportionate financial contribution that should be made by non-participating Member States in specific research vessel surveys, whereby agreement on such funding would be sought within RCMs but with a fall-back position for the Commission to enact its own decision according to set principles).

Best practice guidelines and an appropriate toolset

Although referred to as two separate over-arching drivers that will lead to the development of improved regional coordination within EU MAP, these items are, essentially, twins that are joined at the hip; the latter providing the operational implementation of the former. Both are integral to the proposed roadmap.

Specific comment relating to these drivers are discussed elsewhere in this report. The aim of this section is to emphasise certain observations:

- In order to provide defensible estimates of catch variables, data must be gathered according to statistically sound procedures. Significant progress has been made in some Member States in the development of the practical implementation of catch data sampling methods, building on the efforts of ICES expert groups. In line with this, STECF expert groups have envisaged the development of practical guidelines on best practice and this development comprises a necessary milestone on the proposed roadmap. However, attention is drawn to the need to take forward the proposed study project to "Support design based regional data collection programmes" that is prerequisite to the development of such guidelines;
- Modern standards of data collation demand more than a simple data repository. The ICES Data and Information Group describes aspects of data management to include: data policy, data strategy, data quality, technical issues and user-orientated guidance. For practical purposes within the RCMS the first three of these are considered thus:
  - Data policy: this is being developed currently with agreement being sought between National Correspondents specifically as it relates to data access; however;
  - Data strategy: this means the appropriate provision of an effective data repository and analytical toolset for the processing, quality evaluation and exchange/transmission of data (including the provision of discovery metadata);

- Data quality: the development of procedures to ensure the quality assurance of data collection processes and data processing, and to evaluate bias and precision of estimated quantities.

Experience within RCM NS&EA has demonstrated the potential utility of a regional database; however, for potential to be transformed into an effective operational system requires a commitment to the continued development of the regional database and associated toolset to address the issues of data: archiving, processing, 'discovery', transmission and quality flagging. Progress along the roadmap proposed by RCM NS&EA 2013 has already been hindered by the lack of database development and will continue to be so for as long as relevant initiatives remain unfulfilled (such as the proposed studies on "Exploration and Development of new facilities in RDB-FishFrame 5.0" and "Improvement of WebGR" (a quality control and assurance tool for the interpretation of fish ageing techniques)).

6.3.1 Consultation process

Several meetings (STECF EWG) have discussed the end-user consultation process in the future EU-MAP including classification of different end-users. A flow chart on how this consultation process could work has been put forward by STECF 13-06 (fig X). The STECF 14-02 did further categorize the different end-users into types. The end-users that primarily need to be included in the consultation process is type one.

- Type 1: Main end users for whom the DCF was designed, including the Commission, any bodies such as ICES and STECF designated by the Commission to provide them with recurrent advice directly supporting CFP decision making, and other fishery management bodies such as RFMOs, GFCM and using DCF data to implement their fishery management policies.
- Type 2: Other bodies such as Advisory Councils or subcontractors from whom the Commission may request advice or analysis based on DCF data
- Type 3: All other bodies such as NGOs, Fishermen's organizations and Universities with an interest in using DCF data for their own purposes.

The RCM NS&EA reflected on this process in the light of the new regional groups (e.g. Scheveningen, Baltfish) that have become active as a part of the implementation of the new CFP. The groups consist of fisheries directors in the different MS concerned. The RCM NS&EA considered that EU governments are represented through the scientific and management organizations they are affiliated with and concluded that the best way for the regional coordination groups to interact with these groups probably are through STECF. The regional groups thereby become a type 2 end-user. It does however also imply that STECF needs to be considered in the end-user consultation process. This could be done by scheduling the first Liaison meeting after the STECF spring plenary and the second prior to the STECF autumn plenary with the "RCG season" in between. STECF could also play an important role if MS fail to agree in the RCGs.

The RCM NS&EA further reflected on the tasks of the liaison meeting, in particular the group raised a question mark on what is meant by "ensuring European consistency" (fig X) in the light of a regional approach. Harmonization is of cause desirable were possible but needs may differ between regions.

The RCM NS&EA stresses that it is important that conclusions from the second Liaison meeting is reported at a meeting between the National Correspondents (Commission should be responsible).

The RCM NS&EA discussed membership in the future RCGs and identified two important categories.

- NC – role in decision making and agreements
- Operational people - involved in the design and implementation of national data collection. The RCGs could work as a platform allowing operational staffs at the institutes to network were relevant.

The regional cooperation in data collection is moving from a meeting towards a process. This makes the subject of observers somewhat tricky. The RCM NS&EA apprehend that observers (e.g. fishing industry, third countries) have insight through the end-user process but do presently not have a clear view on presence of observers in the RCG work.

6.3.2 Again the need for a road-map

In order to achieve an efficient way to implement the future DCF legislation and to support the new CFP in an optimal way, RCMNSEA 2013 initiated a road map. The road map describes what need to be done, how to use available meetings in an efficient way, identifies key project for which funding shall be secured , for different MS to gain experience and maybe most importantly, to get a common picture on what we want and need to achieve and which steps we have to take to do this.

The initial road map was taken further by the RCMNA 2013, however, as the status of the RCMNA 2013 report is unknown, the related text could not be endorsed. The RCMNS&EA 2014 took note of the draft text by the subgroup of the RCMNA 2013 (Annex 2).

RCMNS&EA 2014 agrees with the RCMNA 2013, that it is assumed that the DC-Map will create regional sampling plans elements of which need to be allocated to the Annual Work Programmes of the MS. It also assumes that the activities could be carried out in 2014 and 2015, the period for which the NP (designed under the DCF) are rolled over. The roadmap would simulate the envisaged coordination process, the process of end user consultation, prepares facilities to monitor quality of data and selection of appropriate sampling strategies. The exercise proposed in the roadmap is restricted to biological sampling and transversal information where it is considered necessary to collect these data and to coordinate these regionally (see text Annex 2).

The RCMNS&EA 2014 reviewed the text of both RCMNSEA 2013 and RCMNA 2013 and notices that the speed and the actual implementation of the road map is hampered by the absence of the new legislation, the lack of development of the RDB and the lack of establishment of the RCG process yet. This creates a considerable level of uncertainty and frustration with the RCM members

The road-map will need to be adjusted as experience is building up and this could be done within the remits of future RCGs. Future STECF EWGs can also suggest actions and adaptations to the road-map.

The RCM NS&EA 2014 is not in the position to provide anything other than indicative guidance on targets to be achieved but without an associated timeline.

6.3.3 Status of Preliminary road-map

Timing	Suggested action	RDB and data analysis	Design of regional sampling schemes	Implementation of regional data collection scheme	Analysis of regional data and review of implementation	Related RCG coordination tasks	Relevant associated non-RCG input
2013						Develop and agree on a road-map.	WKPICS3 ***Status*** : WKPICS3 is completed, but the outcome has no direct input into development of road-map as yet – the outcome of WKPICS3 will eventually relate and contribute to the production of best-practice guidance on design-based surveys Brought more knowledge on the design based approach.
2014		RDB maintenance; data uploads and extractions; ***Status:*** Data upload and extractions are completed . Is reported to the RCMNS&EA2014. Development of routine diagnostics for data clean-up. ***Status:*** Ongoing, should be completed before the SC-	Develop proposals for regional sampling schemes. ***Status***: Not started Start EMFF pilot project on regional design (if funded); start review of national schemes against best practice. ***Status***: Not started			RCM Progress reviews on regional sampling design and testing ***Status:*** Not started Plenary meetings	ICES SSG-DC formation; input of ICES data expert groups. ***Status***: Acronym not clear Liaison Meeting Oct. Commission end-user consultation and proposals for changes to data requirements in DCMAP SC-RDB

Timing	Suggested action	RDB and data analysis	Design of regional sampling schemes	Implementation of regional data collection scheme	Analysis of regional data and review of implementation	Related RCG coordination tasks	Relevant associated non-RCG input
NEW ACTIONS IN 2014		RDB 2014-02 RDB development through SC-RDB to ensure validated international data and diagnostics. Start EMFF funded RDB project (if funded) ***Status***: Not started Dependent upon funding – no call made – no progress (or very limited progress) !! significant barrier to fulfilment of the road-map LM recommendations: many linked to exchange format and brought to the SC-RDBRDB2014-01and based on this the WKRDB5 was established.	Develop test data sets from RDB for testing designs ***Status*** : Work towards progress particularly with respect to the WKRDB5; but also contingent on modification of exchange format and funding of database development / development of raising algorithms including tools			Sept. – transition to RCGs ***Status:*** Not done because of delay in the new legislation and a rollover of the current legislation	***Status:*** No such process yet exists Establishment of WKBIOP, WKCATCH and PGDATA (ICES)
<u>Remark about timing</u>: As the entire timeline has now slipped and has become uncertain, the RCM NS&EA 2014 is not in the position to provide anything other than indicative guidance on targets to be achieved in the future, but without an associated timeline							

Timing	Suggested action	RDB and data analysis	Design of regional sampling schemes	Implementation of regional data collection scheme	Analysis of regional data and review of implementation	Related RCG coordination tasks	Relevant associated non-RCG input
2015		Roll over Develop RDB – continuation of EMFF project (if funded) and input from RCM/RCG; RDB maintenance and development; data uploads and extractions; Routine diagnostics and data clean-up.	EMFF pilot project on regional design (if funded): continued interaction with MS on sampling designs and data. Testing of options for regional sampling design using test data from RDB . Develop detailed preliminary guidelines for regional data collection implementation Smaller pilot projects in MS.			RCG evaluation of new end-user data needs. Progress reviews on regional sampling design and testing Plenary meetings	ICES SSG-DC steering DCMAP related work in data EGs; outcomes of ICES data expert groups. Liaison Meeting Oct. Commission end-user consultation and proposals for changes to data requirements in DCMAP LM – first conclusions on work 2014 and "way to go forward"?

Timing	Suggested action	RDB and data analysis	Design of regional sampling schemes	Implementation of regional data collection scheme	Analysis of regional data and review of implementation	Related RCG coordination tasks	Relevant associated non-RCG input
2016		RDB maintenance; data uploads and extractions; Routine diagnostics and data clean-up.	EMFF pilot project on regional design (if funded): completed and recommendations produced. Report with proposals and evaluation of regional data collection schemes. Organize a workshop with a panel of design experts to discuss possible solutions.	Set up a preliminary regional data collection scheme			
2017 (MID TERM REVIEW TIME!)			Develop detailed final guidelines for regional data collection implementation		Analysis of trial regional data collection schemes and feedback to proposals	RCG mid term review	
2018				Full implementation by all MS in all regions			
	Design the regional sampling plan.						

Timing	Suggested action	RDB and data analysis	Design of regional sampling schemes	Implementation of regional data collection scheme	Analysis of regional data and review of implementation	Related RCG coordination tasks	Relevant associated non-RCG input
	Divide tasks between MS – intersessional work						
2016	Finalize design						
	feed in to the legislative process						
	Develop RDB –						
2017	Start to implement the regional design by all MS in all regions						
	Guidance to the MS to adjust						
2018	Full implementa-tion by all MS in all regions						

7. Studies and pilot projects

The Commission presented the direct management programme under the EMFF that could be of relevance to data collection, namely Article 86 on scientific advice and knowledge and in particular the provisions on studies and pilot projects (Article 86.2a), research surveys under Sustainable Fisheries Partnership Agreements (Article 86.2d) and regional cooperation in the field of data collection (Article 86.2f). The Commission announced that they would be launching before the end of 2014 two grants (up to 400 000 Euro each, co-financed at a rate of 90% by the EU) to strengthen regional cooperation. The grants would cover actions including the development of a regional sampling plan, development of regional quality assessment procedures, collection of new variables not covered by the current EU MAP, and identification of best practice and guidance. The Commission hopes to launch additional grants in 2015 to build on these two pilot projects on regional cooperation.

The RCM NS&EA have received a number of study proposal. These proposal can origin from e.g. the ICES PGCCDBS, ICES PG's, ICES SG's and RDB-SC. To evaluate these proposals a protocol is needed as well as criteria's for prioritization. The issue on adequate expertise for evaluating the proposal has also to be solved.

Since the RCMs and the LM was established numerous study proposal have been suggested and been supported by the LM. Some proposal have been accepted by the Commission and call for tender have been launched. There has been no feed back on those study proposal not accepted by the Commission. Therefore, several proposal have slightly modified and resubmitted or suggested to the Commission. This process without any feed back from the Commission is not optimal. The RCM NS&EA therefore recommend to the Commission to consider whether feed back could be given.

The RCM agreed that study proposal that are directly addressed to improve regional coordination and cooperation towards the implementation of regional data collections programmes should prioritized the highest. For the more science focused proposals it should be considered whether these proposals is outside article 86 of the EMFF direct management.

7.1 Proposal for studies and pilot projects under EMFF article 86,2a

7.1.1 Discards in European hook-and-line fisheries: mortalities, consequences for stock assessments, and mitigation potential

Commercial and recreational hook-and-line fisheries are widespread in European coastal waters, yet studies have shown that unaccounted hooking mortalities of over 30% in released fish have rendered fishing regulations like minimum sizes and bag limits ineffective (Coggins et al. 2007). There is also potential for sub-lethal effects, e.g. behavioural changes (Cooke and Sneddon 2007). Sub-lethal effects can occur as a consequence of hooking and handling stress and, even if the individual fish survives, can have significant consequences for the stock. For example, discarded fish may skip spawning or interrupt protection of spawning nests, both of which can lead to a loss of reproductive success (Suski et al. 2003). Fish with altered behaviour after being discarded are more prone to predation which can lead to increased mortalities if predators are present (Cooke and Philipp 2004). This lack of knowledge will affect on our ability to effectively manage stocks that are exploited by hook-and-line fisheries.

The European Commission have pledged to end discarding in the period 2014-2018, with only "species for which scientific evidence demonstrates high survival rates, taking into account the characteristics of the gear, of the fishing practices and of the ecosystem" excluded from the landing obligation. For many species, discard mortality is unknown, so programmes have been initiated to collect data on commercially caught fish. However, these studies generally focus on commercial netting and trawling with little data collection planned on hook-and-line fisheries. This represents a large gap in the evidence-base and has a significant impact on effective fisheries management as stock assessments will be inaccurate if discard mortality is not accounted for. This is particularly important if discard proportions and mortality is high, which may lead to a significant underestimation of actual fishing induced mortality (Kerns et al. 2012).

Discards of unwanted bycatch species and target species are high in both commercial and recreational marine hook-and-line fisheries in Europe. European marine recreational anglers often release more than

50% of their Atlantic cod, European sea bass, pollack, and sea trout catches (Ferter et al. 2013). The European eel and some elasmobranch species are protected in many countries so must be discarded, and target species that are under the legal minimum size must also be returned. Catches by recreational anglers can represent a significant proportion of the total removals (e.g. 25% of removals of European sea bass). Hence, post-release mortality is a large uncertainty in the assessment of stocks that are targeted by both commercial and recreational fishers. However, discard mortality of hook-and-line caught fish is not easy to measure and can vary significantly between species and fisheries. Many factors are also important including water temperature, hooking damages and on-board handling (Bartholomew and Bohnsack 2005; ICES 2014).

A mixture of desk-based study and experimental work is needed to compile data on mortality of hook-and-line caught fish, to underpin the evidence-base to account for discard survival and sub-lethal effects in stock assessment and management. This should consist of reviewing existing literature, assessing the potential for extrapolation between species and fisheries, setting up generic mortality profiles, and conducting species-specific mortality studies to fill the gaps. It needs collaboration across Europe and with other countries including the USA to ensure that the best use of existing data is made, and that a representative range of habitats can be covered.

Specific knowledge gaps to be addressed

1. Despite high discard rates, species and fishery specific discard mortalities are unknown for most of the relevant European marine hook-and-line fisheries. Thus, discard mortalities need to be estimated from mortality studies for use in stock assessments. Lack of data on discard mortalities will affect the accuracy of our stock assessments and impact on our ability to manage hook-and-line fisheries.

2. Sub-lethal effects on fish that survive the discard event are unknown but need to be studied as they can have significant effects on the stock, e.g. due to predation or reproductive loss. Without data on sub-lethal affects, it is very difficult to parameterise stock assessment models correctly, leading to uncertainty in assessments.

3. Extrapolation of experimental discard mortality estimates to specific management units is challenging. Methods like vitality assessments in combination with mortality studies may be useful to overcome this issue, but need to be tested. If successful, this will lead development of generic mortality profiles for groups of species and fisheries that can be used in stock assessment negating the need to collect data on all species and fisheries.

4. It is not know if some of the species or hook-and-line fisheries qualify for exemption from the EU discard ban. However, for species with generally high survival potential, low mortality rates can be achieved through the development and implementation of best practice guidelines.

Estimated cost

300,000 – 500,000 euro.

References:

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Coggins, L. G., Catalano, M. J., Allen, M. S., Pine, W. E. & Walters, C. J. (2007) Effects of cryptic mortality and the hidden costs of using length limits in fishery management. *Fish and fisheries* **8**, 196-210.

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Cooke, S. J. & Sneddon, L. U. (2007) Animal welfare perspectives on recreational angling. *Applied Animal Behaviour Science* **104**, 176-198.

Ferter, K., Weltersbach, M. S., Strehlow, H. V., Vølstad, J. H., Alós, J., Arlinghaus, R., Armstrong, M., Dorow, M., de Graaf, M., van der Hammen, T., Hyder, K., Levrel, H., Paulrud, A., Radtke, K., Rocklin, D., Sparrevohn, C. R. & Veiga, P. (2013) Unexpectedly high catch-and-release rates in European marine recreational fisheries: implications for science and management. *ICES Journal of Marine Science: Journal du Conseil* **70**, 1319-1329.

ICES (2014) *Report of the Workshop on Methods for Estimating Discard Survival (WKMEDS).* 17–21 February 2014, ICES HQ, Copenhagen, 114 pp.

Kerns, J. A., Allen, M. S. & Harris, J. E. (2012) Importance of assessing population-level impact of catch-and-release mortality. *Fisheries* **37**, 502-503.

Suski, C., Svec, J., Ludden, J., Phelan, F. & Philipp, D. (2003) The effect of catch-and-release angling on the parental care behaviour of male smallmouth bass. *Transactions of the American Fisheries Society* **132**, 210-218.

comments by RCM NS&EA

Results could apply to commercial hook- and line fisheries as eel. Mortality estimates could also indicate whether these fisheries need to monitored on discards.

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

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 information 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.

Justification of why a dedicated research project is needed

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), IFREMER (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.

comments by RCM NS&EA

Note: this study was already endorsed by the 9th Liaison Meeting.

7.2 Proposal for studies and pilot projects under EMFF article 86,2d

There are no proposals under this article

7.3 Proposal for studies and pilot projects under EMFF article 86,2f

7.3.1 Recommendation for a collaborative study of improvement of WebGR

WebGR is a set of Open Source web services developed within an EU tender project in 2008 to support studies of fish growth (age) and reproduction (maturity). This tool assists fisheries scientists in the organization and data analysis of calibration workshops for classification of biological structures and provides means to analyse the results of such exercises. The tool has not been further 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 software 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 it is the basis for the present study proposal.

The objective is to substantially improve the software, which will amend the contribution 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. Additionally, 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.

The desirable upgrading of WebGR is manifold. First of all, a more user-friendly interface would be beneficial both for workshop managers organizing online exercises and for participants joining them. The arrangement of a workshop is currently troublesome, consisting in more steps than actually needed, therefore a process consisting of sequential steps and a detailed error report need to be implemented. Furthermore, there is a great need for improvement of the picture uploading mechanism and to enhance exploring tools, in terms of new measuring tools. Concerning the output, the most basic features are presently implemented and the easy export procedure allows users to use the data on a standard statistical package or spreadsheet. The main aim is to develop an R package and implement a set of statistical methods. An extended statistical output will give a more complete and standardized evaluation of potential differences among readers/stagers.

Presently, the service is freely provided at http://webgr.azti.es but without any warranties in case of problems, with a high risk of data loss. It would be rather 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 and support. 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 second Workshop on national age reading coordinators (WKNARC2) took place in May 2013 and embarked on the first phase through identification and debate on the more practical user interface improvements, and made an outline of a Study proposal for a full upgrading of WebGR. Subsequently, the Workshop on Statistical Analysis of Biological Calibration Studies (WKSABCAL), taking place in October 2014, will give the necessary input to the second phase (i.e. statistical output) of the improvement of WebGR.

The project objectives will be achieved over 18 months through the realization of a list of tasks classified in 5 Work-Packages (WP). WP 1: Project Management; WP 2: Development; WP 3: Statistical methods; WP 4: Training and dissemination; WP 5: Site management.

PGCCDBS strongly supports this initiative and study proposal

Indicative Budget

€300,000 to be spent over 18 months.

comments by RCM NS&EA

WebGR is a tool already frequently used in quality evaluation of age reading. Needs maintenance, Fits in quality evaluation process expected to be implemented by RCG. Use of tool is supraregional. project is expensive.

7.3.2 Recommendation for a collaborative study on Improving accuracy in fish age estimation through understanding of the link between environmental conditions and physiological responses recorded in the otolith macrostructure

The study aims at identifying the biological meaning of otoliths features such as annually recurring patterns, checks associated with spawning or other life stage events as well as periods of environmentally induced physiological stress. The timing of these features and the causal relationship between otolith feature and the fish's environment and behaviour can be validated by combining different validation techniques (micro and macrostructure analysis, microchemistry). Identification of the underlying processes affecting otolith macrostructure should be based on species and stocks with an easily interpretable otolith structure. Results from these analyses will provide the necessary input data to calibrate generic simulation tools that can link bioenergetic processes and environmental conditions with otolith visual appearance. The applicability of such an approach should subsequently be tested on stocks of the same species with highly complex otolith patterns and known otolith growth rates. This study will provide an evaluation of the applicability of this approach and should therefore focus on a limited number of species from different geographical locations/stocks where samples from tag-recapture programs are available.

The objective of this study is improving the accuracy of age data used in stock assessments. It aims to validate different features within the calcified structure by combining well established validation techniques.

Background

Age estimates based on the interpretation of otolith macrostructure features have been used extensively in stock assessment for many years. For some stocks good precision in age estimation has been achieved, whilst in other stocks where otoliths are more difficult to interpret precision is lower. Even within the same species the otolith' s visual appearance - and thus readability - may vary, presumably as a consequence of a combination of stock-specific environmental conditions and physiological responses. Validation of the biological significance of the structures used for age estimation is essential for improving both precision and accuracy of these estimates and, consequently, improving stock assessment. There are well-established techniques available that can provide information on the timing of the formation of specific otolith features (micro structure analysis) and reveal the relationships between visual patterns in the otoliths and physical and chemical properties of the environment experienced by the fish (micro-chemistry). Application of these methods simultaneously on known-age otoliths from tag-recapture programs will provide the key to understanding the biological meaning of otolith features.

Terms of reference

- References to ageing workshops, PGCCDBS, PGMED, WKNARC and WKAVSG
- Reference to projects TACADAR, EFAN, CODYSSEY, DECODE, AFISA, MARMER and French hake tagging
- Providing input to relevant ICES stock assessment working groups
- Validation of features within otoliths.
- Accurate age data
- Greater understanding of different life histories of stocks within the same species.

The main tasks to be undertaken by the contractor are the following:

1) Compile available material for re analysis from existing otolith archives.
2) Perform comparative micro increment and micro chemical analysis on selected otoliths.
3) Analyse increment patterns in otoliths from different stocks of the same species
4) Re-evaluate age estimates in light of findings.
5) Present the recommendations to end users, to establish expertise and international cooperation for further work on other species.

Time table and Final Report

The duration of the study shall not exceed 24 months from the signature of the contract. An interim report of the study should be made available after 12 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 maximum budget allocated for this study is € 1,500,000 covering all expenses, including personnel, preparation and analysis of samples, meetings, consumables.

The study proposal was endorsed by the WKNARC2.

comments by RCM NS&EA

science, not relevant under this budget line

7.3.3 Study proposal on "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; firstly 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 combinations 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 programmes which are foreseen in the DC-MAP. Furthermore, RDB-FishFrame has now been introduced to additional regions. This has given rise to additional requests on how data should be centrally processed due to new sampling stratifications practiced in the Member States included compared to existing ones. It is essential that a database reflects new demands and does 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 accordingly.
   - 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 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 automation 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.

comments by RCM NS&EA

highly relevant; indispensable tool needed for coordination by RCM and RCG's. Development of tool is delayed because of lack of resources.

7.3.4 Study proposal to "Support design based regional data collection programmes"

This Study Proposal was developed and proposed by PGCCDBS (2012) but was not funded by the Commission. PGCCDBS considers that there remains an important need for a Study that will facilitate the countries in each region to design and implement statistically-sound sampling and help RCMs/RCGs to propose optimisation of regional sampling schemes.

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 WKMERGE, WKPICS and SGPIDS 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 EGs, 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 EGs, European Commission and Liaison Meeting, for discussion and further development.
- Development of final proposals and report.

comments by RCM NS&EA

8. Implications of the landing obligation

Fisheries research institutes in all EU Member States carry out fishery dependent data collection to enable the assessment of a large number of fish and shell fish stocks. These assessments provide the scientific advice that underpins the management and sustainable exploitation of these stocks. Data collection is mostly carried out according to the EU Data Collection Framework, the principles of which are that data are collected in a statistically sound, robust and transparent manner, using the appropriate protocols, in order to produce credible estimates with meaningful measures of precision and robust quality indicators.

In what follows we consider the implications of the landing obligation on all stages of the collection, storage and estimation process. For clarity we make a clear distinction between the terms used for two types of data:

- "Scientific sampling data" which we define as data used for assessment and scientific advice collected by fisheries institutes following statistical principles; e.g. age and length measurements of samples of fish.
- "Monitoring catch data" which we define as the logbook and sales derived data collected by control agencies. e.g. landed and discarded weights by species for individual fishing trips

We note however that the monitored catch data forms is an integral part of the estimation process, enabling estimates from the sample data to be scaled to those of the sampled populations.

For the collection of sampling data one of the major changes with the implementing of the landing obligation for all TAC species in EU fisheries is that the catch will be split into a three basic fractions:

1. The landed species of > minimum reference size (mrs), used either for human consumption or directed for industrial purposes.
2. The fraction of fish <mrs that will be landed under the landing obligation. These we define here as the "unwanted catch", though in so doing recognise that a use may be found for these previously discarded fish.
3. The exempt discards, for example fish returned to the sea under various exemptions arising from the de minimis, high survivability, disproportionate cost, clauses of the regulation. Additionally many non TAC species will still be discarded at sea. Collectively all these continuing discards we define here as the "exempt discards".

This division of the catch into three fractions differs from the present situation where the catch is split into two basic fractions: the "landings" and the "discards"

At present there is little clarity about the conditions or rules of how exempt discards at-sea may take place. Further, it is unclear how storage of unwanted catch on-board should be handled. All these factors have the potential to effect the condition of the landing with ramifications for the quality of the biological data that can be obtained from this fraction. Specific concerns include the species composition and identification, the ability to estimate the demographic structure of the sampled trips catches, the estimates of sample numbers, the ability to measure fish and collect otoliths and even the ability to access samples at all (e.g. under health and safety regulations). The landing location and fate of this unwanted catch on shore is also as yet unclear and will remain so until the landing obligation actually comes into force. The unwanted catch fraction will almost certainly not be available at the fish auctions were much of the present sampling of the landed catch occurs. This has implications for on-shore sampling designs and data collection protocols.

In relation to the compilation and collection of monitoring catch data the accuracy of the recorded catch statistics in logbooks will be affected by the number of species exemptions from the landing obligation, the minimum weight threshold for recording and the ability of crew to sort and record the various fractions of the catch. Nor do the present logbook forms allow for the recording of all the potential fractions of the catch. Hence, there is considerable concern that monitoring catch data needed to scale estimates derived from sample data will be adversely effected by the landing obligation.

8.1 Impact of the landing obligation on at-sea sampling

The situation induced by the new CFP and landings obligations may translate into different outcomes as regards the usability of the observation at sea (figure 1). In this section, two main outcomes will be considered, (i) the scientific estimates for assessment and advice, i.e. estimates of volume of removals and their length and age structure, and (ii) the evaluation of the impact of the landings obligations on the reliability of the catch statistics.

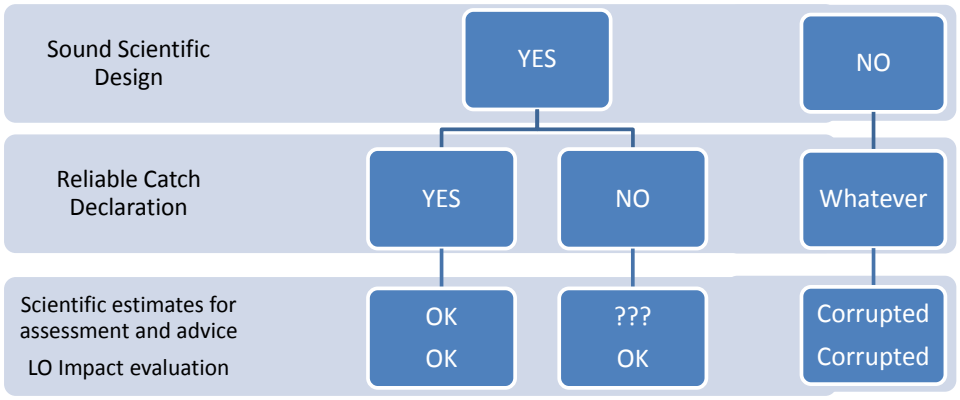

Figure 1: Implications of scientific design and catch declaration on the usability of the observer at sea data.

At a first stance, **RCM NS&EA underlines the importance to keep a sound scientific design for the on-board observations**. Departure from such designs will result in biased data collection and translate into corrupted estimates, thus preventing their usage both for stock assessment and for discard plan evaluation.

A sound scientific design and reliable monitoring and declaration of catches correspond to the ideal situation. In these circumstances scientific estimates can be obtained for use in assessments and additionally the quality indicators collected as part of the scientific data collection can be used to evaluate the discard plans and robustness of the information used for stock assessment. Such a situation benefits all the parties involved.

The situation where there are discrepancies between scientific estimates and monitored catch declarations will result in a questioning of both the reliability of the monitored catch estimates and the accuracy of the scientific samples. In order to remove doubts on scientific estimates, **it is essential that sampled vessels do not change their behaviour when observers are on-board. This is best achieved if there is no ambiguity on the scientific role of the observer**. Separating clearly the monitoring for surveillance for control, from the collection of data for scientific assessment, is the pre-condition to run a scientific observer program. If there is any doubt that the information collected by the scientific observers will be used for purposes of control and enforcement then the data will be compromised and no utilization of the information collected will be possible.

8.2 Implications for sampling and estimation

On-board sampling protocols will have to be adjusted to account for the all components of the catch, (outline above). With the implementation of the landing obligation an on-board observer will be required to sample both the exempt discard component, and the unwanted catch component. (Under some sampling schemes the landed fraction is also sampled at sea). Sampling the unwanted catch component is likely to require new sampling forms, and new ways of working at-sea, and fisheries institutes will need to prepare such protocols. The new unwanted catch fraction categorization may be incompatible with existing IT systems for entering and storage of sampling data (which typically are set up on the basis of a landed fraction and a discarded fraction).

The estimation of total catch, as required for example by assessment working groups, will now require the estimation of, and summation over, three fractions; the landed fraction, the unwanted catch fraction, and the exempt discards fraction. This has implications for existing estimation procedures which

until now where required to estimate only for landings and discards. Estimation routines may be hard-coded into national databases and their modification a far from trivial process.

It should be further emphasised that the unwanted catch, once landed, can only be estimated from on-shore sampling if firstly: there are complete and accurate monitoring catch data that includes the this unwanted fraction; secondly that there are sufficient sampling opportunities on shore. Neither of these conditions can be determined until the commencement of the landing obligation and for this reason RCM NS&EA recommends that at-sea sampling schemes are continued at present.

As the condition, locations and fate of the landed fraction become clearer with the operation of the landing obligation it may be possible to design suitable on-shore sampling in future.

8.3 The timetable, implementation and the role of discard plans

The timetable for the implementation of the landing obligation in the North Sea is 1st January 2015 for Pelagic fisheries; 1st January 2016 for the main target species of the demersal species and *Nephrops* fisheries and 1st January 2019 for total catch of the demersal and *Nephrops* fisheries. In the Baltic region, the landing obligation for all species will come into force on 1st January 2015.

The response to the landing obligation is being set out as discard plans formulated by national governments and industry bodies, organised on a regional basis. These plans typically include descriptions of the stocks and the fisheries, outline the cases for exemptions and would be the forum where changes to fishing behaviour, the adoption of selectivity measures by the industry, and changes to minimum reference size etc. would be proposed. STECF expert groups are being invited to comment on these and ultimately the discard plans will then either be accepted, or refused, by the commission.

To date the BALTFISH group have been formulating plans for all species in the Baltic and the Scheveningen Group have been formulating discard plans for the pelagic fisheries in the North Sea (mackerel, herring and the for human consumption sprat fishery) to meet the January 2015 implementation date. The Scheveningen group consists of Fisheries Directors of the North Sea Member States (Belgium, Denmark, Germany, France, the Netherlands, Sweden and the United Kingdom). In parallel a North Western Waters Group was established in order to ensure a consistent approach especially with regard to widely distributed species such as horse mackerel, blue whiting and mackerel. The work of the Scheveningen group will continue for the demersal species in the North Sea for the January 2016 implementation date.

The main task of the RCM NS&EA is to coordinate the collection of sufficient, reliable fisheries dependant and independent data for the North Sea and eastern Arctic region. As such changes in the management of the fisheries operating in these areas, such as those outlined in the discard plans, has the potential to have considerable effect on data collection, the sampling schemes, and the provision of data undertaken by the scientific institutions in the member states. Further, there is potential for a number of unintended negative impacts on the quality and the reliably of the monitored catch data, and ultimately the reliability and precision of the assessment and advice. The RCM NS&EA regret that there has been no communication between the Scheveningen and the RCM, especially on how the landing obligation can best be monitored to enable the credible evaluation of the implementation of the landing obligation and the development of impact indicators.

8.4 National Programmes

The RCM NS&EA consider that a degree of flexibility in the way member states operate their sampling programmes, in relation to their DCF National programmes, will be It is necessary following the introduction of the landing obligation. The commission indicated that this was recognised.

8.5 Relevant recommendations

Implications of the landing obligation - Scientific data collection and at-sea sampling	
RCM NS&EA 2014 Recommendation 2	**RCM NS&EA** recommends that MS maintain scientific observer programmes and continue *at-sea* sampling schemes for the collection of scientific data for stock assessment and advice. Additionally that the role of scientific observer is not conflated with any monitoring role. Appropriate modifications to at-sea sampling protocols and recording should be devised for sampling the retained discard fraction.
Justification	Discarding will become illegal for the most part, and this has the potential to disrupt the historical time series of catches used in assessment models. Nevertheless, at-sea sampling needs to be maintained because discards at-sea will continue for various non TAC species and exemptions allowed under the landing obligation. Additionally the landing obligation will introduce a new category of retained discards and this fraction has to be sampled to obtain scientific data for the complete catch composition. Until such time as the feasibility of sampling this catch component on-shore can be determined there is a need to maintain at-sea sampling. The RCM NS&EA underlines the importance of maintaining statistically sound sampling designs for the on-board observations, and the integrity of scientific observers.
Follow-up actions needed	Scientific institutions to prepare sampling protocols appropriate for at-sea sampling of the retained fraction and the extra faction (landing part for industrial purpose of fish under the minimum reference size) due to the landings obligations and modify their sampling protocol . MS & ICES to consider if modifications are needed for recording, storage and estimation processes (data exchange format, IT systems, ...)
Responsible persons for follow-up actions	Scientific institutions within MS
Time frame (Deadline)	Prior to the implementation of the landing obligation

Implications of the landing obligation - Scientific data storage, IT systems and estimation	
RCM NS&EA 2014 Recommendation 3	**RCM NS&EA** recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction. Also authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate retained discards fraction. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications.
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation, January 2015 for pelagic stocks and January 2016 for demersal stocks.

Implications of the landing obligation - Monitoring catch data collection	
RCM NS&EA 2014 Recommendation 4	**RCM NS&EA** recommends that monitoring catch data collected by control agencies should be maintained and enhanced to account for the additional need to assess the impact of the landing obligation. Specifically the logbook system should be able to record continuing discards and the retained discard fraction as well as the landed fraction. Selective gear measures adopted by vessels should be recorded in logbooks.
Justification	The landing obligation will herald significant changes in the behaviours of fishers, fishing practices, and will most likely result in a proliferation of the use of more selective gears. There will also be requirements to record continuing discards, retained discards and the landed fraction of the catch. If these changes are not adequately recorded in the official catch monitoring data then the ability to make inference from scientific samples to fishing fleets will be limited. The better the accuracy and integrity of the monitored catch data the better are the estimates of the total catch.
Follow-up actions needed	Commission, European and national control agencies to consider the adequacy of catch monitoring procedures.
Responsible persons for follow-up actions	Commission, European and national control agencies
Time frame (Deadline)	Prior to the introduction of the landing obligation

Implications of the landing obligation - Scientific data collection on-shore	
RCM NS&EA 2014 Recommendation 5	withdrawn

9. Analysis of data from 2014 RCM data call

9.1 Data call compliance analysis

For a number of years, member states are requested to submit data to the Regional Data Base (RDB) for the purpose of coordination and quality evaluation. Until last year, some MS did not upload data for all species and for all metiers. In order to complete the dataset, the data call was launched again and all the member states participating in the RCM NS&EA were asked to upload commercial landing, effort and sampling statistics for 2009-2013.The RCM NS&EA has evaluated the performance of the submission and the content of the database.

9.2 Upload 2014

Table 9.2.1 gives an overview of the data types that are present in the RDB at the beginning of the meeting. It is clear that for 2009, still a lot of landings and/or effort statistics are missing despite the fact that sampling data for that year were uploaded. A few countries are missing the sampling data for some of the first years. For the most recent year (2013), almost every member state has uploaded data. Only the French data (for 2013) and the Spanish data (for 2009-2013) were not uploaded to the RDB. However the French data were provided in the RDB FishFrame Exchange Format and also the Spanish landings and sampling data were available at the meeting. Nevertheless, it cost extra effort to analyse the French and Spanish data outside the RDB. Portugal still encountered problems during upload and has provided a detailed description on the SharePoint RCM NS&EA2014>Data>Response Data Call>FishFrame Data Call_IPMA Report_05Set2014_draft.pdf.

It is difficult to get an idea on the progress in compliance to the data call as we didn't have an overview of the data that were updated in 2014 by each member state. Information on the status of completeness of each data set would help to solve this issue and should therefore be implemented.

Table 9.2.1 Overview of the data types (commercial landings (CL); commercial effort (CE) and commercial samplings (CS)) available in the RDB (X). The French and Spanish data were not uploaded to the RDB but were available at the meeting (0).

	2009			2010			2011			2012			2013		
	CL	CE	CS	CL	CE	CS	CL	CE	CS	CL	CE	CS	CL	CE	CS
Belgium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Denmark	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
England			X	X	X	X	X	X	X	X	X	X	X	X	X
Estonia	X	X		X	X		X	X		X	X		X	X	
France				X	X		X	X		X	X	X	0	0	0
Germany				X	X		X	X	X	X	X	X	X	X	X
Ireland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Latvia			X						X			X	X	X	X
Lithuania	X	X		X	X		X	X	X	X	X	X	X	X	X
Netherlands	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Northern Ireland			X	X	X	X	X	X	X	X	X	X	X	X	X
Poland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Portugal		X			X			X		X	X		X	X	
Scotland			X	X	X	X	X	X	X	X	X	X	X	X	X
Spain			0			0			0			0	0	0	0
Sweden	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
United Kingdom			X			X			X			X			
Wales				X	X		X	X		X	X	X	X	X	X

9.3 Incomplete uploads

Tables 9.3.1-4 provide summary overviews of the landings data, effort data, length data and age data available in the RDB. The cells highlighted in grey in these summary tables are not indicative of countries failing to meet the data call – it is only indicative of missing data or null returns. The Spanish and French data were analysed outside the RDB, therefore the numbers corresponding with those datasets are written in italic at the end of the tables. The percentage of empty cells in the tables 9.3.1-4 is shown in table X6 and indicates that the most incomplete dataset is the one with the age information (around 40% data gaps instead of 20%). There is a big difference in the number of uploaded species and uploaded metiers between member states and although you can identify the presence of data in the database, it is difficult to tell how complete the data are. The fact that the number of uploaded metiers (effort statistics) and the number of uploaded species (landing statistics) is relatively stable over the years, is an indication that all data have been uploaded.

In order to get an idea of the totality of the sampling data, you could consult the annual report of the member state. However, in order to be able to do this in an automated way, a link between the RDB and the annual reports is needed.

Table 9.3.1 Summary of the number of Species in the commercial landings data from flag vessels.

Country	**2009**	**2010**	**2011**	**2012**	**2013**
Belgium	55	58	59	59	54
Denmark	79	73	73	84	89
England		121	124	118	113
Estonia	1	1	1	2	5
France		93	94	88	
Germany		33	62	61	59
Ireland	19	13	7	18	16
Latvia					1
Lithuania	2	4	7	9	3
Netherlands	43	48	46	44	49
Northern Ireland		37	43	39	32
Poland	9	9	9	10	10
Portugal				9	9
Scotland		94	92	92	89
Spain					
Sweden	57	71	67	68	67
Wales		12	17	24	40

France					*83*
Spain					*43*

Table 9.3.2 Summary of the number of Metiers in the commercial effort data from flag vessels

Country	2009	2010	2011	2012	2013
Belgium	17	19	19	18	15
Denmark	51	49	53	49	46
England		100	104	95	94
Estonia	1	1	1	1	2
France		33	36	32	
Germany		42	32	35	29
Ireland	5	4	8	6	8
Latvia					1
Lithuania	2	4	7	4	3
Netherlands	64	66	67	62	64
Northern Ireland		15	16	15	9
Poland	2	1	1	1	1
Portugal	1	1	1	2	2
Scotland		57	57	59	55
Spain					
Sweden	48	42	40	49	55
Wales		4	7	9	7

France					*33*
Spain					*5*

During the RCM meeting, some verifications were realized and the records in the age samples with no age information but only length information were identified as data in the results of the number of species in the age samples. Also the records in the length samples with no information on the number of length measurements were identified as data in the results of the number of species in the length samples. Tables 9.3.3-4 show the number of species before and after the modification of the extraction from the RDB. The difference in the number of species between part a and b of the tables, indicates the presence of incomplete records in the age samples and the length samples.

Table 9.3.3: Number of species in age samples in the RDB before (a) and after (b) the modification of the extraction from the RDB of age sample records with no age information. The available data were not uploaded in the RDB (c). The yellow boxes indicate the difference both results.

Country	2009	2010	2011	2012	2013
Belgium	6	7	7	7	3
Denmark	29	30	30	23	56
England	9	20	19	10	9
France					
Germany			8	10	8
Guernsey				1	
Ireland	2	2	2	2	2
Latvia					
Lithuania					2
Netherlands	17	18	17	17	17

	2009	2010	2011	2012	2013
	6	6	7	7	3
	19	19	21	21	23
	8	19	18	9	8
			8	10	8
				1	
	2	2	2	2	2
					2
	13	14	13	13	12

Northern Ireland	3	6	9	1	4	2	5	8	1	4
Poland	1	2	3	1	1	1	2	3	1	1
Scotland	4	12	11	15	11	3	11	10	12	11
Spain										
Sweden	4	6	6	5	6	4	6	6	5	5
United Kingdom	4	10	9	3		4	10	9	3	
Wales										

a b

France					*12*
Spain					*8*

c

Table 9.3.4: Number of species in length samples in the RDB before (a) and after (b) the modification of the extraction from the RDB of length sample records with no length information. The available data did not upload in the RDB (c). The yellow boxes indicate the difference both results.

Country	**2009**	**2010**	**2011**	**2012**	**2013**	**2009**	**2010**	**2011**	**2012**	**2013**
Belgium	35	42	46	38	43	9	23	19	16	13
Denmark	102	100	103	101	111	97	95	95	91	99
England	110	99	102	115	104	110	99	102	115	104
France				1					1	
Germany			87	126	117			70	110	102
Guernsey				1					1	
Ireland	2	2	2	2	2	2	2	2	2	2
Latvia	1	1	1	1	1	1		1	1	1
Lithuania			1	1	2			1	1	2
Netherlands	28	28	31	31	30	23	23	27	27	26
Northern Ireland	4	6	16	1	5	4	6	16	1	5
Poland	14	22	6	17	18	11	18	3	17	16
Scotland	28	33	27	32	105	28	33	27	32	105
Spain										
Sweden	8	90	93	97	85	8	76	76	81	71
United Kingdom	11	23	26	16		11	23	26	16	
Wales				1	1				1	1

a b

France					*12*
Spain					*60*

c

According to table 9.3.4, France did only upload length samples for one species in 2012. This was only a trial upload in order to check whether the format of the data is in accordance with the RDB FishFrame Exchange Format. So, the uploaded French sampling data for 2012 are incomplete. Furthermore, the number of length samples of Scotland are 3 times higher in 2013 than the years before. The extraction of the 2013 dataset was done according to a new extraction process, resulting in a complete dataset for 2013 and incomplete datasets before 2013.

Table 9.3.5 Summary of the percentage of possible missing data in the RDB

Type of data	No information in RDB
Number of species in length samples	24.7%
Number of species in age samples	41.2%
Number of Metiers in Effort data	18.8%
Number of species in Landings data	22.4%

Table 9.3.6 Number of records in the commercial landings data with information on the landed weight and value for 2009-2013

	OfficialLandingCatchWeight	OfficialLandingValue
BEL	164611	164562
DEU	49058	48813
DNK	718615	718615
ENG	128665	128665
EST	135	135
FRA	167128	2212
IRL	252	
LTU	64	
LVA	26	
NIR	1942	1942
NLD	118859	118859
POL	194	
PRT	216	
SCT	63826	63826
SWE	167510	164941
WLS	269	269
Grand Total	1581370	1412839

Overall there is a good match between the information on landed weight and value in the landings data. In the French data that was uploaded last year the value information is missing for several years. Also in the landings statistics from Ireland, Lithuania, Latvia, Poland and Portugal, there is no information on the value of the corresponding landings.

9.4 Harmonisation

As an example for a quality check within the RDB, the metiers in the RDB were compared to the last available version of the reference list of metiers (RCM NS&EA 2013).

Analysis revealed that among 281 metier records, extracted from the RDB, 155 metiers matched the reference list. 8 metiers were duplicated in the list because they were written in the wrong format (for instance, DRB_MOL_0_0_0 vs DRB_MOL_>=0_0_0). In total 118 metiers that were uploaded by MS are not from the reference list and only 3 of them have a description. More detailed information is presented in the Annex 5.

9.5 Conclusion

The main conclusion is that by exploring the content of the DB we identified the urgent need for software to be able to run queries that give us an answer to the questions we address. The summaries provided by ICES in order to get an idea on the completeness of the data, gave conflicting results on the items we wanted to check such as the number of age samples and the countries that have uploaded data in 2014. Therefore it was difficult to get a clear overview on the progress of uploading data to the Regional Data Base at the RCM NS&EA. After the meeting, ICES provided new overview tables that were more suitable to analyse the completeness of the data. However, because of time constraints the new input could not be included in the report. Since France and Spain have not imported data to the RDB it was very time consuming to make a comparison for these countries. It is therefore important that next year all countries will upload data into the RDB.

9.6 Relevant recommendations

Quality assurance – Agreed metiers and updated list	
RCM NS&EA 2014 Recommendation 6	**RCM NS&EA** recommends to update the list of metiers
Justification	After analysis of data uploaded to the RDB by MS in 2014, there were nearly 118 new metiers identified, which do not correspond with the reference list of metiers agreed during the RCM NS&EA in 2013. In the purpose of coordination of sampling activities in relation to key metiers at regional level, it is fundamental that the code list in the regional data base is unambiguous and corresponds with the reference list.
Follow-up actions needed	RCM NS&EA to update the list of metiers including detailed description of each. These lists should be implemented in the RDB. It should not be possible to upload data for metiers outside the list without permission from the RCM chair. The updated table of metiers should take all metiers standardized and accepted by RCMs over the last years into account.
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	intersessionally by correspondence

Quality assurance – Tools to analyse the data uploaded to the RDB	
RCM NS&EA 2014 Recommendation 7	**RCM NS&EA** recommends to develop tools to analyse the quality and the status of completeness of the data in the RDB
Justification	The summaries provided by ICES in order to get an idea on the completeness of the data, gave conflicting results on the items we wanted to check such as the number of age and length samples and the countries that have updated data from older years (2009-2012). Therefore it was difficult to get a clear overview on the progress of uploading data to the Regional Data Base.
Follow-up actions needed	RCM NS&EA to list the needs for evaluating the quality and the status of completeness of the data in the RDB
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	As soon as possible

10. Cost sharing of joint surveys

At present two research vessels surveys are conducted as joint Member States financed surveys; the International Ecosystem Survey in the Nordic Seas and the Blue Whiting Survey in the Atlantic.

In the International Ecosystem Survey in the Nordic Seas (IESNS) the Danish R/V Dana is representing the EU in cooperation with research vessels from three third countries. The costs of the survey and scientific crew are shared by Member states and in this case proportional with the MS TAC share of Norwegian Spring Spawning Herring which are the main targeted species at this survey. Only those MS's that are having a quota share of 5% or more are included in the cost sharing. Denmark, Germany, Ireland, the Netherlands, Sweden and UK are all having a share of 5% or more. The survey has been conducted successfully since 2004 and in a cost effective way. This survey, under the acronym ASH, is included in the list of research surveys at sea under the current DCF (D10/93 Appendix XIV).

The Blue Whiting Survey is carried out the Irish R/V Celtic Explorer and the Dutch R/V Tridens representing the EU in cooperation with research vessels from two third countries. The costs of the survey and scientific crew are shared by Member states and in this case proportional with the landings of blue whiting. Only those MS's that are having a landing share of 5% or more are included in the cost sharing. Denmark, Germany, Ireland, the Netherlands, Spain and UK are all having a landing share of 5% or more. The survey has been conducted successfully since 2008 and in a cost effective way. As the Nordic survey, this survey is included in the list of research surveys at sea under the current DCF (D10/93 Appendix XIV).

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

From 2014 until 2020 funding of the data collection is made available under the EMFF (article 77) under shared management. Therefore, the cost sharing model has to be changed as it would be unbalanced if the "vessel MS" should include the total research vessel cost in their Operational Programme and in the Annual Work Plan.

The RCM NS&EA discussed a cost model for the present joint Member States financed survey and for future joint surveys.

The proposed cost model is the following:

When implementing new joint surveys the following cost sharing model is suggested

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

In general there was an agreement that the suggested model could work and that is balanced. Several MS though expressed their concern on when participation in joint data collection work such as a joint survey cooperation is an obligation they have to carry out. In general there is no formal obligation for the MS to carry out specific surveys and as no specification on the number of survey days to be done.

Therefore, it was suggested to the Commission in cooperation with the MS should find a way forward in this issue.

The RCM NS&EA 2014 agreed that the above described cost sharing model be used for the International Ecosystem Survey in the Nordic Seas (IESNS) carried out by the Danish R/V Dana and the Blue Whiting Survey carried out by the Irish R/V Celtic Explorer and the Dutch R/V Tridens for years 2014 and 2015 or until a new data regulation is in place.

AGREEMENT	
Regional Coordination - Cost sharing of International Ecosystem Survey in Nordic Waters and Blue Whiting joint research surveys	
RCM NS&EA 2014 Agreement 2	**RCM NS&EA** 2014 agreed that the cost sharing model where those MS having a EU-TAC share >= 5% is sharing the survey cost 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). This model will be used for the International Ecosystem Survey in the Nordic Seas (IESNS) carried out by the Danish R/V Dana and the Blue Whiting Survey carried out by the Irish R/V Celtic Explorer and the Dutch R/V Tridens for years 2014 and 2015 or until a new data regulation is in place.
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	Approved by National Correspondents from Belgium, Denmark, Germany, the Netherland, Sweden and UK. The NC's from Ireland, France, Portugal and Spain should at the RCM NA be consulted.
Responsible persons for follow-up actions	The RCM NS&EA and the RCM NA
Time frame (Deadline)	Invoices should be sent to the MS concerned before November 1.
Follow up in 2014	The NC's concerned from the RCM NA to be consulted.

11. Any other business

11.1 New chairman and next meeting

After a two years term, Frans van Beek is resigning as chair of the RCM NS&EA. The RCM proposed to run the next term (2015-2016) with two co-chairs: Alistair Pout (UK-Scotland) and Katja Ringdahl (Sweden). The reason for opting for a co-chair system is that it is expected that in the future intersessional activities will increase. This is already the case in 2015, where it is likely that during the year changes have to be made in the national data sampling taking into account the implementation of the landing obligation.

The 2015 meeting will be held in the Netherlands in the Hague. Timing of the meeting will be decided at a later stage.

In order to facilitate the common memory of the group, the following table provides an overview of the venues and chairmanship of this RCM.

Year	Venue	Chair
2014	Lysekil, Sweden	Frans van Beek, The Netherlands
2013	Vigo, Spain	Frans van Beek, The Netherlands
2012	Ostend, Belgium	Els Torreele, Belgium
2011	Hamburg, Germany	Els Torreele, Belgium
2010	Charlottenlund, Denmark	Sieto Verver, The Netherlands
2009	Boulogne-sur-Mer, France	Sieto Verver, The Netherlands
2008	Aberdeen, UK-Scotland	Christoph Stransky, Germany
2007	Uddevalla, Sweden	Christoph Stransky, Germany
2006	The Hague, The Netherlands	Jørgen Dalskov, Denmark
2005	Bergen, Norway	Guus Eltink, The Netherlands
2004	Oostend, Belgium	Richard Millner, UK-England

12. Glossary

AER	Annual Economic Report
AIS	
AR	Annual Report (of activities carried out by MS under the DCF)
ACOM	Advisory Committee of ICES
AWP	Annual Work Plan
BSG	SCICOM/ACOM Benchmark Steering Group
CE	data exchange format for commercial effort data
CFP	Common Fisheries Policy
CL	data exchange format for commercial landings data
COST	toolbox for quality evaluation of fisheries data
CS	data exchange format for commercial sampling data; calcified structures
CV	Coefficient of Variation
DATRAS	
DB	database
DC-MAP	see EU-MAP
DCF	Data Collection Framework (follow up of DCR)
DCR	Data Collection Regulation
EC	European Commission
EFCA	European Fisheries Control Agency
EG	Expert Group
EMFF	European Maritime and Fisheries Fund
ERS	
EU	European Union
EU-MAP	Multi Annual Programme for Data Collection (follow up of DCF)
EUROSTAT	Directorate-General of the EC which provides statistical information to the EU
EWG	STECF Expert Working Group
FishFrame	RDB software platform
GFCM	General fisheries Commission for the Mediterranean
IBTSWG	International Bottom Trawl Survey Working Group
IC	
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IESNS	International Ecosystem Survey in the Nordic Seas
IFCA	Inshore Fisheries and Conservation Authorities
InterCatch	ICES Database
ISO	
IT	
LM	Liaison Meeting

LPF	Large Pelagic Fisheries
MoU	Memorandum of Understanding
MRR	Master Reference Register
MS	Member State
NA	North Atlantic
NAFO	Northwest Atlantic Fisheries Organization
NC	National Correspondent
NP	National Programme (of activities carried out by MS under the DCF)
NS & EA	North Sea and East Arctic
PGCCDBS	Planning Group on Commercial Catches, Discards and Biological Sampling
PGDATA	
PGECON	Planning Group on Economic Issues
PGMED	Mediterranean Planning Group for Methodological Development
PSU	primary sampling units
QA	Quality Assurance
QC	Quality Control
RCG	Regional Coordination Group
RCM	Regional Coordination Meeting
RDB	Regional Data Base (of the RCM)
RFMO	Regional Fisheries Management Organisation
SC-RDB	Steering Committee Regional Data Base
SCICOM	ICES Science Committee
SG	Study Group
SGPIDS	Study Group on Practical Implementation of Discard Sampling Plans
SGRN	
SLU Aqua	Swedish University of Agriculture Sciences
SSGEPD	SCICOM Steering Group on Ecosystem Processes and Dynamics
SSGEPI	SCICOM Steering Group on Ecosystem Pressures and Impacts
SSGIEA	SCICOM/ACOM Steering Group on Integrated Ecosystem Assessments
SSGIEOM	SCICOM/ACOM Steering Group on Integrated Ecosystem Observation and Monitoring
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
TBC	
tor	terms of reference
UWTV	Under Water Camera Survey
VMS	Vessel Monitoring System, satellite based system to locate vessels
WebEx	
WebGR	
WG	working group

WGBFAS	Working Group on Baltic Fisheries Assessment
WGBIOP	Proposal for new ICES Working group
WGCATCH	Proposal for new ICES Working group on commercial catches
WGNEW	Working Group on new MoU species
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WGRFS	Working Group on Recreational Fisheries Surveys
WKADR	
WKAVSG	Workshop on age validation studies of Gadoids
WKMERGE	Workshop on methods for merging metiers for fishery based sampling
WKNARC	Workshop of National Age Readings Coordinators
WKPICS	Workshop on practical implementation of statistical sound catch sampling programmes
WKRDB5	
WKSABCAL	Workshop on Statistical Analysis of Biological Calibration Studies
WoRMS	
WP	Work Package
WKRDB 5	

13. References

Council Regulation (EC) 199/2008 of 25 February 2008 concerning the establishment of a Community Framework for the collection, management and use of data in fisheries sector for scientific advice regarding the Common Fisheries Policy

Commission Regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy

Commission Regulation (EC) No 1078/2008 of 3 November 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 861/2006 as regards the expenditure incurred by Member States for the collection and management of the basic fisheries data

Commission Decision (EC) No 2010/93/EC of 2010 adopting a multi annual Community programme pursuant to Council Regulation (EC) No 199/2008 establishing a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

ICES-ACOM 2013. Report of the third Workshop on Practical Implementation of Statistical Sound Catch Sampling Programmes (WKPICS3), 19-22 November 2013, ICES HQ, Copenhagen, Denmark. ICES CM2013/ACOM:54 REF: ACOM, PGCCDBS, RCMS, STECF-EWG on DCF

ICES 2010. Report of the Workshop on methods for merging metiers for fishery based sampling (WKMERGE). 19-22 January 2010 Copenhagen, Denmark. ICES CM 2010/ACOM:40 REF. PGCCDBS, RCMS, STECF/SGRN

ICES 2012. Report of the second Workshop on Practical Implementation of Statistical Sound Catch Sampling Programmes (WKPICS2), 6-9 November, Copenhagen, Denmark. ICES CM 2012/ACOM:52 REF. PGCCDBS, RCM'S, STECF/SGRN

ICES 2012. Report of the Study Group on Practical Implementation on Discard Sampling Plans (SGPIDS). 18–22 June 2012, ICES HQ, Copenhagen, Denmark. ICES CM 2012/ACOM:51 REF. PGCCDBS

ICES 2013. Report of the third Workshop on Practical Implementation of Statistical Sound Catch Sampling Programmes (WKPICS3), 19-22 November 2013, ICES HQ, Copenhagen, Denmark. ICES CM2013/ACOM:54 REF: ACOM, PGCCDBS, RCMS, STECF-EWG on DCF

ICES 2013. Report of the Study Group on Practical Implementation of Discard Sampling Plans (SGPIDS). 24 June – 28 June 2013, Lysekil, Sweden. ICES CM 2013/ACOM:56

ICES 2014. Report of the Planning Group on Commercial Catches, Discards and Biological Sampling (PGCCDBS) 18 -22 February 2014 Horta (Azores), Portugal. ICES CM 2014/ACOM:34

Lumley, T. 2010. Complex Surveys; A Guide to Analysis Using R. Wiley, New York

RCM NS&EA 2013. Report of the Regional Co-ordination Meeting for the North Sea and Eastern Arctic (RCM NS&EA) 2013. European Fisheries Control Agency (EFCA), Vigo, Spain. 9-13 September 2013

LM 2013: Report from the 10th Liaison Meeting 2013.

STECF 12-02 Review of the Revised 2012 National Programmes and on the Future of the DCF (EWG 11-19) EUR 25308 EN JRC 70899

STECF 12-07 Review of Proposed DCF 2014-2020 – Part 1 (EWG 12-2) EUR 25338 EN, JRC 71290

STECF 13-01 Review of Proposed DCF 2014-2020 – Part 2 (EWG 12-15) EUR 25825 EN, JRC 79209

STECF 13-06 Review of DC MAP- Part 1 (EWG 13-02) EUR 25974 EN, JRC 81593, 42 pp

STECF 13-12 Review of DC MAP- Part 2 (EWG 13-05) EUR 26095 EN, JRC 83566

STECF-13-23 Landing obligation in EU fisheries (EWG 13-16) EUR 26330 EN, JRC 86112, 115 pp

STECF 14-01 Landing Obligation in EU Fisheries - part II (EWG 13-17) EUR 26551 EN, JRC 88869, 67 pp

STECF 14-02 Revision of DCF (EWG 13-18) EUR 26573 EN, JRC89196, 103 pp

STECF 14-06 Landing Obligations in EU Fisheries - part 3 (EWG 14-01) EUR 26610 EN, JRC 89785, 56 pp.

STECF 14-07 DCF revision – Part 4 (EWG 14-02) EUR 26612 EN, JRC 89788, 77 pp.

Annex 1: Summary of recommendations and agreements

Regional Database – Consultation of RCMs	
RCM NS&EA 2014 Recommendation 1	**RCM NS&EA** recommends that the RCMs are consulted before the Commission takes decision on future database structure for DCF data and that the future RCG needs are properly considered
Justification	The RDB is the backbone in present regional coordination of data collection between MS and the RCM Baltic foresee that the importance of a well-functioning database adapted to the needs of the regional coordination group will be even more crucial in the future when moving towards regional programs, design based approach as well as stronger focus on quality assurance and end-user interactions. It is thereby of urgent importance that the RCM needs are carefully considered when the Commission choose system for storage and management of DCF data.
Follow-up actions needed	COM to properly consult RCMs before decisions are taken on future database structures and to properly consider RCM/RCG needs
Responsible persons for follow-up actions	European Commission
Time frame (Deadline)	2014

Implications of the landing obligation - Scientific data collection and at-sea sampling	
RCM NS&EA 2014 Recommendation 2	**RCM NS&EA** recommends that MS maintain scientific observer programmes and continue *at-sea* sampling schemes for the collection of scientific data for stock assessment and advice. Additionally that the role of scientific observer is not conflated with any monitoring role. Appropriate modifications to at-sea sampling protocols and recording should be devised for sampling the retained discard fraction.
Justification	Discarding will become illegal for the most part, and this has the potential to disrupt the historical time series of catches used in assessment models. Nevertheless, at-sea sampling needs to be maintained because discards at-sea will continue for various non TAC species and exemptions allowed under the landing obligation. Additionally the landing obligation will introduce a new category of retained discards and this fraction has to be sampled to obtain scientific data for the complete catch composition. Until such time as the feasibility of sampling this catch component on-shore can be determined there is a need to maintain at-sea sampling. The RCM NS&EA underlines the importance of maintaining statistically sound sampling designs for the on-board observations, and the integrity of scientific observers.
Follow-up actions needed	Scientific institutions to prepare sampling protocols appropriate for at-sea sampling of the retained fraction and the extra faction (landing part for industrial purpose of fish under the minimum reference size) due to the landings obligations and modify their sampling protocol . MS & ICES to consider if modifications are needed for recording, storage and estimation processes (data exchange format, IT systems, ...)
Responsible persons for follow-up actions	Scientific institutions within MS
Time frame (Deadline)	Prior to the implementation of the landing obligation

Implications of the landing obligation - Scientific data storage, IT systems and estimation	
RCM NS&EA 2014 Recommendation 3	**RCM NS&EA** recommends that scientific institutions and ICES ensure that data recording systems, IT systems and estimation routines are able to appropriately deal with the retained discard fraction. Also authorities should adjust logbooks and IT systems to accommodate the accurate recordings of all catch components, including the part that can be released under the de minimis exemptions.
Justification	The landing obligation will introduce a new category of retained discards and this fraction of the catch will require to be estimated. This necessitates that within national institutions and ICES all stages of the recording, storage and estimation processes are able to accommodate this fraction. Many national IT systems may have data models based on a distinction between landed and discarded data that will require modification to accommodate retained discards fraction. Routines to estimate national catch compositions for length and age for assessed stocks will need to be adjusted. The ICES InterCatch system and the regional data base may be similarly affected.
Follow-up actions needed	Scientific institutions and ICES data centre to consider if present systems are appropriate and if not make the required modifications.
Responsible persons for follow-up actions	Scientific institutions within MS & ICES National and EU authorities
Time frame (Deadline)	Prior to the introduction of the landing obligation, January 2015 for pelagic stocks and January 2016 for demersal stocks.

Implications of the landing obligation - Monitoring catch data collection	
RCM NS&EA 2014 Recommendation 4	**RCM NS&EA** recommends that monitoring catch data collected by control agencies should be maintained and enhanced to account for the additional need to assess the impact of the landing obligation. Specifically the logbook system should be able to record continuing discards and the retained discard fraction as well as the landed fraction. Selective gear measures adopted by vessels should be recorded in logbooks.
Justification	The landing obligation will herald significant changes in the behaviours of fishers, fishing practices, and will most likely result in a proliferation of the use of more selective gears. There will also be requirements to record continuing discards, retained discards and the landed fraction of the catch. If these changes are not adequately recorded in the official catch monitoring data then the ability to make inference from scientific samples to fishing fleets will be limited. The better the accuracy and integrity of the monitored catch data the better are the estimates of the total catch.
Follow-up actions needed	Commission, European and national control agencies to consider the adequacy of catch monitoring procedures.
Responsible persons for follow-up actions	Commission, European and national control agencies
Time frame (Deadline)	Prior to the introduction of the landing obligation

Implications of the landing obligation - Scientific data collection on-shore	
RCM NS&EA 2014 Recommendation 5	withdrawn

Quality assurance – Agreed metiers and updated list	
RCM NS&EA 2014 Recommendation 6	**RCM NS&EA** recommends to update the list of metiers
Justification	After analysis of data uploaded to the RDB by MS in 2014, there were nearly 118 new metiers identified, which do not correspond with the reference list of metiers agreed during the RCM NS&EA in 2013. In the purpose of coordination of sampling activities in relation to key metiers at regional level, it is fundamental that the code list in the regional data base is unambiguous and corresponds with the reference list.
Follow-up actions needed	RCM NS&EA to update the list of metiers including detailed description of each. These lists should be implemented in the RDB. It should not be possible to upload data for metiers outside the list without permission from the RCM chair. The updated table of metiers should take all metiers standardized and accepted by RCMs over the last years into account.
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	intersessionally by correspondence

Quality assurance – Tools to analyse the data uploaded to the RDB	
RCM NS&EA 2014 Recommendation 7	**RCM NS&EA** recommends to develop tools to analyse the quality and the status of completeness of the data in the RDB
Justification	The summaries provided by ICES in order to get an idea on the completeness of the data, gave conflicting results on the items we wanted to check such as the number of age and length samples and the countries that have updated data from older years (2009-2012). Therefore it was difficult to get a clear overview on the progress of uploading data to the Regional Data Base.
Follow-up actions needed	RCM NS&EA to list the needs for evaluating the quality and the status of completeness of the data in the RDB
Responsible persons for follow-up actions	RCM NS&EA
Time frame (Deadline)	As soon as possible

AGREEMENT	
Quality control documentation	
RCM NS&EA 2014 Agreement 1	It is agreed that all MS attending the **RCM NS&EA** will document their data checks and quality control procedures in reference to the data capture and data processing stages of their national sampling programmes.
Justification	To be able to compare and improve national quality standards, RCM should have access to all national check procedures. Hereafter improvements can be recommended.
Follow-up actions needed	ICES to develop an easier procedure for comparing the data.
Responsible persons for follow-up actions	MS within RCM NSEA
Time frame (Deadline)	RCMs 2015

AGREEMENT	
Regional Coordination - Cost sharing of International Ecosystem Survey in Nordic Waters and Blue Whiting joint research surveys	
RCM NS&EA 2014 Agreement 2	**RCM NS&EA** 2014 agreed that the cost sharing model where those MS having a EU-TAC share >= 5% is sharing the survey cost 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). This model will be used for the International Ecosystem Survey in the Nordic Seas (IESNS) carried out by the Danish R/V Dana and the Blue Whiting Survey carried out by the Irish R/V Celtic Explorer and the Dutch R/V Tridens for years 2014 and 2015 or until a new data regulation is in place.
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	Approved by National Correspondents from Belgium, Denmark, Germany, the Netherland, Sweden and UK. The NC's from Ireland, France, Portugal and Spain should at the RCM NA be consulted.
Responsible persons for follow-up actions	The RCM NS&EA and the RCM NA
Time frame (Deadline)	Invoices should be sent to the MS concerned before November 1.
Follow up in 2014	The NC's concerned from the RCM NA to be consulted.

Annex 2: Roadmap for the development of a regional sampling programme

This text is taken from the draft report of the 2013 RCM-NA meeting: section 6.4 Roadmap for the development of a regional sampling programme

introduction

The data collection programme supporting the new CFP will be carried out through the DC-MAP. The DC-MAP is the successor of the DCF and it was intended to introduce the DC-MAP in 2014. However, at present there is no legal proposal for the DC-MAP and the introduction will be delayed for at least two years. To accommodate for this, the latest multi-annual National Programmes - created under the DCF - have been rolled over to 2014-2016. Although, the content of the DC-MAP is still unknown, the intention of the DC-MAP is to be more flexible than DCF and to be more cost efficient. The data collection carried out under the DCF is prescriptive and does not necessarily take into account the all-important data needs of the major end-users. It is anticipated that this will change under the DC-MAP and that needs by the end-users will be considered in a consultation process.

The DCF obligations to the MS are defined in great detail. These allow Member States to provide regional structured National Programmes. The proposed National Programmes are considered in Regional Coordination Meetings by comparing those with regional needs. If necessary, MS are asked to adjust their National Programme to ensure that regional data needs are covered by sampling programme. In addition MS can exchange national tasks through bilateral agreements if this is considered to be more efficient.

It is expected that a significant difference between the DCF and DC-MAP will be that the DC-MAP will define part of the data needs on a regional level and will respect the principles as defined in the Ostend Declaration. This requires a different kind of coordination because the regional sampling requirements need to be allocated to Member States before they can produce a National Programme. It is proposed that the coordination will be carried out by Regional Coordination Groups (RCG). In this coordination process, the RCG would take into account that data collection will need to be cost efficient, will be designed in accordance with international agreed standards and also meets certain standards of quality.

The task of the RCG will thus be different from the RCM and STECF considered that coordination under RCG is more complex and will be need to be carried out in a process and a lot of work will need to be carried out intersessionally by dedicated sub-groups. However, continuity, commitment and stability in terms of participation, responsibilities and mandates are vital to a well-functioning RCG.

STECF also considered that a straight implementation of the DC-MAP is not feasible and proposed a gradual implementation to be completed at the mid-term evaluation of the EMFF.

The Commission asked the RCMs in 2013 to come up with a proposal for a roadmap for the implementation of the regional coordination process within DC-MAP. Providing such a roadmap at this stage is rather speculative, since the agreed contents and structure of the DC-MAP is unknown. Nevertheless, it is important that RCGs are prepared for their future coordination tasks. The delay of the implementation of the DC-MAP provides a time window of 2 years to the RCGs to prepare themselves. RCM-NA considered the activities which should be carried out in 2014 and 2015 before the DC-MAP becomes operational.

Role of the RCG

It is considered that the RCG has a coordinating and advisory role. Participation in the RCG would be by national experts on data collection, depending on the agenda and technicalities to be dealt with. Decisions on national shares in the regional data collection need to be taken at a higher level where national interests and financial consequences can be agreed. The major roles of the RCG include:

1. coordination of the regional programme (propose allocation of tasks to MS)

2. decide on sampling strategies (which are cost effective and in accordance with international agreed standards)
3. advise on the feasibility to include new data needs based on requests resulting from the consultation process of end-users. The role of the RCG could be to:
    a. redefine the request
    b. indicate resources and costs needed
    c. indicate the available expertise
4. maintain a quality control system
    a. govern a process that develops a suite of diagnostics indicating the quality of data. This work needs to be carried out by experts. The application of the diagnostics would need to be linked to the regional database (RDB) which contains the data collected by the MS.
    b. apply the diagnostics (production by RDB)
5. govern the Steering Committee of the Regional data base (SC RDB)
    a. with data needs
    b. standard output with information needed for coordination

Roadmap for 2014 and 2015

The proposed roadmap applies to the goal that RCG should be prepared to carry out their role at the time of implementation of the DC-MAP. It is assumed that the DC-Map will create regional sampling plans of which elements need to be allocated to the Annual Work Programmes of the MS. It also assumes that the activities can be carried out in 2014 and 2015, the period of which the NP (designed under the DCF) are rolled over. The roadmap would simulate the envisaged coordination process, the process of end user consultation, prepares facilities to monitor quality of data and selection of appropriate sampling strategies. The exercise proposed in the roadmap is restricted to biological sampling and transversal information where it is considered necessary to collect these data and to coordinate these regionally. Access to reliable and complete data in the Regional Data Base is essential for this exercise and commitment of MS to update the database may be required. In addition the activities should be adaptive to intermediate and final decisions taken on the content of the DC-MAP. The following activities are foreseen for the process:

1. to simulate the consultation process with the end-user on data needs
2. to design a Master Reference Register (MRR) with preliminary content
    a. with required data
    b. with sampling methods
3. to further develop and populate the RDB
    a. by defining outputs needed for coordination
    b. by producing the required output
    c. and implement the MRR in the RDB
4. define a regional programme based on the Regulation/Decision and MRR
5. to exercise the selection of appropriate sampling strategy
6. to exercise the allocation of elements of the regional programme to MS based on information of access to the sampling resources in the RDB.
7. propose national shares and commitments to be carried out the regional programme

The allocation of shares of the regional programme to the MS needs to be agreed between the MS. There are financial consequences which need to be considered. Also MS may have national priorities in data collection which has to be carried out within the available budget. Concern was expressed on reduction of budgets allocated to data collection in some MS. The process of setting priorities on regional level as well on national level needs to be further discussed. The RCM NA consider these discussions should take place on a higher level e.g. LM and or STECF.

The already established Regional Database holding fisheries data plays a key-role in this process. Further developing and populating the database is essential for designing sampling strategies, evaluation purposes and task allocation.

additional remarks

The roles of the different stakeholders in the DC-MAP should be clearly specified in the DC-MAP. The RCM-NA envisaged the following roles for end users

- to define data needs and required quality
- to define priorities in data needs proposed by the end user
- to participate in end-user consultation
- to participate in quality evaluation of data

Liaison Committee

- strategic guidance and taking decisions
- consultation of end-users
- governing RCG
- proposed participation: Commission, chairs of RCG, PGECON, STECF

NC

- national coordination of data collection
- accountability
- communication between Commission and MS
- national focal point
- agree on national share in regional data collection programme. This would change the scope of the NC meetings

economic data collection

The proposed road map does not apply to social and economic data collection. It is considered that all (socio) economic parameters defined in the MRR can only be collected at the national level. This is because MSs only have access to their own sampling sources. Therefore, for these parameters the DC-MAP will create national obligations in the same way as the DCF. The coordination of the data collection for economic parameters is carried out by PGECON. PGECON has a similar role as the RCGs and should take care of: harmonisation of methodology; common database and format and quality evaluation and to provide advice on new parameters requested through the end-user consultation process.

The RCM NA was informed that social and economic issues differ between regions requiring different approaches and different data needs. If this is the case it should be reconsidered (by STECF) whether economists need to work on a superregional level.

transversal variables (Kelle: Following text to be included at appropriate place)

Among others, some issues may be particularly relevant at regional level i.e. bio-economic impact assessment of specific management measures, social impact assessment, recreational fisheries, small scale fisheries. There are some concerns regarding how the current data collection could be used or designed to answer these regional issues. For example, the bio-economic impact assessment of fisheries management at regional level may lead to reconsider the current level of economic data collection (which is now supra regional), to change the segmentation of fleets or implement the collection of new data e.g. social data, data on recreational fisheries or small scale fisheries. These technical questions need to be dealt by an integrated expert group which does not already exist. The RCM NA advises STECF to determine how to approach and solve these issues.

Annex 3: Cefas at-sea sampling programme design against best practice

DOCUMENTATION OF SAMPLING DESIGN, PERFORMANCE OF SAMPLING AND PRODUCTION OF ESTIMATES					
Process that need to be described	Best practice	Comment	Bad practice	Cefas sampling design	Comment on adherence to best practice
Target population	The target population needs to be identified and described. Access to the target population for sampling purposes need to be analysed and documented.			Target population for DCF is all fish and shellfish species for which estimates of discard quantities are required by Commission Decision 2010/93/EU, taking account of any derogations granted. In general we target the total catch for sampling. Access to the population is through a regularly updated list frame of fishing vessels, from which a stratified random selection is made for direct observation by Cefas observers according to the procedures described below.	
Primary sampling units (PSUs)	Choice of PSUs should be identified, justified and documented. PSUs could be trips, vessels*time or sites*time (harbours, markets, access points). Size of PSUs should be documented	If PSU is something else than trip, vessel or site the choice need to be thoroughly explained.		The PSU is in principle a fishing vessel included in the vessel list frame. As described in the ICES WKPICS reports, the selected trip is therefore a secondary sampling unit picked at random. In practice, for analysis, we treat the trips as the PSUs of a virtual sampling frame, where the trips are not known in advance, but all trips are documented exhaustively in the national fleet activity data base (FAD; Ifish2) allowing the sampling probabilities to be re-evaluated at the end of the year. The intended sampling probabilities are based on numbers of trips in each stratum observed in the most recent year with full data.	
Sampling frame	The sampling frame (list of PSUs) should be a complete list of non-overlapping PSUs. The sampling frame should ideally cover the entire	If it is not possible to cover the entire target population with the sampling frame it is good	To exclude large parts of the target population in an ad-hoc way.	The sampling frame is a virtual frame of all fishing trips of the vessels in the list, which comprises all commercial fishing vessels [registered in E&W] operating from all ports in England [&Wales]. The list of active vessels is updated quarterly. The frame excludes the following vessels & fishing trips:	Wales programme being re-designed independently of English fleet to meet National (Welsh Gov.)

	target population.	practice to clearly describe how large the excluded part of the population is and the reason for excluding it.		Vessels less than 7m, excluded for health & safety reasons Vessels considered unsafe to take observers for reasons other than size. Vessels specialising in fishing methods or target species for which a derogation has been granted: [Appendix 1] Shellfish dredgers Line vessels Some pelagic vessels Potting vessels Vessels fishing from foreign ports or outside England [&Wales]. Vessels subject to bilateral agreements to be sampled in another country, or where RCMs consider the metier is effectively sampled by another country [Appendix 2] Anglo-Spanish demersal vessels operating from English & Welsh ports; Anglo -Dutch beamers predominantly landing to Dutch ports Anglo -Dutch trawlers fishing sole and plaice in the North Sea English [&Welsh] Vessels fishing from other UK administrations (See comment)	requirements. Administrations need to agree on procedure for sampling each others vessels when vessels are working in other administrations waters. Is it safe to assume that the sampled local fleet are representative of the entire UK fleet? Work to be done.
Stratification of the sampling frame	Strata should be well defined, known in advance and fairly stable. Clear definitions and justifications of strata should be available. One PSU can only be in one stratum. The minimum number of samples within a stratum is dependent on objective, PSU and variance and needs to be	If the desired minimum number of samples per stratum is not analytically assessed, the choice needs to be justified and described. Care needs to be taken to avoid	To over-stratify (few or no samples in each strata) the sampling schemes. Over-stratification results in increased risk for bias, particularly for ratio estimates, and a need to impute data.	The overall sampling effort is largely constrained by the financial and staff resources made available by the UK government for this work – currently around 525 staff days are available for at-sea observer sampling. This affects the number of stratum that can be effectively sampled. Gear groups have been combined by region. The polyvalent and seasonal nature of these regional fisheries will be captured by the sampling effort. The list of vessels in the sampling frame is stratified by: Region (4 strata) and predominant fishing method (6 strata). In addition some region / fishing method strata	

	calculated. The number of samples within a stratum needs to be justified, in particular if it is below 10.	over-stratification.		are further stratified by vessel LOA (<10m; 10m+). *The number of vessels referred to below is only indicative as the vessel number will change from quarter to quarter.* A stratum of <10m mixed demersal fishing with trawls, beam, seine, fixed and drift nets is defined due to the often polyvalent nature of the activities of this size of vessel many of which may also fish pots and lines. 10m+ Beam trawlers using 80mm+ mesh [68 vessels in total] are defined as a stratum as these vessels comprise a well-defined fleet with very high incidence of beam trawling for benthic species. 10m+ Scallop dredgers are defined as a stratum as these vessels comprise a well-defined fleet [99 vessels] targeting Scallops. A 10m+ stratum of mixed demersal fishing with trawls, seines, fixed and drift nets [115 vessels] is defined due to the often polyvalent nature of the activities of these vessels in certain regions. 10m+ Netters are defined as stratum in a region where fleets are almost exclusively limited to one gear type in highly variable but distinctive offshore fisheries. 10m+ Trawlers are defined as stratum in a region where fleets are almost exclusively limited to one gear type in variable but distinctive demersal fisheries. The stratification scheme is shown in Appendix 3 together with the number of fishing trips and total catches in the baseline year[s] used for allocating sampling effort, excluding vessels for which there is an agreed derogation for sampling. The sampling targets by stratum are also given in Appendix 3. A minimum target of 3 trips per quarter per stratum is nominally set, so an annual target of <10 trips is indicative of the sampling being limited to the more significant quarters.	
Distribution of	The way sampling effort is distributed between	If other methods, such		Sampling effort (number of trips to sample by stratum) is allocated according to information on fishing effort and	

sampling effort	strata needs to be described. In accordance with best practice, this can be based on analysis of variance or just distributed proportionally. The different sampling inclusion probabilities/weighting need to be documented.	as expert judgment are used, this should be explained and justified.		catches in the previous year. The method is described fully in Appendix 3. The ratio of target trips to fleet trips is an indicator of the desired sampling inclusion probabilities.	
Sample selection procedure	In accordance with good practice, the selection of PSUs to sample should be done in a controlled way allowing for estimation of sampling inclusion probabilities for the different samples. In principal this mean that samples shall be chosen randomly (probability based sampling). Random sampling can be either simple random sampling or systematic random sampling. The selection procedure needs to be justified and described	If it is impossible to use probability-based sampling, the samples need to be thoroughly validated for how representative they are. This process need to be described. If a non-probability based sampling design is applied, this needs to be accounted for in the estimation process (e.g. model based estimations). This needs to be thoroughly explained. For small-scale fisheries where there is no census	Ad-hoc based sampling, without proper documentation to allow estimation of bias, where the sampling inclusion probabilities cannot be estimated.	A random, probability-based sampling scheme is adopted. The procedure is as follows: [List SOPs and guidance – Appendix 4] 1. An updated vessel list and contact details is compiled for each sampling stratum. 2. At the start of each quarter the list for each regional stratum is randomised. 3. Sampling staff operating in a region work down the list, contacting skippers to arrange a trip. A work plan is agreed with the observer at the start of each quarter as to which stratum they will have responsibility for. The observers work inter-dependently and work sequentially down the shared draw lists. The process is summarised in the guidance document - DrawlistGuidance_Ver4.docx Appendix 4. 4. There are several reasons why a sampling trip may not be possible: - Skipper refuses - Vessel is at sea and will not be available within the sampling period. - Vessel is unsafe or unable to take an observer safely. - Etc. etc. If a vessel cannot be sampled the observer selects and	

		information on the target population, the only way to sample in accordance with good practice is randomly.		approaches the next vessel in the list. 5. The vessel selection and contact process is logged and the response. Any none response is categorised and the reasons recorded. This process is standardised so that the success rates, refusal rates, none response rates and departures from best practice can be easily analysed and reported.	
Hierarchical structure in the sampling	All the levels in the hierarchical structure of the sampling scheme need to be documented. Sampling should be random at all levels. Sampling probabilities should be worked out at each level, and information for this needs to be collected (e.g. number of boxes)		Failure to account for the different levels of sampling units in the design and estimation processes. (Risk for bias as well as hiding true variation)	The hierarchy for sampling is as follows, assuming a "virtual frame" of vessel trips (see SOPs in Appendix 4 - Observer Training Manual). 1. Primary sampling unit: The fishing trip 2. Secondary unit: - hauls within trips [a minimum of 60% of hauls is sampled systematically across the entire period of the trip to ensure spatial and temporal coverage. 3. Tertiary unit: - Catch component (Landings/Discards) - Nets within a fleet - Baskets within haul - Baskets within catch component 4. Size categories of species within baskets 5. Etc……..	
Protocol for selection of samples at lower sampling levels (SSU, etc.)	Such protocols should exist in a national repository			The detailed sampling protocols for selection of secondary and lower sampling units is given in the Standard Operating Procedure (Appendix 4) Currently, otoliths are collected only from the discarded component according to a length-stratified scheme. For a species, the SOP specifies collecting 1 otolith per 1cm length class from each trip and ICES area when sampling for length.	
System to monitor performance of sampling schemes - Quality Indicators	Non-response rates should be recorded. Precision of estimates (relative standard error) should be calculated, where relevant. Effective			The following systems are in place to monitor sampling performance and data quality: 1. Sampling achievements are summarised and monitored on an ongoing basis on a spreadsheet held in a shared drive, and through regular	RCMs are starting to review QA procedures and QA reports that provide spatial coverage;

	sample size (or appropriate proxy such as number of vessels or trips sampled) should be calculated and recorded.			contacts with sampling staff, so that issues can be identified and resolved as early as possible. 2. The sampling design is statistically robust, using probability-based sampling. 3. Non-response rates are recorded. These could be used to review potential bias and to improve on access to fisheries were consistent refusals are an issue. Currently these response rates are monitored internally by data managers and program managers and not published. 4. Monitoring spreadsheets are updated before departure and on return and these are used to provide a unique id for each trip and to track - achievements. On return the observer ensures all the paperwork is in good ordered and complete to a high minimum standard. These data are entered onto the Observer DB. Error traps include: - Min and max gates on fields: • Size of species • Mesh sizes • Dates and times • Area of (Ordinates and ICES Rectangle) - Limited lists: • Active Vessel Registration • Gear • Species • Meshes • Gear descriptors and metrics 5. Once entered the entered data and data integrity is checked by another observer - following procedure (Appendix 5 – current reference ObserverDBDataCheckingProtocol_Ver1.docx). Any errors are investigated, corrected and recorded. 6. Summary reports provide overviews to identify outliers and extreme values in the data (RFs,	numbers of PSUs vs nos. actual trips by stratum etc., using the COST type approaches are suggested. Work to do.

				rare species and length ranges). These can be limited to trip or all the data in a stratum and will be carried out quarterly by an administrator. Any obscure values will be investigated. 7. Precision is currently estimated using COST tools, but 8. numbers of PSUs (trips sampled) is documented as a proxy for effective sample size. Quarterly reports of the sampling activity against fishing activity will provide an indication of how well the sampling design is working.	
Documentation of raising/weighting procedure for national estimates	Data analysis methods should be fully documented, covering: (1) how the multi-stage sample selection is accounted for in the raising/weighting procedures; (2) ancillary information (for example from fleet census data), that is used to adjust sample weights to correct for any imbalance in samples compared to the population; (3) methods of adjustment for missing data and non-responses.			To be completed	

Appendix 1: List of current granted derogations and links to documented evidence

Table 1 Summary of agreements reached during RCM NA on the need to sample metiers on-board for discards estimation

Metier	**Area**	**RCM NA Comment**	**Sampling required**	**RCM NA report**
FPO_CRU_0_0_0	VI, VII (excl. VIId)	Onboard monitoring unnecessary owing to 1. the small by-catch of finfish, and 2. the return of undersized crustaceans alive.	No	2009
LHP_DEF_0_0_0	VIIa, VIIe, VIIfgh	Onboard monitoring for discards was unnecessary as the volumes of discards are small, and the same issues of practicality and safety apply to the placing of observers on hand-lining vessels that are predominantly <10m but frequently as small as 6m.	No	2009
GNS_DEF_120-219_0_0 GNS_DEF_>=220_0_0	VIIfgh	Onboard observation still necessary as high rates of discarding were observed by France.	Yes	2009
DRB_MOL_0_0_0	VIIe	UK and France to conduct pilot studies		
PS_SPF_0_0_0	VIIIb VIIIc	Onboard monitoring unnecessary owing to low level of discarding (<2% by weight) observed in 2003 and 2004 by Spain.	No	2009
FPO_MOL_0_0_0	VI, VII (excl VIId).	Onboard monitoring of potting for Whelks (*Busycon spp*) unnecessary owing to Negligible by-catch of non-finfish species and return of undersized molluscs alive.	No	2011
HMD_MOL_0_0_0	IV, VIId	Hand and suction dredge for molluscs where the majority of fisheries are highly legislated by IFCA (Inshore Fisheries and Conservation Authorities) with limited discards of finfish and shellfish	No	2012 (section **Error! eference source not found.**)
DRB_MOL_0_0_0	IV, VIId	Boat dredge fisheries for molluscs – excluding the targeted scallop fishery - the majority of fisheries are monitored by IFCA(Inshore Fisheries and Conservation Authorities) with limited discards of finfish and shellfish	No	2012 (section **Error! eference source not found.**)

Summary of agreements reached during RCM NS&EA on the need to sample metiers on-board for discards estimation

Metier	Area	RCM NS&EA Comment	Sampling required	RCM NS&EA report
Sampling of metiers that only catch G3 species	All	Recommends that SGRN clarifies if metiers only catching G3 species need to be sampled. SGRN: these metiers have to be sample. In case MS disagree with this decision, MS should take this up in bilaterally with the Commission.	Yes	2009 (p 9)
DRB_MOL_0_0_0	VIId, IV	Discard rate of fish is small while it is high on juvenile scallops. The importance of discard estimates for management then comes down to survival rate of scallop discards which is out of the scope of DCF. The necessity of sampling this metier for discard was discussed during the RCM NS&EA. If the RCMs were given the task to prioritise metiers for discard sampling the DRB_MOL_0_0_0 would be a candidate for not sampling discards.	?	2010 (p 20)
FPO_CRU_0_0_0	VIId, IV	The necessity of sampling this metier for discard was discussed during the RCM NS&EA. If the RCMs were given the task to prioritise metiers for discard sampling the FPO_CRU_0_0_0 would be a candidate for not sampling discards.	?	2010 (p 21)
LHP_FIF_0_0_0	VIId, IV	Discards assumed to be insignificant. Landings sampled at shore.	?	2010 (p 21)
LLS_DEF_0_0_0	VIId, IV	Discards assumed to be insignificant. Landings sampled at shore.	?	2010 (p 21)
OTB_DEF_<16_0_0	VIId, IV	It is an industrial fishery that does not discard and it is monitored for landings and by catches. Germany has planned to sample this metier at sea with 1 trip. Given the large sampling programme planned by Denmark, the RCM NS&EA suggests Germany to allocate this sampling effort to another metier.	?	2010 (p 21)
OTB_DEF_1631_0_0	VIId, IV	Trawl for reduction purpose. This metier is operated by Denmark exclusively, does not discard and is monitored for landings.	?	2010 (p 21)
LH_FIF_0_0_0	IIIa	Sweden has asked for derogation to sample this metier.	?	2010 (p 27)

Metier	Area	RCM NS&EA Comment	Sampling required	RCM NS&EA report
FPO_MOL_0_0_0	VIId, IV	Coastal pot fishery for whelks and cuttlefish. Exclusively operated by France and UK. Discards assumed to be insignificant. Landings sampled at shore. + see Fisheries Science Report on Whelk submitted by the UK(E) in 2009/10.	No	2011 (p 31)
HMD_MOL_0_0_0	IV, VIId	Hand and suction dredge for molluscs where the majority of fisheries are highly legislated by IFCA (Inshore Fisheries and Conservation Authorities) with limited discards of finfish and shellfish	No	2012 (P30)
DRB_MOL_0_0_0	IV, VIId	Boat dredge fisheries for molluscs – excluding the targeted scallop fishery - the majority of fisheries are monitored by IFCA(Inshore Fisheries and Conservation Authorities) with limited discards of finfish and shellfish	No	2012 (P30)

Appendix 2: List of current bilateral agreements and links to documented evidence

Bilateral Agreement between the UK (Cefas) and Belgium (ILVO-Fisheries) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.

Agreement:

The UK and Belgium have agreed that samples of fish landed by Belgian vessels into the UK and transported for first sale into Belgium will be sampled upon arrival in the Belgian auctions by ILVO - Fisheries as part of the Belgian National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Belgian National Sampling Programme from 2011-2013. This agreement builds on the practice which has been already adopted and carried out since 2004.

In addition Belgium has agreed to provide age determination for all turbot (*Psetta maxima*) and brill (*Scophthalmus rhombus*) otoliths collected by the UK as part of the UK National Programme. In return the UK (Cefas) will undertake the age determination of VIIa cod (*Gadus morhua*) otoliths collected as part of the Belgian National Programme.

Description of sampling:

Landings: - Sampling will be for length and age of landings, sampling will be carried out in accordance with the Belgian National Sampling Programme.

Age determination: - Sampling will be carried out at the levels required within the National Sampling Programmes of UK and Belgium.

Sampling Intensity:

Levels and coverage at the metier level will be as agreed at the annual co-ordination meetings of RCMs NS&EA and NA.

Data responsibility:

Both countries will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The aged samples are to be made available for the deadlines required by the relevant ICES Expert groups, and the EC.

Contact persons:

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In Belgium (ILVO-Fisheries) : els.torreele@ilvo.vlaanderen.be

CMoB 31.3.10

Signatures:

For UK (Cefas)

Carl O'Brien

Fisheries Division Director

Date: 31.3.16

For Belgium (ILVO-Fisheries)

Kris Cooreman

Scientific Director ILVO-Fisheries/National Correspondent

Date:

Bilateral Agreement between the UK (CEFAS) and Netherlands (Centre for Fisheries Research) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.

Agreement:

(1) Landings and discards by Anglo-Dutch vessels fishing on the UK register, which land for first sale into the Netherlands, will be sampled as part of the Netherlands National Programme under the requirements of the EC Data Collection Framework (199/2008). This agreement builds on the practice which has been already adopted and carried out by the Netherlands since 2000. The eventual additional sampling costs will be covered within the Netherlands National Sampling Programme from 2011 onwards.

(2) Scallops landed by Dutch vessels fishing for Scallops in area VII which land for first sale in the UK will be sampled for biological parameters as part of the UK National Programme from 2011 onwards. The eventual additional sampling costs will be covered within the UK National Sampling Programme from 2011 onwards.

(3) The Netherlands holds the obligation to sample bass for biological parameters triennially. The age reading of these samples will be carried out by CEFAS. This agreement builds on the practice which has been already adopted and carried out by the UK since 2006

(4) Landings and discards by Anglo-Dutch vessels fishing on the UK register, participating in metier OTM_SPF>=40_0_0 in the CECAF region, will be sampled as part of the Netherlands National Programme under the requirements of the EC Data Collection Framework (199/2008) for 2012 and 2013.

Description of sampling:

(1) The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the Netherlands National Sampling Programme.

(2) The sampling will carried out in accordance with the UK National Sampling Programme

(3) Not relevant

(4) The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the Netherlands National Sampling Programme.

Sampling Intensity: (1) & (2) Levels and coverage as agreed at the annual meeting of RCM NS&EA and NA. (4) Levels and coverage as agreed at the annual meeting of RCM LDF

Data responsibility:

(1) The Netherlands is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The Netherlands will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

(2) The UK is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The UK will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the Netherlands as and when requested.

(3) Not relevant.

(4) The Netherlands is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The Netherlands will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested

Contact persons:
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In UK: Steve Warnes (steve.warnes@cefas.co.uk)

Signatures:

For CEFAS

Carl O'Brien

Defra Chief Fisheries Science Adviser

CEFAS

Date: 12-10-2011

For CVO

Sieto Verver

Dpt. Head Centre for Fisheries Research

CVO

Date: 12-10-2011

Bilateral Agreement between the UK (Cefas) and Germany (vTI-SF) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU

Agreement:

Fishing activities of UK vessels in ICES Sub-Area I & II, which land for first sale into Germany, will be covered within the German National Programme under the requirements of the EC Data Collection Framework (199/2008). Sampling costs will be included within the German National Sampling Programme from 2011- 2013.

Description of sampling:

These UK vessels are operating in the same metier as the German fleet and follow the same practices. Sampling for length and age of landings will be covered in accordance with the German National Sampling Programme. The metier is sampled by onboard observers.

Sampling Intensity:

Levels and coverage at the metier level will be as agreed at the annual co-ordination meeting of RCM NS&EA.

Data responsibility:

Germany will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Germany will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

Contact persons:

In the UK (Cefas): S. Warnes: steve.warnes@cefas.co.uk

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Signatures:

For UK (Cefas)

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Fisheries Division Director

Date: 8th March 2010

For Germany (vTI-SF)

C. Stransky

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German National Correspondent

19 March 2010

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Proposed Bilateral Agreement between the UK (Cefas) and Spain (IEO)for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.

Agreement:

Anglo -Spanish vessels fishing on the UK register, which operate and land for first sale into Spain, will be sampled as part of the Spanish National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Spanish National Sampling Programme from 2011- 2013.

Description of sampling:

These vessels, operating at the metier level, follow the same practices and work in the same way as the Spanish fleets. Sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the Spanish National Sampling Programme.

Sampling Intensity:
Levels and coverage at the metier level will be as agreed at the annual co-ordination meeting of RCMs NS&EA and NA.

Data responsibility:

Spain will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Spain will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

Contact persons:

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In Spain (IEO)

Signatures:

For UK (Cefas) For Spain (IEO)

Carl O'Brien

Fisheries Division Director

Date:

Appendix 3: Detailed description of the stratification scheme. In draft…

Sampling Period 2014

TARGETS

0.864

Nominal region	District	Vessel length / Gear	Under 10 All gears	Any Size Beam CRU	Over 10 Nets	Over 10 Trawls	Beam DEF	Scallop		
1NORTHEASTERN	1NORTHEAST		12		24		30	12	36	
2EASTERN	2EAST		36	6	6				48	
	3SOUTHEAST									
3WESTERN	4WESTEAST		36		12	30			120	
	4WESTWEST									
	5WALESSOUTH									
4NORTHWESTERN	6WALESNORTH		9		9				18	
	7NORTHWEST									222
			93	6	81		30	12		

Table 1 Showing the stratifications and allocated targets

Stratifications are set up to be discrete - the idea being that for the sampling period a vessel cannot and will not appear in more than one stratification. The characteristics chosen to define these stratifications are perceived to be consistent over time and vessels within them are very unlikely to move outside them. These stratifications were based on an extensive analysis looking at the

polyvalency (changing gears) of vessels and the nomadicity (movement between areas and ports) [*Offshore Sampling Plan 23012014.docx* in press]. The Nominal region defines the geographical region in terms of ports from which the vessels operate and by proxy describe the areas and fisheries in which the vessels might operate.

'All gears' only covers those significant gears we are required to sample under the regulation - based on the original rankings and accounting for any derogation.

Gears are grouped based on the different fisheries they may fish in but also the relative activity within them. Beam trawls and Scallop vessels for the over 10m vessel are kept separate as even though there may be some movement between the two metiers these vessels are less likely to change gears but are more nomadic.

National Programme submission for 2011 – 2013				2014 EW programme	
				<10m	>10m
North Sea and Eastern Arctic	IV, VIId	GNS_DEF_0_0_0	18	12	
North Sea and Eastern Arctic	IV, VIId	OTB_DEF_100-119_0_0	8	36	24 6
North Sea and Eastern Arctic	IV, VIId	OTB_CRU_70-99_0_0	64		
North Sea and Eastern Arctic	IV, VIId	OTB_DEF_>=120_0_0	16		
North Sea and Eastern Arctic	IV, VIId	TBB_CRU_16-31_0_0	8	6	
North Atlantic	VIIe	GNS_DEF_0_0_0	18	36	12
North Atlantic	VIIfgh	GNS_DEF_0_0_0	18		
North Atlantic	VIIe	OTB_DEF_70-99_0_0	28		30
North Atlantic	VIIfgh	OTB_DEF_100-119_0_0	12		
North Atlantic	VIIfgh	OTB_DEF_70-99_0_0	12		
North Atlantic	VIIa	GNS_DEF_0_0_0	0	9	9
North Atlantic	VIIa	OTB_CRU_70-99_0_0	12		
North Sea and Eastern Arctic	IV, VIId	TBB_DEF_70-99_0_0	8		30
North Atlantic	VIIe	TBB_DEF_70-99_0_0	24		
North Sea and Eastern Arctic	IV, VIId	DRB_MOL_0_0_0	4		12
			250	222	

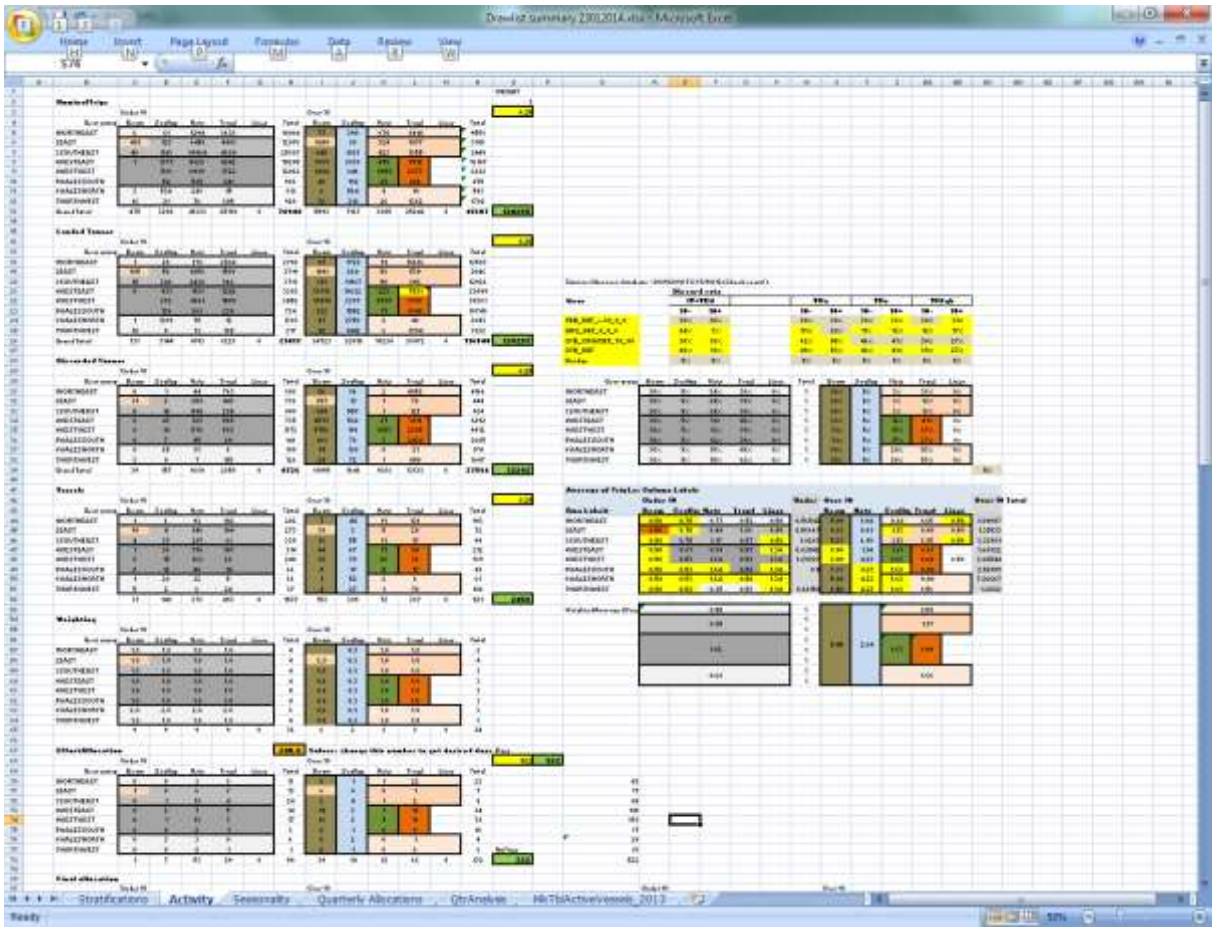
Table 2. Comparison of 2011-2013 National submission with current programme and link to current stratifications.

Tabulated number of fishing trips and total catches by stratum in the baseline year[s] used for allocating sampling effort, excluding vessels for which there is an agreed derogation for sampling. How the sampling effort (number of trips to sample by stratum) is allocated according to information on fishing effort and catches in a reference year[s]. Current sampling targets by stratum.

Current allocation carried out in spreadsheet - Drawlist summary 23012014.xlsx

Uses the number of trips, landed tonnes, discarded tonnes (based on discard rates from historic observations), number of vessels and the resources available. A manual weighting can also be applied to keep the allocations close to the DCF commitments.

Screenshots:



Appendix 4: Detailed SOP for the at-sea work covering vessel selection and work done on board.

Vessel selection: A quarterly draw list is drawn up for each stratum based on an up-to-date retrieval from the UK vessel registry and the predominant effort of the vessel in the same quarter in previous year (from iFish). Acc00OffshoreDrawlists_PredMet_Ver4.mdb is used to create the drawlists. Drawlists database_16122013.docx provides details on how to update the underlying data.

DrawlistGuidance_Ver4.docx provides the guidance on how to use the drawlists.

SOP for the at-sea work: No specific document so current manual and specific guidance listed below – available on internal network drive.

Generic:

AFST OBSERVER TRAINING MANUAL_01-2012.pdf

Specific:

1. SamplingVesselsTargetingNephrops _Ver2.docx
2. Beam trawl brown shrimp.docx
3. Cetacean Sampling By Cefas Guidelines 6dec05.doc
4. DeepWater Measurement Guide.doc
5. Sampling long lines.doc

Annex 4: Cefas example draft summary document of interpretation of all the key fields in the upload data formats (UK onshore sampling data)

Trip record (TR) in commercial fisheries sampling data (CS)

ORDER	NAME	TYPE	REQ.	BASIC CHECKS	COMMENTS	**Cefas Comments**
1	Record type*	String	M		Fixed value TR.	Always set to 'TR'.
2	Sampling type*	String	M	Code list[1]	"S" = sea sampling, "M" = market sampling of known fishing trips, "D" = market sampling of mixed trips, "V" = vendor.[1]	case when s.fldnoofvessels = 1 then 'M' when s.fldnoofvessels > 1 then 'D' end
3	Landing country*	String	M	Code list	ISO 3166–1 alpha-3 codes: the country where the vessel is landing and selling the catch.[2]	Used nationality of the landing port – mapped to agreed set of codes.
4	Vessel flag country*	String	M	Code list	ISO 3166–1 alpha-3 codes: the flag country of the vessel. This can be different from the landing country (see description of Landing country).[2]	case when r.fldNoOfVessels = 1 then r.fldVesselNationality else 'GBR' end – mapped to agreed set of codes
5	Year*	Integer	M	1 900–3 000		datepart(year,s.fldDateOfLanding)
6	Project*	String	M	Code list	National project name. Code list is editable.	Always set to previously agreed code – 'GBE-DCF'.
7	Trip number*	Integer	M	1–999 999	National coding system.[3]	Used fldElementCompositionID to cater for multiple gear/assemblage/reg/rect records in an event – cannot use fldsampled as this refers to a category and not a sample. Also causes problems for multi-species samples.
8	Vessel length	Integer	O[4]	3–160	Over-all length in metres	case when r.fldNoOfVessels = 1 and floor(r.fldVesselOverLen) > 0 and floor(r.fldVesselOverLen) < 3 then cast(3 as varchar) when r.fldNoOfVessels = 1 and floor(r.fldVesselOverLen) between 3 and 160 then cast(floor(r.fldVesselOverLen) as varchar) else '' end

9	Vessel power	Integer	O[4]	4–7 500	Vessel power (kW).[5]	case when r.fldNoOfVessels = 1 and floor(r.fldVesselEnginePower) > 0 and floor(r.fldVesselEnginePower) < 4 then cast(4 as varchar) when r.fldNoOfVessels = 1 and floor(r.fldVesselEnginePower) between 4 and 7500 then cast(floor(r.fldVesselEnginePower) as varchar) else '' end
10	Vessel size	Integer	O[4]	1–2 500	Gross registered tonnes (GRT).	case when r.fldNoOfVessels = 1 and floor(r.fldVesselRssTons) > 0 and floor(r.fldVesselRssTons) < 1 then cast(1 as varchar) when r.fldNoOfVessels = 1 and floor(r.fldVesselRssTons) between 1 and 2500 then cast(floor(r.fldVesselRssTons) as varchar) else '' end ICES are happy to have a mix of GT and GRT in this field – assume (generally correctly) if vessel < 15m then this is GRT otherwise GT.
11	Vessel type	Integer	M[6]	Code list	1 = stern trawler, 2 = side trawler, 3 = gillnetter, 4 = other boats.	Always set to '4' - other boats – information not available.
12	Harbour	String	O	Code list	Landing harbour.	'UK-'+REPLACE(STR(s.fldportoflanding,4), SPACE(1),'0') – mapped to agreed set of codes.
13	Number of sets/hauls on trip	Integer	O[6]	2–99[7]	Total number of hauls/sets taken during the trip. Both the stations where biological measures were taken and the stations that were not worked up should be counted here.[8]	CAST('' as varchar)
14	Days at sea	Integer	O	1–60	In days.[9]	CAST('' as varchar)
15	Vessel identifier (encrypted)	Integer	O	1–999 999	Encrypted vessel identifier. Id encrypted so that no-one can map the Id to the real vessel.	CAST('' as varchar)
16	Sampling country	String	M	Code list	ISO 3166–1 alpha-3 codes. The country that did the sampling.	Always set to 'ENG' All samples uploaded are collected by Cefas staff.
17	Sampling method	String	M	Code list	"Observer" or "SelfSampling".	Always set to 'Observer'.

Fishing station record (HH) in commercial fisheries sampling data (CS)

ORDER	NAME	TYPE	REQ.	BASIC CHECKS	COMMENTS	**Cefas Comments**
1	Record type*	String	M		Fixed value HH.	Always set to 'HH'.
2	Sampling type*	String	M	Code list	"S" = sea sampling; "M" = market sampling of known fishing trips; "D" = market sampling of mixed trips; "V" = vendor.	See TR comments.
3	Landing country*	String	M	Code list	ISO 3166–1 alpha-3 codes	See TR comments.
4	Vessel flag country*	String	M	Code list	ISO 3166–1 alpha-3 codes. The flag country of the vessel. This can be different from the landing country (see description of LandingCountry).	See TR comments.
5	Year*	Integer	M	1 900 – 3 000		See TR comments.
6	Project*	String	M	Code list	National project name. Code list is editable.	See TR comments.
7	Trip number*	Integer	M	1 – 999 999	National coding system.[1]	See TR comments.
8	Station number*	Integer	M	1–999[2]	Sequential numbering by trip.[1]	Pseudo species number created to take into account multi species samples where there is no other ID field that can be used. Stations are numbered from 1 upwards based on species number sorted alphabetically within the event.
9	Fishing validity	String	O[3,4]	Code list	I = Invalid. V = Valid.	case when s.fldvalid = 1 then 'V' else 'I' end
10	Aggregation level	String	O[3, 5]	Code list	H = haul. T = trip.	Always set to 'T' – haul information not available.
11	Catch registration	String	M	Code list	The parts (landings/discards) of the catch, registered as "All", "Lan", "Dis", "Non".[6]	case when r.fldDescription = 'landing' then 'Lan' when r.fldDescription = 'Catch' then 'All' end
12	Species registration	String	M	Code list	The species in the catch, registered as "All", "Par", "Non".[7]	All set to 'Par' – we don't know if all species in the catch were sampled even when concurrent sampling.
13	Date	String	M	"1900–01–01" to "2020–12–31"	"YYYY-MM-DD" (ISO 8601).[8] Fishing starting date.	left(convert(char,s.flddateoflanding,126),10)
14	Time	String	O	00:00 – 23:59	Starting time. "HH:MM"… in UTC.[9]	CAST('' as varchar)

15	Fishing duration	Integer	O[3]	5−99 999	In minutes.[10]	CAST('' as varchar)
16	Pos.Start.Lat.dec.	Dec(5)	O[3]	20.00000−80.00000	Shooting (start) position in decimal degrees of latitude.[11]	CAST('' as varchar)
17	Pos.Start.Lon.dec.	Dec(5)	O[3]	−31.00000−31.00000	Shooting (start) position in decimal degrees of longitude.[11]	CAST('' as varchar)
18	Pos.Stop.Lat.dec.	Dec(5)	O	20.00000 − 80.00000	Hauling (stop) position in decimal degrees of latitude.[11]	CAST('' as varchar)
19	Pos.Stop.Lon.dec.	Dec(5)	O	−31.00000−31.00000	Hauling (stop) position in decimal degrees of longitude.[11]	CAST('' as varchar)
20	Area	String	M	Code list	Area level 3 (level 4 for Baltic, Mediterranean, and Black Seas) in the Data Collection Regulation (EC, 2008a, 2008b).	case when s.fldrectangle = '29e5' then '7e' else a.rdbarea – uses r.fldDivision mapped to RDB code. 29E5 only valid for VIIe on RDB.
21	Statistical rectangle	String	O[3, 12]	Code list	Area level 5 in the Data Collection Regulation (EC, 2008a, 2008b). This is the ICES statistical rectangles (e.g. 41G9) except for the Mediterranean and Black Seas, where GFCM geographical subareas (GSAs) are used.[13]	r.fldRectangle
22	Subpolygon	String	O	Code list	National level as defined by each country as child nodes (substratification) of the ICES rectangles. It is recommended that this is coordinated internationally, e.g. through the Regional Coordination Meetings (EC RCMs).	case when r.fldSubRectangle is null then cast('' as varchar) else cast(r.fldSubRectangle as varchar) end – preceeded by 'GBE-'
23	Main fishing depth	Integer	O	1−999	Depth from surface to groundrope in metres.[5]	CAST('' as varchar)
24	Main water depth	Integer	O	1−999	Depth from surface in metres.[14]	CAST('' as varchar)
25	Fishing activity category National	String	O	Code list	Fishing activity category (= métier). National level as defined by each country as child nodes (substratification) of the level-5 codes.	'GBE-'+s.fldgear
26	Fishing activity category European lvl 5	String	O[15]	Code list	Fishing activity category (= métier). Level 5 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b).	CAST('' as varchar) – you can only have lvl5 or lvl6 and lvl6 is now mandatory.

27	Fishing activity category European lvl 6	String	O[15, 16]	Code list	Fishing activity category. Level 6 as defined in a hierarchic structure in the Data Collection Regulation (EC, 2008a, 2008b). Level 6 is further specified by the Regional Coordination Meetings (EC RCMs, Council Regulation [EC] No 1543/2000) or any later authorized revision.	s.rdbgear+'_'+s.fldtargetassemblage+m.mesh group – GARi gear mapped to RDB code + target assemblage + mesh mapped to range code for gear type. Then lots of additional fiddles for incorrect data.
28	Gear type	streng	M	Code list		s.rdbgear – GARi gear mapped to RDB code.
29	Mesh size	Integer	O[17]	1−999	Stretch measure.[18]	case when s.fldmesh is null or s.fldmesh = 0 then 999 else s.fldmesh – Mandatory field
30	Selection device	Integer	O[3]	Code list	Not mounted = 0, Exit window / selection panel = 1, grid = 2. Additional code '9' (Unknown) added A selection device is defined as a square-meshed panel or window that is inserted into a towed net.	Always set to '9'.
31	Mesh size in selection device	Integer	O	20−200	In mm. The mesh size of a square-meshed panel or window shall mean the largest determinable mesh size of such a panel or window.	cast('' as varchar)

Species list record (SL) in commercial fisheries sampling data (CS)

ORDER	NAME	TYPE	REQ.	BASIC CHECKS	COMMENTS	**Cefas Comments**
1	Record type*	String	M		Fixed value SL.	Always set to 'SL'.
2	Sampling type*	String	M	Code list	"S" = sea sampling, "M" = market sampling of known fishing trips, "D" = market sampling of mixed trips, V" = vendor.	See HH comments.
3	Landing country*	String	M	Code list	ISO 3166–1 alpha-3 codes.	See HH comments.
4	Vessel flag country*	String	M	Code list	ISO 3166–1 alpha-3 codes. The flag country of the vessel. This can be different from the landing country (see description of LandingCountry).	See HH comments.
5	Year*	Integer	M	1 900–3 000		See HH comments.
6	Project*	String	M	Code list	National project name. Code list is editable.	See HH comments.
7	Trip number*	Integer	M	1–999 999	National coding system.	See HH comments.
8	Station number*	Integer	M	1– 999	Sequential numbering by trip.	See HH comments.
9	Species*	String	M	Code list	Scientific name in Latin (*Genus species*).	GARi species code mapped to RDB species code.
10	Catch category*	String	M	Code list	The fate of the catch: "DIS" = discard, "LAN" = landing.	Always set to 'LAN'.
11	Landing category*	String	M	Code list	The intended usage at the time of landing. This should match the same field in CL record (whether or not the fish was actually used for this or another purpose): "IND" = industry or "HUC" = human consumption.	Always set to 'HUC'.
12	Commercial size category scale*	String	O	Code list	Commercial sorting scale code (optional for "Unsorted").	Always set to 'English'.
13	Commercial size category*	Integer	O	Code list	Commercial sorting category in the given scale (optional for "Unsorted"). (EC, 2006) and later amendments when scale is "EU".	Pseudo category number created within SQL to take into account multi species samples etc. – may not match with category number in GARi. On GARi a category is

						called a sample and you are allowed multiple species on the sample and each combination needs to have a category number. For example if you have sampled ANF and there are 4 categories (samples) and 2 contain MON and 4 contain WAF then MON will be station 1 categories 1 and 2 and WAF will be station 2 categories 1 to 4.
14	Subsampling category*	String	O	Code list	Used when different fractions of the same species are subsampled at different levels. Typically used when few large specimens are taken out from the total catch before the many small fish are subsampled.	cast('' as varchar)
15	Sex*	String	O	Code list	M = Male, F = Female, T = Transitional (optional for "Unsexed").	cast('' as varchar)
16	Weight	Integer	M	1−9 999 999 999	Whole weight in grammes. Decimals not allowed. Weight of the corresponding stratum (Species – Catch category – size category – Sex).	s.fldaggregateliveweight – after loads of fiddling – see SQL.
17	Subsample weight	Integer	O[1]	1−9 999 999 999	Whole weight in grammes. Decimals not allowed. For sea sampling: the live weight of the subsample of the corresponding stratum. For market sampling: the sample weight is the whole weight of the fish measured (e.g. the summed weight of the fish in one or more boxes).	s.fldapportionedsampleliveweight – after loads of fiddling – see SQL.
18	Length code	String	O[1]	Code list	Class: 1 mm = "mm", 0.5 cm = "scm"; 1 cm = "cm"; 2.5 cm = 25 mm", 5 cm = "5 cm".	Hard coded from look-up table based on species code.

Length record (HL) in commercial fisheries sampling data (CS)

ORDER	NAME	TYPE	REQ.	BASIC CHECKS	COMMENTS	**Cefas Comments**
1	Record type*	String	M		Fixed value HL.	Always set to HL.
2	Sampling type*	String	M	Code list	"S" = sea sampling, "M" = market sampling of known fishing trips, "D" = market sampling of mixed trips, "V" = vendor.	See SL comments.
3	Landing country*	String	M	Code list	ISO 3166–1 alpha-3 codes.	See SL comments.
4	Vessel flag country*	String	M	Code list	ISO 3166–1 alpha-3 codes. The flag country of the vessel. This may be different from the landing country (see description of LandingCountry).	See SL comments.
5	Year*	Integer	M	1 900–3 000		See SL comments.
6	Project*	String	M	Code list	National project name. Code list is editable.	See SL comments.
7	Trip number*	Integer	M	1– 999 999	National coding system.	See SL comments.
8	Station number*	Integer	M	1– 999	Sequential numbering by trip.	See SL comments.
9	Species*	String	M	Code list	Scientific name in Latin (*Genus species*).	See SL comments.
10	Catch category*	String	M	Code list	The fate of the catch: DIS = discard, LAN = landing.	See SL comments.
11	Landing category*	String	M	Code list	The intended usage at the time of landing. This should match the same field in the LS record (whether or not the fish was actually used for this or another purpose): IND = industry, HUC = human consumption.	See SL comments.
12	Commercial size category scale*	String	O	Code list	Commercial sorting scale code (optional for "Unsorted").	See SL comments.
13	Commercial size category*	Integer	O	Code list	Commercial sorting category in the given scale (optional for "Unsorted"). See (EC, 2006) and later amendments when scale is "EU".	See SL comments.

14	Subsampling category*	Integer	O	Code list	Used when different fractions of the same species are subsampled at different levels. Typically used when few large specimens are removed from the total catch before the many small fish are subsampled.	See SL comments.
15	Sex*	String	O[1]	Code list	M = Male, = , F = Female, T = Transitional = (optional for “Unsexed”).	cast('' as varchar)
16	Individual sex	String	M	Code list (sex)	If M = Male, = , F = Female, T = Transitional = (optional for “Unsexed”). Only different from “Sex” if individual length distribution is obtained on HL-level (and not on SL-level).	case when m.fldsex in ('m','f','b') then m.fldsex else cast('' as varchar(1))
17	Length class*	Integer	M	1−3 999	In mm. Identifier: lower bound of size class, e.g. 650 for 65−66 cm.	m.fldallocatedsize
18	Number at length (not raised to whole catch)	Integer	M	1−999	Length classes with zero should be excluded from the record.	floor(sum(m.fldsamplingnumberatlength))

Sex-Maturity-Age-Weight-Length record (CA) in commercial fisheries sampling data (CS)

ORDER	NAME	TYPE	REQ.	BASIC CHECKS	COMMENTS	**Cefas Comments**
1	Record type*	String	M		Fixed value CA.	Always set to ’CA’.
2	Sampling type*	String	M	Code list	“S” = sea sampling, “M” = market sampling of known fishing trips, “D” = market sampling of mixed trips, ”V” = vendor.	case when b.fldnoofvessels = 1 then 'M' when b.fldnoofvessels > 1 then 'D' end
3	Landing country*	String	M	Code list	ISO 3166−1 alpha-3 codes.	Used nationality of the landing port – mapped to agreed set of codes.
4	Vessel flag country*	String	M	Code list	ISO 3166−1 alpha-3 codes. The flag country of the vessel. This may be different from the landing country (see description of LandingCountry).	case when r.fldNoOfVessels = 1 then r.fldVesselNationality else 'GBR' end – mapped to agreed set of codes

5	Year*	Integer	M	Code list	1 900−3 000.	datepart(year,s.fldDateOfLanding)
6	Project*	String	M	Code list	National project name. Code list is editable.	Always set to previously agreed code – 'GBE-DCF'.
7	Trip number*	Integer	M	1−999 999	National coding system.[1]	Used fldElementCompositionID to cater for multiple gear/assemblage/reg/rect records in an event – cannot use fldsampleid as this refers to a category and not a sample. Also causes problems for multi-species samples.
8	Station number*	Integer	O[2]	1−999	Sequential numbering by trip.	Always set to '999'.
9	Quarter*	Integer	M	Code list	1−4.	datepart(QUARTER,b.fldDateOfLanding)
10	Month*	Integer	O	Code list	1−12.	datepart(MONTH,b.fldDateOfLanding)
11	Species*	String	M	Code list	Scientific name in Latin (*Genus species*).	GARi species code mapped to RDB species code.
12	Sex*	String	O	Code list	M= Male = , F = Female, T = Transitional = (optional for "Unsexed").	case when b.fldSex in ('m','f','b') then cast(b.fldSex as varchar(1)) else cast('' as varchar(1))
13	Catch category*	String	M	Code list	The fate of the catch: DIS = discard, LAN = landing.	Always set to 'LAN'.
14	Landing category*	String	M	Code list	The intended usage at the time of landing. This should match the same field in the LS record (whether or not the fish was actually used for this or another purpose): industry or human consumption.	Always set to 'HUC'.
15	Commercial size category scale*	String	O	Code list	Commercial sorting scale code (optional for "Unsorted").	cast('' as varchar) – biological samples not categorised.
16	Commercial size category*	Integer	O	Code list	Commercial sorting category in the given scale. (optional for "Unsorted").	cast('' as varchar) – biological samples not categorised.
17	Stock*	String	O	Code list	[3]	case when b.fldSpecies = 'her' then 'Clupea harengus-P' else cast('' as varchar) end
18	Area*	String	M	Code list	Area level 3 (level 4 for Baltic, Mediterranean, and Black Seas) in the Data Collection Regulation (EC, 2008a, 2008b).	case when b.fldrectangle = '29e5' then '7e' else a.rdbarea – uses r.fldDivision mapped to RDB code. 29E5 only valid for VIIe on RDB.
19	Statistical rectangle*	String	O[4]	Code list	Area level 5 in the Data Collection Regulation (EC, 2008a, 2008b). This is the ICES statistical rectangles (e.g. 41G9) except for the Mediterranean and Black	r.fldRectangle

					Seas where GFCM geographical subareas (GSAs) are used.	
20	Subpolygon*	String	O	Code list	National level as defined by each country as child nodes (substratification) of the ICES rectangles. It is recommended that this is coordinated internationally, e.g. through the Regional Coordination Meetings (EC RCMs).	case when r.fldSubRectangle is null then cast('' as varchar) else cast(r.fldSubRectangle as varchar) end – preceeded by 'GBE-'
21	Length class*	Integer	M	1–3 999	In mm. Identifier: lower bound of size class, e.g. 650 for 65–66 cm.	floor(b.fldSize)
22	Age*	Integer	O	0–99	Estimated age.	b.fldAge – only selecting records where age is not null.
23	Single fish number (id)*	Integer	M	1–9 999 999	National numbering system of the individual fish. Preferably unique within the given Station and Species, but necessarily unique for the given combination of key fields above.	b.fldIndividualID
24	Length code	Integer	M	Code list	Class: 1 mm = “mm”, 0.5 cm = “scm”; 1 cm = “cm”; 2.5 cm = “25 mm”, 5 cm = “5 cm”.	Hard coded from look-up table based on species code.
25	Aging method	String	O[5]	Code list	Methodology for estimating the age.	case when b.fldSpecies = 'bse' then 'Scale' else 'OWR' end
26	Age-plus-group	String	M	Code list	+ = Plus group, − = Not plus group.[6]	Always set to ’-’.
27	Otolith weight	Dec(5)	O	0.000 00–99.999 99	In grammes.	cast('' as varchar)
28	Otolith side	String	O	Code list	The side of the fish where the otolith was taken. R = right, L = left.	cast('' as varchar)
29	Weight	Dec(1)	O	1.0–99 999.9	In grammes.	case when b.fldCalculatedLiveWeight is null then '' else CAST(floor(b.fldCalculatedLiveWeight) as varchar) end
30	Maturity staging method	String	O	Code list	Methodology for estimating the maturity stage.	cast('' as varchar)
31	Maturity scale	String	O	Code list	The maturity scale gives the range of the possible stages (values).	cast('' as varchar)
32	Maturity stage	String	O	Code list	The stage (value) in the given scale.	cast('' as varchar)

Annex 5: List of metiers uploaded by MS to the RDB

Metiers highlighted in pink, match with those from the reference list, metiers highlighted in yellow are duplicates, but written in a different format. Metiers without a colour are identified as new metiers (not from the reference list)

Metiers from RDB	BEL	DEU	DNK	ENG	FRA	IRL	LTU	NIR	NLD	PRT	SCT	SWE	Description
DRB_MOL_>=0_0_0		18		1463							1395	25	
DRB_MOL_0_0_0	141	81			6230	6						6	
FYK_CAT_>0_0_0			9						87			921	
FYK_DEF_>0_0_0				16									
FPN_CAT_>0_0_0			42										
FPN_DEF_>0_0_0			2										
FPO_CRU_>0_0_0			48	7473					165		7869	8027	
FPO_CRU_0_0_0					979	16			728				
FPO_CRU_100-119_0_0									15				
FPO_CRU_10-30_0_0									356				
FPO_CRU_120-219_0_0									19				
FPO_CRU_50-70_0_0									131				
FPO_CRU_90-99_0_0									15				
FPO_FIF_>0_0_0				2322							377	147	
FPO_FIF_0_0_0					37								
FPO_MCD_0_0_0	6												
FPO_MOL_>0_0_0				2333							548	1	
FPO_MOL_0_0_0					779								
GND_DEF_<10_0_0				2									
GND_DEF_>=220_0_0				121									
GND_DEF_100-119_0_0				1324					2				
GND_DEF_10-30_0_0				1									
GND_DEF_120-219_0_0				489					1				
GND_DEF_31-49_0_0				14									
GND_DEF_50-70_0_0				709									
GND_DEF_71-89_0_0				22									
GND_DEF_90-99_0_0				804									
GND_SPF_100-119_0_0				31									
GND_SPF_10-30_0_0				13									
GND_SPF_120-219_0_0				22									
GND_SPF_31-49_0_0				21									
GND_SPF_50-70_0_0				476									
GND_SPF_71-89_0_0				19									
GND_SPF_90-99_0_0				68									
GNS_CAT_>0_0_0			1										
GNS_CRU_<10_0_0				7									
GNS_CRU_>=220_0_0				72								1	
GNS_CRU_>0_0_0			8322									103	
GNS_CRU_0_0_0	3												
GNS_CRU_100-119_0_0		52		2006								5	
GNS_CRU_10-30_0_0				8									
GNS_CRU_120-219_0_0				1755								41	
GNS_CRU_31-49_0_0				6									
GNS_CRU_50-70_0_0				4									
GNS_CRU_71-89_0_0		27		15									
GNS_CRU_90-99_0_0				158								1	
GNS_DEF_<10_0_0				32							12		
GNS_DEF_>=220_0_0	30		32110	928	164				8		114	673	
GNS_DEF_0_0_0		3		124									
GNS_DEF_100-119_0_0		8	42847	10648	223				2017			295	
GNS_DEF_10-30_0_0				42					88				
GNS_DEF_110-156_0_0	425		9										
GNS_DEF_120-219_0_0	175		403969	8282	1458				1277		5	3735	
GNS_DEF_31-49_0_0				6									
GNS_DEF_50-70_0_0			8067	66	4				81		19		
GNS_DEF_71-89_0_0				507									
GNS_DEF_90-109_0_0			1										
GNS_DEF_90-99_0_0	2043		8050	2174	1				1633			1	
GNS_DEF_UND_0_0									315				
GNS_MCD_100-119_0_0									10				
GNS_MCD_120-219_0_0									19				
GNS_SPF_100-119_0_0			93	922									
GNS_SPF_10-30_0_0			55	9								424	
GNS_SPF_110-156_0_0			4										
GNS_SPF_120-219_0_0			107	212								1	
GNS_SPF_32-109_0_0			30										
GNS_SPF_50-70_0_0			31	18								981	
GNS_SPF_71-89_0_0				15									
GNS_SPF_90-99_0_0				61									
GTN_UND_120-219_0_0									4				

Metiers from RDB	BEL	DEU	DNK	ENG	FRA	IRL	LTU	NIR	NLD	PRT	SCT	SWE	Description
GTR_DEF_<10_0_0				15									
GTR_DEF_>=220_0_0				724	1634							72	
GTR_DEF_>0_0_0									34				
GTR_DEF_0_0_0	759												
GTR_DEF_100-119_0_0				2555	6409				58			15	
GTR_DEF_10-30_0_0				6					7				
GTR_DEF_120-219_0_0				4487	6421				886			3532	
GTR_DEF_31-49_0_0				16									
GTR_DEF_50-70_0_0				40	1415				5			19	
GTR_DEF_71-89_0_0				80									
GTR_DEF_90-99_0_0	251			4238	11723				20			74	
HMD_MOL_>0_0_0				857							54		Yes
HMD_MOL_0_0_0									1				Yes
LHM_FIF_0_0_0									50				
LHP_CEP_0_0_0											25		
LHP_DEF_0_0_0	20												
LHP_FIF_0_0_0			4089	44	450				1351		1243	1869	
LHP_SPF_0_0_0		3											
LLS_DEF_0_0_0				2565	1282				16		295	23	
LLS_DWS_0_0_0				15									
LLS_FIF_0_0_0			12864		131								Yes
LLS_SPF_0_0_0												1	
LTL_DEF_0_0_0					8								
MIS_CRU_0_0_0		11		17							82		
MIS_FIF_0_0_0				80							20		
MIS_MIS_0_0_0			14013		110							71	
MIS_MOL_0_0_0				180							216		
MIS_UND_UND_0_0									319				
No_logbook6			97091			16			10				
No_Matrix6			79767		18553								
OTB_CRU_<16_0_0				9							63		
OTB_CRU_>=120_0_0				1076							728	18	
OTB_CRU_>=120_1_120												19	
OTB_CRU_>0_0_0			2										
OTB_CRU_100-119_0_0				422							1078		
OTB_CRU_16-31_0_0	51			11									
OTB_CRU_32-69_0_0			87954	34							127	15168	
OTB_CRU_32-69_2_22												4979	
OTB_CRU_70-89_2_35			77153									8170	
OTB_CRU_70-99_0_0	136	72		6163		2		17			5030		
OTB_CRU_90-119_0_0		1										3832	
OTB_CRU_90-119_1_120												395	
OTB_CRU_90-119_1_140												64	
OTB_CRU_90-119_1_300												26	
OTB_DEF_<16_0_0			57839	129					40		83	2	
OTB_DEF_>=105_1_110			1										
OTB_DEF_>=120_0_0	1946	3247		5478	1490	4			2310		10547	376	
OTB_DEF_>=120_1_120												48	
OTB_DEF_>=130_0_0		493											
OTB_DEF_0_0_0		1							43				
OTB_DEF_100-119_0_0	724	179	25	4866	8842	1			4646		1102		
OTB_DEF_130_0_0										159			
OTB_DEF_16-31_0_0			27243		1124				116		72		
OTB_DEF_32-69_0_0			8740	24	2299				4		60		
OTB_DEF_70-89_2_35			29360										
OTB_DEF_70-99_0_0	6	769		15032	45336	1		11	5525		1263		
OTB_DEF_90-119_0_0		12							40			11956	
OTB_DEF_90-119_1_120												1990	
OTB_DEF_90-119_1_140												955	
OTB_DEF_90-119_1_300												233	
OTB_DWS_>=120_0_0					161	16					113		
OTB_DWS_100-119_0_0			27	5	58								
OTB_DWS_70-99_0_0				3									
OTB_MCD_>=120_0_0			629434						18			15	
OTB_MCD_>0_0_0									230				
OTB_MCD_100-119_0_0			165547						68				
OTB_MCD_70-99_0_0	15575		115629						2095				
OTB_MCD_90-119_0_0			560415									5363	
OTB_MCD_90-119_1_120												94	
OTB_MCD_90-119_1_140												505	

Metiers from RDB	BEL	DEU	DNK	ENG	FRA	IRL	LTU	NIR	NLD	PRT	SCT	SWE	Description
OTB_MCD_90-119_1_300												231	
OTB_MOL_<16_0_0												16	
OTB_MOL_>=120_0_0				83								306	
OTB_MOL_100-119_0_0				521	16							8	
OTB_MOL_32-69_0_0				6								957	
OTB_MOL_70-99_0_0				1085	14549							225	
OTB_SPF_<16_0_0			749										
OTB_SPF_>=120_0_0	4			16									
OTB_SPF_100-119_0_0				64									
OTB_SPF_16-31_0_0			53023	8	25								
OTB_SPF_32-69_0_0		5	3066	9	251	2						76	1
OTB_SPF_32-89_0_0			133										
OTB_SPF_70-99_0_0				271	5066							6	
OTM_DEF_<16_0_0			4473										
OTM_DEF_>=120_0_0	4			14								18	
OTM_DEF_100-119_0_0			17	16	4								
OTM_DEF_100-129_0_0	2												
OTM_DEF_16-31_0_0			1087		4								
OTM_DEF_32-69_0_0				10	1962								
OTM_DEF_70-99_0_0					7								
OTM_DEF_90-119_0_0			484										
OTM_SPF_<16_0_0			73	1						15		2	
OTM_SPF_>=120_0_0										89			
OTM_SPF_100-119_0_0				11						6			
OTM_SPF_16-31_0_0		11	6566	42	345	1				130		2	15
OTM_SPF_32-54_0_0										9			
OTM_SPF_32-69_0_0		112	2376	25	2874	8				816		93	122
OTM_SPF_32-89_0_0			10										
OTM_SPF_70-99_0_0			9	11						23		1	
OTM_SPF_90-100_0_0											57		
OTM_SPF_UND_0_0										2			
OTT_CRU_<16_0_0												7	
OTT_CRU_>=120_0_0												206	
OTT_CRU_>=120_1_120												22	
OTT_CRU_100-119_0_0				93	32							778	
OTT_CRU_16-31_0_0				1									
OTT_CRU_32-69_0_0												6	12068
OTT_CRU_32-69_2_22													4170
OTT_CRU_70-89_2_35													3019
OTT_CRU_70-99_0_0				366								2723	
OTT_CRU_90-119_0_0													4139
OTT_CRU_90-119_1_120													2396
OTT_CRU_90-119_1_140													137
OTT_CRU_90-119_1_300													60
OTT_DEF_<16_0_0				9									
OTT_DEF_>=120_0_0				90						87		5551	938
OTT_DEF_>=120_1_120													12
OTT_DEF_>0_0_0										11			
OTT_DEF_100-119_0_0				99	274					163		273	
OTT_DEF_70-99_0_0				2251	562					2034		552	
OTT_DEF_90-119_0_0													12908
OTT_DEF_90-119_1_120													8258
OTT_DEF_90-119_1_140													3486
OTT_DEF_90-119_1_300													933
OTT_DWS_70-99_0_0				1									
OTT_MCD_>=120_0_0													98
OTT_MCD_100-119_0_0										25			
OTT_MCD_70-99_0_0										2339			
OTT_MCD_90-119_0_0													10055
OTT_MCD_90-119_1_120													987
OTT_MCD_90-119_1_140													1927
OTT_MCD_90-119_1_300													503
OTT_MOL_>=120_0_0												3	
OTT_MOL_100-119_0_0												14	
OTT_MOL_32-69_0_0												48	
OTT_MOL_70-99_0_0				29								12	
OTT_SPF_32-69_0_0				1								3	
OTT_SPF_70-99_0_0				20									
PS_SPF_<16_0_0										9			
PS_SPF_>=120_0_0										2			

Metiers from RDB	BEL	DEU	DNK	ENG	FRA	IRL	LTU	NIR	NLD	PRT	SCT	SWE	Description
PS_SPF_>0_0_0			1193						40		8		Yes
PS_SPF_0_0_0									23				Yes
PS_SPF_100-119_0_0									132				
PS_SPF_16-31_0_0												348	
PS_SPF_32-69_0_0			183									19	
PS_SPF_70-99_0_0									51				
PTB_CRU_>=120_0_0				5							2		
PTB_CRU_32-69_0_0											12		
PTB_CRU_70-99_0_0				12							32		
PTB_CRU_90-119_0_0			1683										
PTB_DEF_<16_0_0			1663								66		
PTB_DEF_>=120_0_0				312					3		1990		
PTB_DEF_100-119_0_0				79					1		4		
PTB_DEF_16-31_0_0			517										
PTB_DEF_32-69_0_0			309										
PTB_DEF_70-99_0_0				462	2478				11		11		
PTB_DEF_90-119_0_0												122	
PTB_MCD_>=120_0_0			15119										
PTB_MCD_100-119_0_0			11307										
PTB_MCD_70-99_0_0			65						27				
PTB_MCD_90-119_0_0			5222										
PTB_SPF_>=105_1_110			4										
PTB_SPF_>=120_0_0											1		
PTB_SPF_100-119_0_0				9									
PTB_SPF_16-31_0_0			18031										
PTB_SPF_32-69_0_0			2154										
PTB_SPF_32-89_0_0			309										
PTB_SPF_70-99_0_0				34									
PTM_DEF_<16_0_0			975										
PTM_DEF_100-119_0_0					1312								
PTM_DEF_16-31_0_0			330		18								
PTM_DEF_32-69_0_0					14								
PTM_DEF_70-99_0_0					18								
PTM_LPF_100-119_0_0					4	1							
PTM_SPF_0_0_0	89					2							
PTM_SPF_16-31_0_0			22248	13	4				2			11	
PTM_SPF_32-69_0_0			7988	43	447	19			199		1	298	
PTM_SPF_32-89_0_0			171										
SB_FIF_>0_0_0				5								72	
SDN_DEF_>=105_1_110			1										
SDN_DEF_>=120_0_0			87136	79					49		576	207	
SDN_DEF_>0_0_0	15				2213				53				
SDN_DEF_100-119_0_0			38526						279				
SDN_DEF_70-99_0_0									364				
SDN_DEF_90-119_0_0			81427									522	
SSC_DEF_<16_0_0											98		
SSC_DEF_>=120_0_0	67		31061	189				6	1324		4327		
SSC_DEF_0_0_0									43				
SSC_DEF_100-119_0_0	707		11583						2650		514		
SSC_DEF_32-69_0_0									33		1		
SSC_DEF_70-99_0_0	2919		40	363					4194				
SSC_DEF_90-119_0_0			979						10				
SSC_DEF_UND_0_0									104				
TBB_CRU_<16_0_0		8		2							5		
TBB_CRU_>=120_0_0		6											
TBB_CRU_16-31_0_0	3117	4447	3586	224									
TBB_CRU_70-99_0_0		58									1		
TBB_DEF_<16_0_0			51	42					74				
TBB_DEF_>=120_0_0	10695		40943						2238				
TBB_DEF_0_0_0		10							55				
TBB_DEF_100-119_0_0	113	5	9812						4003				
TBB_DEF_16-31_0_0		110		56					4580				
TBB_DEF_32-69_0_0		1		23					1				
TBB_DEF_70-89_0_0									28				
TBB_DEF_70-89_2_35				24									
TBB_DEF_70-99_0_0	92305	754	289	4640	5365	1			48429				
TBB_DEF_90-119_0_0			5891						142				
TBB_DEF_UND_0_0									280				
TBB_MCD_16-31_0_0									10				
TBB_MCD_70-99_0_0									41				
TBB_MOL_0_0_0		24											

Annex 6: Agenda of the meeting

EU DATA COLLECTION FRAMEWORK (DCF), REG. 199/2008, 665/2008 AND DECISION 93/2010/EU

Regional Co-ordination Meeting for the North Sea and East Atlantic
Lysekil, 8 – 12 September, 2014
Turistgatan 5
Swedish University of Agriculture Sciences (SLU Aqua)

Agenda (version: 12-Sept 2014)

General time schedule:

Monday

14.00 - 18.00	**- meeting time**
16.00 - 16.30	*- Coffee break*

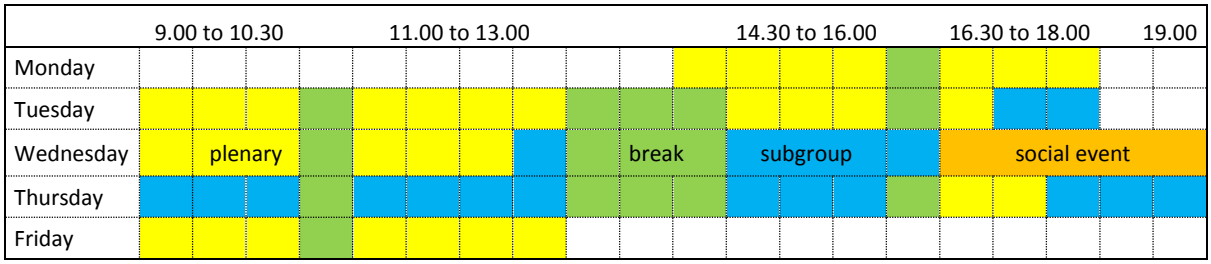
Tuesday – Thursday

09.00 - 18.00	**- meeting time**
10.30 - 11.00	*- Coffee break*
13.00 - 14.30	*- Lunch*
16.00 - 16.30	*- Coffee break*

Friday

09.00 - 13.00	**- meeting time**
10.30 - 11.00	*- Coffee break*

Work Plan



social event on Wednesday evening

Monday, 8 September 2014

14.00 - 14.30: Plenary session:
Welcome, introduction of the participants, organization & house rules, adoption of the agenda and appointment of subgroups & rapporteurs

14.30 - 16.00: Plenary session

- updates from other RCM meetings held this year

- **ToR 1:**
  - Review progress in regional co-ordination since the 2013 RCM (follow-up of recommendations from RCM NS&EA 2013)
  - Review of the outputs of other RCM 2013
  - Review the bilateral and multilateral agreements in place.
  - Review of the outputs of the 10th Liaison Meeting (Brussels, October 2013)

16.00 - 16.30: Coffee break

16.30 – 18.00: Plenary session:

ToR 1 continued

18.00 End of the day

Tuesday, 9 September 2014

9.00 - 10.30: Plenary session:

- ToR 5: Review progress on quality control, validation etc. procedures and suggest any changes or new procedures that may improve the data quality control. Consider processes how quality of data can be evaluated before they are used by the end-user.
  - Presentation on progress made in RCM Baltic Sea in 2014
  - An operational scheme for quality control should be developed and hopefully the RCM can agree to implement this quality control scheme in all MS at latest in 2015. Plenary to discuss approach which will be further worked out by Sub-group A.
- ToR 8: Propose a model for cost sharing of joint surveys.
  - Joint survey might in the future be more common than today. Therefore, it is suggested that a general discussion on how joint surveys can be carried out and how a fair cost sharing can be set up.

10.30 - 11.00: Coffee break

11.00 – 13.00: Plenary session

- **ToR 6**: Revision of the DCF Regulation and development of a new EU Multiannual programme (EU MAP) for data collection
  - Feed back from the Commission on earlier meetings on the revised DCF held with stakeholders (January 2014) and National Correspondents (July 2014)

- Feed back from the Commission on the latest developments with regard to the development and implementation of the revised DCF
- Provide feedback on the STECF reports since the last RCMs, focusing on aspects related to regional coordination.
- Discuss a roadmap for the development of a regional sampling programme which will be further worked out by Sub-group C. Consider how the future role of RCGs (preparing sampling, allocating tasks, quality assessment at a regional level) can be achieved and what steps are required to get there

13.00 – 14.30: Lunch break

14.30 – 16.00: Plenary session

- **ToR 2:** Review feedback and recommendations from data end users (STECF, ICES, GFCM, and ICCAT).
  - For the RCM NS&EA probably only recommendations from STECF and ICES are relevant.
    - ➔ Presentation and discussion of ICES recommendations
    - ➔ ICES feed back on data quality and transmission 2013
    - ➔ Presentation and discussion of STECF recommendations

- **ToR 9**: Analyse data from 2014 RCM data call
  - It is hoped that preliminary of analysis has been carried out prior to our meeting. A short presentation will be given on the compliance with the call. On the basis of these result properly more analysis can be carried out during our meeting in Sub-group D.
  - Procedures or guidelines for data calls?

16.00 - 16.30: Coffee break

16.30 – 18.00 Plenary session and sub-group work

- ToR 4: New CFP
  - Consider impact of the implementation of the landing obligation, the discard plans and the programmes for monitoring of compliance of the discard ban for the data collection.

    ➔ Presentation of existing discards plans (if they are available)
  - Based on the plan and other information it should be considered whether updates of the NP's needs to be done.
  - Further, a general discussion on the impact of the implementation of the discard plan on the sampling strategy and sampling methods may be suitable which will be further worked out by Sub-group B.

18.00 End of the day

Wednesday, 10 September 2013

9.00 - 10.30 : Plenary session

- ToR 3 Regional coordination
  a) The future of Regional Data Bases
  b) Review the reports from the RDB-steering Committee meeting.
  c) Update on regional databases since RCMs 2013.
     ➔ Presentation data uploaded by MS.
  d) Structure of the regional databases and identify needs of the RCMs that could be addressed by the RDB SC and suggest any new features/reports to be developed.
     ➔ Presentation from the RDB-steering committee. Consider RCM membership of the RDB-SC.
     ➔ Presentation by the Commission on the results and the Commission conclusions of the feasibility study on scientific data storage and transmission
     ➔ Presentation on WKRDB 5

10.30 - 11.00: Coffee break

11.00 - 13.00: Plenary session and sub-group work

- **ToR 7:** Direct management programme of EMFF
  - Propose new studies and pilot projects EMFF Article 86(2)a
  - Consider Direct management funding possibilities under the EMFF (Article 86(2)d on research surveys under SFPAs
  - Explore interest of MS in participating in 'pilot RCG' projects funded under article 86(2)f on regional cooperation.

- Establishing Sub-groups
  - Sub-group A: Quality control. Propose process for future quality control and reporting of data quality (national, regional, expertise groups, tools). The work is this Sub-group is related to ToR 5. Sub-group chair
  - Sub-group B: Impact of the landing obligation on the data collection in the future and especially in 2015 and 2016. How does sampling changes and what are the consequences for coordination? The work is this Sub-group is related to ToR 4. Sub-group chair
  - Sub-group C: Development of proposed road-map of data coordination process under the revised DCF with focus on the envisaged process (timing, people involved, tools, expertise, annual/multiannual, continuation of the work started in the RCM NA in 2013). The work is this Sub-group is related to ToR 6.
  - Sub-group D: Data call compliance analysis – catch and effort data, biological data. (produce overviews of submitted data, identification of MS compliance problems, identification of data gaps). The work is this Sub-group is related to ToR 9. Sub-group chair
- Start of Sub-group work.

13.00 – 14.30: Lunch break

14.30 – 16.30 Sub-group work

- Continuation of Sub-group work.

16.30 - Social event

Thursday, 11 September 2013

9.00 - 10.30 : Sub-group work

- Sub-group work continued.

10.30 - 11.00: Coffee break

11.00 – 13.00 Sub-group work

- Sub-group work continued.

13.00 – 14.30: Lunch break

14.30 – 16.00 Sub-group work

- Sub-group work continued.

16.00 - 16.30: Coffee break

16.30 – 19.00 Plenary session and sub-group work

- Presentation of the outcome of the sub-group work.
- Sub-group work continued for finalizing text and tables.

19.00 End of the day

Friday, 12 September 2014

9.00 - 10.30 : Plenary session

- Proposal of a new chair of the RCM/RCG NS&EA
- Timing and venue of the next meeting (in 2015)
- Draft recommendations – discussion
- Adoption of the recommendations
- Report assemblage and reading

10.30 - 11.00: Coffee break

11.00 – 13.00 : Plenary session

- Report assemblage and reading continuation
- closure of the meeting

Three old farts leaving the scene soon