

Report of the Regional Co-ordination Group for the North Sea and Eastern Arctic (RCG NS&EA) 2017



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Executive Summary

The Regional Coordination meeting NS&EA met in Port-en-Bessin from 11th to 15th September 2017. Thirty participants from 12 members' states and representatives from Commission and ICES were participating. The meeting was largely devoted to subgroup work relating to A) Data quality and sampling plans, B) cost sharing of surveys and Rules of Procedures and C) end-user interaction

Having regarded Article 9.2 of REGULATION (EU) 2017/1004, stipulating that regional coordination groups shall be established by the relevant Member States for each marine region, the Regional Coordination Group for the North Sea and Eastern Arctic was established upon opening of the meeting on September 11, 2017. However, guidance, and possibly decision-making, on the geographical scope for each RCG is further needed.

In the RCM NS&EA 2016 several sub groups were established and the intersessional work conducted in 2016-17 was presented during this year's meeting.

The pan-regional sub group on end-users needs had an intersessional meeting with ICES in March 2017 where a road map on future work was developed. It was further suggested to focus on two presently used processes to increase the communication between the end users and data providers: the benchmark process and the data calls. During this meeting the end-user sub-group continued the work conducted at the Atlantic and Baltic RCG 2017 on providing input in preparation for updating the EU-MAP table 10. The sub group used the information from the annual work programs in combination with the mandatory table 10 survey list and ICES information on surveys used in advice to combine two tables including all the relevant information. It was decided that these tables should be quality assured by MS and ICES. The pan-regional end-user group was decided to continue in 2018.

Data needs were examined in relation to ICES as the main end-user, with an emphasis being on the process by which end-users communicate needs and the extent of the existing dialogue with RCMs. The outcome of the subgroup's deliberations was a generic code building on the variables from the RDB and which could be used by ICES to get a stock overview in relation to benchmark process. As an example the RCG summarized the data for a group of North Sea species which are due to be benchmarked in 2018, flounder, witch flounder, whiting and lemon sole. Further, a data overview was conducted for one of these stocks: the whiting.

The sub group on Diadromous species participated in this year's Baltic RCG and it was concluded that the interaction with the RCG were beneficial for the further development of a common understanding of the data need and that this sub-group should be invited in next year's NS&EA RCG in Copenhagen.

The RCM NS&EA further agreed in 2016 that intersessional work on the Rules of Procedure (RoP) should be carried out in preparation to transform the RCM to RCG in 2017 which was further supported by the Liaison meeting. Such work took place in a written procedure towards the end of 2016 and 2017 ending to a draft Rules of Procedure circulated among Member States in July 2017. However, no agreement on the Rules of Procedure was reached during this RCG NS&EA meeting. After further drafting, taking into account the adopted Rules of Procedures from the RCG Baltic Sea and the draft Rules of Procedure from the RCG North Atlantic, a new draft was produced. The RCG considered that the new draft was near final form and a work plan to have the updated RoP was agreed upon. The same sub group was working on the generic criteria for a cost sharing model on surveys and here progress was made with an agreement for the Atlanto-Scandinavian herring survey from being achieved for NS&EA participants;

The updates of the MS work plans was discussed and further work on the automation process for compiling the data required for table 1A was conducted. The RCG was in agreement that this approach was of general benefit.

The 2017 data call was generally well met by all member states uploading landings and effort data to the RDB, Upload logs were completed by most countries and were in the process of being summarised.

The RCM also received presentations of the follow up of LM 2016 recommendations and of the work of expert groups and end-users from 2016-17: PGDATA, WGCATCH, WGBIOP, SCRDB, WKRDB, WGRFS, WKBIOPTIM, WKDECC, STECF, ICES, COMMISSION, and the RCM BALTIC.

The next meeting is planned to be held in Lyngby, Denmark, with co-chair Els Torreele and Marie Storr-Paulsen; the suggested date is 3rd to 7th of September 2018.

1. Establishment of the Regional Coordination Group for the North Sea and Eastern Arctic

Having regard Article 9.2 of REGULATION (EU) 2017/1004, stipulating that regional coordination groups shall be established by the relevant Member States for each marine region, and, having considered North Sea and Eastern Arctic (including NAFO) as a marine region in continuation of the previous definition of the RCM marine regions and having relevant Member States present at a meeting succeeding RCM NS&EA 2016, the Regional Coordination Group for the North Sea and Eastern Arctic has been established upon opening of the meeting on September 11, 2017 in Port-en-Bessin, France.

Since 2010, the RCMs have had the following geographical scope:

- the Baltic Sea (ICES areas III b-d), RCM Baltic
- 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. RCM NS&EA
- the North Atlantic (ICES areas V-X, excluding Va and VIId), RCM NA
- the Mediterranean Sea and the Black Sea, RCM MED&BS
- 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, RCM LDF

The recast stipulates in Article 9.2 that RCGs are to be set up for each marine region. Definition of the region for each RCG is an essential part for defining the remit of each RCG. Logically, the RCMs converted in RCGs while assuming the same geographical scope. This, however might cause problems in the future when discussing mandates, remit of the groups and ensuring relevant attendance and representation to a group.

The use of 'marine region' is ambiguous in Regulation 2017/1004, consideration 11 states that 'The definition of 'marine regions' should be based on scientific considerations.' While Article 3.3 states that "marine region" means a geographical area set out in Article 4(2) of Regulation (EU) No 1380/2013, an area established by regional fisheries management organisations or an area defined in the implementing act referred to in Article 9(11);' The implementing act referred to in Article 9(11) doesn't contain straightforward definitions of marine regions, while Article 4(2) of Regulation (EU) No 1380/2013, specifies a different area coverage for marine regions than currently applied as the scope for the RCGs.

The geographical scope of each group is to be included in the respective RoP. The most straightforward approach would be to continue business-as-usual and to re-establish the regions as in place since 2010. Another option would be to rearrange regions over the groups or to combine (rearranged) regions in one group.

Guidance, and possibly decision-making, on this aspect is needed in a legal context (securing the legal status and remit of the groups) as well as setting the geographical scope for each group. The areas of competence need to be spelled out at the 2017 LM, ensuring the legal basis of the groups to work from.

2. Brief Review progress since 2016 RCM's and 2016 Liaison meeting

The RCM NS&EA 2016 forwarded only few recommendations for the Liaison Meeting (LM) in 2016 for endorsement. The recommendations from the LM meeting to be taken into account by the RCG NS&EA Member States (MS) are given in Annex 4. The RCG NS&EA 2017 comments are given to each recommendation listed in annex 4.

All MS have by October 2016 submitted their Work Plans (WP) 2017-2019 in accordance with the EU-MAP and used the Work Plan Templates. The Commission has approved most MS WPs 2017-2019 and only few MS have been asked to resubmit or update their WP for 2018-2019 before the end of October 2017.

The Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008 (recast) was adopted and published by 17th May 2017.

In May 2017 DG Mare accepted the final report for the fishPi Project - Ares(2016)3949997 - Grant Agreement No MARE/2014/19 (SI2.705256) – "Strengthening regional cooperation in the area of fisheries data collection in the North Sea and Eastern Arctic". The report can be downloaded from the following link: https://www.dropbox.com/s/pnzo7ip1tgxo15a/fishPi_Report_%20Final%20-%204-8-16.pdf?dl=0

DG MARE Project Management Committee members were impressed by the amount of work that had been achieved by the project and they are clearly eager to see some of the outputs from the project adopted in an operational context.

A new call for proposal MARE/2016/22 "Strengthening regional cooperation in the area of fisheries data collection" was launched in May 2017. The same consortium as for the FishPi project has submitted a FishPi2 Proposal Status. No new information from the Commission was available for this RCG.

In December 2015 the Commission launched at "Study on Availability and Dissemination of DCF Data (MARE/2015/04). The study has started and is carried out by a consortium (Sogeti and Devstat supported by Framian, Cofad and CLS). The main objective of the study is to contribute to improving the timeliness, quality and availability of DCF data for end users, whilst reducing the burden on EU countries for making this data available, thereby building on the outcome of the study on 'Scientific data storage and transmission under the 2014–2020 data collection multiannual programme (DC-MAP) — feasibility study'.

The status of the project was presented at the Meeting of the Expert Group on Fisheries Data Collection held at the 19th June 2017. At the meeting, MS underlined the existence and development of the Regional Database and questioned the link to this study. The contractors explained that the current study will not replace existing initiatives, but rather explore the options on how to make better and broader use of existing data. The Member States questioned the level of aggregation of data needed for the Fisheries Data Hub. MS have subsequently been invited to fill in a questionnaire on the confidentiality of detailed data, prepared by the contractors. In addition, the contractors had published and widely announced an online questionnaire on "Availability and Dissemination of DCF data". It is known that the questionnaire has been sent to a large number of potential data end-users including people/organization without any knowledge about neither the CFP nor the DCF. Therefore, results from this questionnaire analysis should be used with caution.

3. Agree on a governance model for the regional coordination group and develop a roadmap to handle tasks assigned to the RCG in the recast of DCF (2017/1004) and EU-MAP (2016/1251).

Presently the RCG NS&EA has recognised the need for six different sub-groups to do intersessional work in-between the annual RCG meetings. Some of the sub groups are considered pan regional and some for this RCG only.

- Subgroup on survey cost-sharing – regional
- Subgroup on survey RoP – pan regional
- Subgroup on end-users need – pan regional
- Subgroup Diadromous species – pan regional
- SCRDB Pan- pan regional
- Subgroup data – pan regional

Subgroup on survey cost sharing

It was decided that the survey cost sharing sub group should be regional as the numbers of stocks and surveys are very different between regions. A subgroup has been established and further information on this group can be found in section 8.1.1.

Subgroup end-user needs

The sub-group concerning end-user needs are presently having participants from the RCG Atlantic, RCG Baltic and RCG NS&EA chairs. The group has had 1 physical meeting with ICES in the ICES head quarter in March 2017 and developed a roadmap for further cooperation. More details can be found in section 5 and Annex 8.

Subgroup Diadromous species

The diadromous sub group participated in the RCG Baltic 2017 in Turku to advise on what needs to be done for diadromous species in a Regional Work plan, including listing end user needs (variables required, frequency, intensity), including possible needs for regional agreements (e.g. setting index rivers) and time frame for implementation. It was decided to continue the sub-group and to rotate the participation between the RCGs.

Diadromous subgroup: ToRs for 2018

For relevant anadromous and catadromous stocks and regions, and with reference to the needs of end-users including but not limited to ICES WGNAS, WGBAST, WGEEL, WGTRUTTA and WGRFS:

1. Prepare regional work plans for data collection and quality assurance, including regional databases (existing or new) where appropriate.
2. For commercial fisheries in Union waters, advise on the selection of stocks for which variables (sex-ratio, maturity, fecundity) have to be collected in support of scientific advice, and the temporal frequency of data collection.
3. For commercial fisheries in freshwaters, specify stock-related variables to be collected for individual specimens, on age, length, weight, sex, maturity and fecundity, by life stage. Noting that the requirement to collect annual catch quantities by age class or life stage is obligatory.
4. For recreational fisheries in all waters, advise on the end-user needs for age or other biological data, noting the requirement to collect annual volume (numbers and weights or length) of catches and releases is obligatory.
5. Define the rivers to be monitored for eel and salmon at regional level, noting that 'rivers' in the Legal Text is interpreted to represent 'water bodies' (STECF 2017).
6. Coordinate, at regional level, the selection of stocks from which eel variables (recruits, standing stock and silver eel) and salmon variables (parr, smolts, ascending adults) have to be collected, and advise on temporal frequency (annual or not) of the collection of variables for salmon.

Note that ToRs 2-6 should be fully addressed in 2018, and then perhaps reconsidered every few years.

Data subgroup (Pan regional)

The RCG data group was a loose grouping of individuals with skills in the statistical computing language R (R Core Team, 2015) which was assembled following initiatives in the RCMs in 2016. The aim of this grouping was to facilitating intersessional and pan regional work with regional data in the data formats used by the RDB (CS CL and CE data formats). Members of the group have been involved in RCM data work, the FishPi project and data uploads to the RDB, but not all are regular attendees of the RCM's. Such a group broadens the pool of skilled people able to develop the RDB and the provision key statistical advice.

The SCRDB at its December 2016 meeting agreed to the establishment of a secure pan-regional section of the RCM share point site for holding RDB data sets as R objects with a user membership limited to those in the data group. Use of the data is in accordance to the data policy document.

In December 2016 the csPi data structure refined during the fishPi project was circulated to data group members with the request that if possible members of the group or relevant individuals in their respective institutions test the format as a possible basis for a revised data model for the RDB. This request was taken up further by PGDATA in February 2017.

As in previous years an extraction of RDB data was made prior to the 2017 RCMs that was read into R, converted into COST objects, and the relevant data subset by area, was uploaded to the RCG share points prior to the NA, NS&EA and Baltic RCG meetings. For more information see section 7.1.1 and annex 14.

The composition of the group as of December 2016 is as follows:

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To strengthen the group clear deliverables and timelines were set up for the future data group.

Data RCG subgroup: ToRs for 2018

1. To extract RDB data prior to the 2018 RCGs, read data into R, and to present the relevant landing data by area, flag countries, landing countries, harbours from the data that were uploaded by MS to the RDB and upload the results to the RCG share points prior to the NA, NS&EA and Baltic RCG meetings in 2018.
2. To extract RDB data prior to the 2018 RCGs, read data into R, and to present the relevant stock data on stocks to be benchmarked in 2019. Age, length and weight information, landings by countries and samples by country shall be included. The stock overviews should take the sampling strategy into account.
3. To further develop the automation process for compiling the data required for table 1A in the National Work Plans, and to include this into a RCG GitHub.

4. Agree and if possible adopt Rules and Procedures for RCG

The RCM NS and EA agreed in 2016 that intersessional work on the Rules of Procedure should be carried out in preparation to transform the RCM to RCG in 2017 which was further supported by the Liaison meeting. Such work took place in a written procedure towards the end of 2016 and 2017, ending in draft Rules of Procedure circulated among Member States in July 2017 (see annex 6).

Further work was carried out in September 2017 at the RCG NS& EA. However, no agreement on the Rules of Procedure was reached. After further drafting, taking into account the adopted Rules of Procedures from the RCG Baltic Sea and the draft Rules of Procedure from the RCG North Atlantic, a new draft was produced (see annex 5). The RCG considered that the new draft is nearly final, most likely not requiring further major changes.

In addition, a consensus was found that the Rules of Procedure should still be agreed during 2017. In order to achieve this objective, a further procedure was agreed (see text below).

All Member States participating in the work recognized and committed themselves for a constructive work to pave the way for the final agreement on the Rules of Procedure in 2017. Simultaneously, it was recognized that the Rules of Procedures evolves, as the RCG work, during the coming years.

4.1 Procedure for the RCG NS&EA to agree and adopt Rules of Procedure

- Draft 1 Rules of Procedure to be sent to the Member States by 20th September for internal consultation with the established dead line 20th October for comments for the version Draft 2
- These comments should indicate direct textual changes and preferably raise only issues of more matters of principle nature
- Based on the comments received, Draft 2 shall be made before the end of October
- Draft 2 sent for final comments with a timeline of two weeks to provide comments on the remaining outstanding issues
- If consensus based on Draft 2 is found, the final adoption may be taken by using written procedure
- NC meeting, NCs present with the appropriate and flexible mandate, to agree and adopt Rules of Procedure 20th November

5. Develop processes for end-user interactions and identification of end-user needs

In the legal text of DCF recast and EU_MAP, there are multiple references to “end user needs” on a regional basis. Data collection is required to be coordinated at a regional level:

Data collection methods and quality shall be appropriate for the intended purposes defined in Article 25 of Regulation (EU) No 1380/2013 and shall follow the best practices and relevant methodologies advised by the relevant scientific bodies. To this end, the methods and the result of the application of the methods shall be examined at regular intervals by independent scientific bodies in order to verify their appropriateness with respect to the management of the common fisheries policy.

This all implies a process of collaboration with end-users as well as advisory bodies at a regional level. The Chairs of the Northern RCGs (Baltic, NS&EA and NA) are keen to work on devising a framework as soon as possible to ensure any data collection under the regulation meets end-users needs. As ICES is the main end-user in this supra region a meeting was organised with the ICES secretariat in Copenhagen on the 9th of March 2017.

The objective of the meeting between the RCG chairs and ICES was to:

- Start formalising a framework of communication between data providers (RCGs) and data end-users (ICES);
- See how to best improve current interactions and communications between RCGs and ICES including using established mechanisms;

It was decided to focus on two presently used processes to improve the communication between the end users and data providers: the benchmark process and the data calls. For the full minutes from the meeting, see Annex 8.

For the benchmark process:

- It was considered relevant that the issues list produced by the WGs should be distributed to the RCG for commenting, for the RCG to get involved earlier in the benchmark cycle
- RCG to provide an inventory of relevant data collected under the DCF to data compilation workshops (DCW).
- Benchmark/Data compilation workshop groups to provide feedback on what is presently “sampled and used”, “collected, needed but not currently used” and “not needed and not collected yet (useful in the future)”. RCG to design the template (not forgetting recreational fisheries (RF) data and diadromous species (DIA)).
- RCGs to compare National Work Plan survey names with DATRAS names and outcome from WGCHAIRS. STECF review group of surveys (STECF EWG 17-14) would need the input.

For the data calls:

- RCG/ICES to compare stock assessment data call (Excel sheet) to ICES stock list database and the NWP's Table 1ABC, DATRAS+, RDB (and National DBs...). Draft template needs to be compiled and circulated. The ICES stock data base is still not at a stage where it can be used for extracting the data used in the present stock assessment (<http://sd.ices.dk/stockList.aspx>)
- Data can be flagged as “required and used”, “used but under threshold”, “available but not used” and “superfluous”.
- ICES is required, under the MoU, to provide advice based on Surveys but commercial catch data might not be available because of thresholds.
- Feedback to ICES for information on potential data gaps, help form a process of prioritising data needs and manage expectations.

5.1 Review of issue list used for benchmarks

The ICES benchmarks are the occasion to review and update time series improving the quality of catch and survey estimates used in assessment. It is fundamental that sufficient time is given to data providers to re-analyse and improve the estimates for this objective to be achieved.

RCM NS&EA noted that the issue lists, data required and deadlines for the entire benchmark process are not always known sufficiently beforehand, and this makes it difficult for labs to plan and conduct necessary analyses and improve the data submitted.

Following up on previous recommendations from RCMs, ICES is taking considerable steps to improve the benchmark process, namely by producing an online database where the expected dates of the benchmarks and respective issue lists will be published.

RCM NS&EA welcomes this progress and recommends that the steps for the benchmarking process are defined well ahead of time of the data evaluation data calls and their deadlines.

As an example, stocks to be benchmarked in early 2019 should all be announced online by the end of 2017 alongside their proposed issue lists and expected meeting dates. This is necessary so that data preparation, quality checks and additional analyses can be properly considered in the annual planning of lab activities. Then the final issue lists, data calls, and complete timeline of the process must be clearly defined and published as early as possible, ideally during at the end of each 2018 assessment group.

At the RCG NS&EA 2017 meeting the issue lists were discussed for all stocks planned for benchmark in late 2017 and 2018 in the North Sea and East Arctic regions. When there was a reference to improving the collection of sampling data or improving the quality of the data collected, this was commented on by the RCG, see Annex 9.

5.2 Review of 2016 data calls and feedback from the RCGs to end-users (2017)

The RCG NS&EA welcomed the collaborative work initiated by ICES with the data contributors in the ICES/PGDATA and ICES/WGCATCH fora in February 2017. This internal review encompassed both the usual ICES data call and its new request for length data of DLS. The work somehow delayed the release of the final ICES data call but further eased the compliance, fulfilling and transparency of the call. In the specific case of the Data Limited Stocks (DLS), a range of quality indicators was requested as an answer to concerns from data providers that for many of these stocks data would be insufficient to be used in assessment.

The ICES data call specifically requests to provide the number of samples (PSUs) and number of measurements for length and age, and this information is deemed of primary importance in evaluating the quality of the data (STECF 2017). The InterCatch facility allows the use of the number of samples or number of measurements for the imputation phase when completing the dataset for assessment purpose. The quality evaluation of a dataset depends on the relative importance of the uninformed strata, and also on the qualification of sampling intensity vs size of the strata. Indeed, the poorly sampled large strata are worth giving a consideration, and tools to display this type of quality evaluation should be developed. The starting point is that every MS carefully fills the information of number of samples and measurement for every stratum.

One of the main responsibilities of ICES/WGCATCH is to “ensure the quality of commercial catch data, which underpins stock assessments and advice” (ICES, 2017). To achieve this goal, the EG “documents sampling schemes, establishes best practice guidelines and provides advice on the uses of commercial fishery data.” (ICES, 2017). WGCATCH has set as one of the goals for 2017-2018 the development of “best practice guidelines in data request and provision for frequency data” (ICES, 2017, p63&76). For that WGCATCH may collaborate with both PGDATA and the ICES secretariat in the collection of indicators associated to the data uploaded to InterCatch by the different MS and investigate their analyses so that best practice is established (e.g., minimum number of samples underlying estimates provided). Feed-back of end-user needs from ICES are included in annex 8.

RCM NS&EA recommends that ICES/WGCATCH considers the development of quality evaluation tools based on InterCatch and other available outputs. Failing to provide the information on sample intensities requested in the data call should be considered a data transmission failure.

RCM NS&EA further recommends ICES to be parsimonious in the additional requests it makes from data providers and issue clear internal guidelines (stock coordinators, stock assessors) that ensure that quality indicators are effectively considered in the assessment process.

5.3 Feed back to ICES on data available for the benchmark

The idea was to demonstrate what might be available in the RDB for a particular species, or group of species. The RDB output can facilitate the evaluation of data at fora like data compilation workshops and/or benchmarks. The steps followed at this meeting help to ascertain the extent of these data available, an indication of the circumstances of its collection, and look at some of the characteristics, to highlight some of the issues with its use. This process would facilitate the communication between those assessing the species, and those with knowledge of the collection of the data. An important caveat is that interpretation of these data is dependent on knowledge of the formats in the RDB, and an understanding that these data were derived from samples. The data we consider here is raw sampling data held in the CS table; these are not population estimates, but the basis on which those population estimates would be derived. Landings and effort data are also available but not considered in this exercise. As an example we have looked at the data for a group of North Sea species which are due to be benchmarked in 2018; flounder, witch flounder, whiting and lemon sole. We then focus more on the data available for one of these the whiting; for further information see Annex 14.

5.4 ICES initiatives to improve the feedback

One of the major issues in the past was for ICES to be specific enough in a clear language on what was needed for the stock assessment. Traditionally, data submitters only see the data call once it is issued, which does not leave much time for questions and clarifications and can lead to different interpretation of the data call among data submitters and the requester.

ICES had lengthy discussions with stock assessment groups, RCMs and other expert groups in order to come up with model for improving data calls. To address the issues raised, ICES has proposed a new approach to the data calls. This approach is based in a two-step process.

Step 1 - The development of a database to manage the data call. The Stock Information Database (SID) will not only hold the data needs and timelines but also will allow a two-way dialogue between data submitters and the end users.

Step 2 – Streamlining the data call text ahead of being issued in conjunction with PGDATA ensuring that all points are clear and do not lead to multiple interpretations.

For more detailed information, see annex 12.

Several ICES EGs have extensively described the potential sources of bias in sampling plans (e.g., SGPIDS, WKPICS) but concrete pragmatic guidelines for data providers are still missing. Such absence leaves them frequently in a position where they have two options between filtering out ‘poorly’ sampled strata by being too conservative in their quality concerns, or uploading estimates that potentially may not be reliable. The situation is further aggravated by a general perception from data providers that, whatever decision they take, their data quality concerns will not find space for consideration within the busy and time-limited assessment process. Situations like the recent data call on length data for data limited stocks, originally drafted by ICES without a prior definition of the quality of data requested, have not helped to mitigate this perception.

6. Roadmap towards regional sampling plan

In 2016, the RCM NS&EA looked at the regional sampling programs and developed i) a roadmap and generic requirements for implementing a regional sampling plan, ii) generic ToRs and profiles for the teams of experts developing the regional sampling plan. The RCM also selected a suitable candidate for a first regional sampling plan.

In preparing for regional sampling plan, the main achievement to be considered is the project proposal put together by the former fishPi project team. In response to the MARE/2016/22 call for projects, a proposal has been developed, expanding from the fishPi work, and spanning over the North Atlantic, North Sea and eastern Arctic sea basins. If accepted for financing, the fishPi2 project will endeavour to distinguish fisheries suitable for regional sampling from those suitable for national sampling, beyond the work already done in the fishPi project. One work package (WP2) will propose

1. guidelines for defining regional fisheries and a checklist of criteria to be met for determining suitable regional fisheries,
2. Analytical tools to be applied to regional data sets to provide objective measures of suitable regional fisheries
3. Example analyses of regional data sets with a view to identification of fisheries suitable for regional sampling plans.

Another work package (WP3) will focus on how data should be collected at the regional level and will take the next steps toward the development of regional sampling designs for commercial fisheries within the region. It

will provide a framework and tools to specify a regional sampling plan, through the sharing of a regional data set and generic simulation code to test potential sampling designs. This will allow Member States and sampling nations to draw up work plans that include regional, as well as national commitments. This work package will prepare an example regional sampling plan for the chosen fishery(s) for 2019.

The findings will be compiled in a document in such a format that each RCG can draw directly from this report and, where possible, can apply the proposed working procedures directly for its own use.

7. Data quality – what is the role of the RDB

7.1.1 Role of the RDB

As a current storage place for commercial sampling, landings and effort data from EU countries, the RDB has the capacity to feed routine summary reports of the data available that can be useful to both RCGs and Assessment Working Groups. RCG NA and NS&EA developed a draft stock based report that illustrates this potential. This is important as it provides convincing examples of the usefulness of the RDB for both parties.

The RCG NS&EA recommends that the potential of the present RDB to feed these summary reports is further explored by coordinated actions from the RCGs Data Group and by ICES. In particular the RCG NS&EA **recommends WGCATCH to set-up a process to develop summary reports from RDB data, together with the R code in support; PGDATA should be tasked to feed into the process with a list of analyses of interest to the benchmarks.**

Finally, it would be important that the R functions developed for the analyses would be shared in open repositories so that they can be considered by the RCG NS&EA Data group in the production of its own fishery overviews and reports.

Such exploration should be carried out in full respect for the RDB data policy and involve a pool of data providers that is able to reflect main concerns on data quality and sampling design into the elaboration of these reports.

The data group of RCG NS&EA worked on a set of R functions that can be used to gain an overview of the available data. Those functions run on an 2009-2016 extraction of RDB data provided by the ICES Data Centre to the RCM NS&EA data group on 12-09-2017 and are publicly available in a new RCG NS&EA GitHub (https://github.com/ices-eg/RCG_NS-EA). Among the functions developed are functions that extract and compile RDB data for specific NS&EA stocks (`read_in_subset_rdbData`) and generic functions that plot barplots and boxplots with one or two variables (e.g., `barplot_var_by_two_var_stacked`) and generic heatmaps overlayed in NS maps and ICES rectangles (`heatmap_ices_rect_one_var`).

8. Surveys

8.1.1 Cost sharing of surveys

MS's participation in surveys based on a MS's stake in a certain stock, subject of the survey, has long been debated for. Since the 2017 implementation of the DCF recast, this participation between Member States has become mandatory. The discussion on participation mainly revolves around cost-sharing of vessel costs in various forms. However, the implementation of this cost sharing is a multidisciplinary and time consuming exercise requiring thorough consideration as well as full commitment of the MS involved in a survey or presently not involved in the survey but holding a share of the TAC.

As a first step, the 2016 RCMs established a pan-regional subgroup on surveys, more specifically, this group was tasked to develop a general cost-sharing model for research surveys at sea. The outcomes of this group were acknowledged by RCM NS&EA as a basis for future cost sharing exercises, while applying tailor-made solutions where and when applicable. RCM NS&EA concluded that more work needs to be done and proposes the intersessional work to be carried out prior to the 2018 meeting. The scope of the intersessional work will be based on the outcomes of the STECF EWG on the evaluation of the list of mandatory surveys (postponed from 2017 to May 2018).

Intersessional tasks to be carried out:

- based on the target species and stocks by survey: define the appropriate TAC shares by MS
- Collate current survey effort by MS by survey
- cross check shares vs survey effort
- propose possibilities for future arrangements on survey-by-survey basis as well as on the regional basis
- communicate findings to the relevant NCs.

The intersessional work will be carried out according to the following time-line:

Preparatory work: Jan-Feb 2018

Detailed work: April 2018

Wrap up meeting: April 25-26

Participants: Els Torreele (BEL), Jørgen Dalskov (DEN), Sieto Verver (NED), Christoph Stransky (GER), Maria Hansson (SWE), XXX (FR)

Given the above mentioned reasoning, for the 2018 surveys under the remit of RCM NS&EA, RCM NS&EA agrees to continue on the basis of 'business as usual', as was the case in 2016. This implies that no cost-sharing agreements, except for surveys already subject to long standing cost sharing agreements, will be implemented for 2018. This situation is to be reviewed for 2019 in the light of the work done by the 2016 pan-regional subgroup on cost-sharing, the proposed intersessional work in 2018 as well as the outcomes of the STECF EWG tasked with the evaluation of mandatory surveys.

As mentioned, currently two surveys are already subject to cost sharing: the International Ecosystem Survey in the Nordic Seas and the Blue Whiting survey. For the Blue Whiting survey, cost-sharing goes back as far as 2005 (RCM NEA report 2005) when during a dedicated meeting in Brussels (prior to Management Committee) agreement was reached on the cost-sharing model for this survey by Denmark, Germany, Spain, France, Ireland, Netherlands and United Kingdom. This agreement has continued ever since, despite not being executed by some MS involved. Ireland and The Netherlands have conducted the survey since 2004.

At the 2016 RCM NS&EA basic agreement was reached to proceed with already established procedures for 2017 and to finalize the cost-sharing models in 2017 to be implemented in 2018. Having reviewed the work by the pan-regional subgroup on cost-sharing and having acknowledged that a new cost-sharing agreement for both surveys is preferred, RCM NS&EA agreed to cost share for the International Ecosystem Survey in the Nordic Seas. A basic agreement was reached for the Blue Whiting survey in the RCM NA 2017 which initiated a procedure for finalization of this agreement.

Agreement on cost sharing International Ecosystem Survey in the Nordic Seas

The following Member States have agreed to share the vessel costs for the International Ecosystem Survey in the Nordic Seas: Denmark, Germany, Ireland, Sweden, The Netherlands, United Kingdom. This agreement in principle covers the 2018 and 2019 surveys carried out by Denmark. The agreement can be found in the report annex 7.

8.1.2 Preparation for updating of EU-MAP table 10 – surveys used in AWG

All RCGs were asked to provide input in preparation for the STECF EWG meeting on the evaluation of surveys (to be held in the first half of 2018 - date to be decided). The key aim of EWG is to revise the current list of mandatory surveys in Table 10 of implementing decision 2016/1251.

Following an action from the meeting between RCG Chairs and ICES secretariat, ICES provided all the RCGMs 2017 with a list of the surveys currently used in assessments; how they are referred to in the advice and how and if the data is stored and referred to on their databases.

It was suggested that the RCG would review these lists and provide a complete overview of all existing surveys and provide a final list for evaluation. The RCG NS&EA supports the conclusion by RCG NA that the task was too big to complete within the meeting and proposed a process that requires further input from the relevant

experts in each MS and any coordinating body where appropriate. This needs to be done well in advance of the meeting and will help inform what additional data may be required for the evaluation. The STECF EWG would need more information than is available in MS work plans and there is some ambiguity about what survey data is being used by ICES, how they are referred to in the advice and therefore some ambiguity about how to evaluate the use of the surveys. A single reference ID for each survey is crucial. An ID that links the surveys listed in the AWP with the data used at ICES (or any other RFMO) and their advice and for future reference in any cost or task sharing for clear communication between SGs, EWGs, RFMOs, Commission and RCGs.

As a first task, to help MS, ICES and STECF with any communication, the RCG NS&EA reviewed the list of surveys and IDs currently listed in Table 1G in the approved AWP 2017-2019 submitted in 2016. These were compared with the list and acronyms used in Table 10 of the EU MAP and the ICES list. A table of the surveys listed in the AWP (“drop-down list”) was prepared by the RCG NS&EA which uses the AWP as a baseline with the results of the comparison and a derived acronym and name. The name and reference in the regulation is used as the key and if not listed then the acronym and name provided in the AWP is then used. The RCG NS&EA did not have access to the Portugal AWP, so apart from Portugal all surveys listed in the AWP in the North Sea and Eastern Arctic, North Atlantic and Baltic regions were preliminarily reviewed. Portugal’s surveys could easily be added to this table when available. This table will benefit from MS reviewing the differences and amending their references if required.

A simple acronym is often used by multiple surveys, shared across regions, periods and countries. The ID needs to be made up of elements that make that survey distinct. It may need a regional reference; the acronym currently used or built up from the survey name; it may need the period and a country identifier. The RCG has provided a simple reference made up of these elements where possible in the form (Region_SURVEY_Qn_Country e.g., NS&EA_IBTS_Q1_NET. These are only a suggestion but a common process needs to be adopted to better identify the surveys in any context.

Recommendation 1. The RCG NS&EA recommends the use of a single survey name and acronym for each survey for use in the EU MAP, work plans, assessments Working Group reports and advice sheets. These survey acronyms should take the form of: ‘(Region_)Survey_(Quarter_)Member-state’ e.g. NS&EA_IBTS_Q1_NET.

This will help end users, auditors etc. to easily identify the surveys.

An important component for consideration is how the survey data is used, and in particular, for which stocks. This will help with the evaluation process and for any future survey cost sharing exercise. In addition to determining a common reference for each survey, the surveys were cross-referenced against all the assessed stocks for which ICES advice is provided within the Greater North Sea Ecoregion. The most recent ICES advice sheets and expert WG reports were thoroughly reviewed for details of the surveys used (and information type). All variations on the survey acronym were also noted.

The stock table, (Annex 11) details this collated information and also shows which Member State(s) are responsible for delivering each survey and if the survey is coordinated. This table also highlights how the same survey has been referred to in different forums. This exercise will need to be extended to cover the other ICES Ecoregions and it is recommended that ICES continues with this task and member states are given the opportunity to check this information.

Recommendation 2. The RCG NS&EA recommends that ICES, in collaboration with the RCG’s complete the exercise to link the stock data to surveys by Ecoregion. MS need to review the information detailed in the stock table and AWP check table of this report (Annex 11) and complete the RCG NA end-user template using the data from both tables.

Stock table

- i. RCGs to send stock table to ICES
- ii. ICES to check the Baltic and NS&EA and provide a stock breakdown for the other ICES areas and to cross reference with AWP check table.
- iii. MS to check that their contribution to surveys is accounted for by editing column “Member state(s) responsible for survey(s)” if necessary.

- iv. Return to RCG NS&EA chair (end-user subgroup) by 1/1/18

AWP check table

- v. All MS all regions to review acronyms and descriptions in columns A to C (member state, acronym and region).
- vi. MS to comment on proposed Survey IDs and amend where there are gaps and to choose and enter their preferred Survey ID in column AD. Altering columns A to C will affect the proposed IDs. MS need to be mindful that shared surveys will already be tied to some common acronym.
- vii. Return to chair of RCG NS&EA (end-user subgroup) by 1/1/18

End-user template

- viii. End-users subgroup to collate completed tables and provide STECF with end-user template, check-table and stock tables.
- ix. STECF to circulate End user template to MS for completion with completed Stock table and AWP check table for reference.
- x. To be completed by 1/2/18

Recommendation 3. The RCG NS&EA recommends that additional input data information is included in table 5 of the ICES advice sheets. Details of each survey used in the assessment should include the survey ID (see Recommendation 1 above) and the current age-range and year-range included in the assessment.

9. Diadromous species

Given the geographical span as well as the regional need to organise and coordinate data collection of diadromous species, the Liaison Meeting 2016 discussed the need for a pan-regional subgroup on these species (eel, salmon, sea trout) and wished to initiate a subgroup on this to prepare advise on what needs to be done for diadromous species in a Regional Work Plan, including listing end user needs (variables required, frequency, intensity), including possible needs for regional agreements (e.g. setting index rivers) and time frame for implementation.

Eleven experts on diadromous species met during the RCG Baltic meeting September 2017, along with one representative of the Commission and one from ICES. The experts 'represented' 7 countries: Finland, Sweden, Poland, Germany, Latvia, Estonia, and UK.

The RCG Baltic meeting was selected because (i) it was one of the first meetings of 2017 and so the outcomes could then be circulated to the later RCG meetings, and (ii) the Baltic is the region where most diadromous species are listed in the EU MAP: salmon, sea trout and eels (sea trout data collection not being a requirement of the EU MAP in other regions).

The diadromous experts considered the proposal for a pan-regional sub group on diadromous species, confirmed this proposal, and therefore initiated the Diadromous Sub Group (DSG). The first meeting of the DSG was chaired by Alan Walker (UK), but following the Rules of Procedures, a chair will be elected during the first year of the DSG once the membership is fully established.

During the RCG Baltic, the DSG addressed its ToRs (drafted by DCG chair and the chair of the RCG Baltic). The key findings are summarised below, and detailed in Annex 19 to this report.

As the RCG North Atlantic took place in the same week as the Baltic meeting, a teleconference was held between the two groups to review developments on diadromous species coordination during the week.

As the DSG is pan-regional, the reporting format was discussed with the chairs of the RCGs Atlantic, (NA) and North Sea & Eastern Arctic (NS&EA) and agreed that the diadromous annex to the RCG Baltic report would also be included as an annex to these other RCG reports. The same process is proposed for the RCG Mediterranean & Black Sea (Med&BS), but has not been discussed with the chair of that RCG yet.

Summary of findings against the seven ToRs

1 The proposal for a pan-regional sub group for diadromous species was supported, and Aims and Objectives in the form of ToRs were drafted for consideration at the Liaison Meeting 2017.

2 The ICES Working Group on Baltic Salmon and Sea Trout (WGBAST) and the EIFAAC/ICES/GFCM Working Group on Eel (WGEEL) have recently reported on data collection programmes, management or assessment units, and the ICES Working Group on North Atlantic Salmon (WGNAS) through a workshop in 2012. These WGs will be asked to advise on data collection requirements and benefits of regional coordination through their roles as end users. WGEEL has initiated an official data call in 2017.

3 The DSG examined the recent STECF reports from 2016 and 2017 for recommendations to ease the reporting and evaluation of national work plans and annual reports. Time limits prevented further progress during the meeting.

4 Regional coordination in the Baltic is well established, though not fully implemented for all species and stocks. Outside the Baltic, regional coordination is less well established and the benefits less obvious, though some potential opportunities for eel were suggested. Advice on what regional coordination is required for diadromous species should be sought from the ICES assessment working groups as end users.

5 Following the intent of the EU MAP, end user feedback is required from which to agree on designated rivers and management units, and so questions are posed to the ICES assessment Working Groups. However, in support of this work the DSG drafted proposals for criteria to identify 'index' rivers, using eel in the Baltic Region as an example.

6 The RCG sub group on Quality compiled landings per harbour, including eels and salmon, as a way to check for data submission errors. However, the marine-focussed databases are not ideal for incorporating all the DCF Data for diadromous species because some data are unique, e.g. data from fresh waters instead of marine waters, and some biological data types. The WGEEL and ICES are developing eel-specific databases, and ICES will continue to examine ways to adapt the Regional Database to suit diadromous species data. Data provision through databases should facilitate quality assurance processes.

7 This ToR was interpreted to refer to evaluation of national (and future regional) sampling programmes. To start, an overview of salmon, sea trout and eels data collected by Member States in the Baltic region was prepared, highlighting data collected within or outside the DCF, and those used in international, regional or national assessments. This will be expanded to all EU Member States in 2018.

10. Landing obligation

Jon Elson (U.K.) presented in plenary what intersessional work had done in terms of monitoring the impact of the landing obligation on sampling schemes and catch estimates since the last meeting. Beyond individual MS dealing with their sampling and monitoring programs to sample the BMS fraction there has been little pan regional work done. The RCMs 2016 provided WGCATCH with templates which the chairs circulated before the meeting to all MS fishing in the Baltic, North Sea and North Atlantic regions to be completed and submitted for review at WGCATCH November 2016.

These forms were designed in 2014 to collate ongoing issues, national concerns, any new issues and solutions arising in relation to the collection, use of transversal data, sampling of catches and estimation during the phased implementation of the landing obligation.

WGCATCH 2016 carried out a thorough review of the issues which ranged from none discernible to limited access to scarce individual landings of the BMS fraction; to a complete withdrawal of any cooperation by the fishing industry. There appears to be very little BMS landings being recorded in official records and suggest that the fraction is not being fully accounted for in logbook or official records. Most MS have managed to deal with access problems but only a few have started to look at whether fishermens behaviour or attitude to observers has changed as a consequence of the obligation. With the gradual implementation and inconsistencies between regions and continued derogation from the regulation as a consequence of survival

rates and *de minimis* exemptions it has complicated any interpretation of changes in fishing practice or behaviour.

The RCM NA had recommended an early data call for the RDB to allow a review of the catch data disaggregated to HUC and BMS fractions the current data on the RDB appears to be incomplete, and in plenary discussions, some MS were not sure whether all the different fractions had been uploaded. **The RCG Chairs agreed to improve the data call so it is clear how and when the different BMS fractions should be uploaded to the RDB.**

Within the period of the meeting MS did not have time to complete and review the templates circulated. The RCG NS&EA recommends MS continue to monitor these changes and will support the work of the Pan-regional subgroup proposed by the RCG NA to monitor the impact of the landing obligation and will work pan-regionally with WGCATCH to look at methods for monitoring the observer affect and impact of this and other regulations on catch monitoring and sampling schemes.

11. Standardisation and reference lists

11.1 Mapping the end-user needs

End users currently making use of NS&EA fisheries information collected through EU-MAP are ICES, joint NAFO-ICES NIPAG working groups, STECF, OSPAR, FAO, EU-RCG, national and international authorities. Tuna are beginning to be encountered in the region, but the majority of MS does not have quota for these catches, so that they have to be released. ICES and STECF are therefore the principal end-users, mostly for stock assessment. By type of data, the demand is, inter alia, as follows:

- socio economic data: STECF fleet economic data call
- catch statistics: ICES preliminary catch statistics, STECF Fisheries Dependent Information (FDI), RCG, national authorities
- VMS information: ICES evaluation of Vulnerable Marine Ecosystems (VME), evaluation of fishing activities in the NS&EA, national authorities
- Length and age composition of the catches and discards estimates : ICES assessment working groups, STECF FDI, FAO assessment of global fisheries discards
- Biological parameters: ICES assessment working groups
- Survey indices: ICES assessment working groups, survey planning groups
- Detailed data of sampling level: RCGs

Moreover, an increasing number of ad-hoc demands for data of different nature is experienced from national institution, other countries institutes and authorities. Examples of these demands are data for Natura 2000 sites, MPAs, impacts of anthropogenic activities (gravel extractions, offshore windmills, electric cables, ...). Fulfilling these ad-hoc demands is challenging since, on the one hand, the data is not designed with these specific purposes in mind (small areas, specific seasons and fishing activities, ...) and, on the other hand, staff capable of carrying out the analyses and uploading of the data at national institutes is limited.

The same difficulty is experienced with the STECF "FDI-New" data call. The initial goal of refining the FDI data call was seen as a positive move, i.e. mix the Fleet Economic, FDI and Med data calls to have only one single data call. As it was finally constructed, there are concerns with the introduction of SPECON-related landings obligation which involves building an ad-hoc reference table, worries about the requested areas outside ATL and MED and also the demand of spatial resolution in c-squares rather than ICES rectangle or other specifications adapted to different zones for H & I tables. Furthermore, the process resulted in a second major data call for the same data having been issued within the year.

During this NS&EA RCG meeting it was raised that a lot of work was conducted at WGCATCH 2016 on how the FDI data call could be formulated in a useful way, however, not as detailed as the present data call. These comments seemed not to have been taken into account. Some of the major point of criticism were the very

detailed demand for biological data not following the sampling design but including estimates of discrepancies by type and demand for landings and discards by age and length for all species / gear / mesh size/ vessel length /areas / etc. The detailed level was asked for per C-square instead of ICES squares and the task of programming all the landing obligations and exemptions were extremely time consuming for each MS. It has been suggested to use a common national raw data format with the population data, so it would be possible to come up with a single international script for this part. Further, for most MS the refusal rate is sampled and calculated per domain and it was asked for at the same level as the transversal data. The JRC is hosting a meeting in November 2017 where the data call was further discussed (STECF EWG 17-12 on FDI-new (Ispra, 23-27 Oct).

In order to serve all the STECF needs, the RCG NS&EA suggested to phase the FDI-new data call as follows

- 1) a data call for the activity variables
- 2) a data call for biological data only (age and length + discards data)
- 3) a data call for economic data

11.2 Finalize the work initiated on table 1A in the national work plans

The STECF meeting on Quality Assurance for DCF data (STECF EWG 17 04) suggested the work on table 1A of the work plan initiated by a few experts in 2016 should be improved and finalised for the benefits of all EU Member States. In the STECF report, a number of issues were listed e.g. TAC areas not matching stock units (WGCATCH), TACs combined for several stocks (RCM NA 2016), stock definitions for elasmobranchs (RCM NA 2016), aggregation to higher taxonomic level (STECF EWG 16 16), inclusion of all stocks of the Commission Decision EU 2016/1251. As a follow-up of this process, a github has been set up for the RCG NS&EA tool development, and a page for table 1A R script and reference tables initiated. As suggested by STECF EWG 17 04,

The RCG NS&EA recommends each country to name one person to contribute to the testing and finalisation of the script.

The main remaining work consists in contrasting each country's proposed table 1A to the one provided by the script and point out the discrepancies. The RCG NS&EA noted that the RCG NA proposed such analysis in their region, and a summary table is available in their report. A discussion will follow how to improve the tool and mitigate all discrepancies. During the RCG NS&EA, it was suggested to use the STATLANT 21A as a reference for the NAFO fisheries statistics. **The deadline to finalise a common agreed tool and reference tables is the end of 2017 if MS intend to resubmit the AWP.**

Some work has been done to progress on the R script used for producing the table 1A, both in the RCG NA and RCG NS&EA. This work is presented in annex 18.

11.3 Collate and review other reference lists (harbours, métiers)

The RCG NS&EA endorses the proposal of the RCG NA for a métier workshop (target species, different gears, areas during a trip, mesh sizes, effort, map métiers/fleets) – analysis before the workshop based on the RDB information.

The work shop proposal is given below:

DCF Metier Workshop: Sub-group of the RCGs - North Sea and Eastern Arctic and North Atlantic

Dates: 22 January 2018 at 13.00 – 26 January 2018 at 13.00

Location – DTU Aqua, Lyngby, Denmark

Co-chairs: Matt Elliot (UK) and Josefine Egekvist (Denmark)

Introduction

The RCG NA which met in September 2017 strongly recommended a data compilation workshop should be held to: Standardise the processes that use trip based transversal data to determine the métier; consider criteria for aggregating data for different end-users (JRC, ICES and other RFMOs) and to investigate a framework for managing métier and fleet descriptions when needed.

All catch, effort and sample data is uploaded to the RDB by métier and limited to a reference list of RCG agreed métiers defined by ICES area. Member States submit their data to ICES on Intercatch disaggregated by métier and the JRC for FDI data calls and other RFMOs also request the data by métier without reference to the RCG agreed list of métiers.

Member States have independently developed their own code and processes for calculating species target assemblages and rules for merging métiers. This is initially based on the transversal data for a trip which may or may not cover more than one métier. These methods are not necessarily consistent between countries and even between agencies within countries and could be based on, for example, a foreshortened list of species assemblages; rules for particular gears; catch by weight and or value and relative ratios. The impact of the different methods is not known but as data is being compared more readily at a regional or international level, so as to improve on confidence in current assumptions simple rules and standards need to apply.

Since 2009 RCM NA has regularly recommended MS to provide, maintain and update fleet descriptions for all sampled métiers to better define and compare similar fleets and the sampling of them between nations. This has been only moderately successful with no clear repository for them. ICES Expert Working Groups are now also requesting fishery and métier descriptions as part of their data calls. A repository and better strategy is required for collating and maintaining MS descriptions.

Draft Terms of Reference

The workshop is arranged under the RCGs for the North Sea and Eastern Arctic and North Atlantic but the terms of reference extend to all regions and participation from Member States prosecuting fisheries in these areas is anticipated.

The Transversal data workshop (as below) to:

1. To review current algorithms and processes for allocating a trip to a métier based on transversal data.
2. To understand and document the problems, issues and anomalies arising from metier calculation in different Member States.
3. To provide standard guidelines for determining or allocating a trip to a métier or multiple métiers and how to aggregate the data.
4. To provide and reference metadata for the key inputs to metiers (Gear, mesh and species/species groups) and how they are aggregated.
5. Evaluate standard format/or suggest appropriate existing format (transversal data) for input into metier algorithm and develop a standard R /SQL/SAS/ script and pseudo code for metier calculation.
6. To define a strategy for storing and maintaining metadata (methods and tables) that define the metiers.

11.4 Store reference lists in a common place

The references associated with the RDB and ICES in general should be held in the general ICES vocabulary. It is very easy to download a reference list from the vocabulary and connect directly to it via web service, which ensures that the codes used are always updated.

The codes relating directly to EU MAP should be held in a pan regional RDB repository or in a place that ensures open access for people to download the information. Presently only people with a username to the RDB can access the RDB reference list from the vocabulary.

12. Next venue and chairs

The next venue will be in Copenhagen (Lyngby), Denmark and hosted by DTU Aqua. The new incoming chair replacing Katja Ringdahl (Sweden) will be Els Torreele (Belgium), co-chairing with Marie Storr-Paulsen (Denmark). The timing for the meeting is suggested to be 3-7 September 2018.

13. Any other business

13.1 Update and submissions of amendments for national Work Plans

The RCG NS&EA has been asked by the Commission to give a feedback on how many MS would update or resubmit their national Work Plans for 2018 – 2019. The MS feedback showed that all national Work Plans for the MS involved in the RCG NS&EA have been adopted for the three year period 2017 – 2019. Most MS have been informed in December 2016 that the STECF evaluation and Commission services assessment have resulted in a number of comments that should be addressed by MSs at a later stage and not later than the next revision of the Work Plan. However, a few MS have been asked to update their Work Plan for 2017 - 2019.

Many of the MS in RCG NS&EA did not find it useful and cost efficient to update their national Work Plan if that resulted in a full new evaluation by pre-screeners, the STECF EWG and STECF plenary, especially when the Work Plans have already been adopted for the period 2017 - 2019. For practical reasons, to assist with annual reporting, it could nevertheless be helpful to update the Work Plans taking into account the STECF evaluation and Commission services comments in order to have the most updated version of the Work Plans. As it currently stands, only few MS will update their Work plans for 2018 - 2019.

13.2 Discussion on the development of the regional database

ICES has secured 1 Million DKK from ICES Council to run a 2 year development project for improving the RDB to a statistical sampling and estimation platform and to ensure the different end users/uses are better accounted for. This allow for much appreciated development of the RDB which is something that the RCGs repeatedly have asked for. The SCRDB have composed an RDB Project Expert group to support ICES data centre with the project (see annex 20 RDB). This group is presently in charge of developing a requirement specification document that will be the basis for future development of a new RDB.

The recent development project of the RDB did however raise some points of discussion during the RCG NS&EA. These are briefly discussed here.

There is a complete agreement on the overall objective for the RDB as a tool for transparent production of different types of statistically sound estimates (catch at age matrices, discards, etc.) to be used in stock assessment. This is what drives the development of the new data model (see annex 20). There are however concerns on how other objectives for the RDB, such as some specific RCG needs, are being considered and prioritized in the process. These needs are presently catered for by the present data model though concerns have been raised (e.g., the present RDB is insufficient for the development of regional sampling plans). It was however realized that the RCGs have been quite vague in their identification of present and future needs. As a

starting point the RCG NS&EA considers it sensible that ICES secures that the new data model will be able to deliver, at a minimum, the same type of inventories of sampling and fisheries activities as the present one, but since the opportunity for developing a new RDB is open, the RCG NS&EA will further work to more clearly collate and present both its current and future needs.

A second concern is the development towards statistical sound estimation procedures. The development of a new data model is just a part of this process. Other important components are, for example, the implementation of statistically sound sampling schemes (how many MS have done this?) and the development of a stronger theoretical knowledge on e.g., domain estimations (e.g., how are MS generating estimates for individual fisheries within a sampling frame?). The concern is associated with the relatively short timeline of 2 years for ICES development project. Within this time frame, it might be realistic that the data expert group under the RCG, agrees on a data model that can be developed by the ICES data centre. It is probably not realistic that all MS are able to fully consider it and fully implement the sound sampling schemes that will render it useful, nor that sufficient statistical knowledge is obtained to cater for all types of estimation procedures (probability-based, model-based, etc.). This means that expectations on the new system need to be managed carefully.

Furthermore it needs to be a discussion on how the system can be able to make estimates based on data not sampled under statistically sound sampling designs, since a lot of the older, present and probably future data will still be sampled in that way. It may be with methods presently used – if these are well-documented, transparent and approved - or it may be with a range of algorithms developed specifically for this purpose in the future.

The new data model is being developed by the expert group and the ICES data centre. It needs to be discussed by the SCRDB 2017 how other MS and institutes will be consulted on the new model before it is finally agreed. The development money from ICES is a much welcomed and necessary opportunity to develop the regional database into a system that can deal with estimation and facilitate the regionalization of sampling. This is something the RCGs have asked for and it is a prerequisite for future regional sampling plans. It does however inherently broaden the scope of the original RDB as it means that all ICES countries become part of the project, i.e. extending it beyond the RCGs. In the long terms this extension brings great advantage for a region such as the North Sea and Eastern Arctic where main contributors to the fisheries (e.g., Norway) are outside the EU. It also brings the opportunity to benefit from the competences existing in non-EU countries with strong statistical knowledge in the development of the RDB (e.g., Norway, Iceland, Canada, US) and the need to ensure the development is compatible with the DB systems of those countries. During RCG NS&EA it was noticed that the increasing openness of RDB development to non-EU country was starting a discussion on the ownership of the data. It is however clear from the data policy document (http://ices.dk/marine-data/Documents/Data_Policy_RDB.pdf) that ICES is the host of the database and that the data is still owned by the MS.

The established steering group of the regional database is within the new setting of the RCGs effectively to be considered as a pan-regional (Baltic, NS&EA and NA) subgroup of the RCGs. It needs to be discussed and concluded how this subgroup should interact with the broader steering group including all ICES countries that was established by the SCRDB 2016.

14. References

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ICES. 2017b. Report of the Baltic Salmon and Trout Assessment Working Group (WGBAST), 27 March–4 April 2017, Gdańsk, Poland. ICES CM 2017/ACOM:10. 298 pp.

ICES. 2017c. Report of the Workshop on Designing an Eel Data Call (WKEELDATA), 28 February–2 March 2017, Rennes, France. ICES CM 2017/SGIEOM: 30. 38 pp.

ICES. 2017d. Report of the Working Group on North Atlantic Salmon (WGNAS), 29 March–7 April 2017, Copenhagen, Denmark. ICES CM 2017/ACOM: 20. 296 pp.

15. Recommendations

LM x. RCG NS&EA 1: <i>Common naming of survey</i>	
RCG NS&EA 2017 Recommendation	The NS&EA RCG recommends the use of a single survey name and acronym for each survey for use in Regulation documents, work plans, assessments Working Group reports and advice sheets. These survey acronyms could/should take the form of 'Survey_Quarter_Member-state' e.g. IBTS_Q1_NED. This will help end users to easily identify the surveys.
Justification	Presently it is very difficult to get an overview of the survey used in assessment and thereby give an input to update the mandatory survey list in the regulation (EU) 2016/1251 do the many different acronyms used for the same survey
Follow-up actions needed	MS, ICES EWG, ICES secretary, STECF
Responsible persons for follow-up actions	ICES secretary, STECF
Time frame (Deadline)	September 2018
LM Comments	
Comment RCG NS&EA 2018	

LM x. RCG NS&EA 1: <i>Review of survey table</i>	
RCG NS&EA 2017 Recommendation	The NS&EA RCG recommends that member states review the information detailed in tables in annex 11 of this report, in order to identify any errors or omissions with any found to be reported back to the NS&EA RCG by January-2018.
Justification	The RCG NS&EA has tried to produce a table giving all information on surveys presently used in assessment and conducted by all MS in the region. This table needs to be confirmed by the MS as the data information is rather diverse
Follow-up actions needed	MS
Responsible persons for follow-up actions	MS
Time frame (Deadline)	January 2018
LM Comments	
Comment RCG NS&EA 2018	

LM x. RCG NS&EA 3: <i>update of advice sheet</i>	
RCG NS&EA 2017 Recommendation	The RCG NS&EA recommends that additional input data information is provided in table 5 (Basis of the assessment - Input data) on ICES advice sheets. Details of each survey used in the assessment should include the survey acronym (see Recommendation 1 above) and the current age-range and year-range included in the assessment. Ex. on a presently sufficient information from an advice sheet: Commercial catches (international landings, ages from catch sampling by métier), two survey indices (IBTS Q1 & Q3; ages 1 to 5); maturity data assumed fixed through time; time-varying natural mortalities from the SMS multispecies model (ICES, 2015).
Justification	Data used by stock can easily be found in the updated advice sheet is this is consistently done for all stocks
Follow-up actions needed	ICES secretary
Responsible persons for follow-up actions	ICES secretary
Time frame (Deadline)	August 2018
LM Comments	
Comment RCG NS&EA 2018	

LM x. RCG NS&EA 4: <i>Quality evaluation tools based on IC</i>	
RCG NA 2017 Recommendation	RCG NS&EA recommends that ICES/WGCATCH considers the development of quality evaluation tools based on InterCatch and other available outputs. Missing to provide the information on sample intensities requested in the data call should be considered a data transmission failure
Justification	As long as Inter-Catch is the main tool to document data used for stock assessment it is crucial for the for the stock assessor to have information on the data quality and presently the only source of information that can be used in the IC format is sampling intensity and numbers of ages and lengths. However, not all MS provided this information in 2017 although it was made mandatory in the data call.
Follow-up actions needed	ICES secretary, MS
Responsible persons for follow-up actions	ICES secretary (on the data transmission failure)
Time frame (Deadline)	With the relies of the 2018 data call (January 2018)
LM Comments	
Comment RCG NS&EA 2018	

LM x. RCG NS&EA 5: <i>Quality evaluation tools based on RDB</i>	
RCG NS&EA 2017 Recommendation	RCG NS&EA recommends WGCATCH to set-up a process to develop summary reports from RDB data, together with the R code in support; PGDATA should be tasked to feed into the process with a list of analyses of interest to the benchmarks. Finally it would be important that the R functions developed for the analyses would be shared in open repositories so that they can be considered by the RCG NS&EA Data group in the production of its own fishery overviews and reports. Such exploration should be carried out in full respect for the RDB data policy and involve a pool of data providers that is able to reflect main concerns on data quality and sampling design into the elaboration of these reports.
Justification	The present RDB, is at an early stage of development and already demonstrates largely unexplored potential for both RCGs and ICES community. As a current storage place for all commercial sampling, landings and effort data from EU countries, the RDB has the capacity to feed routine summary reports of the data available that can be useful to both RCGs and Assessment Working Groups
Follow-up actions needed	WGCATCH, PGDATA
Responsible persons for follow-up actions	Chairs of WGCATCH and PGDATA
Time frame (Deadline)	2018 meetings of WGCATCH and PGDATA
LM Comments	
Comment RCG NS&EA 2018	

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Annex 2 Terms of Reference

1. Brief Review progress since 2016 RCM's and 2016 Liaison meeting (13th report).

2. Agree on a governance model for the regional coordination group and develop a roadmap to handle tasks assigned to the RCG in the recast of DCF (2017/1004) and EU-MAP (2016/1251).

How do we prioritize? What resources do we need? We need to think at least 1-3 year ahead and compile a clear work plan to ensure that we get things done. Develop clear ToRs, work content and deadlines for the Intersessional working groups. Which intersessional groups do we need to establish? Which ones should be pan regional vs regional? Role of Liaison meeting.

2.1 Agree and if possible adopt Rules and Procedures for RCG

Feedback from the intersessional group and NC meeting. Code of conduct and/or legal document?

2.2 Develop processes for end-user Interactions and identification of end-user needs

Feedback from meeting with ICES,

Feedback of enduser needs from ICES; how do we progress? What kind of procedures do we need to be able to address end-user needs in a transparent way?

Map current end-user needs

Produce an overview from the RDB on; 1) regional fisheries and 2) sampling and quality

Review of 2016 data calls and feedback from the RCGs to endusers

2.3 Roadmap towards regional sampling plan

Review progress since last year report. What can we learn from achievements/ non-achievements since last year, interaction with fishPi?, clear and realistic road-map

2.4 Data quality – what is the role of the RCG?

Short feedback from ICES (PGDATA, WGCATCH, WGBIOP, WKBIOPTIM, WKSDECC), STECF (EWG 17-04, EWG 17-07) , FishPi1) What is the role of the different bodies? How do we align the work to avoid duplication?

How can we utilize the RDB to improve assessment of quality? Feedback from RDB-SC on new format, Feedback from ICES, Upload logs, How can we make use of the RDB to answer data calls, AR, etc. – develop output (R scripts)

2.5 Surveys

Cost sharing models in surveys

Feedback from the intersessional group - How do we progress – recommendation to future cost sharing

Evaluation and updating the list of mandatory surveys to be held end of year (STECF EWG 17-14): what input can RCGs provide for this EWG?

2.6 Diadromous species

Review progress since last year report. If possible agree on designated rivers and eel management units to be sampled. NOTE. Experts on eel and salmon from NS&EA to be present in RCG Baltic. Outcomes to be discussed by RCG NS&EA

3. Landing obligation

How does the landing obligation impact sampling of fisheries and quality of data (sampled data and transversal). Feedback from the intersessional work.

4. Standardisation and reference lists

Compare the list in annex 10 with the surveys used in stock assessment from ICES and highlight the surveys in annex 10 from the DCF, but not (presently) used in any stock assessments

Prepare table 1A identify gaps and discrepancies (request from STECF EWG 17-04).

Collate and review other reference lists (harbours, metiers)

Store reference lists in a common place

5. Next venue and chairs

6. AOB

Annex 3 Agenda

General time schedule: Starting time Monday 14.00, Tuesday – Thursday 09.00 - 18.00 - meeting time; Friday ending at 12.00

Monday 11 September

14.00:	I. Introduction Welcome, introduction of the participants, organization & house rules, adoption of the agenda and report format, (hosts and chairs)
14.30 – 16.00:	II. ToR 1 ✳️ Brief review on progress since 2016 • RCM and Liaison (11th report) (Jørgen) • STECF EWG 17-04 (Joel) ; STECF EWG 17-07 (Christoph) • RCG Baltic, including discussion on ell and salmon (Marie/Katja) • RCG NA (Jon) • Feed-back from ICES (Henrik Kjølms) • The new regulatory framework – what has happened, implications for RCM/RCGs (COM?, TBD)
16.00 – 16.30:	Coffee break
16.30 – 17.00:	III. ToR 2 Recreational fishery ✳️ Feed-back on end-user interaction from WGRFS (Kieran Hyder) • Presentations on skype
17:00 – 18:00	IIII. ToR 2 Feed-back from sub groups (5 min) ✳️ Presentation of intercessional work with RoP (Heikki) ✳️ Cost sharing on surveys (Sieto) ✳️ End-User interaction (Marie) ✳️ Landing obligation (Jon)
	IV. Split into 3 sub-groups ✳️ Data Quality and Sampling plans (A)(Koding group) • ToR 2.3 • ToR 2.4 • ToR 2.2 (Part that deal with overview on data from the RDB) • ToR 4 (part that deals with table 1A) ✳️ Surveys (B) • ToR 2.5 • ToR 4 (Part that relates to survey) • Agree on names for survey ✳️ End-user interaction (C) • ToR 2.2 Goal: Do the work :) Suggest what we can agree on during this meeting Suggest what we need to agree on short time scale (~ a year) and how (in detail) we should achieve this Suggest what we need to agree on medium time scale (~ 2-3 years) and how we should achieve this

Tuesday 12. September

09.00-9.30	III. ToR 3 Landing obligation ✿ How does the landing obligation impact sampling of fisheries and quality of data? (Jon) • Short presentations are welcome (5-10 min)
09.30-10.30:	IV. Working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) • ToR 2.3 • ToR 2.4 • ToR 2.2 (Part that deal with overview on data from the RDB) • ToR 4 (part that deals with table 1A, part that deals with reference lists (harbours, metiers) and store reference lists in a common place (can the RDB be more clear) ✿ Surveys (B) • ToR 2.5 • ToR 4 (Part that relates to survey) • Agree on names for survey ✿ End-user interaction (C) • ToR 2.2
10.30 – 11.00:	Coffee Break
11.00 – 12.30:	IV. Working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) ✿ Surveys (B) ✿ End-user interaction (C)
12.30 – 14.00:	Lunch
14.00 – 16.00:	IV. Working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) ✿ Surveys (B) ✿ End-user interaction (C)
16.00 – 16.30:	Coffee Break
16.30 – 18.00:	IV. Working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) ✿ Surveys (B) ✿ End-user interaction (C)

Wednesday 13. September

09.00-10.30:	V. Plenary session ✿ ToR 2.1 • Agree and possible adopt Rules and Procedures for RCG (Heikke) • Feedback from intersessional group and NC meeting ✿ ToR 2.6 Diadromus species • Feed back from the Baltic RCG
10.30 – 11.00:	Coffee Break
11.00 – 12.30:	V. Plenary session ✿ Sub-Group A,B and C reports back to plenary • Highlight agreements that needs to be made during this meeting – and make them
12.30 – 14.00:	Lunch
14.00 – 16.00:	IV. Continue working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) ✿ Surveys (B) ✿ End-user interaction (C)
16.00 – 16.30:	Coffee Break
16.30 – 18.00:	IV. Continue working in the 3 sub-groups ✿ Data Quality and Sampling plans (A) ✿ Surveys (B) ✿ End-user interaction (C)

Thursday 14. September

09.00-10.30:	V. Plenary session ✿ Compile findings from sub groups
10.30 – 11.00:	Coffee Break
11.00 – 12.30:	V. Plenary session ✿ Plenary discussions on roadmap
12.30 – 14.00:	Lunch
14.00 – 16.00:	VI. Write text
16.00 – 16.30:	Coffee Break
16.30 – 18.00:	VI. Write text

Friday 15. September

09.00-10.30:	IV. Plenary session ✿ Discuss open issues and finalize text ✿ Announce next venue and new chair
10.30 – 11.00:	Coffee Break
12.00:	Closure of meeting

Annex 4 Follow up on recommendations from RCM NS&EA 2016 and LM 2016

1. RCMs transition to RCGs

LM 1. RCM Baltic 2016. Financial support for RCM/RCGs	
RCM Baltic 2016 Recommendation 1	The RCM Baltic recommends that the Commission clarifies the action grant (2 Million Euro) of the “Commission Implementing Decision concerning the adoption of the work programme for 2016 and the financing decision for the implementation of the European Maritime and Fisheries Fund: Strengthening regional cooperation in the area of fisheries data collection”.
Justification	The role of the RCMs is strengthened in the new DCMAP by delegating more tasks to them. However, there is no additional funding available to tackle these tasks. The Call for proposals was to be launched in the 2nd quarter of 2016 but presently it is unclear how and when this money is made available to the RCMs, e.g. for funding overall key issues such as the RDB and WebGR.
Follow-up actions needed	The recommendation is forwarded to the LM and the Commission.
Responsible persons for follow-up actions	The Commission.
Time frame (Deadline)	Prior to the first RCM in 2017.
LM Comments	Transferred to a question to the Commission (see section 3.3 of the LM Report)
Comment RCG NS&EA 2017	Call for proposal launched spring 2017. Joint NS&EA and NA consortium has replayed. Still no EU funding for regional tools.

LM 2. RCM Baltic 2016. Determine Generic and Regional Terms of Reference	
RCM Baltic 2016 Recommendation 2	The RCM Baltic recommends that the Commission approves a limited number of general and regional terms of reference.
Justification	The list of ToRs submitted by the COM to the RCMs is usually too long, unspecific and overloaded. MS feel that the meetings therefore are ineffective and that there is not enough time to discuss and decide on regional issues.
Follow-up actions needed	The Commission should provide a feasible number of general and regional terms of reference.
Responsible persons for follow-up actions	The Commission.
Time frame (Deadline)	Prior to the first RCM in 2017.
LM Comments	LM is of the opinion that the Chairs are to decide the ToRs and consider input from MS and the Commission but to prioritise
Comment RCG NS&EA 2017	Process for decisions on ToRs improved 2017

LM 3. Establishing an EU-MAP web repository for RCGs	
RCM NS&EA 2016 Recommendation	RCM recommends that the Commission sets up a web-based repository for use by each RCG.
Justification	There is an urgent need for an EU-MAP web-based repository for RCGs to archive files documenting the process of collaboration with end users, decisions made and actions arising, in addition to documenting the wide range of other activities foreseen and other materials and resources needed for the RCGs to function. This is needed to ensure transparency as well as facilitating RCG work programmes. A JRC repository exists at https://datacollection.jrc.ec.europa.eu/docs-links but the RCM would prefer separate sites for individual RCGs to use.
Follow-up actions needed	RCM NS&EA to contact Commission.
Responsible persons for follow-up actions	RCM NS&EA and Commission
Time frame (Deadline)	Set up web links and access protocols in advance of establishment of RCGs in January 2017.
LM Comments	LM endorses this recommendation however JRC has not the resources to manage this. RCG Chairs should consider also other options available (e.g. CIRCA) as a forum.
Comment RCG NS&EA 2017	Still a pending and important issue. To be discussed at LM 2017?

LM 4. RCM NA 3: <i>Pan-regional intersessional work</i>	
RCM NA 2016 Recommendation	<i>The RCM NA strongly recommends the continuation of the pan regional intersessional work groups already proposed</i> • <i>Cost sharing of funding surveys</i> • <i>Impact of landing obligation</i> • <i>Reviewing the ICES list of data needs as input for designing regional sampling plans.</i> • <i>Review and follow-up on upload logs</i> <i>and adopt further intersessional work groups</i> • <i>Rules and procedures</i> • <i>RDB Data analysis subgroup</i> • <i>Regional Sampling</i>
Justification	This intersessional work will facilitate the transition from RCMs to RCGs. Setting up these task groups will establish common working procedures between multiple RCGs, prepare ground for future cooperation on a supra regional level and develop the work that is needed to fulfil future coordination tasks in the broad sense. These groups will work on analysis and development and allow the core of the RCG meetings to review the work, plan and progress any regional coordination.
Follow-up actions needed	All RCM Chairs to consider ToRs, contributors and provide assistance where required. (RCM LDF, Baltic, NS&EA, NA and MED)
Responsible persons for follow-up actions	RCM Chairs - RCM LDF, Baltic, NS&EA, NA and MED
Time frame (Deadline)	December 2016
LM Comments	LM endorses this recommendation (also reflected in LM report – section 2.5)
Comment RCG NS&EA 2017	Intersessional work 2016-2017 for rules and procedures, cost-sharing of surveys and end-user interactions successfully initiated since last meeting. Intersessional work easier to achieve if RCG clearly provide intersessional groups with tasks, timelines and chairs.

LM 5 RCM NA 9: <i>RCG status</i>	
RCM NA 2016 Recommendation	<i>The RCM NA recommends the commission to clarify the status of the RCGs (and their subgroups), their obligation, decision making rules and procedures under the DCF recast.</i>
Justification	The DCF recast will refer to RCGs role and function if not directly. The pan-regional or supra-regional intersessional groups will not be mentioned per se but the RCGs may need to devolve some of the decision making to them. The responsibility might remain with the RCGs but the status and responsibility of the appointed Intersessional Groups will need clarification. There is a particular need to clarify the applicability of the Commission Decision “establishing horizontal rules on the creation and operation of Commission expert groups” to regional groups and sub-groups (e.g. with respect to appointing chairs, decision making, etc.).
Follow-up actions needed	Commission to provide clarification
Responsible persons for follow-up actions	Commission
Time frame (Deadline)	RCMs 2017
LM Comments	This has been covered in a question to the commission in relation to Rules and Procedures (see section 6.1 of the LM Report)
Comment RCG NS&EA 2017	Discussed within intersessional work on rules and procedures

LM 12. RCM NA 10: Foreign Landings	
RCM NA 2016 Recommendation	<i>RCM NA recommends that:</i> <i>1. MS upload their samples of non-flag vessels (foreign landings) to the RDB.</i> <i>2. The WKCATCH investigate suitable methods for estimating non Flag landing fractions.</i>
Justification	27% of landed tonnages are by foreign vessels landing into countries other than their own flag country. Follow up work from previous recommendations on foreign landings have demonstrated that the RDB has the facility to hold non flag vessel sampling data. MS should therefore upload any and all foreign landings they collect.
Follow-up actions needed	RCG Chairs to put out a data call. MS to upload their samples of non-flag vessels (foreign landings) to the RDB. WKCATCH investigate suitable methods for estimating non Flag landing fractions.
Responsible persons for follow-up actions	RCG Chairs, MS and WGCATCH
Time frame (Deadline)	2017
LM Comments	LM endorses this recommendation and this needs to refer to ICES to be included in the ToRs
Comment RCG NS&EA 2017	Unclear to what extent MS have uploaded samples of non-flag vessels to the RDB. ICES WGCATCH 2016 received the LM recommendation to handle it in their 2016 meeting. The subject will be covered by WGCATCH 2017 that will “compile information on the importance of foreign landings in national ports and discuss and draft best practice guidelines for their sampling and estimation” (ICES, 2017)

4. Communications and end users needs

LM 14. RCM Baltic 2016. Request towards ICES to comment on data needs from RCM/RCGs	
RCM Baltic 2016 Recommendation 3	The RCM Baltic recommends that ICES as a data end user produces a request to the RCM/RCGs about the data and the analyses that ICES really needs, on a stockwise level.
Justification	The EU MAP annual work plan template requires that end users have defined variables that are to be collected. Presently, such a request from ICES as a major end user is still pending.
Follow-up actions needed	ICES to submit request to the member states.
Responsible persons for follow-up actions	The commission to approach ICES
Time frame (Deadline)	Prior to the first RCM in 2017.
LM Comments	LM endorses this recommendation and combines it with RCMNS&EA recommendation about communicating with ICES (see below). This affects all RCGs. In the short term this is available in the ICES data calls and will be available from other RFMOs.
Comment RCG NS&EA 2017	See below

Collaboration with ICES on data needs

RCM NS&EA 2016 Recommendation	RCM recommends an initial meeting with ICES to establish the process of collaboration and the roles and responsibilities for addressing ICES data needs as an end user of data collected through regional data collection schemes within remit of the RCM/RCG.
Justification	The EU-MAP is intended to have greater end-user input on aspects of data collection. ICES is a major end user of data collected through regional data collection schemes within the remit of the RCMs. There is currently no clear process for ICES and other end users to communicate and justify proposals for new data collections or amendment of existing data to meet their needs. There is an urgent need for ICES to collaborate with RCGs to establish a well-defined annual process for: (i) identifying and documenting data deficiencies and new data needs, (ii) exploring how data collection can be best modified where feasible, and (iii) identifying the actions needed to design, evaluate, implement and monitor the new or modified data collection schemes. An initial meeting is needed to scope out options for this.
Follow-up actions needed	RCM NS&EA to contact ICES secretariat to arrange initial meeting by webex / skype.
Responsible persons for follow-up actions	RCM NS&EA and ICES secretariat
Time frame (Deadline)	October 2016 to establish initial webex between RCG subgroup and ICES
LM Comments	This recommendations was combined for endorsement with the recommendation No 3 of the RCM Baltic (See above).
Comment RCG NS&EA 2017	Meeting took place between ICES secretariat and chairs of RCM Baltic, NA and NS&EA during early spring. Outcomes of the meeting reflected under ToR 2.2 in this report

6. EU MAP revisions

LM 18. RCM NA 12: EUMAP Table 10 survey list revisions	
RCM NA 2016 Recommendation	<i>RCM NA recommends that the list of mandatory surveys on table 10 of EUMAP Decision 2016/1251 are reviewed at a dedicated STECF EWG based on updated and predefined criteria. This should also include a review of the target stock/species listed in table 10.</i>
Justification	The list of mandatory survey included in Table 10 of Implementing Decision 2016/1251 is based on the old DCF regulation. A review needs to take place prior to the application of cost sharing models to ensure that the list of mandatory surveys is current and includes the appropriate target stocks/species.
Follow-up actions needed	Commission to setup a dedicated EWG to respond before the resubmission of National Work Programmes for 2018
Responsible persons for follow-up actions	Commission, STECF
Time frame (Deadline)	September 2017
LM Comments	LM endorses this recommendation
Comment RCG NS&EA 2017	STECF EWG to take place spring 2018. RCG NS&EA 2017 provides draft list of surveys used in assessment (see annex 11)

9. Workshops and pilot studies

LM 20. RCM NA 2: Assigning trips to métier	
RCM NA 2016 Recommendation	<i>The RCM NA strongly recommends a data compilation workshop to:</i> <i>1. Standardise the processes that use trip based transversal data to determine the métier.</i> <i>2. Consider criteria for aggregating data for different end-users (JRC, ICES and other RFMOs).</i> <i>3. Investigate a framework for managing métier and fleet descriptions when needed.</i>
Justification	All catch, effort and sample data is uploaded to the RDB by métier and limited to a reference list of RCM agreed métiers defined by ICES area. MS submit their data to ICES on Intercatch disaggregated by métier and the JRC for FDI data calls and other RFMOs also request the data by métier without reference to the RCM agreed list of métiers. MS have independently developed their own code and processes for calculating species assemblage and rules for merging métiers. This is initially based on the transversal data for a trip which may or may not cover more than one métier. These methods are not necessarily consistent between countries and even between agencies within countries and could be based on, for example, a foreshortened list of species assemblages; rules for particular gears; catch by weight and or value and relative ratios. The impact of the different methods is not known but as data is being compared more readily at a regional or international level, so as to improve on confidence in current assumptions simple rules and standards need to apply. Since 2009 RCMNA has regularly recommended MS provide, maintain and update fleet descriptions for all sampled métiers to better define and compare similar fleets and the sampling of them between nations. This has been only moderately successful with no clear repository for them. ICES Expert Working Groups are now also requesting fishery and métier descriptions as part of their data calls. A repository and better strategy is required for collating and maintaining MS descriptions.
Follow-up actions needed	JRC or ICES to setup a transversal data workshop: 1. to review current algorithms and processes for allocating a trip to a métier based on catch data. 2. to provide standard guidelines for determining or allocating a trip to a métier or multiple métiers and how to aggregate the data. 3. to define a strategy for storing and maintaining national fishery descriptions relative to the defined métiers.
Responsible persons for follow-up actions	ICES or JRC to set up workshop NC and MS to provide contributors and to implement guidelines
Time frame (Deadline)	3 years
LM Comments	Liaison endorses this recommendation but the RCGs should consider how this is best progressed. RCGs should provide ToRs and a formal proposal for a joint JRC ICES series of workshops.
Comment RCG NS&EA 2017	Establish an intersessional workshop. See section 11.3 of this report

Annex 5. DRAFT Rules and Procedures RCG North Sea & Eastern Arctic

Version 14.9.2017

Rules of Procedure for the Regional Coordination Group North Sea and East Arctic

1. Scope

1.1. These Rules of Procedure are valid for the Regional Coordination Group (RCG) for the North Sea and East Arctic in the framework of the Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for the collection, a management and use of data in fisheries sector and support for scientific advice regarding the Common Fisheries Policy and repealing Council regulation (EC) No 199/2008 (recast).

1.2. These Rules of Procedure are established based on the Article 9(5) of the above mentioned Regulation.

1.3. These Rules of Procedure are established XX th November 2017 by the Member States of the Regional Coordination Group coordinating their data collection activities in the North Sea and East Arctic: Belgium, Denmark, Estonia, Finland, France, Germany, Ireland, Latvia, Lithuania, the Netherlands, Poland, Portugal, Spain, Sweden and the United Kingdom.

1.4. The working language of the RCG is English.

2. Terms of Reference for the RCG

2.1. The RCG may agree the Terms of Reference for the RCG taking into account necessary contributions and information.

3. Meetings of the RCG

3.1. To perform its duties, the RCG shall hold one meeting annually unless agreed otherwise by the RCG. An annual meeting shall consist of plenary sessions and may include work in subgroups.

The RCG may hold additional meetings to the annual meeting. The duration, form, meeting venue, terms of reference and other relevant elements for such an additional meeting may be agreed at the RCG annual meeting, or by correspondence initiated by the RCG Chairperson(s). The venue of the RCG annual meeting will rotate between Member States coordinating their data collection activities in the same marine region unless otherwise agreed by the RCG.

3.2. No later than two months before the annual or additional meeting, the Member State organizing the annual or additional meeting shall be responsible for providing details of accommodation, travel and other organizational information relevant for the meeting.

3.3. Each Member State coordinating the data collection activities in the same marine region and the European Commission shall nominate their participants to a RCG meeting and may choose the number of their participants to a RCG meetings with due regard of the items on the agenda at the relevant RCG meeting. The information of the nominations should be communicated to the chairperson(s) of the RCG.

3.4. Member States not listed in point 1.3., may nominate a national correspondent or an expert to participate a RCG meeting.

3.5. Only nominated persons may participate to the RCG meetings.

4. The chairperson(s) responsibilities

4.1. The chairperson(s) of the RCG shall promote effective and productive work and working methods of the RCG. The chairperson(s), an institution or a person indicated by the chairperson shall be responsible for making the documents and information available in time and shall take all necessary action to that effect.

4.2. The RCG chairperson(s) is responsible for preparing agendas for the RCG meetings.

5. Agenda and submission of documents

5.1. A draft agenda for the annual RCG meeting shall be made available no later than one month in advance of the meeting.

5.2. When it is evident from the draft agenda of the RCG annual meeting that the draft regional work plan is not to be decided upon at that RCG annual meeting, the draft regional work plan can be made available to the national correspondents no later than two weeks in advance to the RCG annual meeting. Draft regional work plans made available later than two weeks in advance to the meeting may be decided upon at that meeting in case of consent of all the national correspondents present at the RCG meeting.

5.3. Other documents than the draft regional work plans for the RCG meetings shall be made available no later than two weeks in advance to the RCG meetings. Documents made available later than two weeks in advance to the RCG meetings, may be dealt at the meeting in case of consent of all the national correspondents present at the RCG meeting.

6. RCG subgroups

6.1. To carry out its duties as set out in the Article 9 of the Regulation 2017/1004, the RCG may agree to establish permanent or temporary bodies, task groups, subgroups or other arrangements (hereafter called subgroups). The RCG will appoint the lead(s) and any other role(s) or working practices necessary and provide terms of references. The RCG may give this mandate to the subgroup(s).

6.2. These subgroups will carry out their duties during and between the RCG meetings, as appropriate and as agreed by the RCG. The subgroup lead or a person nominated by the lead shall keep the RCG informed of the progress of such work and any issues arising at intervals agreed at the RCG.

6.3. When a subgroup is mandated to prepare a draft regional work plan in the sense of Article 9 of Regulation 2017/1004, relevant Member States shall send expert(s) with the necessary expertise related to that draft regional work plan to participate in the group's work. National correspondents and European Commission may participate in the group's work at all stages.

7. Draft regional work plans and RCG endorsement

7.1. Member States coordinating their data collection activities in the region will endeavour to agree on a draft regional work plan under Article 9 of Regulation 2017/1004, by consensus at the RCG annual meeting.

7.2. A draft regional work plan, where a decision is expected to be taken in accordance with the draft agenda of the RCG annual meeting, shall be made available to the national correspondents one month in advance to the meeting where the decision is expected to be taken. A draft regional work plan for a decision in the RCG annual meeting made available later than one month before the RCG annual meeting, may be considered and decided upon at that meeting in case of consent of all the national correspondents present at the RCG meeting.

7.3. A decision on a draft regional work plan may be taken at exceptional situations by a written procedure. The chairperson of the RCG may initiate such a written procedure after a mandate with the necessary details to organize and proceed with a written procedure has been given to the chairperson(s) at the RCG annual meeting.

7.4. The chairperson(s) of the RCG shall notify the RCG of the decision within two weeks after the written procedure has ended.

8. RCG recommendations

8.1. The RCG may give non-binding recommendations only. The aim of the recommendation is to orientate further work to be carried out on all issues related to the scope of the Regulation 2017/1004. The recommendations should provide, but are not limited to, clear and understandable stand-alone guidance, guidelines or best practices on the recommended work to be carried out, its justification and objectives, a foreseen time frame for fulfilment and to the extent possible, person(s) or institution(s) responsible for the follow up of such recommendation.

9. Cooperation between RCGs and the European Commission and other relevant bodies

9.1 RCGs and subgroup chairs shall take into account the ToRs of other relevant groups and subgroups from other Regions and Expert Groups.

9.2. The chairperson of the RCG and/or other person(s) mandated by the RCG may participate and represent the RCG in any coordination with other RCGs and the commission under Article 9(6) of Regulation 2017/1004 and will keep the RCG informed within an agreed time frame.

9.3. The chairperson of the RCG and/or other person(s) mandated by the RCG annual meeting may participate and represent RCG in other relevant regional bodies, arrangements or meetings and will keep the RCG informed within an agreed time frame.

10. Observers

10.1. In accordance with the Article 9(7) of the Regulation 2017/1004, RCG shall invite as observers relevant end users of scientific data, including appropriate scientific bodies as referred to in Article 26 of Regulation (EU) No 1380/2013, regional fisheries management organizations, Advisory Councils and third countries, when necessary.

10.2 Observers referred to in article 9 of the Regulation 2017/1004 may indicate interest to participate in the RCG by sending the following information to the chairperson(s) of the RCG.

The justification send by the potential observer shall contain the following information:

- Indicate the relevance of their participation from the Common Fisheries Policy and/or fisheries management point of view and Indicate their data interest as accurately as possible relevant to that RCG and
- Indicate the scientific bodies/groups in their relevant institution or country conducting the scientific analyses based on the relevant data and
- Indicate the management body with a legal mandate for fisheries management within the CFP for which the scientific analysis based on the RCG data is conducted for and Indicate how, to whom and where the results of the scientific analysis referred above are intended to made available and
- Organizational details and details of the representative to be nominated to participate
- Commitment to comply with the rules and conditions set by the RCG and any other information considered relevant by the potential observer

10.3. The RCG annual meeting shall consider the information provided and may request additional information.

10.4. The RCG shall decide by consensus of the Member States present at the annual meeting or prior to the annual meeting which observers shall be invited to the RCG meetings.

10.5. After a written confirmation from the RCG chairperson, observers have the possibility to attend to the RCG meetings. The conditions set for the attendance may include, but are not limited to, limitations on attendance to RCG meetings or group work, limits on access to data or to be present when data is presented or available, possibility to provide written contributions or to give presentations.

10.6. Observers are bound with the conditions referred above. If there are justified reasons to consider, that one or more of the conditions set by the RCG in the written confirmation or otherwise, are violated repeatedly or seriously by the observer, the necessity of the observer to attend or the conditions for the attendance may be re-evaluated. The observer/organization shall be informed of this, including the results of the re-evaluation, by a letter from the RCG chairperson after consulting and in consent with the national correspondents of the RCG responding to the chairperson's consultation.

10.7. International Council for the Exploration of the Sea (ICES) has a standing invitation to participate in all annual RCG meetings and may be invited to participate in RCG subgroup work.

10.8. Observers may be invited to provide written contributions or presentations.

11. Election of the RCG chairperson(s)

11.1. One term for a chairperson covers the period of two years. A chairperson may serve no more than two consecutive terms without limiting the total number of terms for the same person to act as a chairperson of the RCG.

The role will rotate between Member States coordinating their data collection activities in the same marine region unless otherwise agreed by the RCG

11.2. The Chairperson may be agreed by the Member States present or elected by a simple majority at the RCG annual meeting.

11.3. RCG may decide to have co-chairperson(s). The same procedures and conditions as to the chairperson(s) elections apply.

12. Reporting from a RCG meeting

12.1. The chairperson of the RCG shall be responsible for drawing up a report from a RCG annual meeting. The report may contain, but is not limited to, recommendations of the RCG, a summary of the RCG intersessional progress and of the RCG discussions, future work directions, the intended work to be carried out before the next meeting, the list of foreseeable RCG meetings and list of participants, their contact information, role and institution.

12.2. The report from the annual meeting shall be made available to the participants of the meeting and publicly, as appropriate, within two months after the RCG annual meeting has ended. Other meeting reports shall be distributed within one month after the meeting has ended unless otherwise decided by the RCG.

13. Amending rules of procedure

13.1. These Rules of procedure may be reviewed and amended at the RCG annual or additional meeting by consensus of all national correspondents or in a written procedure all national correspondents replying in the set time limit.

13.2. Any member of the RCG can request the review and amendment of the Rules of Procedure to be put on the agenda of the annual or additional RCG meeting.

13.3. The list of Member States in point 1.3 may be amended in accordance with the paragraph 13.1. after a written request has been provided to the RCG Chairperson(s) by a Member State not listed in the point 1.3.

Annex 6. DRAFT Rules and Procedures from intersessional work

Version 7.7.2017

Rules of Procedure for the XXXX Sea Regional Coordination Group

1. Scope

1.1. These Rules of Procedure are valid for the Regional Coordination Group (RCG) for the XXXX Sea in the framework of the Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for the collection, a management and use of data in fisheries sector and support for scientific advice regarding the Common Fisheries Policy and repealing Council regulation (EC) No 199/2008 (recast).

1.2. These Rules of Procedure are established based on the Article 9(5) of the above mentioned Regulation.

1.3. These Rules of Procedure are established 6th September 2017 by the following EU Member States coordinating their data collection activities in the XXXX Sea:

2. Working language

2.1. The working language of the RCG is English.

3. Meetings of the RCG

3.1. To perform its duties, the RCG shall hold at least once a year an annual meeting unless agreed otherwise by the RCG. An annual meeting shall consist of plenary sessions and may include work in groups.

3.2. The RCG may hold additional meetings to the annual meeting. The duration, form, meeting venue, terms of reference and other relevant elements for such an additional meeting may be agreed at the RCG annual meeting or in a written procedure initiated by the RCG Chairperson. The venue of the RCG annual meeting rotates between Member States coordinating their data collection activities in the same marine region unless otherwise agreed by the RCG. The order of the rotation is based on the alphabetical order in English language of the Member States.

3.3. Based on a written invitation from a third country, the RCG may agree to hold its annual or additional meeting in a venue provided by the third country.

3.4. No later than one month before the annual or additional meeting, the Member State or a third country organizing the annual or additional meeting shall be responsible for providing details of accommodation, travel and other organizational information relevant for the meeting.

3.5. Each Member State coordinating the data collection activities in the same marine region and the European Commission shall nominate their participants to a RCG meeting and may choose the number of their participants to a RCG meetings with due regard of the items on the agenda at the relevant RCG meeting.

3.6. Member States not listed in point 1.3., may nominate a national correspondent or an expert to participate a RCG meeting.

3.7. Nominated person(s) intending to participate in a RCG meeting shall inform the contact point of the hosting country indicated by that hosting country within the set deadline for that meeting.

3.8. The RCG shall be responsible for providing a necessary platform for documents and other information related to the meeting and to its term of reference. The RCG may be assisted in this task by ICES or an institution or body with e.g. the necessary resources and technical capabilities.

3.9. Only nominated persons may participate to the RCG meetings.

4. RCG groups

4.1. To carry out its duties as set out in the Article 9 of the Regulation 2017/1004, the RCG may agree to establish permanent or temporary bodies, groups, subgroups or other arrangements (hereafter called groups). The RCG may provide terms of references for these groups and appoint the chairperson(s), coordinator(s), rapporteur(s), secretary, or any other role(s) or working practices necessary for these groups. The RCG may mandate these group(s) to appoint the chairperson(s), coordinator(s), rapporteur(s), secretary, or any other necessary role(s) and the terms of reference for such group(s).

4.2. These groups may carry out their duties during and between the RCG meetings, as appropriate. The form, duration, participants, participating bodies and other relevant elements of such work may be agreed by the RCG. The chairperson or a person named by the chairperson of such group shall keep the RCG informed on the progress of such work at appropriate intervals.

4.3. When a group is mandated to prepare a draft regional work plan in the sense of Article 9 of Regulation 2017/1004, relevant Member States shall send expert(s) with the necessary expertise related to that draft regional work plan to participate in the group's work. National correspondents, European Commission and ICES may participate the group's work at all stages.

5. RCG recommendations for further work, work plans and preparation of a draft regional work plan in accordance with the Article 9 of the Regulation 2017/1004

5.1. The RCG may give recommendations for further work to be carried out by the Member States on all issues related to the scope of the Regulation 2017/1004. The recommendations should provide, but are not limited to, clear and understandable stand-alone guidance on the recommended work to be carried out, its justification, a foreseen time frame for fulfillment and to the extent possible, person(s) or institution(s) responsible for the follow up of such recommendation.

5.2. RCG may agree internal work plans or any other type of plans to orientate its internal work.

5.3. When a RCG group has been mandated to prepare a draft regional work plan, the chairperson of that group or a person mandated by that group, shall keep the RCG and may keep scientific institutions referred to Article 26 in Regulation 1380/2013 informed of the progress of such work at intervals agreed by the RCG. Such procedures may include e.g. requests or any other type of action, including timeframes for such action, to the national correspondents and/or scientific institutions referred above, relevant to the drafting of the draft work plan.

5.4. The chairperson of the group may request a draft regional work plan to be put on the agenda of a RCG meeting for a discussion and/or for a decision making.

5.5. If the group mandated to prepare a draft regional work plan has not reached unanimity in preparing the draft regional work plan, Member States' experts or national correspondents participating in the group's work, may indicate their difference of opinions with appropriate justification in the group's report to the RCG meeting where the draft work plan is to be discussed and/or decided upon. European Commission may indicate in the group's report its concerns.

6. Decision making on a draft regional work plan

6.1. Member States referred to in para 1.3. shall make a decision on a draft regional work plan by consensus at the RCG annual meeting. Member States shall take all necessary steps to ensure that they are represented with a person mandated to take a decision on the draft regional work plan.

6.2. A national correspondent may give a mandate to agree on its own behalf on a draft regional work plan to another national correspondent from a different Member State present at the annual meeting where the

decision on the draft regional work plan is to be taken. This shall be done by the national correspondent giving a written confirmation outlining the details of the mandate transferred. The confirmation needs to be done in advance of the RCG annual meeting and it shall be provided to the chairperson of the RCG.

6.3. The chairperson of the RCG may request, if necessary, observers at the annual meeting to be absent during the discussion intimately linked to the decision on a draft regional work plan.

6.4. A decision on a draft regional work plan may be taken at exceptional cases by a written procedure. The chairperson of the RCG may initiate such a written procedure after a mandate with the necessary details to organize and proceed with a written procedure has been given to the chairperson at the RCG annual meeting.

The chairperson of the RCG shall notify the RCG on the results of the written procedure within two weeks after the written procedure has ended.

6.5. The chairperson of the RCG may initiate an additional RCG meeting by using a written procedure.

6.6. The RCG shall make every effort to reach consensus on a draft regional work plan. If after serious and numerous attempts by the RCG, consensus cannot be reached and no decision on a draft regional work plan by the Member States can be taken, Member State(s) not in a position to support the draft regional work plan, shall provide a written justification to the RCG reasoning its divergent view within one month after the end of the RCG annual meeting where the divergent view was expressed. The written justification for a divergent view shall contain a detailed description of an alternative and comparable plan to the draft regional work plan, including science based justification for such an alternative action to be taken by that Member State(s) to achieve the same deliverables and effect as the draft regional work plan in question.

6.7. Member States, who were in a position to support the draft regional work plan, may take into account in their national work plans to content of the draft regional work plan as appropriate.

7. Cooperation between RCGs and the European Commission and other relevant bodies

7.1. The chairperson of the RCG and/or other person(s) mandated by the RCG annual meeting may participate and represent the RCG in coordination referred to in Article 9(6) of Regulation 2017/1004.

7.2. The chairperson of the RCG and/or other person(s) mandated by the RCG annual meeting may participate and represent RCG in other relevant regional bodies, arrangements or meetings.

8. Observer participation to the RCG meetings in accordance with Article 9(7) of Regulation 2017/1004

8.1. In accordance with the Article 9(7) of the Regulation 2017/1004, RCG shall invite as observers relevant end users of scientific data, including appropriate scientific bodies as referred to in Article 26 of Regulation (EU) No 1380/2013, regional fisheries management organizations, Advisory Councils and third countries, when necessary. The RCG shall evaluate the necessity to invite observers based on the justification send by the potential observers and with due regard to the items on the agenda of the RCG meeting.

The justification send by the potential observer shall contain the following information:

- Indicate the relevance of their participation from the Common Fisheries Policy and/or fisheries management point of view and
- Indicate their data interest as accurately as possible relevant to that RCG and
- Indicate the scientific bodies/groups in their relevant institution or country conducting the scientific analyses based on the relevant data and
- Indicate the management body with a legal mandate for fisheries management within the CFP for which the scientific analysis based on the RCG data is conducted for and
- Indicate how, to whom and where the results of the scientific analysis referred above are intended to made available and
- Organizational details and details of the representative to be nominated to participate

- Commitment to comply with the rules and conditions set by the RCG and any other information considered relevant by the potential observer

8.2 The RCG annual meeting shall consider the information provided and may request additional information.

8.3. The RCG shall decide by consensus of the Member States present at the annual meeting which observers shall be invited to the RCG meetings.

8.4 With the exception to what is said above, the International Council for the Exploration of the Sea (ICES) has a permanent possibility to participate all RCG meetings.

8.5. After a written confirmation from the RCG chairperson, observers have the possibility to participate to the RCG meetings. The conditions set for the participation may include, but are not limited to, limitations on participation to RCG meetings or group work, limits on access to data or to be present when data is presented or available, possibility to provide written contributions or to give presentations, name of the person(s) and organizations

8.6. Observers are bound with the conditions referred above. If there are justified reasons to consider , that one or more of the conditions set by the RCG in the written confirmation or otherwise, are violated repeatedly or seriously by the observer, the necessity of the observer to participate or the conditions for the participation may be re-evaluated. The observer shall be informed of this, including the results of the re-evaluation, by a letter from the RCG chairperson after consulting and in consent with the national correspondents of the RCG responding to the chairperson's consultation.

8.7. If considered useful by the RCG, observers may be asked by the RCG chairperson to provide written contributions or presentations directly linked to the agenda points of the specified RCG meeting they are entitled to participate with the view to facilitate the discussions and contribute to the fulfillment of the RCG tasks.

9. Terms of Reference for the RCG

9.1. The RCG may agree the Terms of Reference for the RCG taking into account necessary contributions and information deemed relevant by the RCG. This may include consultation with appropriate bodies or institutions prior or during the decision making to approve the Terms of Reference for the RCG.

10. Agenda and submission of documents

10.1. A draft agenda for the annual RCG meeting shall be made available no later than two months in advance to the meeting. A draft agenda shall be approved at the beginning of the meeting. The approved agenda may be supplemented during the meeting.

10.2. A draft regional work plan, where a decision is expected to be taken in accordance with the draft agenda of the RCG annual meeting, shall be made available to the national correspondents two months in advance to the meeting where the decision is expected to be taken. A draft regional work plan for a decision in the RCG annual meeting made available later than two months before the RCG annual meeting, may be considered and decided upon at that meeting in case of consent of all the national correspondents present at the RCG meeting.

10.3. When it is evident from the draft agenda of the RCG annual meeting that the draft regional work plan is not to be decided upon at that RCG annual meeting, the draft regional work plan can be made available to the national correspondents no later than one month in advance to the RCG annual meeting. Draft regional work plans made available later than one month in advance to the meeting may be decided upon at that meeting in case of consent of all the national correspondents present at the RCG meeting.

10.4. Other documents than the draft regional work plans for the RCG meetings shall be made available no later than 15 days in advance to the RCG meetings. Documents made available later than 15 days in advance to

the RCG meetings, may be dealt at the meeting in case of consent of all the national correspondents present at the RCG meeting.

11. Election of the RCG chairperson(s)

11.1. The Chairperson may be elected or agreed upon without a vote by the RCG. A national correspondent, an expert from a Member State or European Commission may act as a chairperson of the RCG. National correspondents or European Commission may suggest nominees for a chairperson. Unless agreed without a vote by the RCG, the election of a nominated chairperson(s) shall take place by voting in a form suggested by the resigning chairperson after consulting the national correspondents and European Commission present at the RCG annual meeting. National correspondents present and European Commission representative present has the right to vote and each has one vote. The vote is decided by a simple majority.

11.2. One term for a chairperson covers the period of two years. A chairperson may serve a two consecutive terms without limiting the total number of terms for the same person to act as a chairperson of the RCG.

11.3. RCG may decide to have co-chairperson(s). The same procedures and conditions as to the chairperson(s) elections apply.

12. The chairperson(s) responsibilities and agenda

12.1. The chairperson(s) of the RCG shall promote effective and productive work and working methods of the RCG. The chairperson(s), an institution or a person indicated by the chairperson shall be responsible for making the documents and information available in time and shall take all necessary action to that effect.

12.2. The chairperson(s) is responsible for preparing agendas for the RCG meetings after consulting the national correspondents of that RCG and other institutions/bodies, as appropriate.

13. Reporting from a RCG meeting

13.1. The chairperson of the RCG or a person appointed by the chairperson shall be responsible for drawing up a report from a RCG annual meeting. The report shall contain, but is not limited to, recommendations of the RCG, the decisions taken by vote and the voting results, a summary of the RCG intersessional progress and of the RCG discussions, future work directions, the intended work to be carried out before the next meeting, the list of foreseeable RCG meetings and list of participants, their contact information, role and institution.

13.2. The report shall be made available to the participants of the meeting and publicly, as appropriate, within two months after the RCG annual meeting has ended. Reports from other RCG meetings shall be distributed within one month after the meeting has ended unless otherwise decided by the RCG.

14. Amending rules of procedure

14.1. These Rules of procedure may be amended at the RCG annual meeting by consensus of the national correspondents present at the annual meeting.

Annex 7 Cost-sharing agreement for participation to the International Ecosystem Survey in the Nordic Seas 2018-2019

Cost-sharing agreement for participation to the International Ecosystem Survey in the Nordic Seas 2018-2019

Having regard;

- Article 5.1c of REGULATION (EU) 2017/1004 stipulating the establishment of thresholds below which it is not mandatory for Member States to carry out surveys at sea;
- Article 5.6 REGULATION (EU) 2017/1004 stipulating that these thresholds for stocks subject to catch limits shall be based upon the share of the relevant Members in the TAC that are available for the Union;
- Chapter V.7 of COMMISSION IMPLEMENTING DECISION (EU) 2016/1251 stipulating that the threshold for participation to a survey is set at 3%;
- Article 5.5 of REGULATION (EU) 2017/1004 stipulating that there is a need to avoid disruption of time-series of data
- Chapter IV.4 of COMMISSION IMPLEMENTING DECISION (EU) 2016/1251 stipulating Member States shall guarantee continuity with previous survey designs;
- Article 9.8 of REGULATION (EU) 2017/1004 stipulating that regional work plans may contain cost-sharing arrangements for participation in research surveys at sea
- Table 10 of COMMISSION IMPLEMENTING DECISION (EU) 2016/1251 listing the Blue Whiting survey as a mandatory survey

Having acknowledged;

- that the scientific responsibility as well as survey planning and reporting lies with the ICES Working Group on International Pelagic Surveys;
- that TAC shares by Member State for 2017 form the basis for cost-sharing in 2018 and 2019.
- to include this agreement in full in every relevant National Work plan.

The following Member States have agreed to share the vessel costs for the International Ecosystem Survey in the Nordic Seas: Denmark, Germany, Ireland, Sweden, The Netherlands, United Kingdom.

Cost-sharing model

Cost-sharing is based on a cost-sharing key following the Gothenburg-model (RCG subgroup 20171). This model will be applied to the vessel costs made by Denmark (carried out by R/V Dana) for the duration of the survey (total survey time, including calibration, vessel transfers, excluding mid-cruise-breaks) for years 2018 and 2019. The respective vessel costs are based on the vessel's tariff of the preceding year. This tariff is based on the eligible costs as accepted by the EMFF Managing Authority of the MS conducting the survey.

Application of the model leads to the following key:

¹ Report of the pan-regional RCG subgroup on cost sharing of research surveys at sea, Gothenburg 2016.

Species: Herring *Clupea harengus*

Zone: Union and international waters of I and II (HER/1/2-)

Member State Quota (tonnes) % Share Cost Share MSs >5%

Belgium	5	0.04	
Spain	15	0.11	
Portugal	15	0.11	
Finland	73	0.53	
France	202	1.47	
Poland	238	1.74	
Germany	822	6.00	6.25
Ireland	1,215	8.87	9.24
The Netherlands	1,679	12.26	12.77
Sweden	1,739	12.70	13.23
United Kingdom	3,000	21.90	22.82
Denmark	4,694	34.27	35.70
Union	13,697	100	100

Duration and governance:

This agreement covers cost-sharing for the 2018 and 2019 International Ecosystem Survey in the Nordic Seas. Substantial changes to survey design, survey participations or substantial legal amendments automatically lead to a review of this agreement. Duly justified, participating Member States may request a review. This survey falls under the remit of RCG North Sea and Eastern Arctic as such this agreement will in the future form a part of the Regional Work plan for the North Sea and Eastern Arctic.

Invoices should be sent to the MS concerned before November 1 by the National Institute responsible for the survey as well as the accompanied administration.

Signatures

Member State	Name	Date	Signature
Denmark			
Germany			
Ireland			
Sweden			
The Netherlands			
United Kingdom			

Annex 8. Minutes from end-user meeting between ICES and RCG chairs

The Chairs of the Northern RCGs (BALTIC, NS&EA and NA) organised a meeting on end-users needs and as ICES is the main end-user in this supra region a meeting was with the ICES secretariat in Copenhagen the 9th of March 2017.

The objective of the meeting between the RCG chairs and ICES was to:

- Start formalising a framework of communication between data providers (RCGs) and data end-users (ICES);
- See how best to improve on current interactions and communications with RCGs and ICES including using established mechanisms;

The benchmark processes

RCGs should review the issue list presently produced from the EGs relevant to the benchmarked stock.

- Issue list to be compiled, maintained and distributed to the relevant RCGs by ICES.
- RCG to comment and return to ICES
- ICES are reviewing the benchmark cycle with reference to the number of stocks, potential bottle necks. For RCGs it would be useful to have a link to the different RCG region. RCGs to be included after the 'evaluation' cycle.
- RCG to provide an inventory of relevant data collected under DCF to data compilation workshops (DCW). Template to be designed by RCGs (draft at RCMs 2017; collate regional drafts intersessionally Oct/Nov 2017). Need to consider also RF data, DIA, BYC species.
- ICES to provide coding for inventories from DATRAS (and other survey DBs) and RDB with ref to DCF AWP. A survey list was produced from the ICES secretary and delivered to the RCG
- RCGs to compare Annual Work plan survey names with DATRAS names - WGCHAIRS. STECF review group of surveys December 2017 – ToRs still to be finalized but preparation is required. ICES working Document to be reviewed by RCG Surveys subgroup.
- Benchmark/Data compilation workshop groups to provide feedback on what is presently sampled and used, collected, needed but not currently used and not needed and not collected yet (useful in the future). RCG to design the template (not forgetting RF data and DIA). Colours only for illustration – codes required for advise

	... basis of the assessment	definition
1	Used	...
2	collected, needed but not currently used	...
3	not used	...
4	not collected yet	...

Examples Numbers at age in Age based assessment
 New survey data, data presently not meeting quality threshold
 Age data for length based assessed stocks, catch data for survey assessed stocks.
 Predation rates, stock identity (genetics), survival rates

Need some input on the quality.

- RCGs to consider balance across all colours and whether there is an opportunity to improve the data for this stock.

Beyond the benchmark:

- ICES to provide advice or feed into guidelines on how to prioritise and what RCGs should consider in any trade offs (WGBIOP, WGCATCH PGDATA, ACOM).
- ICES to provide advice on what is crucial or recommendation on data priorities and RCGs to take this up.

- RCGs to consider these recommendations.
- Need to consider an evaluation of all stocks at a regional level.
- EELS and SALMON to be included with WGRF in the data call spreadsheets for comparison

Data call

- RCG/ICES to compare Fisheries assessment data call (Excel sheet) to ICES stock list database and the NWPs Table 1ABC, DATRAS+, RDB (and National DBs...). Draft template needs to be compiled and circulated. The ICES stock data base is still not at a stage where it can be used for extracting the data used in the present stock assessment (<http://sd.ices.dk/stockList.aspx>)
- These can be flagged as “required and used”, “used but under threshold”, “available but not used” and “superfluous”.
- ICES requires, under the MOU, to provide advice based on Surveys but commercial catch data might not be available because of thresholds.
- Feedback to ICES for information on potential gaps, help form a process of prioritising data needs and manage expectations. Influence ToRs for EGs below.
- It needs to be considered how EELS and SALMON fit into this process. They are not included in the current ICES assessment data call above but there will be a data call in September. This should and can still be compared with the AWP and need to be considered within this process.
- At the very least, Eels and Salmon expert should present to the RCGs what data they need and require and at what level for their assessments, in reference to the regulation.
- Data End-user Needs group to have an evaluation meeting with ICES to review these summaries and benchmark feedback – October 2017. If LM continues then perhaps after/ TBD.

Annex 9. Feed-back from RCG NS&EA on issue list

Stock	Issue	Problem/Aim	Work needed / possible direction of solution	Data needed to be able to do this: are these available / where should these come from?	Responsible expert from WG	External expertise needed at benchmark type of expertise / proposed names	Comment from RCM NS & EA
reb.27.1-2	cohort tracking for older individuals	Bulk of the population is currently in the modelled 19+ group. Survey data cover only young individuals (< 15y).	1) expand the model to age groups older than 19 and 2) use data from surveys in the Norwegian Sea which cover older ages.	New survey data, available from Norway			Member states are encouraged to participate in this survey.
reb.27.1-2	Sensitivity of model outputs to surveys	There is a need for a quantitative evaluation of the sensitivity of the model to current surveys and to inclusion of new surveys.	Run a sensitivity analysis by using different combination of surveys as model input.	Existing and new survey data (as described above).			Member states are encouraged to participate in this survey.
Plaice in 4 and 3.a	Fleet selectivity	Increased number of beam trawl using the method 'pulse trawl' which does not exist meantime as a métier	It is necessary to create a separate gear code/gear type category for pulse trawls. This would allow for improved raising of data etc	SEE COMMENT	Benchmark already taken place		THIS WAS ADDRESSED TO RCM NS&EA and SGRDB in their report but RCM was NOT ADVISED
Sole in 7.d (sol-eche)	Fisheries data - Aging		no evidence that the tuning indices need to be revised. A new French commercial tuning series was constructed; A new maturity ogive was constructed using data from the UK commercial fisheries. New reference points were estimated.	Future Research and data requirements were identified, also by the external reviewers. [these were <u>not</u> listed]			no action required
Sole in 7.d (sol-eche)	tuning series	UK Young Fish Survey (YFS) stopped in 2006. Two remaining fishery independent sources of information on age are available. French YFS is probably not providing the correct recruitment estimates as it only covers part of Vld.	Analysis : test runs with UK(E&W)-BTSQ3 for ages 2 and older only. UK re-instate survey or France extend their survey into UK waters.	FRA/UK to check for other data sources. Incoming year classes (especially ages 1-2). Cefas deliver data annually if survey reinstated. FRA and UK to liaise over survey data.			
Sole in 7.d (sol-eche)	discards	discards not included in assessments	Bel, Fra and UK to compose time series of raised discard data	Bel, Fra and UK data from discard sampling. Belgian data needs to be processed differently.			
Turbot in 4	Catch at age matrix	Landings at age and age composition are from NL data only	compare age-length key from Dutch surveys with other MS data	Denmark, Germany and UK to deliver age data for landings and discards			listed MS should deliver requested data
Turbot in 4	LPUE	PO imposed catch restrictions have biased the lpue in Dutch fisheries	Recalculate and standardise lpue	English flagship turbot catches 2016. Discard data from Dutch landing obligation project discards.			ENG and NET are encouraged to deliver the requested data.
Whiting in 4 and 7.d	stock identity and area specific age readings	To identify if there is a discrete northern stock and a southern stock	IBTS quarter 1 and quarter 3 in Division IIIa; apart from reporting catches at length, no biological data are collected for this species	otoliths and maturity information should be collected during surveys for IV, IIIa and Vld.			MS are encouraged to collect maturity data during surveys.
Stock	Issue	Problem/Aim	Work needed / possible direction of solution	Data needed to be able to do this: are these available / where should these come from?	Responsible expert from WG	External expertise needed at benchmark type of expertise / proposed names	Comment from RCM NS & EA
Witch in 3.a, 4 and 7.d	Biological parameters - catches by age and lack of discard data	Lack of data. Partially available on Inter catch only for Sweden, Netherland and Denmark in 2013	Other MS to submit discards information	All MS to submit landings information (number at age and weight at age) for the entire time series			Member states are encouraged to provide data

Stock	Issue	Problem/Aim	Work needed / possible direction of solution	Data needed to be able to do this: are these available / where should these come from?	Responsible expert from WG	External expertise needed at benchmark type of expertise / proposed names	Comment from RCM NS & EA
Witch in 3.a, 4 and 7.d	Biological parameters - catches by age and lack of discard data	Lack of data. Partially available on InterCatch only for Sweden, Netherlands and Denmark in 2013	Other MS to submit discards information	All MS to submit landings information (number at age and weight at age) for the entire time series			Member states are encouraged to provide data
Lemon Sole in 3.a, 4 and 7.d	never had of a full analytic assessment : discards	catch-based assessment will need to account for discards.	Check availability of discard data from commercial sampling programmes and upload data to InterCatch for years prior to 2013.	discard data from commercial sampling to be uploaded to InterCatch by all MS (BEL, DNK, NDL, GER, ENG, SCO, FRA, SWE, NOR)			Member states are encouraged to provide data
Lemon Sole in 3.a, 4 and 7.d	never had of a full analytic assessment - Tuning series	Tuning series does not yet exist for lemon sole. Age- or length-based tuning series should be generated	national institutes to be contacted about the availability of relevant (and unsubmitted) data from survey and catch-sampling.	data on weight, length, maturity, age, sex and spatial distribution			Member states are encouraged to provide previously unsubmitted data
Lemon Sole in 3.a, 4 and 7.d	Biological Parameters	. Aim to collate and compile available data on weight, length, maturity, age, sex and spatial distribution.	national institutes to be contacted about the availability of relevant (and unsubmitted) data from survey and catch-sampling.	Request to all MS to submit relevant (and unsubmitted) data from survey and catch-sampling programmes. - weight, length, maturity, age, sex and spatial distribution			Data should be available in DATRAS. Member states are encouraged to provide previously unsubmitted data
Lemon Sole in 3.a, 4 and 7.d	never had of a full analytic assessment	no appropriate survey time-series exists	generation of appropriate survey time-series (biomass, length-based, and potentially age-based)	data from commercial sampling to be uploaded to DATRAS by all MS (BEL, DNK, NDL, GER, ENG, SCO, FRA, SWE, NOR)			Member states are encouraged to upload the necessary data and to revise whether all relevant data has been uploaded
Flounder in 3.a, 4 and 7.d		lack of relevant but unsubmitted data	national institutes to be contacted about the availability of relevant (and unsubmitted) data from survey and catch-sampling.	data from Germany, Netherlands and Denmark			Listed MS are encouraged to provide requested data if possible
Herring NSAS North Sea autumn spawning	Fisheries data	1.: Reconstruction of discards of the entire fleet is required	1. Request discard time-series raised to fleet by all nations fishing for NSAS	1. Data requested from all nations fishing for NSAS . Sample data requested from IBTS Q3 participants. Use 0-group data from IBTS Q3. Analyses data requested from Denmark.		Henrik Mosegaard (DNK)	Member states are encouraged to provide data
Herring Celtic Seas 7a, 7j-k	tuning series	Observed shift in distribution of herring from 2014 onwards	Consider alternative ways to derive an index post 2014.	data from Ireland (MI) required. Length and weight data from commercial fisheries and surveys		Expertise in review and evaluating utility of herring surveys in light of changing fish behaviour Expertise in review and evaluating utility of herring surveys in light of changing fish behaviour Mike Power or Gary Melvin (Canada)	Named MS is encouraged to supply data
Herring Celtic Seas 7a, 7j-k	Biological Parameters - Discards	Could there be other factors explaining mortality of herring?	What has been the development in body condition of herring	Length and weight data from commercial fisheries and surveys.			Member states are encouraged to provide data
Herring Celtic Seas 7a, 7j-k	Assessment method	Could there be other factors explaining mortality of herring?	Compare age compositions in catch and survey time series.	data from Ireland (MI).			Named MS is encouraged to supply data
Western Baltic spring spawning herring WBSS	discards	review discard time series	Discard time series to be raised nationally by all MS in area. Age calibration is required	Discard time series to be raised nationally by all MS in area.			Member states are encouraged to provide raised discard data
Western Baltic spring spawning herring WBSS	Fisheries data and mixing of stocks	apply the separation function to all the countries with catches in SD24. Mixing of WBSS and Central Baltic herring (CBH) in catches (TG,VB) 4. Borrowing biological samples among fleets/countries/quarters/areas in IIIa; need for more sound and transparent routines	Improve sampling design, ie proportional between sampling and landing. Explore spatial-temporal patterns of biological parameters	data requested for all MS			no comment
anchovy 9a (ane.27.9a)	recruitment	to understand what environmental issues may drive the fluctuations and intensity of the recruitment pulses	9.a South and western subdivisions specifically	identified as an issue in the benchmark issue list but no other information given/found			no comment

Annex 10. Review of pertinent points from expert groups related to regional coordination

The main points relating to regional cooperation from expert groups were presented to plenary, the executive summaries and or key points are reproduced below:

PGDATA

The main output of the last PGDATA meeting was a an evaluation of the 2017 ICES EG data call, were the PROXY data call on length data from data limited stocks was included. The audit included redefinition of some variables, mainly concerning the landing obligation and clarification of the text. The process was thought to be very useful as the data provider has not earlier been involved in the process of committing on the data call but merely been trying to compile with the data call text. It was however thought that involvement of PGDATA earlier in the process starts January, could even further improve the process as the data call deadline prevented the wanted thoroughness. Further, the meting focused on finalising the ToRs for the workshop on BIOPTIM and establish the work process and preparation for the workshop. The BIOPTIM aims to look at ways in which biological parameters obtained from sampling commercial catches can be optimized so that the time and money spent on sampling can be effectively justified in terms of providing quality information to end users. The aim for the workshop was to develop an R tool-box which can be used by national labs to quantify the effects of different sampling intensities and sampling designs, and support discussions on the advantages and disadvantages of different sampling strategies in terms of time and cost savings involved. As part of the improvement of the data quality on biological parameters (mainly otoliths) PGDATA and WGBIOP developed a roadmap for implementing the SmartDots software developed by ILVO to replace WebGR as the regional/European system for otolith age reading and possible maturity classification. Further development of SmartDot in spring 2017 will make it possible for SmartDots to be integrated in a web platform provided by ICES. PGDATA 2017 also finalised the guideline for the data preparation workshops which included taking the feedback from the 2016 benchmark data evaluation meeting for the Irish Sea (WKIRISH2) and Kattegat cod (WKBALT) into account and to streamline the benchmark process even further by updating the issue list template that are normally populate by the assessment working groups. To increase the data quality and the communication between the expert groups and the data providers PGDATA suggested a further development and maintenance of the Data Quality Assurance Repository. The idea is to structure all the work done on data quality and best practices in the different technical workshops and thereby avoid that scientist from national institutes or from other working groups has to read through all the reports to find the relevant guidelines.

WGCATCH

The Working Group on Commercial Catches (WGCATCH), chaired by Hans Gerritsen, Ireland, and Nuno Prista, Sweden, met in Oostende, Belgium, 7–11 November 2016. The meeting was attended by 35 members from 21 institutes and 19 countries. In 2016 WGCATCH addressed the following subjects:

Commercial catch or landings per unit effort indices (CPUE/LPUE): WGCATCH developed guidelines on what should be documented and considered when commercial fishery CPUE/LPUE indices are developed and used in stock assessment. A workshop on standardisation of CPUE/LPUE was proposed (but later postponed).

Documentation of national sampling designs: WGCATCH reviewed the new tables for completion by EU Member States to document their work programmes under the EU Multiannual Programme (EU-MAUP) for the collection, management and use of data in the fisheries and aquaculture sectors. WGCATCH found that while significant progress had been made towards documenting the sampling designs, some modifications would be necessary for them to be useful for routine documentation of sampling designs for WGCATCH purposes.

STECF FDI data call: The participation of the European Commission's Joint Research Centre (JRC) at the WGCATCH meeting provided an opportunity to communicate concerns of the EG over the use of the data held by JRC as a result of its 'Fishery Dependent Information' (FDI) data calls. The outcome of this discussion was a suggestion of a new data format which better accounts for the limited resolution of sampling data.

Landing obligation: The group reviewed the impact of the landing obligation (LO) on sampling and on the quality of stock assessment data. The overall impression was that there is only partial compliance with the requirements and data collection and estimation under the landing obligation could potentially be very problematic in terms of high refusals (biased estimates), observer effects on sampled trips and missing sampling some components of the landings (under MCRS). ICES MS were advised to adopt the guidelines set by WGCATCH in 2014 to minimize losses in data quality provided for assessment during the transition period.

Participation in the ICES advisory process: WGCATCH discussed the historical difficulties that expert groups dealing with catch sampling have experienced when engaging with assessment EGs about data quality issues. WGCATCH concluded that preparing specific working documents on fishery data quality for assessment and/or benchmark meetings could be the most efficient way of increasing participation in the advisory process. A workshop to develop and test this approach was proposed (WKDEEC).

Small-Scale Fisheries data: WGCATCH drafted extensive best practice guidelines for collection of transversal variables and biological data in small scale fleets and evaluated the usefulness of some new technologies such as remote electronic monitoring by CCTV and vessel position recording by AIS/GPS in the monitoring of small-scale fleets.

Protected Endangered and Threatened Species (PETS): WGCATCH concluded on a need for joint work with the ICES Working Group on Bycatch of Protected Species (WGBYC) on the design of pilot studies to monitor incidental bycatch which are being planned under the EU MAUP and on estimation of incidental bycatches. Two joint WGCATCH/WGBYC workshops were proposed to WGBYC: one in 2018 on the design of sampling schemes for the monitoring of protected species and a second one in 2019 on the estimation of incidental bycatch rates and raising from sampled vessels to fleet level.

Regional Data Base (RDB): WGCATCH was requested to provide advice for the development of the RDB by documenting and approving the estimation methods currently in use. WGCATCH decided on an intersessional workshop to test the documentation of sampling designs and estimation methods and attempt to produce Inter-Catch-type estimates using the RDB format as a starting point (WKSDEEC).

Intersessional workshops for 2017: WGCATCH identified intersessional WGs and training courses as the best means to ensure intersessional progress in areas of relevance for ACOM. The outcomes of these will be reviewed annually during the WGCATCH meeting. The following workshops and training courses are proposed for 2017: 1) Workshop on Sampling Design and Estimation of Commercial Catches (WKSDECC I . realized in May/2017), 2) Workshop on Optimization of Biological Sampling at Catch-Sample Level (WKBIOPTIM – realized in June 2017), 3) Workshop on methods for developing fishery-dependent indices of abundance for use in stock assessments (WKCPUE – postponed).

WKBIOPTIM

The workshop focused on practical aspects of optimization of sampling. Prior to the workshop, two sets of R-scripts were developed that used the current exchange format of the Regional Database (RDB) as input. The first set of scripts is useful for cases where there is considerable a priori evidence of oversampling (e.g. several hundreds of measurements per sample over a relatively short size/age-class range). The script implements simulations of several types of sampling strategies (user defined) and produces a set of graphical and numerical outputs that allow the visualization of the consequences of measuring different number of individuals per sample. The second set of scripts can be used to determine the number of fish, hauls and trips that should be taken without significant loss of precision in the final estimates. In both cases scripts were

prepared to use “lengths” as the biological parameter to be analysed but can be extended to other biological parameters, like age distribution or discards.

Participants brought their own case-studies and three subgroups were formed: one that tested the first script (sample level), one that tested the second script (multilevel analysis) and one that discussed quality indicators for length/age frequency data. Workshop time was spent introducing participants to the analyses carried out in the scripts, adapting data inputs to different formats (e.g. length frequency vs. length of individual specimens), debugging coding errors, and running simulations of the case-studies. The outputs of the case-studies were analysed during and after the workshop. In what concerns to quality indicators, some possible indicators that can be used for biological parameters were discussed.

WKBIOPTIM identified considerable margin to reduce the sampling effort in some of the case-studies presented without compromising the quality of the data to be used by the end-users. In what concerns both sample-level and multi-level optimization, the R scripts developed can be used to simulate and analyse a range of different sampling scenarios with the outputs being useful in discussions of improvements to national and regional sampling plans. Following the workshop, concrete reduction in the sample sizes collected for some species have been achieved after dialog with data end-users. Such reductions resulted in time savings and facilitated data collection in other stocks. In what concerns quality indicators for other biological parameters and additional quality indicators for length frequency data, a request for advice was sent to WGBIOP and WGCATCH with the aim of including a large array of indicators in future updates of the R-scripts and better adapt them to a wider array of end-users’ needs.

The expansion of the application of the R-scripts to other biological parameters (weights, ages and maturity) is considered of high importance since biological data collection is inherently multivariate and multi-purpose frequently extending far beyond collection of length data. Future developments of the scripts are expected to happen as part of WKBIOPTIM2 which will aim to, among other, include additional biological parameters in the analyses, the integration of additional quality indicators (e.g. effective sample size) and a discussion of the most appropriate balance between them (based on end-users’ needs). It is envisioned that a harmonized toolbox of R-scripts and R-vignettes, possibly encompassed in an R package, will ultimately be produced and aid national labs in the planning of their work.

WKDECC 1

The aim of the workshop was to document present and historical sampling designs and estimation procedures and comment on their statistical soundness and the quality of data they can deliver. The next step was to test the latest version of the data model for the regional database and estimation system, presently under development, and see if it fulfills the need arising from the estimation models.

The work was carried out on the basis of two case studies, Kattegat cod and North Sea sole. WGCATCH has developed draft generic templates for description of sampling design and estimation models and the WK were testing those. The work generated many discussions. It was for example apparent that different countries interpreted hierarchies in sampling designs differently. It was also discussed on how to deal with these types of tables when dealing with historical data that commonly are collected under sampling schemes not based on proper statistical designs. This raised a discussion on the new RDB data model and data collected under ad-hoc sampling programmes.

The workshop will produce three working documents. The first is commenting, based on the experiences from the WK, on the new data model and its implementation. This WD will be presented at the RDB-SC. The other two working documents will deal with the documentation of sampling and estimation of Kattegat cod and North Sea sole respectively. The intention with these documents is that they can give input to data compilation workshops preceding benchmarks.

WGRFS

At the RCG, a presentation was provided by the ICES Working Group on Recreational Fisheries Surveys (WGRFS) about marine recreational fishing (MRF). This highlighted the current status, the role of the RCGs in

the improvement of MRF data, and the support the WRGFS could provide. This section describes the presentation and discussions.

Presentation

Marine recreational fishing (MRF) in Europe has been shown to be high participation, with significant social and economic benefits, but also has impacts on some fish stocks (Hyder et al. 2017a; 2017b). Recent research has shown that in Europe there are around 8.7 million people engaged in MRF, fishing for almost 78 million days, and spending about €5.9 billion each year (Hyder et al. 2017b). This creates a total economic impact of €10.5 billion and supports almost 100,000 jobs across Europe (Hyder et al. 2017a). Recreational removals (kept fish plus post release mortality) can be significant for some species representing between 2-72% of the total catch (Hyder et al. 2014, 2017a). As a result, recreational removals should be routinely included in stock assessments, but to date has been limited European sea bass (ICES 2016a), western Baltic cod (ICES 2016b), Baltic sea trout (ICES 2017) and Atlantic salmon in the Baltic (ICES 2017a). This mainly due to limited data available for MRF, specifically in terms of variation catches and releases over time and post-release mortality. Since 2001, there has been a legal requirement from the European Commission to collect recreational catches and releases for selected species under the Data Collection Framework (EU 2001; 2008; 2010; 2016). Currently under the EU multiannual programme (EU MAP), estimates of catches and releases are required for Atlantic cod, European sea bass, European eel, Atlantic bluefin tuna, Atlantic salmon, pollack, and all elasmobranchs, with variation in species requirements across regions (EU, 2016). Multispecies pilot studies are also required for countries without MRF data within 2 years of the regulation coming into force. A second mechanism for collection of recreational fishery data in Europe is the Control Regulation (EU, 2009) that specifies recreational fisheries are conducted in a manner compatible with the CFP (EU, 2013) and that recreational catches of stocks subject to recovery plans must be monitored, but only for vessels registered in each country. There has been limited data collected on MRF despite these requirements, mainly due to the challenges of delivering robust surveys and the varied and dispersed nature of MRF. This has made inclusion of recreational fisheries in stock assessment challenging (Hyder et al. 2014, 2017a), but many new national studies are underway in 2017 that will generate MRF data.

The WGRFS brings together scientists from across the globe working on MRF to share experience and help deliver robust MRF data. The overall aims of the group are: to collate and review quality of national estimates; assess new survey designs; advise on data, assessment, and future data collection; and review and assess regional data collection for RCGs (ICES 2010; 2012; 2013; 2014; 2015; 2017b). The potential for a consistent approach for Europe wide MRF surveys was assessed and considered not to be efficient or effective due to national and cultural differences. Instead, bespoke national multispecies programmes were proposed that should be of adequate quality to allow synthesis of the data at a regional level. To achieve this, the quality of national survey schemes is reviewed regularly by WGRFS to ensure that data can be synthesised at a regional level.

After implementation of the EU MAP (EU 2016), several meetings were held by the Scientific, Technical and Economic Committee for Fisheries (STECF) that included discussions about MRF requirements. STECF (2016b) evaluated that National Work Programmes (NWP) for 2017-2019, that included a description of proposed MRF pilot studies and existing national programmes. It was clear that there were challenges in evaluation of MRF programmes and that the RCGs have a key role in future around definition of end user needs and evaluation of the MRF programmes. A second STECF meeting was held on data quality assurance for DCF that highlighted the importance of provision of national MRFs surveys to assess the impact of on the sustainability of fisheries (STECF 2017). However, to evaluate MRF surveys effectively, comprehensive documentation is needed and should follow WGRFS guidelines (see e.g. ICES 2017b). Again, the role of the RCGs was highlighted with respect to validation of protocols and ensuring that regional end user requirements are met, alongside review by relevant ICES expert groups. In addition, WGRFS provided feedback to the STECF about the evaluation process that included the issues identified above and suggested that the WGRFS should be integrated into the review of NWP (ICES 2017b).

MRF data issues were also highlighted within a recent study for the European Parliament and recommended the need for regular multispecies surveys that include assessments of economic impact (Hyder et al. 2017b). The importance of MRF both biologically and economically was demonstrated, so should be included in stock assessment to ensure sustainability, and considered a sector for development alongside commercial fisheries and aquaculture under the Common Fisheries Policy (Hyder et al. 2017b).

The lack of a coherent central database for MRF data was identified and the need for a central repository highlighted (ICES 2017b). WGRFS proposed that MRF data should be stored in the regional databases and that WGRFS should work with ICES to develop a plan and timescale for delivery of this solution. However, due to the complexity of the methods, it was felt that raw data and raising procedures being implemented for fisheries survey data was not appropriate for MRF. Instead, population level MRF data should be captured in the RDBs including: stock, year, country, catch and release in numbers and weight, length frequencies, and a survey quality statement (ICES 2017b).

Interactions with the RCG

It is clear that the RCGs have an important role in MRF. From a data collection perspective, regional coordination is important for MRF surveys, but some baseline data is required for many countries before any derogation could be granted. This will be provided through pilot studies that will be done by countries without existing survey data between 2017-2019. This will allow a robust assessment of the potential impact of MRF in countries and regions, but only if multispecies surveys are done. This should be advocated by the RCGs as the cost of a multispecies data collection is not significantly higher than single species approaches (STECF 2016a). At a regional level, the precision required for MRF data needs to be considered, but a single survey instrument is not efficient or effective, with national MRF surveys of adequate quality conducted on regular (annual) basis preferable. However, the assessment of quality of DCF NWP is difficult, so clear scientific evaluation of quality of MRF surveys is needed. In addition, access to all recreational data needs to be seamless and should be provided by the regional databases, as this will ease data compilation, assessments, and management.

A strong link between the RCGs and the WGRFS is needed to generate the technical support. The WGRFS can provide a pool of experts to support RCG MRF needs and work with the RCG to define end-user needs. At the WGRFS, experts from countries working on particular stocks collaborate to ensure that MRF survey estimates can be synthesised across regions. As a result, the WGRF could provide input into RCG requirements for MRF including: additional species to consider based on end user need, quality assurance of programmes, and novel approaches that could be employed to improve MRF surveys. In addition, the project fishPi2 (“Strengthening Regional cooperation in the area of fisheries data collection”) that has just been funded by the EC includes a work package on small-scale and recreational fisheries. This will highlight regional data gaps, data quality, and data access issues, and provide support for the RCG in dealing with MRF.

To support the RCG in understanding MRF, there is need to ensure clear communication channels between the RCG and WGRFS, alongside integration of the outcomes from fishPi2. This could easily be achieved by ensuring that each RCG includes a MRF expert from WGRFS, and provide the means to identify further ad hoc support for the RCG on MRF as required.

RDB-SC

Until now the SCRDB has consisted of representatives from the RCM Baltic, RCM North Sea and Eastern Arctic, RCM North Atlantic and the ICES secretariat and meets once annually. Non-EU ICES members (Iceland, Norway, Canada, Russia and USA) and the European Commission were invited to participate in the SCRDB 2016 meeting.

The RDB is the main prerequisite for development of regional sampling programmes, for standardisation of data, and the tool for ensuring transparency and quality assurance of input data for stock assessment, and for the management of the marine living resources by the EU and non-EU countries in the North Eastern Atlantic area.

The EU member states participating in the RCM Baltic, RCM NS&EA and RCM NA uploaded data in the Regional DataBase (RDB) as a response to a data call launched by the RCM chairs in June 2016. The data call covered landing, effort and sampling data for 2015. Upload of previous years' data (2009-2014) were also requested if these data had changed substantially. The overall response of the data call was satisfactory, even though a few of the MS are still in progress with uploading their complete data sets.

The aim of the annual data calls is to facilitate development of analyses for regional sampling strategies, to solve previous problems related to the upload and also advance in the development of the RDB, in order to build a tool for regional coordination where time series of regional 2009–2015 data would form the base for planning of future data collection.

Since 2012 the RDB has been hosted and maintained by ICES under agreement with the European Commission (MoU). In addition, since 2014, ICES have provided funds for the further development of the RDB. Unfortunately, no funding for further development had been made available through the call for tenders procedures by the EU Commission. As the RDB is an essential tool for the ICES advisory work, ICES has therefore secured 1 Million DKK from the ICES Council to run a two year development project for improving the RDB to a statistical sampling and raising platform, but also to ensure the different end users/uses are accounted for.

The SCRDB membership setup with RCM representatives, the EU Commission, and the ICES secretariat has worked well: however, there are now a number of changes that require that the membership is revisited. The funding of the RDB is split between the EU (via an MoU with DGMARE) and ICES own funding. ICES member countries include non EU-DCF countries that are relevant to the regional scientific stock assessments, and therefore to the development and support of the RDB as the main channel for making commercial fisheries data available for not only the RCM end use, but that of ICES in fisheries management advice. Therefore, it is suggested that non-EU countries should be actively involved with full membership of the SCRDB. In addition, it has been recommended to the long distance and large pelagic RCM's that they should use the RDB, and therefore should be included in the development pro-cess.

It has been agreed that a new RDB will be developed over the next two years by the ICES secretariat – this is an ambitious time-scale and is driven by the funding sup-plied by the ICES Council. At the end of the two years the new RDB should be capable of both storing data and generating estimates using accepted statistical methods. It is likely that different countries/groups will still need to use InterCatch for a transitional period after the new RDB completion. The long term aim is for the new RDB to completely replace InterCatch. It should be highlighted that the development of the new RDB within such a tight timeframe requires a dedicated support group providing 'instant' support throughout the process. This core RDB development support group is established under the current steering committee and will reflect on suggestions and proposals crucial to the process of developing and building the new RDB.

The RDB Data Policy Document was reviewed at the SCRDB 2016 meeting. The SCRDB does not at this point want to change the present Data Policy. The SCRDB agreed that in the future the data policy should be more open. The new invited non-EU countries will go through the Data Policy to see if they can support the Data Policy as it is, or, if additions are needed in connection with them uploading data to the RDB.

STECF EWG 17-16/ 17-07

The STECF EWG 16-16 on Evaluation of DCF National Work Plans 2017-2019 took place in Ispra, Italy, from 7-11 November 2016. The Work Plans of 27 Member States (23 coastal + 4 land-locked MS), submitted by 31 October 2016, were pre-screened the week before the EWG meeting by ad-hoc experts, using evaluation criteria agreed by STECF in the autumn plenary the week before the pre-screening. As the Commission had to adopt MS's Work Plans (WPs) by the end of 2016, the overall schedule was very tight. Nevertheless, STECF has carefully considered all WPs and provided a summarised evaluation based on the pre-screening and EWG work. The vast majority of WPs were fully or mostly compliant with the EU Multiannual Programme for Data Collection (EU-MAP, COM Impl. Dec. 2016/1251) and the WP template (COM Impl. Dec. 2016/1701), while only few were partly compliant. Moreover, the EWG suggested several improvements of the evaluation

procedure and WP template. The EWG report, available on the STECF website, is accompanied by the WP evaluation sheets by MS.

One important aspect of the WPs that could not be evaluated by the EWG 16-16 (see above) - due to missing information and time constraints - was the data quality assurance. The STECF EWG 17-04 on Quality Assurance for DCF data (Copenhagen, Denmark, 3-7 July 2017), inter alia, has taken up suggestions from EWG 16-16 regarding improvements in WP evaluation. The EWG discussed principles and criteria for evaluating data quality in WPs and Annual Reports (ARs), quality indicators for end-user needs, minimum requirements for DCF data quality, guidelines for MS to fill in WPs and ARs, and the role of various bodies in this process. The EWG summarised relevant existing work and references, suggested improvements in the WP tables, highlighted the importance of the Regional Database (RDB) for data quality assessment and clarified the roles of RCGs, end-users and STECF in this process. In the STECF view, "RCGs have a central role to implement the standards to be followed and coordinate the national sampling programs within a region. This is where the deepest knowledge on data collection is found. RCGs are also the ones most legitimate to coordinate and formalise what is needed for common tools such as RDBs, R packages etc., and could be tasked with producing standard and automatised data quality reports at regional level." The EWG recommended that the forthcoming RCGs consider modifications of Table 1A of the WP template (section 3.2.2.1 in the EWG report). The EWG report is available on the STECF website contains a summary of the most important points discussed and conclusions in its section 6.

The STECF EWG 17-07 on Evaluation of DCF 2016 Annual Reports & Data Transmission was held in Gavirate, Italy, 26-30 June 2017. Apart from evaluating Member States' Annual Reports (ARs) and Data Transmission (DT) issues by end-users, the EWG discussed improvements in the evaluation of ARs and DT failures. Overall, the level of achievement of the ARs 2016 shows an improvement compared with previous years, both in terms of compliance and reporting procedures. The ARs of 16 MS showed 'full' (>90%) overall compliance and 7 MSs' reports were 'mostly' (50-90%) compliant. As in previous years, a pre-screening of ARs and DT issues was conducted, which proved to be very useful for the EWG evaluation. The evaluation of 184 DT issues concluded that 102 issues were justified as satisfactory, 39 unsatisfactory and 43 'unknown' (The EWG was not able to make an assessment). Most DT issues originated from the data calls on Mediterranean & Black Sea assessment, fleet economics and fisheries-dependent information (FDI, formerly effort data call). From ICES, only 8 DT issues were reported for 2016 (while 170 issues were reported for 2015 and 512 issues for 2014!). From RCMs, 12 DT issues were reported. Regarding the DT issues identified by the Tuna RFMOs - IOTC, ICCAT and IATTC - in 2016 and in a total of 8 issues, the RCM Large Pelagics has supported the EWG in its assessment. This happened following a DG MARE request to the chair of the RCM LP and due to the potential lack of expertise at the EWG to correctly assess the data issues raised by these particular RFMOs. This problem had happened in the past already.

With regard to improvements in the AR evaluation, several suggestions have been made by the EWG. Amongst these, the following ones can be of key relevance to the RCGs: 1. an additional step that allows feedback by MS after the pre-screening before the EWG. As this will require more time within the overall process, the STECF proposed to set the legal AR submission deadline (none defined in the DCF 're-cast' Reg. 2017/1004) to mid-May; 2. To organize the results of the evaluation, summarised currently through the 'traffic light table' (compliance level by module) on a MS basis, on a regional basis i.e. by fishing regions. The results shown in this way would allow the EWG and other expert groups such as the RCGs to identify issues in the ARs that are common to several MS in the same region, and in doing so, will promote cooperation and coordination at a regional level to solve common problems; and 3. In the future, to increase/improve the collaboration of the EWG with other expert groups, such as the RCGs, not only to ensure that the results of the assessments are properly conveyed to these groups, but also to receive inputs from RCGs that may inform the assessments. In conjunction with the EWG report, the detailed evaluation sheets for the ARs and DT issues are available on the STECF website.

STECF EWG 17-04

The STECF Expert Working Group (EWG) 17-04 met in the ICES premises in Copenhagen, Denmark, from 3 to 7 July 2017 to agree on common and adequate quality indicators for all sets of data collected under the DCF (biological, socio-economic, transversal). The work was conducted by 22 independent experts (20 invited plus 2 observers; the list of participants is included in Annex 1).

This EWG has brought a number of important discussions, which hopefully will contribute to further improve the quality assurance of DCF/EU-MAP data. A summary of the most important conclusions is as follows:

- A general statement is that overall DCF is constantly being streamlined through more structured data calls, increased dialogue between data providers and end-users, increased regional coordination and better understanding of the fundamental requirement of statistically sound data collection.
- Reporting and evaluation of data quality should be based on established standards and metadata as e.g. used by EUROSTAT, ESS or ISO, and adapted to its own needs.
- There is a very clear desire from data providers and RCGs to establish and maintain operational Regional DataBases, where nationally-collected DCF data can be shared and exchanged.
- In principle, any type of data collected by European financing under DCF should be made accessible at the supra-national level. This means (i) ensuring the sustained financing of the RDBs already in place in e.g. ICES and JRC, and (ii) developing RDBs in areas and data where such databases are not yet operational, in collaboration with RCGs and end-users.
- RDBs are best hosted by supra-regional bodies such as ICES, RFMOs and JRC, assorted with established data policy (access and use rights).
- The best guarantee for data quality is to have the data “peer-reviewed” through their use by other member states and knowledgeable end-users.
- There are a number of bodies involved in the overall DCF process, a number of which having dual roles; similarly, there are a limited number of people involved, often participating in the different bodies. As such, it is challenging to define clearly the role of each body, and to ensure a full independence of the evaluation process.
- It is necessary to further establish clear and standardised requirements for NWP and AR reporting, and clear guidelines for their evaluation, in order to limit the room for subjective interpretation. This process is already ongoing, but the EWG has made a number of suggestions to clarify some aspects.
- Progress is already ongoing for a better consistency in the transversal data (e.g. effort and catch) used for both the biological and the economic data sampling, but there is still a need for improved harmonisation and consistency across the two sampling programs.
- It is not always easy to reconcile wishes and realisms regarding the fine scale of disaggregation of sampling data. For ex. the level of details requested for the FDI database was linked to policy decisions (effort management plans), not scientific decisions, and was not in line with the disaggregation of the national sampling programs. Ideally, the full loop of data collection - stock assessment - management plans must be internally consistent: The more precise is the knowledge, the more precise can be the management.
- End-users participating to EWG proposed initiatives to improve the quality of the data they use, and/or take into account the sources of uncertainties in their advice. ICES is in the process of getting its advice certified, and is proposing to test a stock database where quality indication could be flagged; GFCM has developed the Data Collection Reference Framework (DCRF) with quality checks implemented in the online platform for data submission; Management Strategy Evaluation (MSE) approaches currently developed within tuna RFMOs aim to better address the sources of uncertainty in data inputs and population dynamics and eventually identify best management procedures.

- Progresses are ongoing into the further optimisation of sampling strategies, to achieve the best trade-offs between precision and sampling intensity, and between the sampling of largest fleets and stocks and the smaller fleets/less abundant species.
- There is a lot of documentation dispersed into too many websites. It would be necessary to increase the centralisation of guidelines, codes, naming conventions, scripts etc into this central repository, regularly populated and updated.
- Regional coordination is considered a central fundament of the EU DCF, ensuring standardisation and burden sharing across MS. RCGs (incl. PGECON) play a central role in to this as an intermediate link between EU and MS. It is therefore important to ensure that RCGs have the necessary time and resources to conduct these tasks, including the possibility to launch thematic groups.
- For the evaluation process, it was made clear that quality of the data collected could be evaluated by STECF based on the information included in the NWP, and that compliance should be evaluated using the AR. The delays to address Data transmission failures should be shortened and considered during an in-year process. The quality in terms of precision and bias should be developed at a regional level, and informed from a RDB with agreed statistical tools. Some suggestions to improve the reporting of the NWP and ARs through some modifications of the excel tables and reporting documents.

Annex 11. Input to revision of table 10 surveys

Stock list table. The table is combining information used in the assessments, the ICES survey naming and the name from table 10. The first table is from the NS& EA region.

Table 10 surveys listed within the North Sea & East Arctic region								
RCG Region	(EU) 2016/1251 Table 10 survey	Survey names used by WGNSSK (plus stocks covered by HAWG, WGDEEP, WGWIDE, WGCSE, WGBIE, WGNPE)	Member state(s) responsible for survey(s)	International coordination group	Stocks where survey is used in assessment	ICES Stock key label	Type of information used	TAC stock
NSEA	IBTS Q1	IBTS-Q1	Denmark, Netherlands, Germany, Sweden, UK (Scotland) and Norway	IBTSWG	Herring SD2024 (spring spawners)	her.27.20-24	ages 1-4	Y
					Herring 4 Div 3A and 7d	her.27.3a47d	1-wr	Y
					sprat 4	spr.27.4	age 1-4+	Y
					Cod 4 and 7d and SD20	cod.27.47d20	ages 1-5+	Y
					Cod SD 21	cod.27.21	ages 1-6+	Y
					Flounder 4 Div 3A	fle.27.3a4	Biomass index	N
					Haddock 4 Div 6a, SD 20	had.27.46a20	ages 1-5+	Y
					Lemon sole 4 Div 3A and 7d	lem.27.3a47d	Biomass index	Y
					Plaice 4 SD20	ple.27.420	ages 1-7	Y
					Turbot 3a	tur.27.3a	kg/hour	N
					Whiting 4, 7d	whg.27.47d	ages 1-5	Y
					Witch 4, 3a and 7d	wit.27.3a47d	No/hr	Y
					Plaice SD21-23	ple.27.21-23	ages 1-5	Y
					sprat Div3a	spr.27.3a	ages 1-5+	Y
					Herring SD2024 (spring spawners)	her.27.20-24	ages 1-4	Y
					Herring 4 Div 3A and 7d	her.27.3a47d	0-wr	Y
					sprat 4	spr.27.4	ages 0-4+	Y
NSEA	IBTS Q3	EngGFS-IBTS-Q3, IBTS-Q3, Sco-IBTS-Q3trawl survey)	UK (England), Denmark, Sweden, Germany, UK (Scotland) and Norway	IBTSWG	Cod 4 and 7d and SD20	cod.27.47d20	ages 1-4+	Y
					Cod SD 21	cod.27.21	ages 1-4+	Y
					Haddock 4 Div 6a, SD 20	had.27.46a20	age 0-5+	Y
					Megrim (spp.) 4a and 6a	lez.27.4a6a	Biomass index	Y
					Saithe 4, 6 and Div 3A	pok.27.3a46	ages 3-8	Y
					sprat Div3a	spr.27.3a	ages 0-5+	Y
					Turbot 3a	tur.27.3a	kg/hour	N
					Whiting 4, 7d	whg.27.47d	ages 1-5	Y
					Witch 4, 3a and 7d	wit.27.3a47d	No/hr	Y
					Plaice 4 SD20	ple.27.420	ages 1-9	Y
					Plaice SD21-23	ple.27.21-23	ages 1-5	Y
					Brill 4, Div 3a, 7d-e	bll.27.3a47de	No/hr	Y
					Plaice 4 SD20	ple.27.420	ages 1-9+	Y
					Dab 4 and Div 3A	dab.27.3a4	ages 1-6+	N
					Sole 4	sol.27.4	ages 1-9	Y
					Sole Div7d	sol.27.7d	ages 1-6	Y
					Plaice Div 7d	ple.27.7d	ages 1-6+	Y
NSEA	DYFS	DFS0 - DFS-Q3 (DYFS-ISIS, DYFS-SCV, DYFS-STE, UK(E&W)-YFS) / YFS-FR [FR-YFS]	UK (England), France, Netherlands, Belgium, Germany	?	Sole 4	sol.27.4	age 0 (only)	Y
NSEA	SNS	SNS / SNS Q3, SNS2	Netherlands	?	Sole Div7d	sol.27.7d	age 1 (only)	Y
NSEA	NSSS	Dredge survey	Denmark, UK (Scotland), (Norway)	?	Sole 4	sol.27.4	ages 1-6	Y
NSEA	ASH	IESNS	Denmark, UK (England), Netherlands, Germany, Ireland, Sweden	?	Plaice 4 SD20	ple.27.420	ages 1-6	Y
NSEA	REDNOR	REDNOR-Q3 (non-Annual survey)	(Norway)	?	Sandeel Div4bc, SD20, 2r	san.sa.1r	0-1 grp	Y
NSEA	NSMEGS	NSMEGS / MEGS (western-southern spawning grounds)	No member states conducting survey	?	Sandeel Div4bc, SD20, 2r	san.sa.2r	0-1 grp	Y
NSEA	IHLS	IHLS-SCAI	German	WGEGGS	Sandeel Div 4ab, SD20, 3r	san.sa.3r	0-1 grp	Y
NSEA	NHAS	HERAS /Acoustic (+trawl)/North Sea acoustic survey	Denmark, UK (Scotland), Germany	WGIPS	Sandeel Div4ab, 4	san.sa.4	0-1 grp	Y
NSEA	NTV3&4	UWTV-FU3-4	Denmark, Sweden	WGNEPS	Herring 1-2, 4a, 5, 14a	her.27.1-24a514a	ages 1-5	Y
NSEA	NTV6	UWTV-FU6	UK (England)	WGNEPS	Blue Whiting 1-9, 12 & 14	whb.27.1-91214	ages 1-2	Y
NSEA	NTV7	UWTV-FU7	UK (Scotland)	WGNEPS	Beaked redfish 1,2	reb.27.1-2	biomass index - ages 12-19+	Y
NSEA	NTV8	UWTV-FU8	UK (Scotland)	WGNEPS	-	#N/A	N/A	N/A
NSEA	NTV9	UWTV-FU9	UK (Scotland)	WGNEPS	Herring 4 Div 3A and 7d	her.27.3a47d	Larvae survey (SSB)	Y
NSEA					Herring SD2024 (spring spawners)	her.27.20-24	ages 1-8+	Y
NSEA					sprat Div3a	spr.27.3a	ages 0-3+	Y
NSEA					Herring 4 Div 3A and 7d	her.27.3a47d	ages 1-8+	Y
NSEA					sprat 4	spr.27.4	ages 0-3+	Y
NSEA					Norway lobsters Div 3a FU3-4	nep.fu.3-4	Length based	Y
NSEA					Norway lobsters Div4b FU6	nep.fu.6	Length based	N
NSEA					Norway lobsters Div4a FU7	nep.fu.7	Length based	N
NSEA					Norway lobsters Div 4b FU8	nep.fu.8	Length based	N
NSEA					Norway lobsters Div4b FU9	nep.fu.9	Length based	N

Stock list table. The table is combining information used in the assessments, the ICES survey naming and the name from table 10. The first table is from the Baltic and NA region (the table is not complete from the NA region).

Table 10 surveys listed outside the North Sea & East Arctic region								
RCG Region	(EU) 2016/1251 Table 10 survey	Surveys used by WGNSSK (plus stocks covered by HAWG, WGDEEP, WGWIDE, WGCSE, WGBIE, WGNPEP)	Member state(s) responsible for survey(s)	International coordination group	Stocks where survey is used in assessment		Type of information used	TAC stock
NA	IBTS Q4	WIBTS-Q4 (FR-EVHOE [EVHOE-WIBTS-Q4 & FR GFS, FGFS, CGFS] & IR-GFS7g) [IGFS-WIBTS-Q4], NIGFS-WIBTS-Q4, SpPGFS-WIBTS-Q4) -Spanish Porcupine Bank bottom trawl survey)	France, Ireland, N. Ireland, Spain	IBTSWG	Haddock Div 7b-k	had.27.7b-k	ages 0-4+	Y
					Hake 4,6, and 7, Div 3a, 8abd	hke.27.3a46-8abd	Length based	Y
					Megrim 7b-k, 8 abd	meg.27.7b-k8abd	?	Y
					Greater silver smelt 7-10, 12 and Div 6B	aru.27.6b7-1012	Biomass index	Y
					Cod 7.e-k	cod.27.7e-k	ages 0-6+	Y
					striped red mullet 4, 7d and 3A	mur.27.3a47d	ages 0-4	N
					Whiting 7bc and ek	whg.27.7b-ce-k	ages 0-5	Y
					Four-spot megrim 7b-k, 8 abd	ldb.27.7b-k8abd	kg/hour	N
					Plaice Div 7d	ple.27.7d	ages 1-6+	Y
					Haddock Div 7b-k	had.27.7b-k	ages 0-5+	Y
NA	IBTS Q1	NIGFS-WIBTS-Q1, Sco-IBTS-Q1	UK (Scotland), UK (N. Ireland)	IBTSWG	Megrim (spp.) 4a and 6a	lez.27.4a6a	Biomass index	Y
Baltic	BITS Q4	BITS_HAF_Q1&4, BITS Q4	Denmark, Estonia, Germany, Latvia, Lithuania, Polen, Sweden	WEBIFS	Cod SD22-24	cod.27.22-24	Ages 0-4	Y
					Cod SD24-32	cod.27.24-32	Biomass index	Y
					Plaice SD21-23	ple.27.21-23	ages 1-5	Y
					Plaice SD24-32	ple.27.24-32	Abundance index	Y
					Turbot SD 22-32	tur.27.22-32	Abundance index	N
					Turbot 3a	tur.27.3a	kg/hour	N
					Brill 4, Div 3a, 7d-e	bll.27.3a47de	No/hr	Y (comb with Turbot)
					Brill SD 22-32	bll.27.22-32	Abundance index	N
					Dab SD 22-32	dab.27.22-32	Biomass index	N
					Flounder SD 26 and 28	fle.27.26-28	Biomass index	N
					Flounder SD 27, 29 - 32	fle.27.29-32	Biomass index	N
					Flounder SD 22-23	fle.27.22-23	Biomass index	N
					Flounder SD 24-25	fle.27.24-25	Biomass index	N
					Flounder SD 24-25	fle.27.24-25	Biomass index	N
Baltic	BITS Q1	Havfiskeen-Q1, BITS Q1	Denmark, Germany, Latvia, Lithuania, Polen, Sweden	WEBIFS	Cod SD22-24	cod.27.22-24	Ages 1-4	Y
					Cod SD24-32	cod.27.24-32	Biomass index	Y
					Cod SD 21	cod.27.21	age 1-3+	Y
					Plaice SD24-32	ple.27.24-32	Abundance index	Y
					Plaice SD21-23	ple.27.21-23	ages 1-5	Y
					Turbot 3a	tur.27.3a	kg/hour	N
					Turbot SD 22-32	tur.27.22-32	Abundance index	N
					Brill 4, Div 3a, 7d-e	bll.27.3a47de	No/hr	Y (comb with Turbot)
					Brill SD 22-32	bll.27.22-32	Abundance index	N
					Dab SD 22-32	dab.27.22-32	Biomass index	N
					Flounder SD 26 and 28	fle.27.26-28	Biomass index	N
					Flounder SD 27, 29 - 32	fle.27.29-32	Biomass index	N
					Flounder SD 22-23	fle.27.22-23	Biomass index	N
					Flounder SD 24-25	fle.27.24-25	Biomass index	N
Baltic	BIAS	GERAS, BIAS	German	WGBIFS	Herring SD 25-29 and 32, excluding gulf of Riga	her.27.25-2932	Ages 1-8+	Y
					Herring SD 30-31	her.27.3031	Ages 0-10+	Y
					Sprat 22-32	spr.27.22-32	Ages 1-8+	Y
					Herring SD2024 (spring spawners)	her.27.20-24	ages 0-8+	Y
					Herring SD 28.1	her.27.28.1	Ages 1-8+	Y
Baltic	GRAHS	HERAS	Estonia, Latvia	Coordinated between Estonia	Sprat 22-32	spr.27.22-32	Ages 1-8+	Y
Baltic	SPRAS	BASS	Estonia, Germany, Latvia, Lithuania, Polen	WGBIFS				

Stock list table. The table is combining information used in the assessments, the ICES survey naming however, these surveys are presently not part of the table 10 list (the table is not complete from the NA region).

Surveys used but not listed in table 10								
Nominal region	AWP survey	Surveys used by WGNSSK (plus stocks covered by HAWG, WGDEEP, WGWIDE, WGCSE, WGBIE, WGNPEP)	Member state(s) responsible for survey(s)	International coordination group	Stocks where survey is used in assessment		Type of information used	TAC stock
NSEA	Not listed	CODS_Q4	Denmark, Sweden	N/A	Cod SD 21	cod.27.21	ages 1-6+	Y
NSEA	Not listed	Norwegian Acoustic survey	Norway	?	Greater silver smelt 1,2,4, and Div 3A	aru.27.123a4	Acoustic survey	Y
NSEA	SIAMISS IVa	SAMISS-Q2	UK (Scotland)	?	Megrim (spp.) 4a and 6a	lez.27.4a6a	Biomass index	Y
NA	SIAMISS IVa VIa	IAMISS-Q2	UK (Scotland)	?	Megrim (spp.) 4a and 6a	lez.27.4a6a	Biomass index	Y
NSEA	Not listed	Norwegian shrimp survey	Norway	?	Northern Shrimp 4a east SD 20	pra.27.4a20	Length based	Y
NA	Not listed	UK-FSP (FSP 7e - survey)	UK (England)	N/A	Plaice Div 7e	ple.27.7e	ages 2-8	Y
NA	SWECOS	Q1SWECOS (Q1SWBEAM - survey)	UK (England)	WGBEAM	Plaice Div 7e	ple.27.7e	ages 2-9	Y
NSEA	Not listed	Fishermen-DTU Aqua (soleS)	Denmark	N/A	Sole SD 2024	sol.27.20-24	ages 1-9	Y
NSEA	Not listed	UWTV-FU10	UK (Scotland)	WGNEPS	Norway lobsters Div 4a FU10	nep.fu.10	Length based	N
NSEA	Not listed	UWTV-FU34	UK (Scotland)	WGNEPS	Norway lobsters Div4b FU34	nep.fu.34	Length based	N
NSEA	Not listed	N20	German	N/A	Herring SD2024 (spring spawners)	her.27.20-24	age 0 (only)	Y
NA	PELTIC	PELTIC	UK (England)	?	sprat Div7de	spr.27.7de	Acoustic survey (SSB)	Y
NA	Not listed	FSP	UK (England)	?	sprat Div7de	spr.27.7de	Acoustic survey (SSB)	Y
Baltic	Not listed	Muuga	Estonia	?	Flounder SD 29-32	fle.27.29-32	Biomass index	N
Baltic	Not listed	Küdema	Estonia	?	Flounder SD 29-32	fle.27.29-32	Biomass index	N
Baltic	Not listed	Muskö	Sweden	?	Flounder SD 29-32	fle.27.29-32	Biomass index	N
Baltic	Not listed	Kvädö-fjärden	Sweden	?	Flounder SD 29-32	fle.27.29-32	Biomass index	N

Stock list table. The table is listing the stocks were currently no survey is available but where ICES has an assessment.

Stocks with no survey input to assessment								
Nominal region	AWP survey	Surveys used by WGNSSK (plus stocks covered by HAWG, WGDEEP, WGWIDE, WGCSE, WGBIE, WGNPEP)	Member state(s) responsible for survey(s)	International coordination group	Stocks with no survey		Type of information used	TAC stock
NSEA	N/A	N/A		N/A	Ling 6-9,12,14 and Div 3a and 4a	lin.27.3a4a6-91214	N/A	Y
NSEA	N/A	N/A		N/A	Norway lobsters Div4a FU32	nep.fu.32	N/A	Y
NSEA	N/A	N/A		N/A	Norway lobsters Div4b FU33	nep.fu.33	N/A	N
NSEA	N/A	N/A		N/A	Norway lobsters Subarea 4 (outside the FU)	nep.27.4outFU	N/A	N
NSEA	N/A	Surveys only in 2010, 2012, 2013		WGNEPS	Norway lobsters Div 4b and c FU5	nep.fu.5	N/A	N
NA	N/A	N/A		N/A	Orange roughy NEA	ory.27.nea	N/A	Y
NSEA	N/A	N/A		N/A	Pollack 4, 3A	pol.27.3a4	N/A	N
NA	N/A	N/A		N/A	Pollack 6, 7	pol.27.67	N/A	Y
NSEA	N/A	N/A		N/A	Roundnose Grenadier 3A	rng.27.3a	N/A	Y
NSEA	N/A	N/A		N/A	Roundnose Grenadier 1,2,4,8,9 Div 14a, SD 14b2, 5a2	mg.27.1245a8914ab	N/A	Y
NSEA	N/A	N/A		N/A	Tusk 4, 7-9 Div 3A, 5b, 6a and 12b	usk.27.3a45b6a7-912b	N/A	Y
NA	N/A	N/A		N/A	Whiting Div 3a	whg.27.3a	N/A	Y
NA	N/A	N/A		N/A	Blue ling 1,2,8,9,12, and Div 3A and 4A	bli.27.nea	N/A	Y
NA	N/A	N/A		N/A	Black scabbardfish 1,2,4,6-8,10, 14 and Div 3A	bsf.27.nea	N/A	Y

The AWP table, is given some of the same information as the stock tables is an even larger table were the first 4 column are from the MS annual work plan (AWP). This table is giving the information on the surveys the member states are using in their national programs (the naming of the surveys) and the naming in table 10. As the table is rather large only part of the table is shown here. It has been sent to all NC.

Table 10: List of research surveys at sea				* additional row inserted to cover both surveys				** from Table 10 and WP		v	
				Additional field required in AWP		Checks against Table 10					
MS	Name of survey	Acronym	Mandatory (Y/N)	Region	Name YES = same as in Table 10 Not listed = name not listed or recognised in Table 10 or the name in Table 10 identified by survey acronym	Acronym as for Name	Full RefList **	Full NomList	Regional Acronym		
BEL	North Sea Beam Trawl Survey	BTS	Y	NSEA	YES	YES	BTS	North Sea Beam Trawl Survey	NSEA_BTS		
BEL	Demersal Young Fish Survey	DYFS	Y	NSEA	YES	YES	DYFS	Demersal Young Fish Survey	NSEA_DYFS		
DNK	Baltic International Trawl Survey	BITS Q1	Y	Baltic	YES	YES	BITS Q1	Baltic International Trawl Survey	Baltic_BITS Q1		
DNK	Baltic International Trawl Survey	BITS Q4	Y	Baltic	YES	YES	BITS Q4	Baltic International Trawl Survey	Baltic_BITS Q4		
DNK	Baltic International Acoustic survey	BIAS	Y	Baltic	Baltic International Acoustic Survey (Autumn)	YES	BIAS	Baltic International Acoustic Survey (Autumn)	Baltic_BIAS		
EST	Baltic International Trawl Survey	BITS Q4	Y	Baltic	YES	YES	BITS Q4	Baltic International Trawl Survey	Baltic_BITS Q4		
FIN	Baltic International Trawl Survey	BITS Q1	Y	Baltic	YES	YES	BITS Q1	Baltic International Trawl Survey	Baltic_BITS Q1		
DNK	North Sea Sandeels Survey	NSSS	Y	NSEA	YES	YES	NSSS	North Sea Sandeels Survey	NSEA_NSSS		
DNK	International Ecosystem Survey in the Nordic Seas	ASH	Y	NSEA	YES	YES	ASH	International Ecosystem Survey in the Nordic Seas	NSEA_ASH		
DNK	NS Herring Acoustic Survey	NHAS	Y	NSEA	YES	YES	NHAS	NS Herring Acoustic Survey	NSEA_NHAS		
DNK	Nephrops TV survey (FU 3&4)	NTV3&4	Y	NSEA	YES	YES	NTV3&4	Nephrops TV survey (FU 3&4)	NSEA_NTV3&4		
DNK	Blue whiting survey		Y	NA	YES	YES	No acronym	Blue whiting survey	NA_No acronym		
DNK	Flatfish survey in the Kattegat/Skagerrak	FFS	N	NSEA	Not listed	Not listed	FFS	Flatfish survey in the Kattegat/Skagerrak	NSEA_FFS		
DNK	Nephrops TVsurvey (FU 33)	NTV33	N	NSEA	Not listed	Not listed	NTV33	Nephrops TVsurvey (FU 33)	NSEA_NTV33		
DNK	Mussel and oyster surveys in Danish coastal waters	MO-SUR	N	NSEA	Not listed	Not listed	MO-SUR	Mussel and oyster surveys in Danish coastal waters	NSEA_MO-SUR		
FIN	Baltic International Trawl Survey	BITS Q4	Y	Baltic	YES	YES	BITS Q4	Baltic International Trawl Survey	Baltic_BITS Q4		
EST	Baltic International Acoustic Survey	BIAS	Y	Baltic	Baltic International Acoustic Survey (Autumn)	YES	BIAS	Baltic International Acoustic Survey (Autumn)	Baltic_BIAS		
EST	Gulf of Riga Acoustic Herring Survey	GRAHS	Y	Baltic	YES	YES	GRAHS	Gulf of Riga Acoustic Herring Survey	Baltic_GRAHS		
EST	Baltic Acoustic Spring Survey (BASS)	BASS	Y	Baltic	Not listed	Not listed	BASS	Baltic Acoustic Spring Survey (BASS)	Baltic_BASS		
EST	Estonian Fish Larvae Survey	EFLS	N	Baltic	Not listed	Not listed	EFLS	Estonian Fish Larvae Survey	Baltic_EFLS		
EST	Gulf of Riga Fish survey	GORFS	N	Baltic	Not listed	Not listed	GORFS	Gulf of Riga Fish survey	Baltic_GORFS		
EST	Coastal fish survey	CFS	N	Baltic	Not listed	Not listed	CFS	Coastal fish survey	Baltic_CFS		
FIN	Baltic International Acoustic Survey (Autumn)	BIAS	Y	Baltic	YES	YES	BIAS	Baltic International Acoustic Survey (Autumn)	Baltic_BIAS		
DEU	Baltic International Trawl Survey	BITS Q1	Y	Baltic	YES	YES	BITS Q1	Baltic International Trawl Survey	Baltic_BITS Q1		
DEU	Baltic International Trawl Survey	BITS Q4	Y	Baltic	YES	YES	BITS Q4	Baltic International Trawl Survey	Baltic_BITS Q4		
LVA	Baltic International Trawl Survey	BITS Q1	Y	Baltic	YES	YES	BITS Q1	Baltic International Trawl Survey	Baltic_BITS Q1		
FRA	Western BTS 4th quarter (including Porcupine survey)	W-BITS-Q4	Y	NA	YES	YES	W-BITS-Q4	Western BTS 4th quarter (including Porcupine survey)	NA_W-BITS Q4		
FRA	Sardine, Anchovy Horse Mackerel Acoustic Survey	SAHMAS	Y	NA	Not listed	Not listed	SAHMAS	Sardine, Anchovy Horse Mackerel Acoustic Survey	NA_SAHMAS		
FRA	Western BTS 4th quarter (including Porcupine survey)	W-BITS-Q4-CGF5	N	NSEA	Not listed	Not listed	W-BITS-Q4-CGF5	Western BTS 4th quarter (including Porcupine survey)	NSEA_W-BITS-Q4-CGF5		
FRA	Observation des Ressources Halieutiques benthiques du Golfe de Gascogne - Bay of Biscay Demersal Resources Survey	ORHAGO	N	NA	Not listed	Not listed	ORHAGO	Observation des Ressources Halieutiques benthiques du Golfe de Gascogne - Bay of Biscay	NA_ORHAGO		
LTU	Baltic International Trawl Survey	BITS Q1	Y	Baltic	YES	YES	BITS Q1	Baltic International Trawl Survey	Baltic_BITS Q1		
LTU	Baltic International Trawl Survey	BITS Q4	Y	Baltic	YES	YES	BITS Q4	Baltic International Trawl Survey	Baltic_BITS Q4		
DEU	Baltic International Acoustic Survey (Autumn)	BIAS	Y	Baltic	YES	YES	BIAS	Baltic International Acoustic Survey (Autumn)	Baltic_BIAS		
DEU	Sprat Acoustic Survey	SPRAS	Y	Baltic	YES	YES	SPRAS	Sprat Acoustic Survey	Baltic_SPRAS		
DEU	Rügen Herring Larvae Survey	RHLS	Y	Baltic	YES	YES	RHLS	Rügen Herring Larvae Survey	Baltic_RHLS		

Annex 12. Feedback of enduser needs from ICES

In the past few years data calls have been a challenge to all parts. From end users to the data providers, ICES included. Trying to standardize data calls is difficult as each one has its own specificities and the needs.

One of the major issues in the past has been specifying what is needed being specific enough in a clear language on what is needed. Traditionally data submitters only see the data call once it is issued which does not leave much time for questions and clarifications which can lead to interpretation of the data call is different between data submitters and the requester.

ICES had lengthy discussions with stock assessment groups RCM's other expert groups in order to come up with model for improving data calls.

To address the issues raised, ICES has proposed a new approach to the data calls. This approach is based in a two-step process.

Step 1 - The development of a database to manage the data call. The database, Stock Information Database (SID) will not only hold the data needs and timelines but also will allow a two way dialogue between data submitters and the end users (figure 1).

Step 2 – Streamlining the data call text ahead of being issued in conjunction with PGDATA ensuring that all point are clear and do not lead to multiple interpretations.

Step 1 - SID

The use of a database to manage information related to the data call is a novelty this approach is to hold. Currently the data needs are compiled in a spreadsheet which are prone to errors and difficult to keep tracking of versioning. In SID the data needs will managed only by sock assessor, stock coordinator or working group chair ensuring that no unintended modifications by third parties happen. Once all the needs are added to SID this information can be published. This process is applied to all the stocks and once all the stocks within a working group are published this information becomes available to data submitters.

In the past data submitters would only have access to data calls requested data when it was issued. In SID this will change radically as data providers will not only be given a preview to data being requested but will also be able to flag issues such as data being requested that is not collected due to low quota (for which there is no obligation to collect) or cases were are bilateral agreements between countries for the sampling of a particular stock. These flagged issues will be emailed automatically to the stock coordinators/assessors which will have to take an action either accepting the suggestions or not. Either way all these communications will be kept in the database and will support the data transmission failures.

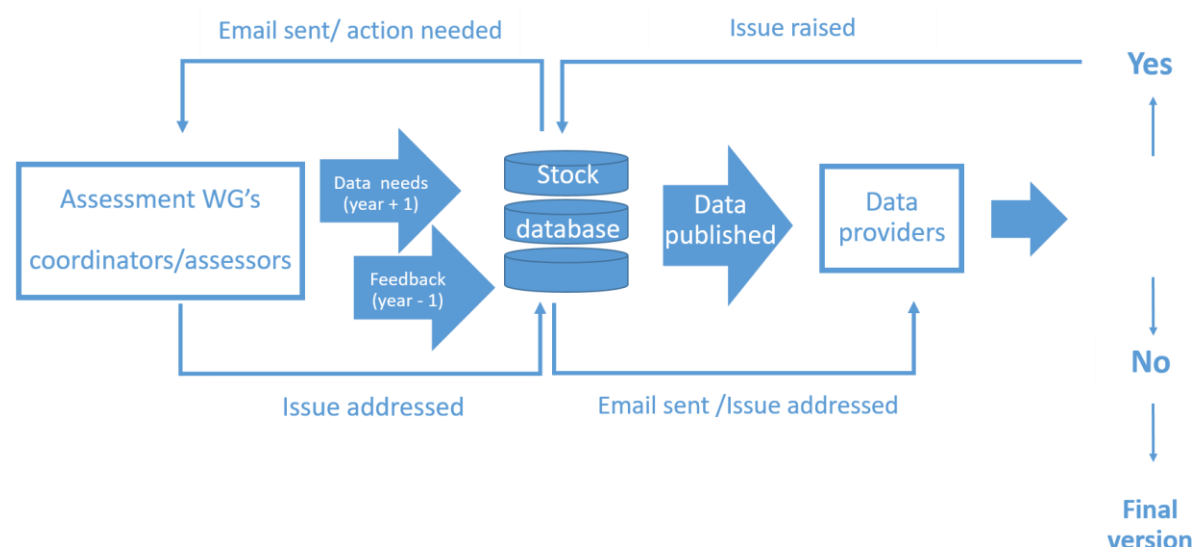


Figure 1 Stock Information Database data call module.

SID will have subscription services where data providers can subscribe to email notification on any changes in the data needs by working groups, country or particular stocks. Another feature of SID is the possibility to request for the data needs reports to be customized moving away from the fix format that annex 1 had in the past.

SID will not only store the data needs but also end users feedback on the data used in the assessments. Again information relevant to their country will be available to data providers with possibility to comment as well.

Step 2 - PGDATA

Another improvement into the streamlining of the data call procedure is to include PGDATA in the writing of the data call text. This adds an extra layer of scrutiny to the process and helps on the identification of unclear, ambiguous text which may lead to the wrong data being submitted.

By the end of the process the new data call has been through multiple checks by all the intervenient which should ensure a more clear user friendly product.

Step 3 - WGCATCH

An additional improvement from ICES with respect to the data calls related to data quality. Historically concerns have been voiced by data providers with regards to the perceived quality of some of the estimates uploaded to InterCatch. Frequently these concerns relate to potential biases in sampling (e.g., non-representative trips) and/or little quantity in sampling (low number of samples in specific metiers). ICES Intercatch guidelines leave to data providers the responsibility of only submitting "good" quality data to the database. However, even if several ICES EGs have extensively analyzed the potential sources of bias in sampling plans (e.g., SGPIDS, WKPICS), some concrete pragmatic guidelines for data providers are still missing and they are still too frequently put in a position where they have to opt between filtering out 'poorly' sampled strata by being too conservative in their quality concerns, or uploading estimates that potentially may not be reliable. Such situation is further aggravated by a general perception from data providers that, whatever they do, their data quality concerns may not be addressed in the assessment process. Situations like the recent data call on length data for data limited stocks, originally drafted with few indications on the quality of underlying data, have not helped to mitigate this perception.

One of the main responsibilities of ICES WGCATCH is to "ensure the quality of commercial catch data, which underpins stock assessments and advice" (WGCATCH 2017). To achieve this goal, the EG "documents sampling schemes, establishes best practice guidelines and provides advice on the uses of commercial fishery data." (WGCATCH 2017). WGCATCH has set as one of the goals for 2017-2018 the development of "best practice guidelines in data request and provision for frequency data" (WGCATCH 2017, p63&76) and for that it will collaborate with PGDATA and ICES secretariat in the issuance within data calls of specific requests for MS to provide detailed information on the sampling coverage and sample sizes underpinning the estimates provide to specific stocks. RCG NS&EA issued a recommendation to WGCATCH as regards the use of sampling intensities in InterCatch to qualify the datasets used for stock assessment (see section on recommendation).

Annex 13. Upload logs

Data upload for the data call for the 2016 data															
UniqueID	Datacall	RCM	Member State	Date	Data Type	Table	Full upload	If No then reason	Sampling_type	Field	Issue	Background	Action	Responsible	Status
Unique number	Year of call	List	Free text		List		List	List			None. Why is the data not completely uploaded? What data was not able to be uploaded?	The reason why this data could not be uploaded, but should be uploaded	What needs to be done?	By whom does this need to be done?	List
SC-1	2016	NS & EA	Scotland	2017-06-27	CS	HL	No	Technical	Sea sampling	Aphile ID	Three species (Holtbyrnia macrops – bigeye searsid,Buenia jeffreysii – Jeffrey'sgoby,Anguilliformes – eels unidentified) are not recognized by the system	They are genuine observed species by our observers.	Add into system	ICES	Resolved
SC-2	2016	NS & EA	Scotland	2017-06-27	CS	CA	No	Technical	Sea sampling	maturity stage	maturity stage is not valid, as maturity scale can only be given 1-8, not 1-6.	It went in later	NA	NA	Resolved
SC-3	2016	NS & EA	Scotland	2017-07-14	CS	All	No	Technical	Sea sampling	Stock	Two speices (126740 – Holtbyrnia macrops, 126872 – Buenia jeffreysii) are not in stock list.	They are genuine sampled species by our observers.	Add into system	ICES	Resolved
ESP-1	2017	NS & EA	ESP-IEO	2017-07-28	CS	CA	Yes	Procedural	S	Maturity_scale	The same maturity scale: "1-9" have been chosen for maturity stages data in all species.	For most of our species sampled, FishFrames scales do not match to the maturity staging	To check and standardize the	RDB	Open
ESP-2	2017	NS & EA	ESP-IEO	2017-07-28	CE, CL	All	Yes	NA	NA	NA	None	NA	NA	NA	NA
PT-1	2017	NS&EA	PT-IPMA	28/07/2017	CS	HH	No	Procedural	S	Area	Data must be adapted according to Area's table in FishFrame. The problem is the fact of just having '27.1' and not specify as '27.1.b'. Data can be uploaded as '27.1'.	The data would be uploaded, although the feeding area's data it's not accurate	In this case Area '27.1.b' is missing. It may be reported as '27.1'	RCM/RCG	Open
PT-2	2017	NS&EA	PT-IPMA	28/07/2017	CS	SL	No	Procedural	S	Weight	According to privacy agreement (RCM NS&EA), it's not possible to express values for that column. For that fact data can't be uploaded.	Since it's not possible to have zero Weight due the scale used in FishFrame and, on the other hand, there are no type of code for this	In order to provide data, Weight should be optional in	RCM/RCG	Open
PT-3	2017	NS&EA	PT-IPMA	28/07/2017	CS	SL	No	Procedural	S	Length code	Not all individuals are measured strictly according to the FishFrame's table. Due the fact that there are other Length codes beside the data available, Data can't be totally uploaded.	There are swpecies that are measured in 2 cm and 3 cm on board	Other Length codes should be added	RCM/RCG	Open
DNK-5	2017	NS & EA	DNK	2017-08-24	CS	CA	Yes	Technical	All	Age	All individual fish are uploaded to CA regardless of age or not, but there is no indication of whatever an otolith has been collected or not (-9) for the unaged fish.	Denmark do not have a field in our national database indicating whatever an otolith has been collected or not from an unaged fish, so -9 has not been used.			Open
DNK-7	2017	NA	DNK	2017-08-24	CL			Technical			Metiers - update, standardisation and definitions	Examples: The way of coding differs a lot within and between area, which makes the coding much more tiresome (e.g. metier without a defined meshsize can look like _0_0_0, >=0_0_0, >0_0_0). Target assemblage are not well defined - Which species belong to which species assemblage and how is this deduced. New selection devices are not included in the code. The technical measures change over time, but no start and/ or end date is defined and included.	A trans-RCM sub-group looking into this	RCM/RCG	Open
DNK-9	2017	NS & EA	DNK	2017-08-24	CL			Technical			Metiers - update, standardisation and definitions	Examples: The way of coding differs a lot within and between area, which makes the coding much more tiresome (e.g. metier without a defined meshsize can look like _0_0_0, >=0_0_0, >0_0_0). Target assemblage are not well defined - Which species belong to which species assemblage and how is this deduced. New selection devices are not included in the code. The technical measures change over time, but no start and/ or end date is defined and included.	A trans-RCM sub-group looking into this	RCM/RCG	Open
BEL-1	2016	NS & EA	BEL	2017-06-29	CS	All	Yes								
BEL-2	2016	NS & EA	BEL	2017-06-29	CE	All	Yes								
BEL-3	2016	NS & EA	BEL	2017-06-29	CL	All	Yes								
SE-1	2017	NS & EA	SE	2017-07-03	CS	All	Yes	NA	NA	NA	None	NA	NA	NA	NA
SE-2	2017	NS & EA	SE	2017-07-03	CL	All	Yes	NA	NA	NA	None	NA	NA	NA	NA
SE-3	2017	NS & EA	SE	2017-07-03	CE	All	Yes	NA	NA	NA	None	NA	NA	NA	NA

Data upload for the data call for the 2016 data															
UniqueID	Datacall	RCM	Member State	Date	Data Type	Table	Full upload	If No then reason	Sampling type	Field	Issue	Background	Action	Responsible	Status
Unique number	Year of call	List	Free text		List		List	List	List		None. Why is the data not completely uploaded? What data was not able to be uploaded?	The reason why this data could not be uploaded, but should be uploaded	What needs to be done?	By whom does this need to be done?	List
ENG-1	2017	NA / NS&EA	England		CS	TR, HH, SL, HL	Yes	Procedural	M	ALL	The data collected on the system is represented but some important details are lost. For Example some of the parameters measured eg tail length, wing width has been converted to whole or carapace length. Species identified when sampling mixed landings of Skates, Gurnards, Angler fish are uploaded as independent samples. Data from grouped trips manipulated and allocated to trip level.	All fish are converted from sample lengths and weights to live lengths and weights as an example.	Not Known	Not known	
ENG-2	2017	NA / NS&EA	England		CS	SL	Yes	Procedural	S - OBSERVER	Weight	No weights are collected therefore any weights uploaded to the RDB have been calculated using our factors and methods				
ENG-3	2017	NA / NS&EA	England		CS	SL	Yes	Procedural	S - OBSERVER	Subsample Weight	No weights are collected therefore any weights uploaded to the RDB have been calculated using our factors and methods				
ENG-4	2017	NA / NS&EA	England		CS	SL CA	Yes	Procedural	M	Landing Category	Landing category - For 2015 and before only landings for human consumption were sampled.				
ENG-5	2017	NA / NS&EA	England		CS	TR	Yes	Procedural	M Market - S Observer	Vessel type	Vessel type - always set to 4 other boats as no information is available and this is a mandatory field	These vessel types do not match on other Eu reports	Not Known	Not Known	
ENG-6	2017	NA / NS&EA	England		CS	TR	Yes	Procedural	M Market - S Observer	Vessel Size	vessel size RDB requires engine power to be entered as GRT where as in reality vessels can now be GT or GRT and there is no way to indicate which value is in this field	ICES have said they are happy to have a mix of GT and GRT in this field and assume (generally correctly) if vessel < 15m then this is GRT otherwise GT.	Not Known	Not Known	
ENG-7	2017	NA / NS&EA	England		CS	HH CA	Yes	Procedural	M Market - S Observer	Area	Area - several rectangles appear in more than one Ices division eg 29ES the RDB does not allow multiple divisions for a rectangle		Not Known	Not Known	
ENG-8	2017	NA / NS&EA	England		CS	HH CA	No	Procedural	M Market - S Observer	Species	Skate Wing samples are not being uploaded as individual weights are collected rather than lengths		Not known	Not known	
ENG-9	2017	NA / NS&EA	England		CS	SL HL CA	Yes		Market & Observer	Species	Mullus barbatus barbatus, AphiaID 293632 is not accepted. Loaded as Mullus barbatus, AphiaID 126985. WoRMS lists this AphiaID as 'alternate representation'.				
ENG-10	2017	NA / NS&EA	England		CS	SL	Yes		Observer	SizeCategory	Values, 14, 80 & 50 were not allowed.				
ENG-11	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	GNS_DEF_0_0_0 not allowed for 27.4.c				
ENG-12	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	OTB_CRU_0_0_0 not allowed for 27.4.b				
ENG-13	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	GNS_DEF_0_0_0 not allowed for 27.7.d				
ENG-14	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	GND_SPF_0_0_0 not allowed for 27.4.c				
ENG-15	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	PTB_CRU_>0_0_0 not allowed for 27.4.b				
ENG-16	2017	NA / NS&EA	England		CS	HH			Market & Observer	Metier	GNS_DEF_0_0_0 not allowed for 27.4.c				
ENG-17	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,F,40,1 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,F,40,1 reported as being duplicates.	Deleted the 1st line.			

Data upload for the data call for the 2016 data															
UniqueID	Datacall	RCM	Member State	Date	Data Type	Table	Full upload	If No then reason	Sampling type	Field	Issue	Background	Action	Responsible	Status
Unique number	Year of call	List	Free text		List		List	List	List		None. Why is the data not completely uploaded? What data was not able to be uploaded?	The reason why this data could not be uploaded, but should be uploaded	What needs to be done?	By whom does this need to be done?	List
ENG-18	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,38,1 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,38,12 reported as being duplicates.		Deleted the 1st line.		
ENG-19	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,40,6 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,40,4 reported as being duplicates.		Deleted the 1st line.		
ENG-20	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,37,1 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,37,14 reported as being duplicates.		Deleted the 1st line.		
ENG-21	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,39,3 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,39,8 reported as being duplicates.		Deleted the 1st line.		
ENG-22	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,41,10 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,41,1 reported as being duplicates.		Deleted the 1st line.		
ENG-23	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,42,8 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,42,2 reported as being duplicates.		Deleted the 1st line.		
ENG-24	2017	NA / NS&EA	England		CS	HL			Market		HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,2,,,M,47,7 HL,M,ENG,ENG,2016,GBE-DCF,16457,31590,107254,L AN,HUC,English,1,,,M,47,1 reported as being duplicates.		Deleted the 1st line.		
ENG-25	2017	NA / NS&EA	England		CS	HL			Observer		HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,29 0,11 HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,29 0,2 reported as being duplicates.		Deleted the 1st line.		
ENG-26	2017	NA / NS&EA	England		CS	HL			Observer		HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,31 0,7 HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,31 0,1 reported as being duplicates.		Deleted the 1st line.		
ENG-27	2017	NA / NS&EA	England		CS	HL			Observer		HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,30 0,7 HL,S,ENG,ENG,2016,GBE-DISCARD,FD316OT,2,12714 3,LAN,HUC,English,1,,F,F,30 0,1 reported as being duplicates.		Deleted the 1st line.		
ENG-28	2017	NA / NS&EA	England		CS	SL			Observer		Two samples (Plaice and Skate) not uploaded because of errors in underlying dataset. Not able to correct data before deadline.		Correct and resubmit	MS	

Annex 14. The regional database and the benchmark process

Data in the RDB on NS&EA benchmark stocks

The idea here is to demonstrate what might be available in the RDB for a particular species, or group of species. This can facilitate the evaluation of data at fora like data compilation workshops and/or benchmarks. The steps followed here help to ascertaining the extent of these data available, an indication of the circumstances of its collection, and look at some of the characteristics, to highlighting some of the issues with its use. This process would facilitate the communication between those assessing the species, and those with knowledge of the collection of the data. An important caveat is that interpretation of these data is dependent on a working knowledge of the formats in the RDB, and an understanding how these data were sampled. The data we consider here is raw sampling data held in the table of the CS; these are not population estimates, but the basis on which those population estimates would be derived. Landings and effort data is also available but is not considered in this exercise. As an example here we look at the data for a group of North Sea species which are due to be benchmarked in 2018, flounder, witch flounder, whiting and lemon sole. We then focus more on the data available for one of these: the whiting.

Inventory of sampling data for North Sea benchmark species 2018. Table 14.1 provides a summary of all the data present in the RDB in the 2018 upload for flounder, witch flounder, whiting and lemon sole; note that no French sampling data was uploaded for 2016. Sample type is either market M, on-shore from unknown trips D, at-sea S or V for samples purchased from a vendor. The table records the number of dates, sites, unique vessels and trips, from which those samples were obtained. The number of species is recorded (in this instance always one), and the number of length frequency measures taken from the HL table of the CS data. The BioSites and BioTrips are the number of sites and trips from which individual fish have been obtained for biological sampling, from which the age, length, sex, weight measures are recorded. The biological data is recorded in the CA table, and depending on the practices of the individual sampling institutions can be linked to length frequencies through the HH table or can be entered linked only to the TR table.

For whiting data are available from nine countries have data on whiting in the North Sea, four of which have biological data, samples are collected both at-sea sampType "S" and on shore sampType "M" and "D"

Fig 14.1. Shows the numbers of measured fish by length class for species and sampling country. These data are from the length frequencies recorded in the HL table. Note that these histograms are from data of many different samples and take no account of the different sampling probabilities under which the samples are collected. Therefore the shape of the histogram need have little, if any, relationship to the length distribution of population of caught fish.

Fig 14.2 are plots from the data in the CA table age against length. The age length scatter plots are presented with plotting by sampling country overlaying on another in the data has not been adjusted for different sampling strategies such as sampling size sorting boxes vs. random, the plots therefore has to be further analysed before any conclusions can be taken fig 14.3, and by areas in fig 14.4 and fig 14.5.

Fig 14.6 and Fig 14.7 are scatter plots of the weight length relationships, by sampling country, and by catch fraction.

Fig 14.8 is a map of the recorded longitude and latitude positions for at-sea samples, for trips where whiting was recorded.

sampCtry	spp	area	days	sites	vessels	trips	nspp	length	freq	bioSites	bioTrips	bioSpp	wght	ages	lengths	sex	maturity
DEU	Glyptocephalus cynoglossus	27.4.a	3	1	1	2	1	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Glyptocephalus cynoglossus	27.4.b	2	2	1	2	1	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
DNK	Glyptocephalus cynoglossus	27.4.b	18	5	9	9	1	740	4	4	1	52	18	52	0	0	0
DNK	Glyptocephalus cynoglossus	27.3.a.20	53	6	26	46	1	2483	5	36	1	528	482	528	38	0	0
DNK	Glyptocephalus cynoglossus	27.3.a.21	24	6	15	25	1	537	1	4	1	52	52	52	4	0	0
DNK	Glyptocephalus cynoglossus	27.4.a	31	3	8	11	1	1381	2	5	1	106	104	106	53	0	0
ENG	Glyptocephalus cynoglossus	27.4.b	37	4	21	42	1	162	NA	NA	NA	NA	NA	NA	NA	NA	NA
ENG	Glyptocephalus cynoglossus	27.4.c	1	1	1	1	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESP	Glyptocephalus cynoglossus	27.7.b	5	2	2	5	1	297	NA	NA	NA	NA	NA	NA	NA	NA	NA
IRL	Glyptocephalus cynoglossus	27.7.b	9	2	3	3	1	338	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Glyptocephalus cynoglossus	27.4.b	17	5	7	18	1	53	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCT	Glyptocephalus cynoglossus	27.4.a	174	6	70	101	1	9074	2	5	1	0	65	65	0	0	0
SCT	Glyptocephalus cynoglossus	27.4.b	50	6	19	26	1	1919	1	1	1	0	13	13	0	0	0
SWE	Glyptocephalus cynoglossus	27.3.a.20	50	14	26	42	1	3473	12	34	1	1165	1164	1165	623	622	0
SWE	Glyptocephalus cynoglossus	27.4.a	1	1	1	1	1	26	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Glyptocephalus cynoglossus	27.3.a.21	15	5	11	16	1	625	NA	NA	NA	NA	NA	NA	NA	NA	NA
BEL	Merlangius merlangus	27.4.c	22	2	7	9	1	3435	NA	NA	NA	NA	NA	NA	NA	NA	NA
BEL	Merlangius merlangus	27.4.b	23	4	4	4	1	4440	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Merlangius merlangus	27.4.b	22	8	3	13	1	2545	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Merlangius merlangus	27.4.a	9	1	1	4	1	71	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Merlangius merlangus	27.4.c	5	1	1	1	1	253	NA	NA	NA	NA	NA	NA	NA	NA	NA
DNK	Merlangius merlangus	27.4.b	64	6	31	46	1	2172	6	39	1	619	271	619	2	2	0
DNK	Merlangius merlangus	27.3.a.20	58	6	33	62	1	2683	6	57	1	950	871	950	22	0	0
DNK	Merlangius merlangus	27.3.a.21	48	6	28	50	1	1871	2	23	1	220	150	220	0	0	0
DNK	Merlangius merlangus	27.4.a	32	3	12	16	1	232	3	14	1	52	46	52	0	0	0
ENG	Merlangius merlangus	27.4.b	76	5	34	93	1	19817	5	71	1	0	1121	1121	431	0	0
ENG	Merlangius merlangus	27.4.c	18	5	11	12	1	1360	4	7	1	0	64	71	67	0	0
ESP	Merlangius merlangus	27.7.b	1	1	1	1	1	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
IRL	Merlangius merlangus	27.7.b	27	4	12	24	1	2029	2	16	1	395	395	395	0	0	0
NLD	Merlangius merlangus	27.4.b	86	7	23	139	1	5196	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Merlangius merlangus	27.4.c	87	10	35	128	1	4382	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Merlangius merlangus	27.3.a	1	1	1	1	1	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCT	Merlangius merlangus	27.4.a	286	7	109	205	1	66608	7	197	1	0	3223	3223	0	0	0
SCT	Merlangius merlangus	27.4.b	78	8	26	39	1	16331	8	38	1	0	434	434	0	0	0
SWE	Merlangius merlangus	27.3.a.20	32	16	32	38	1	2073	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Merlangius merlangus	27.4.a	1	1	1	1	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Merlangius merlangus	27.3.a.21	22	6	12	25	1	1787	NA	NA	NA	NA	NA	NA	NA	NA	NA
BEL	Microstomus kitt	27.4.b	23	4	4	4	1	3660	4	8	1	201	319	319	201	107	0
BEL	Microstomus kitt	27.4.c	16	2	5	6	1	1339	2	9	1	144	253	253	144	144	0
DEU	Microstomus kitt	27.4.b	21	6	3	11	1	321	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Microstomus kitt	27.3.a	2	1	1	2	1	22	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Microstomus kitt	27.4.a	15	1	1	5	1	75	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Microstomus kitt	27.4.c	1	1	1	1	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
DNK	Microstomus kitt	27.4.b	26	4	18	18	1	1672	2	12	1	324	301	324	0	0	0
DNK	Microstomus kitt	27.3.a.20	40	7	28	47	1	959	6	11	1	88	78	88	2	0	0
DNK	Microstomus kitt	27.4.a	10	3	3	6	1	61	1	1	1	12	10	12	0	0	0
DNK	Microstomus kitt	27.3.a.21	28	6	16	28	1	307	2	4	1	15	1	15	0	0	0
ENG	Microstomus kitt	27.4.b	77	6	43	112	1	3381	5	70	1	0	600	600	579	0	0
ENG	Microstomus kitt	27.4.c	4	2	2	3	1	7	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESP	Microstomus kitt	27.7.b	2	1	1	2	1	118	NA	NA	NA	NA	NA	NA	NA	NA	NA
IRL	Microstomus kitt	27.7.b	1	1	1	1	1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Microstomus kitt	27.4.b	102	6	29	152	1	2461	2	2	1	67	67	67	0	67	0
NLD	Microstomus kitt	27.4.c	40	7	15	48	1	319	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Microstomus kitt	27.3.a	2	1	2	2	1	82	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCT	Microstomus kitt	27.4.a	185	7	94	154	1	10726	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCT	Microstomus kitt	27.4.b	69	8	25	36	1	3240	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Microstomus kitt	27.3.a.20	29	14	24	33	1	203	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Microstomus kitt	27.3.a.21	22	6	12	24	1	382	NA	NA	NA	NA	NA	NA	NA	NA	NA
BEL	Platichthys flesus	27.4.c	16	2	5	7	1	1300	1	7	1	414	462	462	414	275	0
BEL	Platichthys flesus	27.4.b	1	1	1	1	1	4	1	2	1	1	5	5	1	1	0
DEU	Platichthys flesus	27.4.b	13	6	2	8	1	115	NA	NA	NA	NA	NA	NA	NA	NA	NA
DEU	Platichthys flesus	27.4.c	1	1	1	1	1	32	NA	NA	NA	NA	NA	NA	NA	NA	NA
DNK	Platichthys flesus	27.3.a.21	23	4	13	24	1	131	1	2	1	7	2	7	2	0	0
DNK	Platichthys flesus	27.3.a.20	14	4	8	11	1	70	2	2	1	5	2	5	0	0	0
DNK	Platichthys flesus	27.4.b	4	2	2	4	1	6	2	2	1	2	0	2	0	0	0
ENG	Platichthys flesus	27.4.b	7	4	4	7	1	28	NA	NA	NA	NA	NA	NA	NA	NA	NA
ENG	Platichthys flesus	27.4.c	12	6	9	10	1	243	NA	NA	NA	NA	NA	NA	NA	NA	NA
NLD	Platichthys flesus	27.4.c	59	10	35	77	1	1875	4	17	1	665	664	665	0	665	0
NLD	Platichthys flesus	27.4.b	7	2	6	9	1	107	1	1	1	38	38	38	0	38	0
SCT	Platichthys flesus	27.4.b	19	5	10	15	1	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCT	Platichthys flesus	27.4.a	15	3	3	4	1	87	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Platichthys flesus	27.3.a.20	5	4	5	5	1	32	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWE	Platichthys flesus	27.3.a.21	15	6	11	17	1	364	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 14.1. Inventory of RDB sampling data on NS&EA species to be benchmarked in 2018

Whiting data

	sampCtry	spp	sampType	days	sites	vessels	trips	nspp	lengthFreq	bioSites	bioTrips	bioSpp	wght	ages	lengths	sex	maturity
1	BEL	Merlangius merlangus	S	48	5	10	12	1	9143	NA	NA	NA	NA	NA	NA	NA	NA
2	DEU	Merlangius merlangus	S	38	9	5	19	1	2875	NA	NA	NA	NA	NA	NA	NA	NA
3	NLD	Merlangius merlangus	M	139	10	49	267	1	9671	NA	NA	NA	NA	NA	NA	NA	NA
4	DNK	Merlangius merlangus	S	133	14	66	127	1	6684	10	87	1	1567	1302	1567	24	2
5	DNK	Merlangius merlangus	M	37	6	27	46	1	272	6	46	1	272	36	272	0	0
6	DNK	Merlangius merlangus	D	1	1	1	1	1	2	1	1	1	2	0	2	0	0
7	SCT	Merlangius merlangus	S	274	12	81	123	1	64894	12	117	1	0	1392	1392	0	0
8	SCT	Merlangius merlangus	M	91	7	79	119	1	18045	7	118	1	0	2265	2265	0	0
9	ENG	Merlangius merlangus	S	53	10	28	55	1	16256	9	46	1	0	503	510	498	0
10	ENG	Merlangius merlangus	M	44	6	28	50	1	4921	5	32	1	0	682	682	0	0
11	ESP	Merlangius merlangus	S	4	1	1	1	1	14	NA	NA	NA	NA	NA	NA	NA	NA
12	IRL	Merlangius merlangus	D	18	1	11	19	1	1905	1	15	1	377	377	377	0	0
13	IRL	Merlangius merlangus	S	13	3	4	6	1	531	3	3	1	34	34	34	0	0
14	SWE	Merlangius merlangus	S	48	19	38	58	1	3815	NA	NA	NA	NA	NA	NA	NA	NA
15	SWE	Merlangius merlangus	D	6	5	6	6	1	46	NA	NA	NA	NA	NA	NA	NA	NA

Nine countries have data on whiting in the North Sea, four of which have biological data, samples are collected both at-sea sampType "S" and on shore sampType "M" and "D"

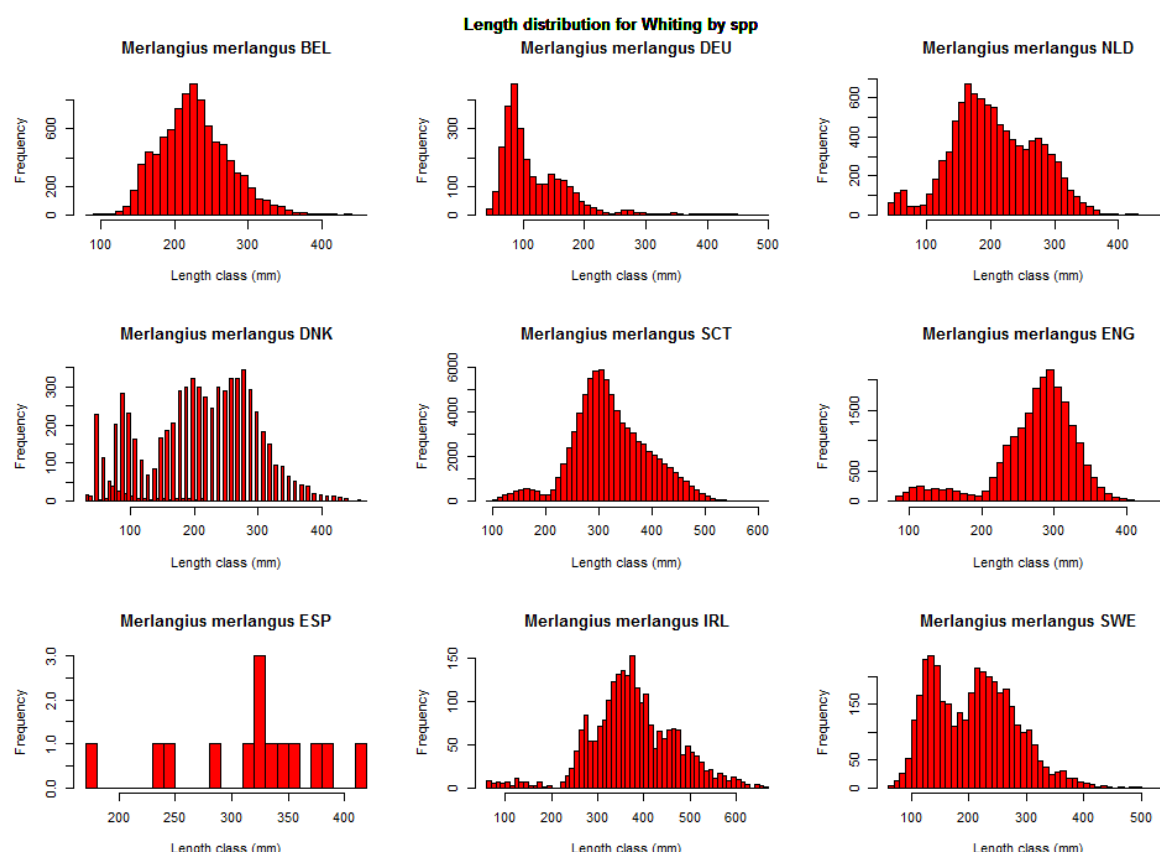


Fig. 14.1 Numbers of measured fish by length class for species and sampling country. Note that these histograms are from data of many different samples and take no account of the different sampling probabilities under which the samples are collected. Therefore the shape of the histogram has little, if any, relationship to the length distribution of the population of caught fish.

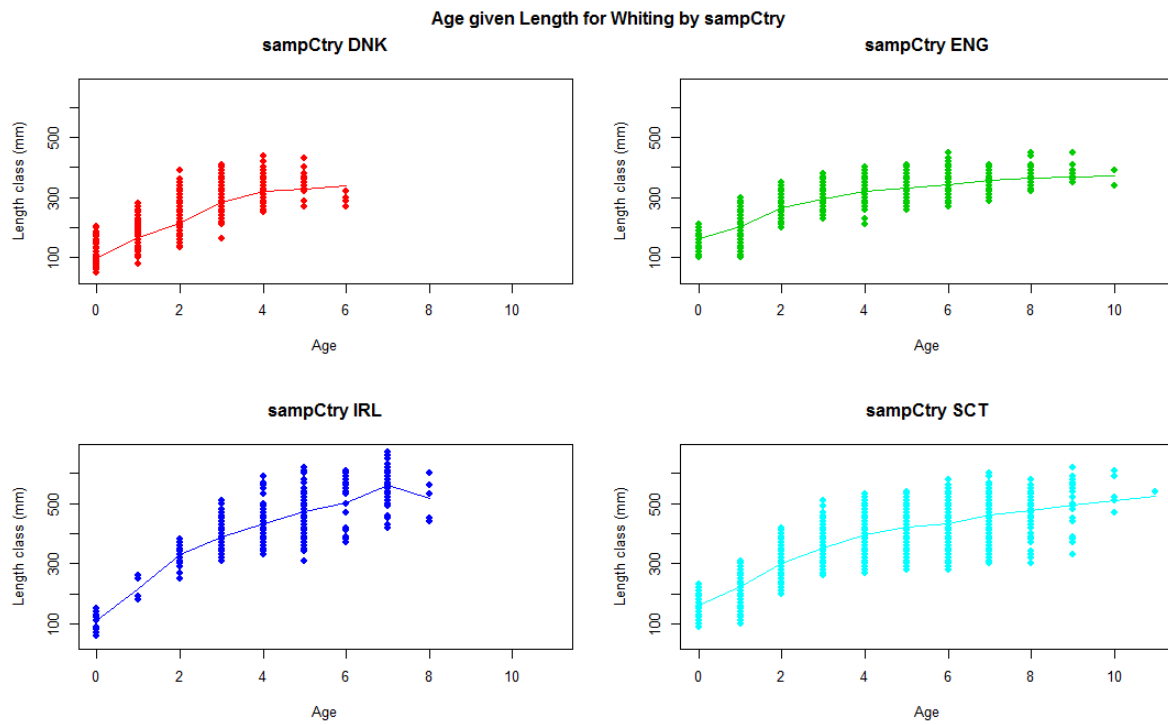


Figure 14.2. Data derived from CA tables showing age by length and country.

Age given Length for Whiting by sampCtry

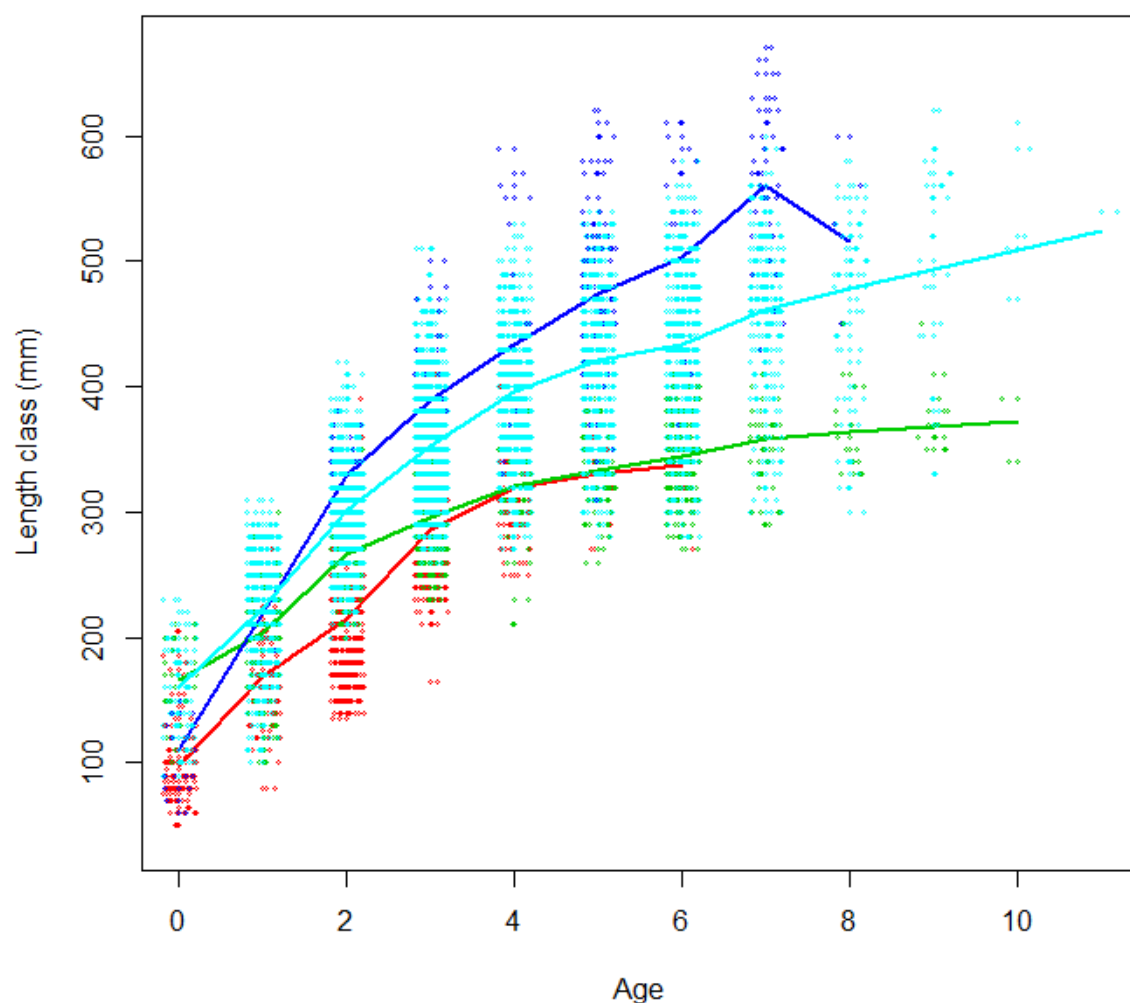


Fig. 14.3 Overlain scatter plots of length against age by sampling country, Scotland Ireland England and Denmark. Scottish and Irish aged individuals are longer at comparable ages than those sampled by England and Denmark. Data has not been corrected for different sampling strategies between countries

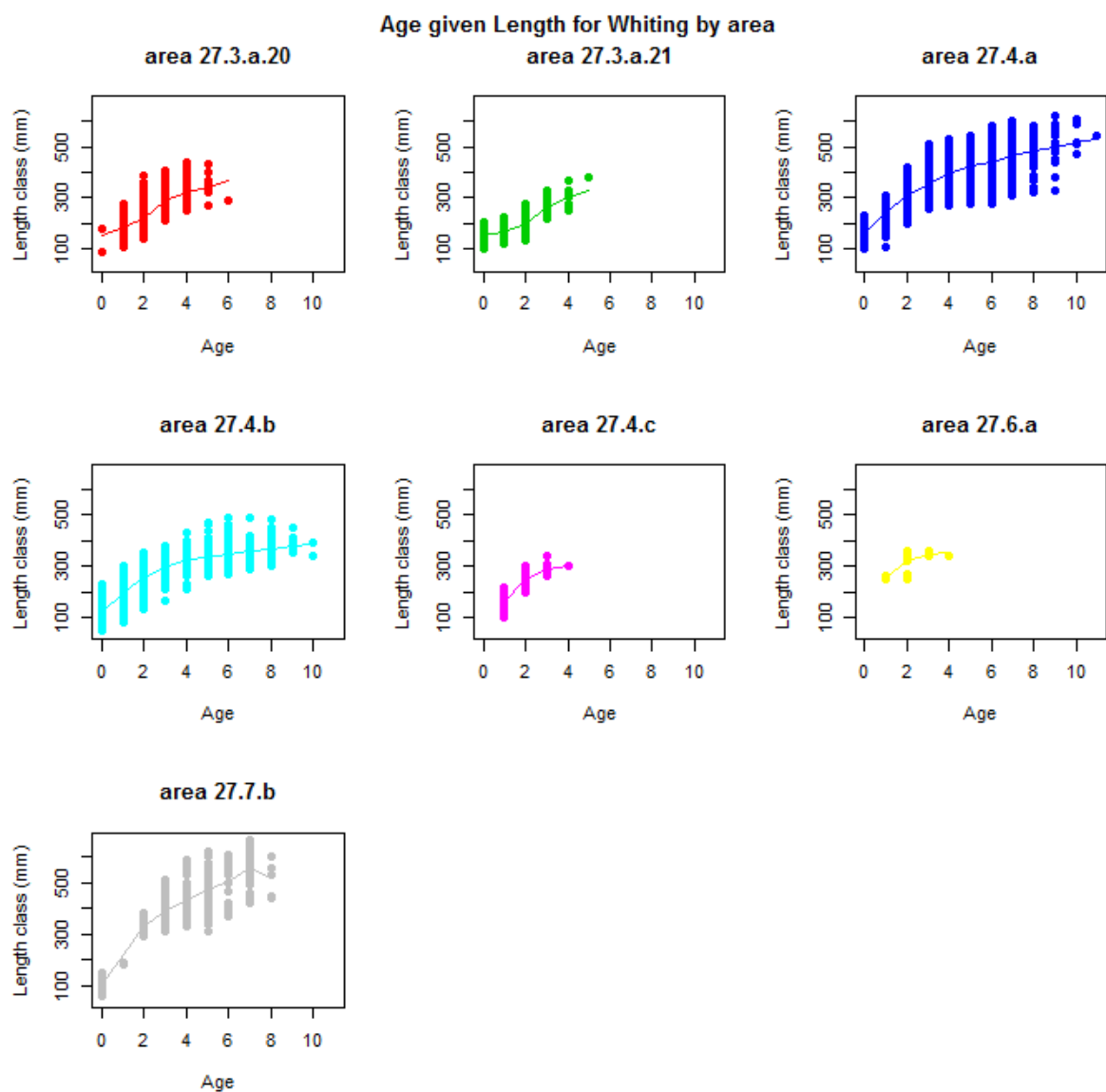


Fig. 14.4. Scatter plots of age v length by area, the 6a data area from trips spanning multiple areas.

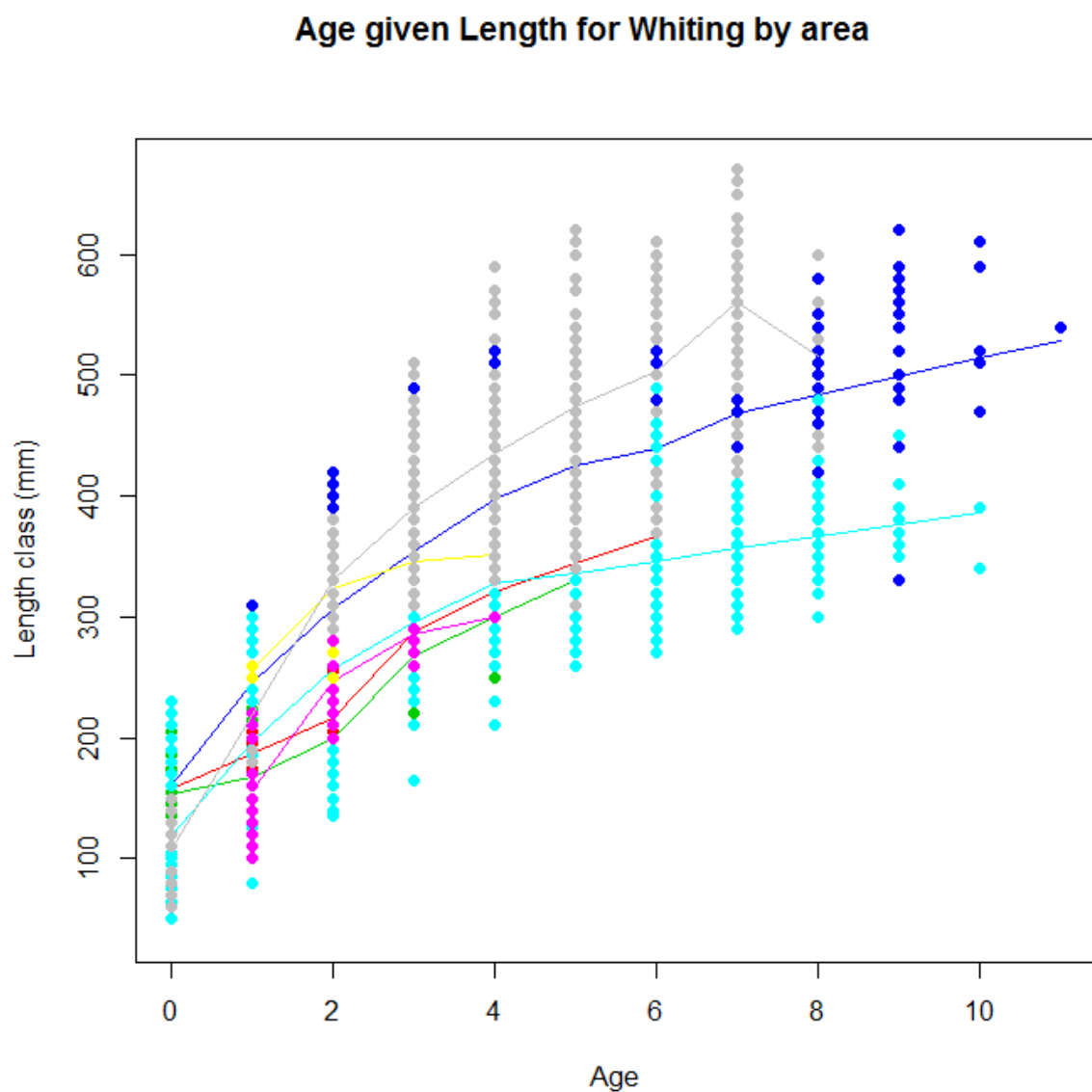


Fig. 14.5. Overlain scatter plots of length against age by area.

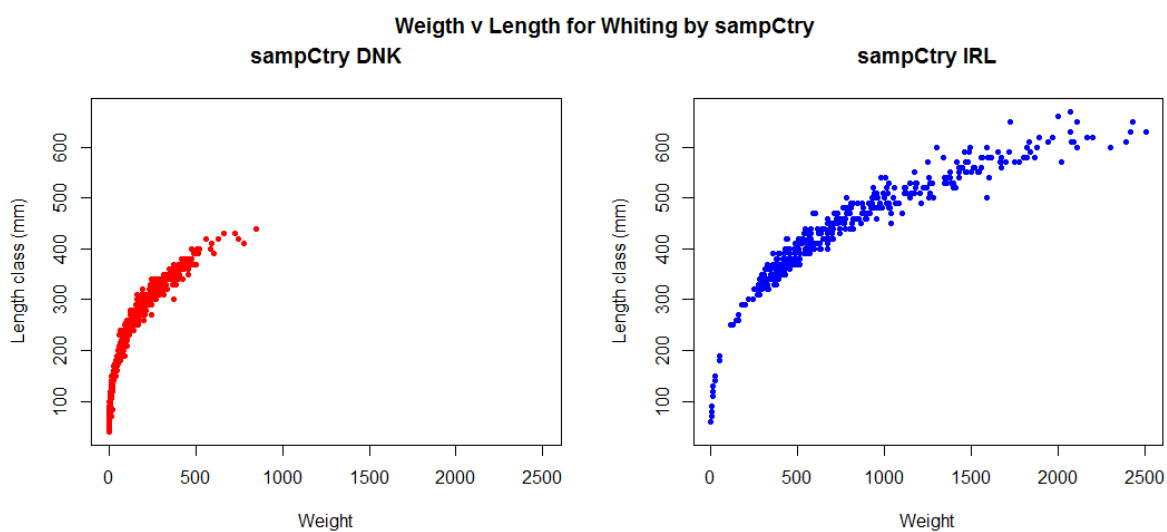


Fig. 14.6. Scatter plots of weight v length, data from Denmark and Ireland.

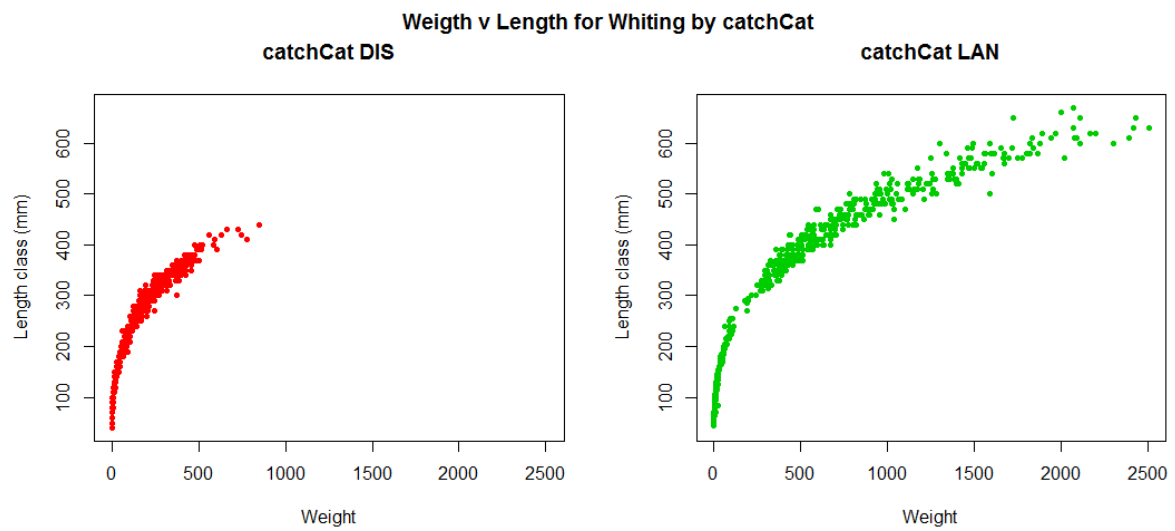


Fig. 14.7. Scatter plots of weight vs length, data by discard and landed fractions of the catch

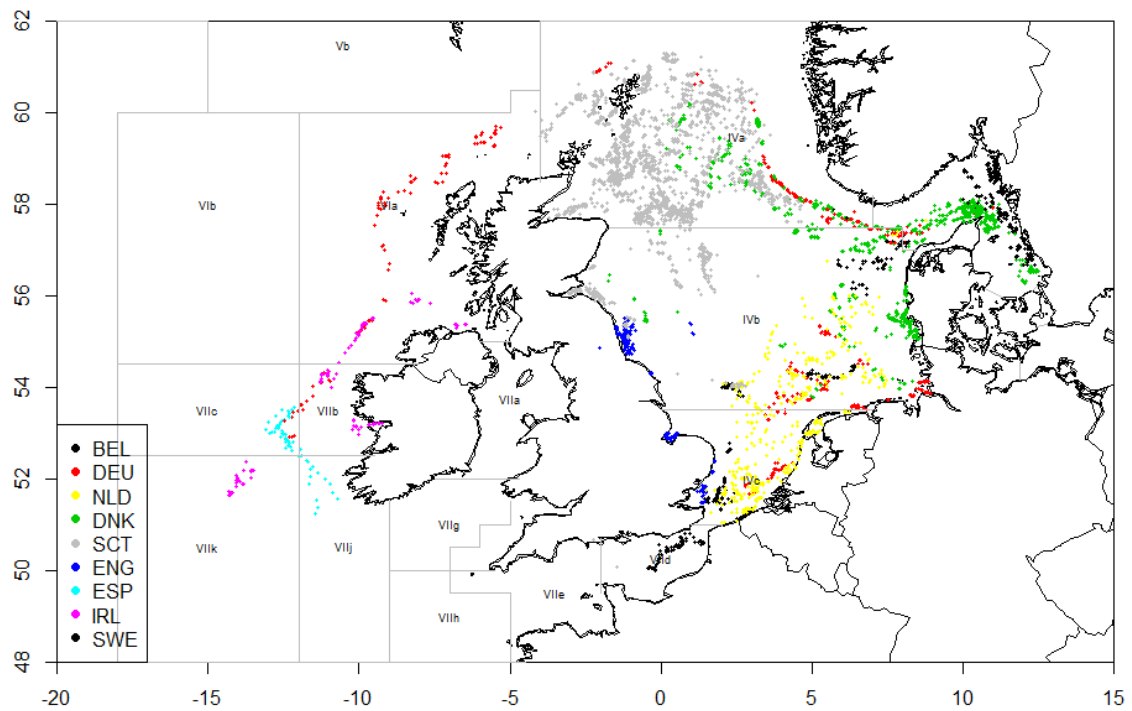


Fig. 14.8 Locations of at-sea samples by sampling country

Annex 15. Venues and chairs

The 2018 meeting will be held in Lyngby, Denmark, from the 3rd to the 9th of September. The co-chairs will be Els Torreele (Belgium) and Marie Storr-Paulsen (Denmark). 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
2017	Port-en-Bessin, France	Katja Ringdahl, Sweden and Marie Storr-Paulsen, Denmark
2016	Edinburgh, Scotland	Alastair Pout, UK- Scotland and Katja Ringdahl, Sweden
2015	The Hague, The Netherlands	Alastair Pout, UK- Scotland and Katja Ringdahl, Sweden
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

Annex 16 Acronyms

4S:	Statistically Sound Sampling Scheme
AER:	Annual Economic Report edited by STECF based on data compiled from a formal data call
AR:	Annual Report as defined in article 11 of EU Reg. 2017/1004
AWP	Annual work plan
COM:	European Commission (here DGMare)
COST:	Common Open-Source Tools (R library developed during project FISH/2006/15 – lot 2)
CPCs:	Contracting Parties and Cooperating Non-Contracting Parties
CV:	Coefficient of Variation (standard deviation divided by mean)
DCF:	In this report, used to refer to either the DCF or EU-MAP Regulation
DCV:	Data compilation workshop
DCRF:	GFCM Data Collection Reference Framework
DIA	Diadromous species, in this report salmon and eel
DLS:	Data-Limited stocks
DT, DTF:	Data transmission, Data Transmission Failures
ESS:	European Statistical Standard
EWG:	Expert Working Group
FDI:	Fisheries Dependent Information edited by STECF based on data compiled from a formal data call
GFCM:	General Fisheries Commission for the Mediterranean
ICCAT:	International Commission for the Conservation of Atlantic Tunas
ICES:	International Council for the Exploration of the Sea
IOTC:	Indian Ocean Tuna Commission
JRC:	Joint Research Center
LM:	Liaison Meeting (liaising all RCM meetings to gather and streamline the recommendations)
LP:	Large Pelagics
Med&BS:	Mediterranean and Black Sea
MS:	European Member States
MSE:	Management Strategy Evaluation
NC:	National correspondent
NEA:	North East Atlantic
NS&EA:	North Sea and Eastern Arctic
NWP:	National Work Plan as defined in article 6 of EU Reg. 2017/1004
PGECON:	Planning Group on Economic Issues. Ad hoc forum taking place in lieu of the RCMs for dealing with economic issues in the DCF
PSU:	Primary Sampling Unit
QAF:	Quality Assurance Framework
RCG:	Regional Coordination Groups as defined in EU-MAP Regulation
RCM:	Regional Coordination Meetings
RDB:	Regional DataBase. In this report, used in generic terms, i.e. not only the RDBs for biological data from commercial fisheries as e.g. hosted by ICES, but more generally, for any existing or future supra-national database storing some data collected under the EU data collection, including e.g. also the JRC database for economic data.
RF:	Recreational fishery
RFMO:	Regional Fisheries Management Organisation
ROP:	Rules of procedures
RSE:	Relative Standard Error (standard error divided by the estimate)

Annex 17 - Regional fisheries overview

Here we provide an overview of the main fishing types, demersal, pelagic and flatfish, and the distributions by species, landing location and flag fleet. The flag fleets are defined by vessel flag and length class, numbers of vessels by flag and length class in the EU vessel register active 1st January 2016 are presented in table 1. The locations are the harbour codes mapped to the UNLOCODES. The data is the commercial landings data uploaded by all MS in the RDB in 2017.

	ESP	PRT	FRA	GBR	FIN	DNK	IRL	EST	DEU	SWE	POL	NLD	LVA	LTU	BEL
<10	6251	6988	5082	4899	2507	1851	1609	1417	1066	946	541	312	605	93	0
10-<12	657	307	930	391	151	130	246	75	84	205	142	34	7	10	0
12-<18	1117	402	433	468	31	241	94	16	152	87	87	51	11	1	6
18-<24	662	173	277	243	13	73	87	5	87	39	55	194	3	3	34
24-<40	607	153	140	181	19	35	82	20	35	30	46	146	49	26	36
>40	103	22	43	48	2	33	23	5	18	11	4	91	11	11	0

Table 17.1. Vessels by flag and length class in the EU vessel register active 1st January 2016

Pelagic Species

The main pelagic species landed from the North Sea are herring, sprat, mackerel and sand eel, these are caught by the over 40m fleets of Denmark, Scotland, Netherlands, Germany Sweden Ireland. IJmuiden/Velsen, Thyborøn, and Skagen are the main landing ports.

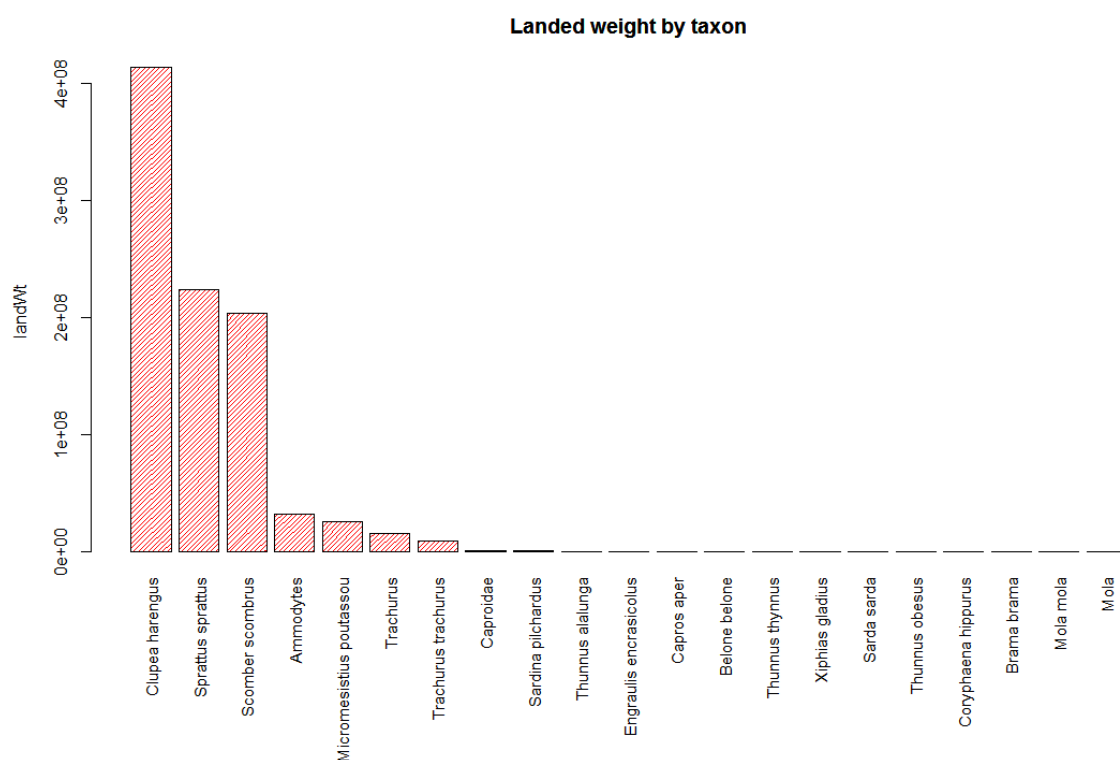


Figure 17.1. The main pelagic species landed from the North Sea are herring, sprat, mackerel and sand eel

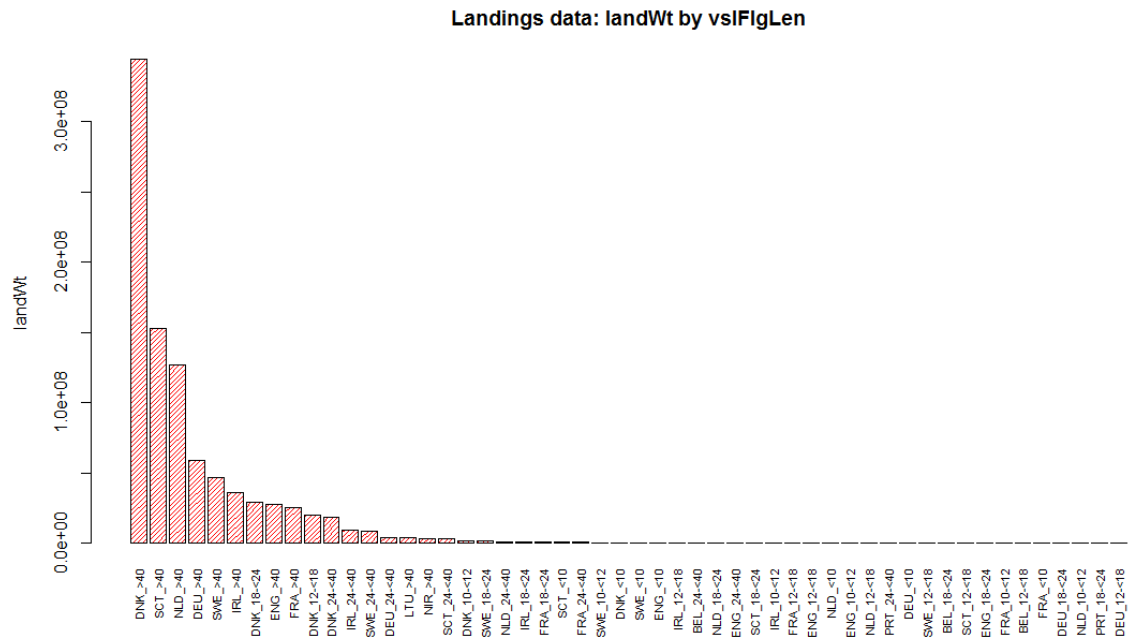


Figure 17.2 The main countries and vessel size landed in the North Sea

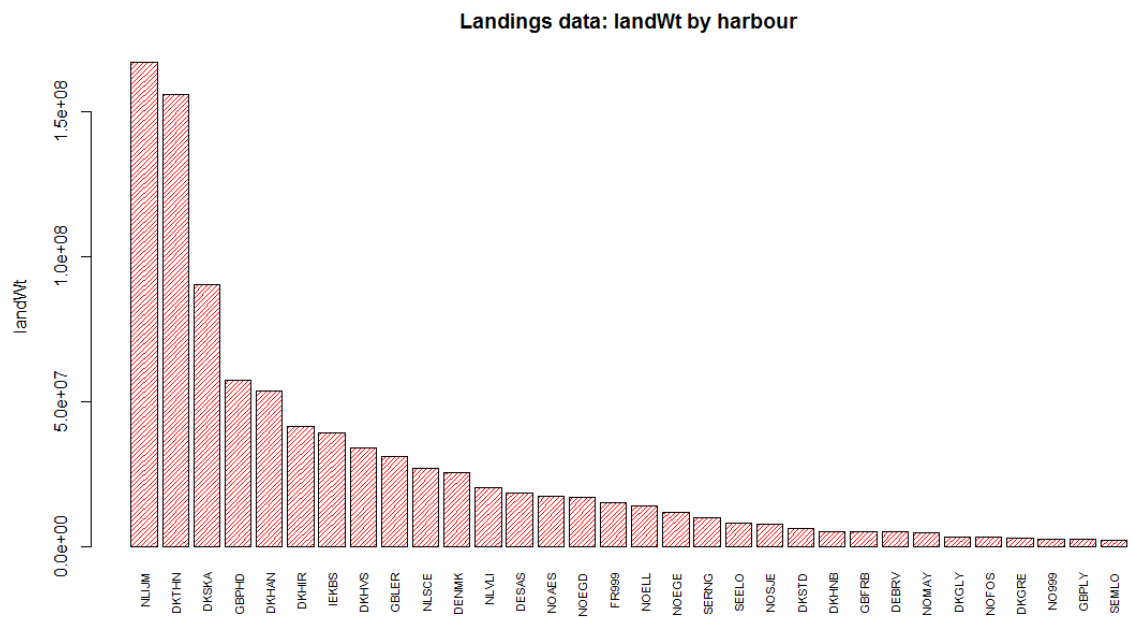
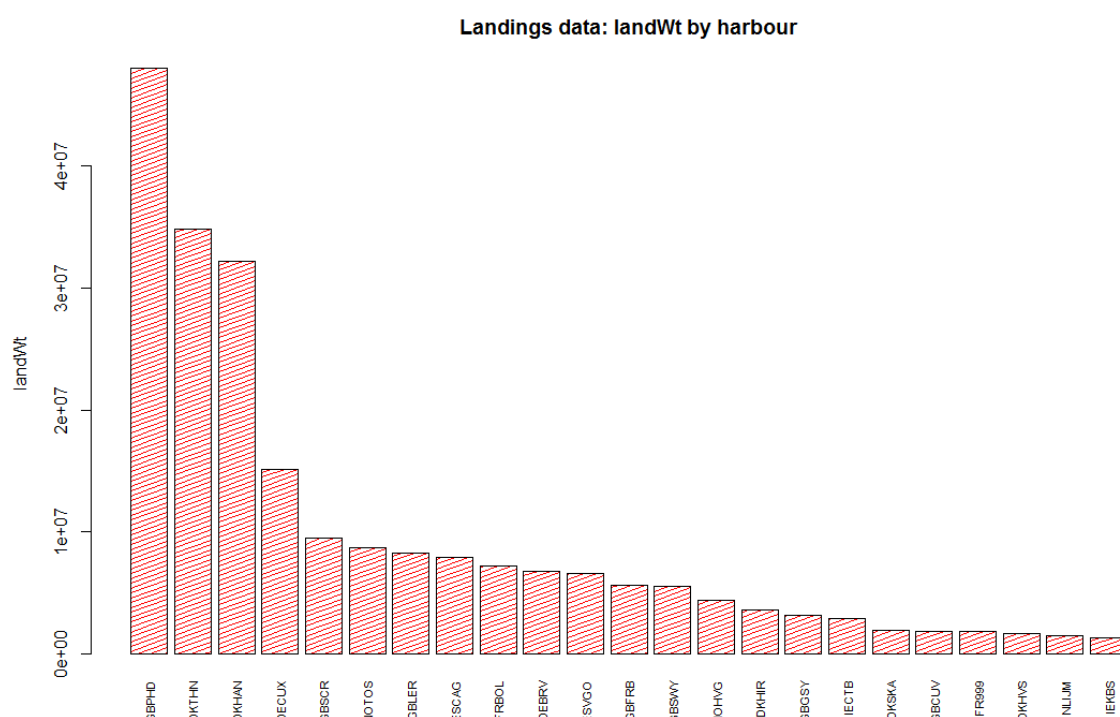
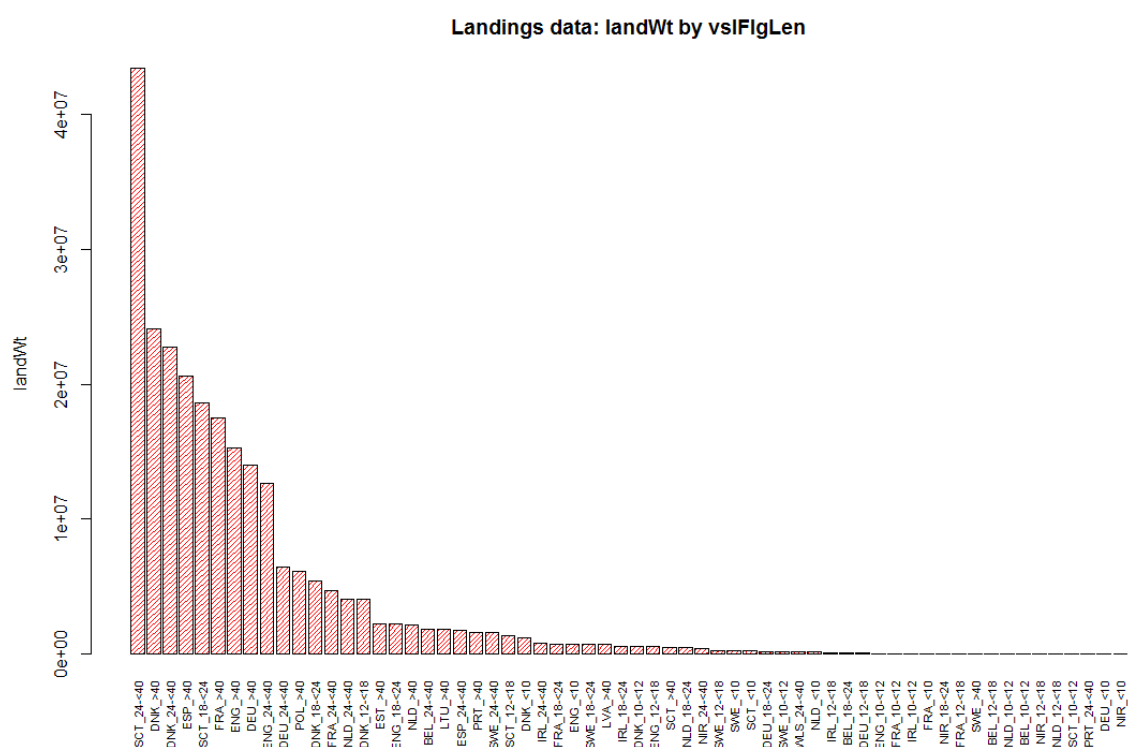


Figure 17.3 The main harbours where fish are landed in the North Sea

17.5 Landed weights of demersal species,



17.6. Harbours accounting for the 95% by weight of the demersal species.



17.7. Flag Fleets accounting the demersal species in the North Sea.

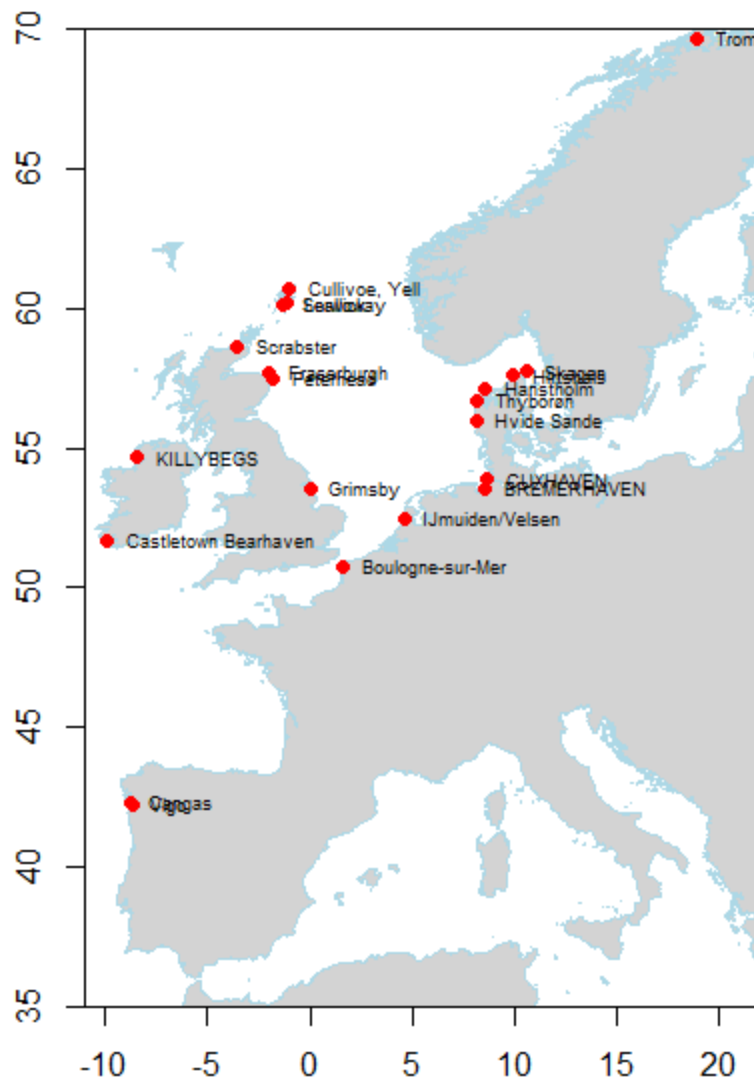


Figure 17.8. Ports accounting for 95% by weight of the the demersal landings from the North Sea, note that not all FRA locations are mapped, FR999 accounts for ~17000 tonnes.

Flatfish Fisheries

The main species are European plaice, Common sole, Greenland halibut, Common dab, Lemon sole are the main species, the Netherlands >40m fleet is the main fleet fishing these species and the main landing location by some way is Harlingen in the Netherlands.

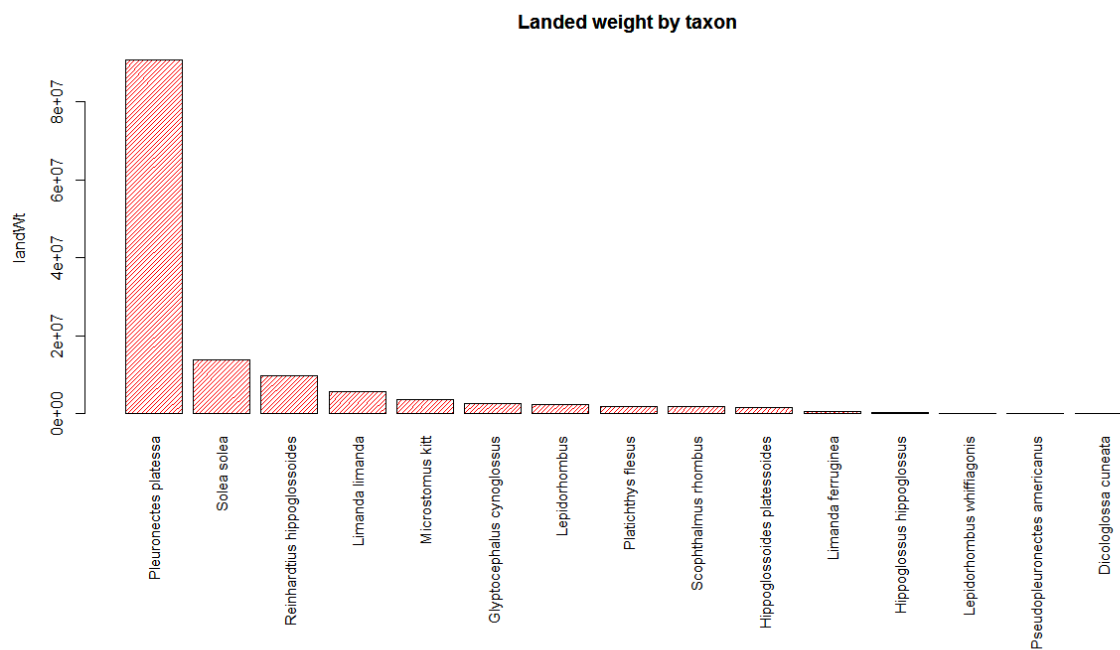


Figure 17.9 Flatfish species by landed weight

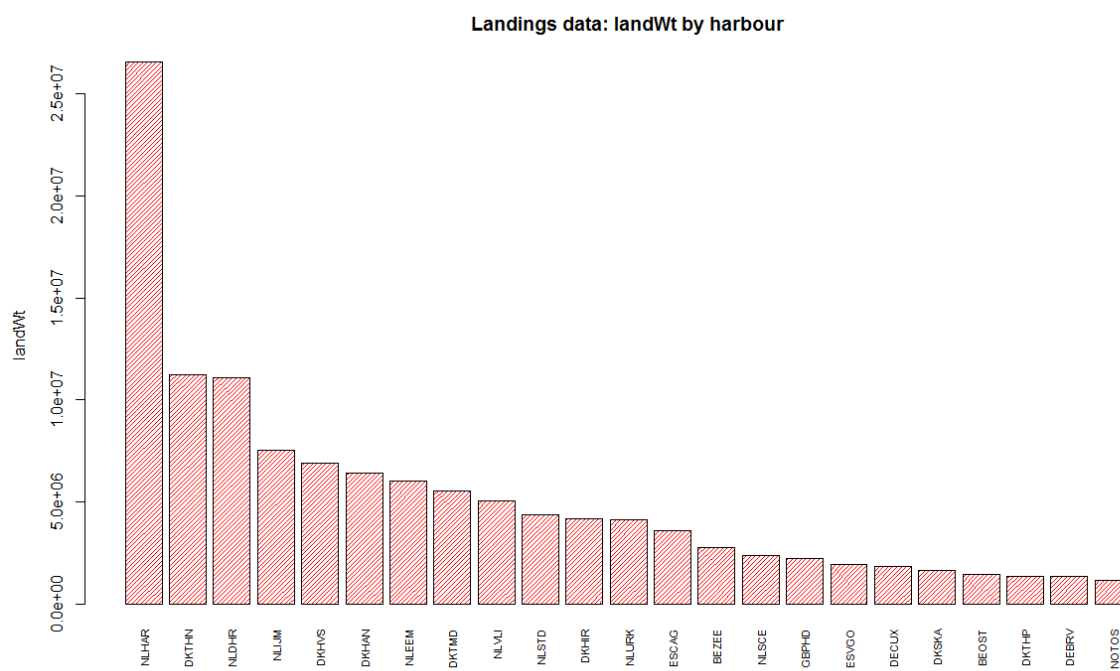


Figure 17.10. Main landing harbour for North Sea flatfish

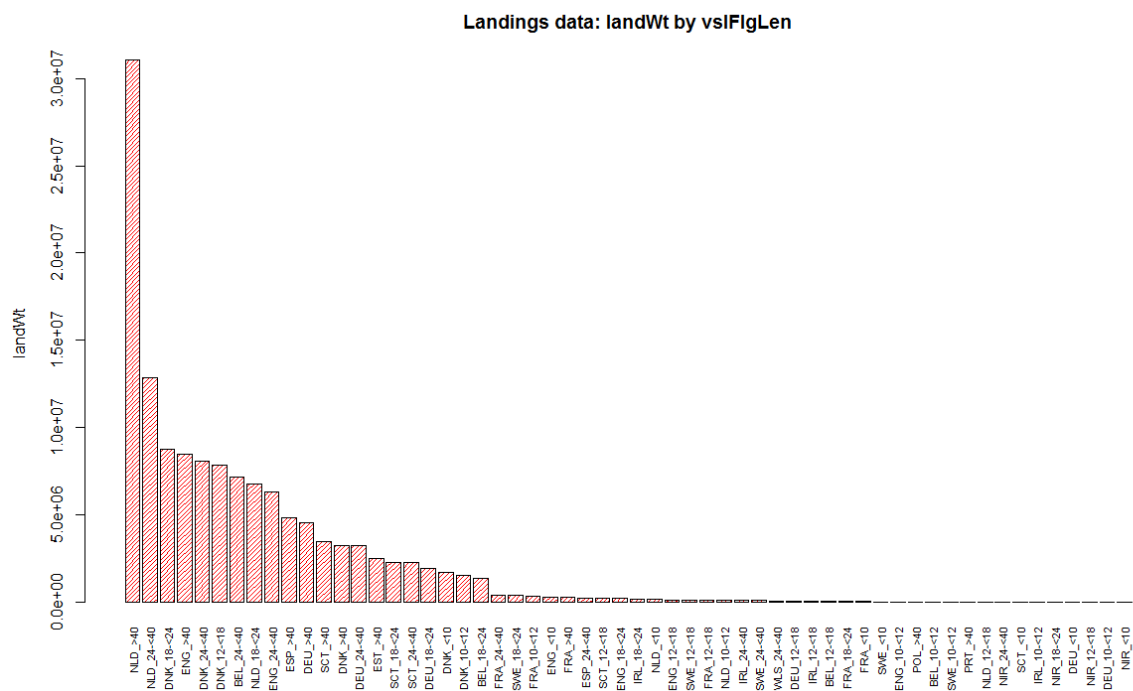


Figure 17.11. Flag fleets for the flatfish fisheries.

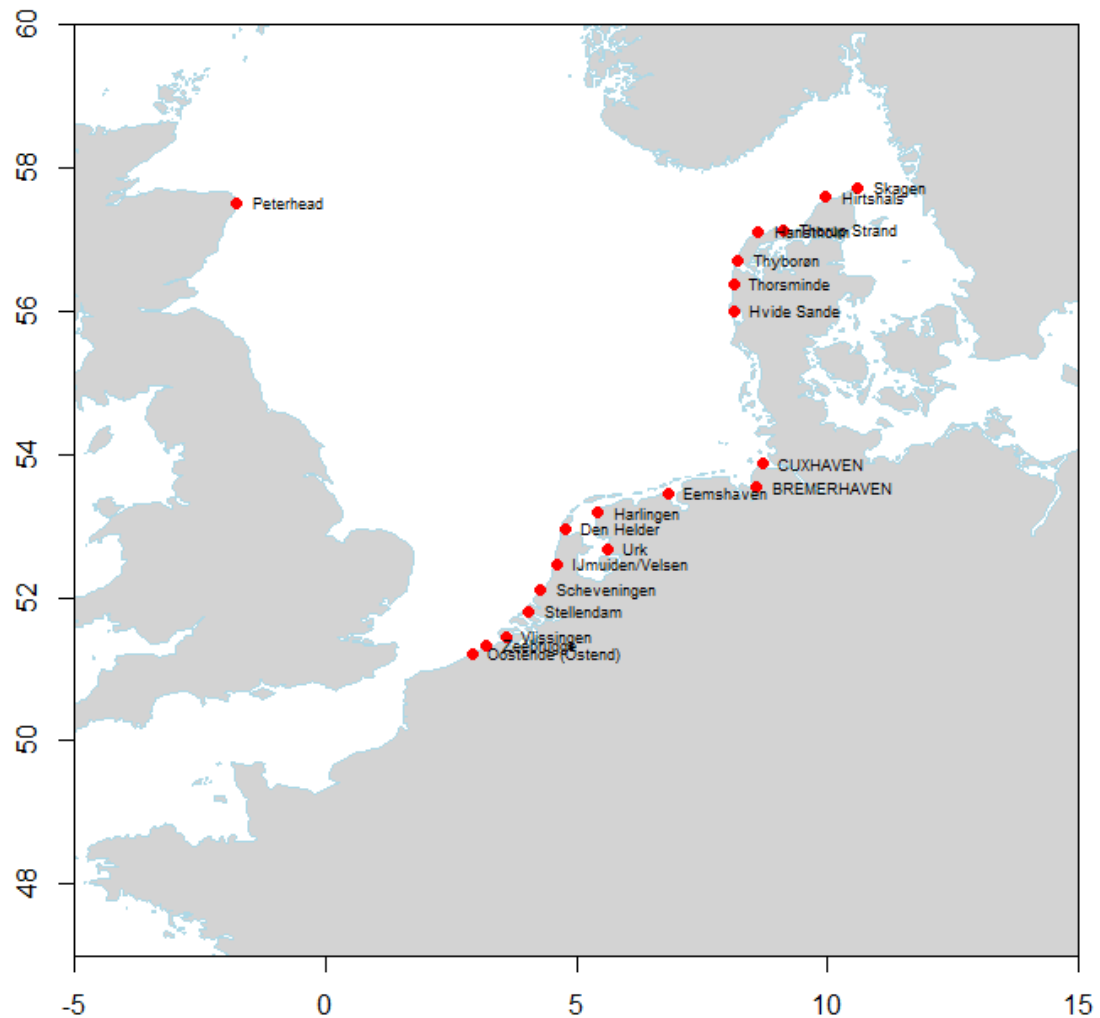


Figure 17.12. Landing locations for flatfish.

Eastern Arctic and NAFO fisheries

The main species fished in the Eastern Arctic are cod, herring mackerel and *Pandalus borealis*, landings are into ports in the Netherlands Germany, Spain and Norway and Germany, the flag fleets are all over 40m vessels Spain, Germany, England, Netherlands, Denmark, Estonia, Poland, Lithuania, Latvia.

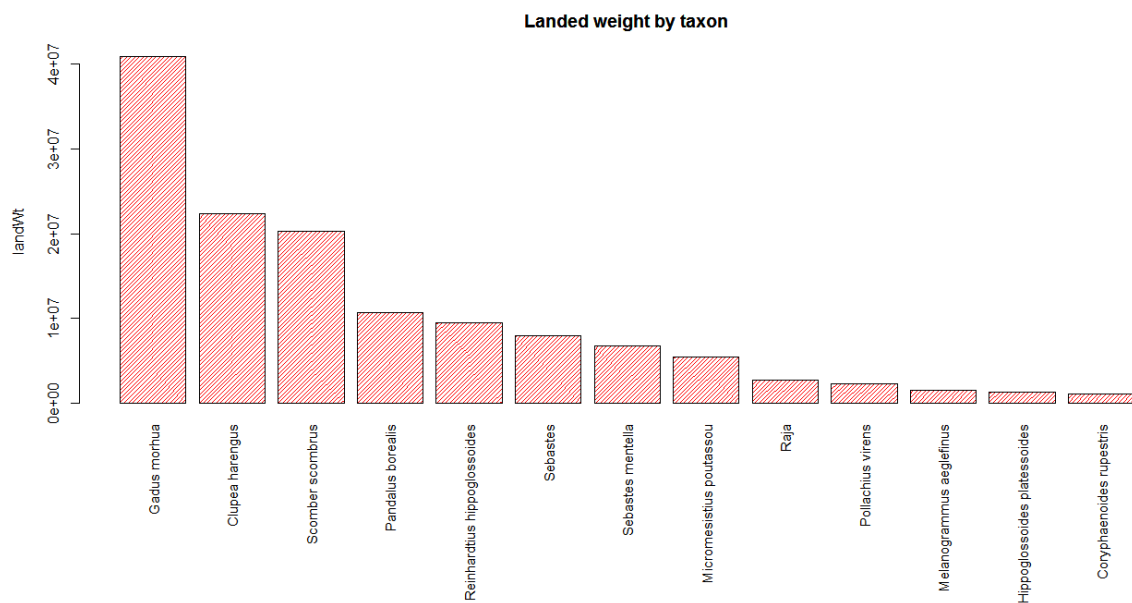


Figure 17.13. Landed weight in are I and II.

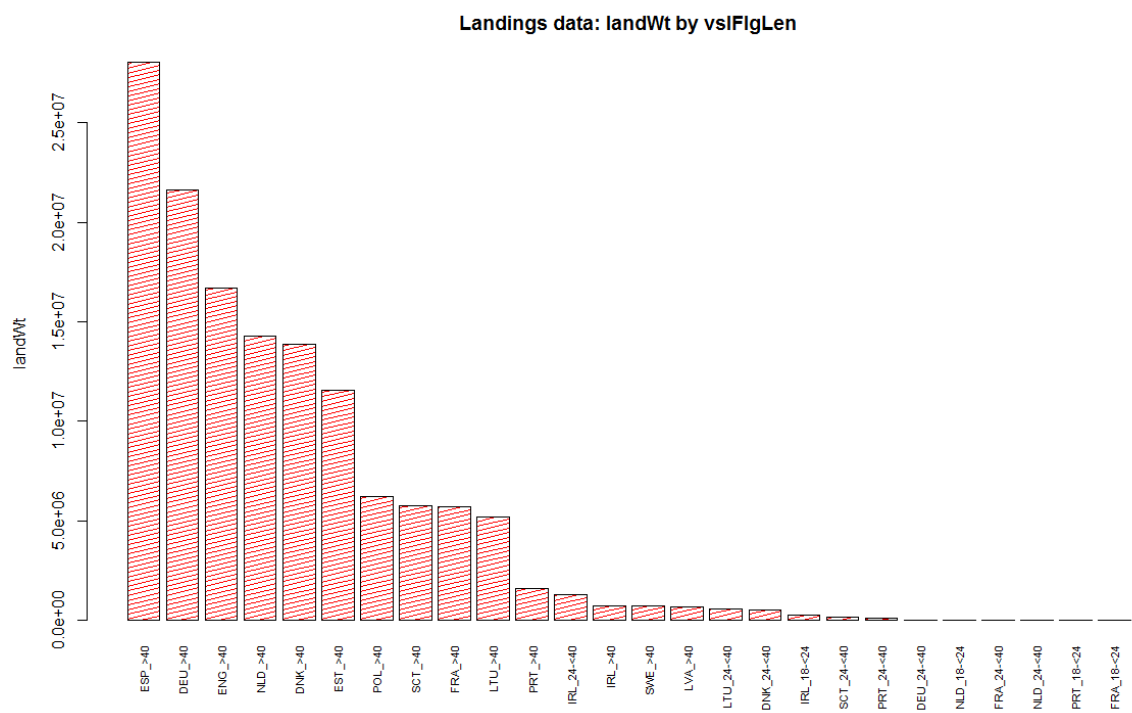


Figure 17. 14. Main Flag fleets operating in the Eastern Arctic and NAFO areas.

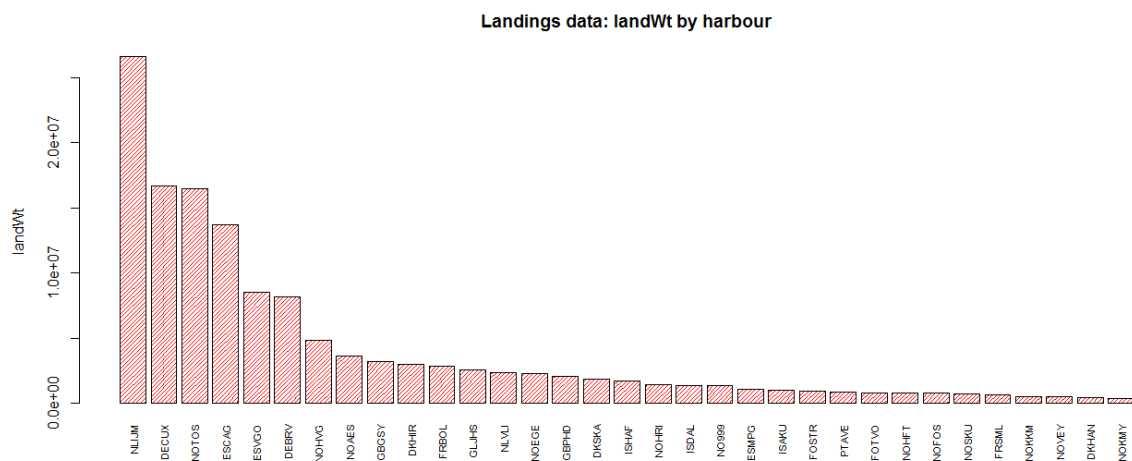


Figure 17. 15. Landed weight by harbour

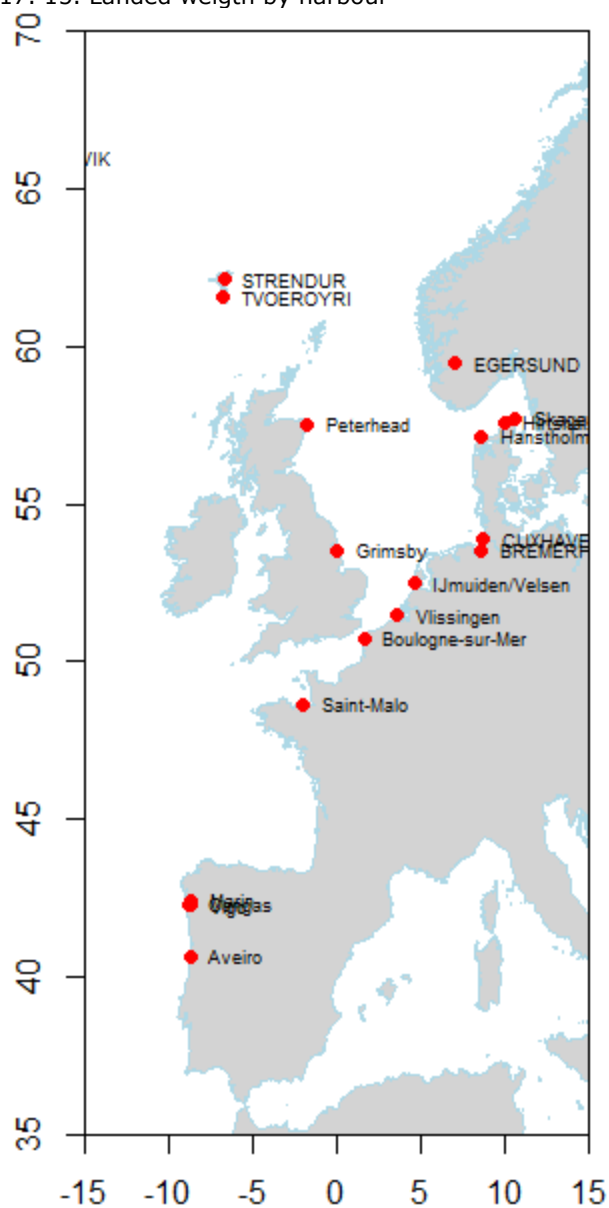


Figure 17. 16Landing locations for Eastern Arctic and NAFO fisheries.

Annex 18 – Audit Annual Work plan Table A1

Table 1. Species nomenclature

Scripted	MS prepared tables
<i>Trachurus</i> spp.	<i>Trachurus trachurus</i>
<i>Lophius piscatorius</i>	<i>Lophius piscatorius</i> and <i>budegassa</i>
<i>Lophius budegassa</i>	<i>Lophius piscatorius</i> and <i>budegassa</i>
	<i>Selachii</i> , <i>Rajidae</i>

Table 2 Species TAC reporting areas / aggregation or divided

<i>Micromesistius poutassou</i>	IIIa	I, II, III, IV, V, VII, VIIIabde, XII and XIV
<i>Clupea harengus</i>	VIa S, VIIbc	VIa
<i>Nephrops norvegicus</i>	VI Functional unit 11, 12, 13	VI Functional unit 11 VI Functional unit 12 VI Functional unit 13
<i>Nephrops norvegicus</i>	VII Functional unit 14, 15	VII Functional unit 14 VII Functional unit 15
<i>Nephrops norvegicus</i>	VII Functional unit 17, 18	VII Functional unit 17 VII Functional unit 18

Broad selection criteria: 200T landings or 3% TAC.

Simple check between those species selected for sampling vs national submissions. Joining national tables to the scripted table. The predominate differences are related to the species and area nomenclature above. In other cases it is TAC source between national and scripted tables that result in differences. Selection – up to individual MS. Simple to evaluate once the correct data is in place. An agreed reference of stocks and areas should be supplied. The source to TACs and landings needs to be maintained and agreed.

Spp	Area	Scripted						Submitted					
		Landings			TAC			Landings			TAC		
		ES	IE	UK	ES	IE	UK	ES	IE	UK	ES	IE	UK
<i>Anguilla Anguilla</i>	all areas									364			
<i>Gadus morhua</i>	Vla											22%	
<i>Pollachius virens</i>	IV, IIIa, VI			3419						3419		6%	
<i>Reinhardtius hippoglossoides</i>	VI										1%	1%	73%
<i>Reinhardtius hippoglossoides</i>	V, XIV						0%						5%
<i>Trachurus trachurus</i>	IIa, IVa, Vb, VIa, VIIa-c, e-k, VIIIabde	1817	18330					1817	30080	6350	11%	26%	9%
<i>Coryphaenoides rupestris</i>	all areas	2213			44%	3%	0%	2213			32%	6%	3%
<i>Merlangius merlangus</i>	Vb				0%	35%	57%				0%	0%	57%
<i>Nephrops norvegicus</i>	VI Functiol unit 11, 12, 13			12470	0%	0%	98%						
<i>Nephrops norvegicus</i>	VII Functiol unit 14, 15		2628	6564	6%	39%	32%						
<i>Nephrops norvegicus</i>	VII Functiol unit 16				29%	45%	14%						
<i>Nephrops norvegicus</i>	VII Functiol unit 17, 18		928.7		6%	39%	32%						
<i>Nephrops norvegicus</i>	VII Functiol unit 19		3699		6%	39%	32%						
<i>Nephrops norvegicus</i>	VII Functiol unit 20-21		3892		6%	39%	32%						
<i>Nephrops norvegicus</i>	VII Functiol unit 22		3404		6%	39%	32%						33%
<i>Nephrops norvegicus</i>	VIII, IX Functiol unit 23, 24				3%								
<i>Nephrops norvegicus</i>	VIII, IX Functiol unit 25, 31				82%								
<i>Nephrops norvegicus</i>	VIII, IX Functiol unit 26-27, 28-29, 30				25%								
<i>Pleuronectes platessa</i>	VIII, IX, X				0%						17%		
<i>Argenti spp.</i>	all areas					0%	5%					7%	6%
<i>Lophius budegassa</i>	IV, VI				0%	4%	73%	550			1%	10%	
<i>Lophius budegassa</i>	VIIb-k, VIIIabd				8%	10%	21%	3110			4%	8%	
<i>Lophius piscatorius</i>	IV, VI		587.1		0%	4%	73%	550			1%	10%	
<i>Lophius piscatorius</i>	VIIb-k, VIIIabd		2445		8%	10%	21%	3110			4%	8%	
<i>Aphanopus spp.</i>	all areas				5%	0%	0%				3%	3%	3%
<i>Beryx spp.</i>	all areas, excluding X and IXa				27%	0%	0%				23%	3%	3%
<i>Beryx spp.</i>	IXa and X				27%	0%	0%				23%	3%	3%
<i>Dasyatis pastica</i>	VII, VIII						15%				11%	0%	26%
<i>Pagellus bogaraveo</i>	IXa, X				29%		0%				28%		1%
<i>Trachurus picturatus</i>	VIII, IX, X										38%		
<i>Trisopterus spp.</i>	all areas									836			

Table 3.

High resolution differences. Excluding species with <200T landings and less than 3% TAC, and those cases identified in Table3. Differences tended to be related to individual MS. The number of cases in which landing differences of >10T was 12 cases (Table4a). The number of cases in which TAC differences of >10% was 14 cases (Table4b).

Table 4a – Differences in landings.

Species	Area	Landings(T) Differences		
		ES	IE	UK
Capros aper	V, VI,VII	0	32405	0
Lepidorhombus whiffiagonis	VII, VIIIabd	0	2570	2988
Pecten maximus	IV, VI, VII	0	3	3605
Lepidorhombus whiffiagonis	VI	0	450	579
Scomber scombrus	II, IIIa, IV, V, VI, VII, VIII, IX	0	945	1
Pollachius virens	VII, VIII	0	179	0
Cancer pagurus	all areas	0	45	0
Clupea harengus	VIIa	0	13	1
Clupea harengus	VIa	0	12	1
Merluccius merluccius	IIIa, IV, VI, VII, VIIIab	1	11	1
Micromesistius poutassou	I-IX, XII, XIV	1	9	1
Melanogrammus aeglefinus	VIIb-k	0	9	0
Gadus morhua	VIIe-k	0	6	1
Microstomus kitt	all areas	0	7	0
Clupea harengus	VIIj	0	6	0
Zeus faber	all areas	1	5	0
Pollachius pollachius	all areas except IX, X	0	5	1
Glyptocephalus cynoglossus	VI, VII	0	4	1
Melanogrammus aeglefinus	VIa	0	3	1
Melanogrammus aeglefinus	VIIa	0	3	1
Molva molva	all areas	0	4	0
Merlangius merlangus	VIIe-k	0	3	0
Maja squido	V, VI,VII	0	3	0
Homarus gammarus	all areas	0	2	1
Dicentrarchus labrax	all areas, excluding IX	1	0	1
Melanogrammus aeglefinus	Vb	0	0	1
Melanogrammus aeglefinus	Vib	0	0	1
Pollachius virens	Vb	0	0	1
Sebastes mentella	ICES Sub areas V, VI, XII, XIV & FO SA 2 + (Div. 1F + 3K)	1	0	0
Aspitrigla cuculus	all areas	1	0	0
Pleuronectes platessa	VIIe	0	0	1
Helicolenus dactylopterus	all areas	1	0	0
Molva dypterygia	all areas, excluding X	1	0	0
Mullus surmuletus	all areas	1	0	0
Alepocephalus bairdii	VI, XII	1	0	0
Conger conger	all areas, excluding X	1	0	0
Dicologlossa cuneata	VIIIc, IX	1	0	0
Octopus vulgaris	VIIIc, IXa	1	0	0
Sardi pilchardus	VIIIc, IXa	1	0	0
Sardi pilchardus	VIIIabd	1	0	0

Table 4b – Differences in landings.

Species	Area	% TAC Differences		
		ES	IE	UK
Clupea harengus	VIIa	0	26	26
Trachurus trachurus	VIIIc, IXa	38	0	0
Pleuronectes platessa	VIIIfg	0	31	3
Molva dypterygia	all areas, excluding X	3	0	19
Pleuronectes platessa	VIIh-k	0	18	4
Merluccius merluccius	IIIa, IV, VI, VII, VIIIab	7	5	9
Engraulis encrasicolus	IXa (only Cádiz)	20	0	0
Pollachius pollachius	IX, X	18	0	0
Micromesistius poutassou	I-IX, XII, XIV	13	2	3
Phycis blennoides	all areas	2	2	10
Solea solea	VIIIfg	0	0	14
Pollachius pollachius	all areas except IX, X	10	0	2
Merlangius merlangus	VIII	12	0	0
Merlangius merlangus	VIIe-k	0	7	5
Solea solea	VIIa	0	2	10
Lepidorhombus whiffiagonis	VII, VIIIabd	5	1	4
Pleuronectes platessa	VIIa	0	9	1
Molva molva	all areas	6	1	2
Lophius budegassa	VIIIc, IXa	8	0	0
Lophius piscatorius	VIIIc, IXa	8	0	0
Solea solea	VIIhjk	0	5	1
Melanogrammus aeglefinus	VIa	0	3	4
Pleuronectes platessa	VIIe	0	0	6
Engraulis encrasicolus	VIII	5	0	0
Merlangius merlangus	VIa	0	5	0
Merlangius merlangus	Vib	0	5	0
Gadus morhua	VIIa	0	2	3
Melanogrammus aeglefinus	VIIa	0	0	4
Gadus morhua	VIIe-k	0	3	1
Merlangius merlangus	VIIa	0	1	2
Lepidorhombus boscii	VIIIc, IXa	3	0	0
Lepidorhombus whiffiagonis	VIIIc, IXa	3	0	0
Scomber scombrus	II, IIIa, IV, V, VI, VII, VIII, IX	0	1	2
Lepidorhombus whiffiagonis	VI	0	1	1
Pollachius virens	Vb	0	0	1
Solea solea	VIIe	0	0	1
Melanogrammus aeglefinus	VIIb-k	0	0	1
Melanogrammus aeglefinus	Vib	0	0	1
Gadus morhua	Vib	0	0	0

Annex 19. Subgroup on diadromous species

Introduction

The Diadromous fish Sub Group (DSG) of the Baltic Regional Coordination Group (RCG Baltic) met in Turku, Finland, from September 4-8 2017. The sub group was attended by 11 experts on Atlantic salmon, sea trout, and eel, plus one person each from the ICES Secretariat and DG MARE. The experts represented seven countries, although from outside the Baltic area only the United Kingdom was represented at the meeting.

The draft ToRs were discussed and agreed by the sub group in plenary, before being allocated as tasks to individual members. It was decided to structure this annex according to the ToRs with a slightly changed order, so a particular line of logic was followed.

A series of questions are posed to the ICES Working Groups in their role as end users. These questions are highlighted in the relevant text sections, but also tabulated at the end of this annex to ease their transmission to ICES.

ToRs

ToR 1: Review aims and objectives of the RCGs to clarify those most relevant to diadromous species, and use these to form a virtual RCG-Diadromous

Regulation (EU) 2017/1004 of the European Parliament and of the Council on the establishment of a Union framework for the collection, management and use of data in fisheries sector and support for scientific advice regarding the Common Fisheries Policy (CFP), imposed the necessity to sample eels (*Anguilla anguilla*) and Atlantic salmon (*Salmo salar*) in relevant marine and inland waters, as well as anadromous trout (*S. trutta*) in the Baltic Region (but not Atlantic), to enable an ecosystem-based approach to fisheries management and conservation as necessary for the operation of the common fisheries policy.

The purpose of RCGs in general

According to the COMMISSION IMPLEMENTING DECISION (EU) 2016/1701, and the REGULATION (EU) 2017/1004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2017 (DCF Recast), Member States and the Commission shall coordinate their efforts and cooperate in order to further improve the quality, timeliness and coverage of data enabling further improvement of the reliability of scientific advice, the quality of the work plans and the working methods of the regional fisheries management organisations to which the Union is contracting party or observer and of international scientific bodies.

In view of the objective of the Common Fisheries Policy to give more responsibility to Member States and to better involve end-users of scientific data in data collection, regional coordination should be a continuous process coordinated by regional coordination groups (RCGs) for each marine region (Baltic, North Sea & Eastern Arctic, North Atlantic, Mediterranean & Black Sea). RCGs shall consist of experts appointed by Member States, including national correspondents, and the Commission.

RCGs should develop and implement procedures, methods, quality assurance and quality control for collecting and processing data with a view to enabling the reliability of scientific advice to be further improved. The RCGs should also aim to develop and implement regional databases, and should start all the necessary preparatory steps in order to attain that goal.

Member States should determine the way they collect data, but in order to be able to combine data on a regional level in a meaningful way, minimum requirements for data quality, coverage and compatibility should be agreed by Member States at regional level. When there is general agreement on the methods at regional level, RCGs should, on the basis of that agreement, submit a draft regional work plan for approval by the Commission.

Those draft regional work plans may include procedures, methods, quality assurance and quality control for collecting and processing data, regionally coordinated sampling strategies and conditions for delivery of data in regional databases. They may also contain cost-sharing arrangements for participation in research surveys at sea. A regional work plan shall be considered to replace or supplement the relevant parts of the national work plans of each of the Member States concerned.

The process to determine the details of methodologies to be applied in collecting data should essentially include cooperation between Member States and data users in RCGs, and validation by the Commission through the approval of work plans submitted by Member States.

In preparing its national work plan, each Member State shall, in the framework of the regional coordination groups referred to in Article 9, cooperate and coordinate its efforts with other Member States, in particular those in the same marine region, to ensure sufficient and efficient coverage and avoid duplication of data collection activities. In that process, Member States shall also aim to involve relevant stakeholders at the appropriate level. Where appropriate, such cooperation and coordination may also take place outside the framework of the RCGs.

These legislations specified a series of regional coordinations relevant to diadromous species:

- Data shall be collected to enable valid estimates to be derived for the type of fisheries, temporal periods and areas based on end-user needs agreed at marine region level. The frequency of data collection is to be coordinated at marine region level, unless stated otherwise in this Annex and corresponding tables.
- For commercial fisheries, the temporal resolution of collecting data on volume and length frequency of all catch fractions (including discards and unwanted catches), on mean-weight and age distribution of catches of the stocks shall be coordinated at marine region level based on end-user needs. The selection of stocks from which sex-ratio, maturity and fecundity data have to be collected, the temporal resolution shall be coordinated at marine region level based on end-user needs.
- For recreational fisheries, annual volume (numbers and weights or length) of catches and releases for the listed species and/or the species identified at marine region level as needed for fisheries management purposes, and (sic) end-user needs for age or other biological data as specified shall be evaluated at marine region level.
- The designation of index rivers to be monitored for eel and (or, sic) salmon shall be defined at regional level. The selection of stocks from which these variables have to be collected shall be coordinated at regional level and based on end-user needs. And as regards all wild salmon, information on the abundance of smolt and parr, and number of ascending individuals should be collected annually, unless agreed otherwise at regional level.

The form and purpose of the diadromous sub group

Given the geographical span as well as the regional need to organise and coordinate data collection of diadromous species, the Liaison Meeting of 2016 discussed the need for a pan-regional subgroup on these species (eel, salmon, sea trout) and wished to initiate a subgroup on this to prepare advice on what needs to be done for diadromous species in a Regional Work plan, including listing end user needs (variables required, frequency, intensity), including possible needs for regional agreements (e.g. setting index rivers) and time frame for implementation.

The diadromous experts considered the proposal for a pan regional sub group on diadromous species, confirmed this proposal, and therefore initiated the Diadromous Sub Group (DSG). The DSG should be considered as a subgroup of all four RCGs (North Atlantic, North Sea & Eastern Arctic, Baltic, and Mediterranean & Black Sea). As such and in addition to intersessional work, the DSG will meet annually, attending alternating venues and meetings of these RCGs.

The DSG has the following aims and objectives with reference to regional coordination:

- Develop and implement procedures, methods, quality assurance and quality control for collecting and processing data with a view to enabling the reliability of scientific advice to be further improved.
- Aim to develop and implement regional databases, and should start all the necessary preparatory steps in order to attain that goal.
- To regionally coordinate eel, salmon and sea trout data collection
- Prepare regional work plans

- Ensure information flow between member states and relevant end-users such as the ICES assessment working groups
- Ease the reporting of EU MAP National Work Plans and Technical Reports by creation of guidelines or clarify uncertainties,
- Advise on the evaluation of sampling in these plans and reports
- Develop sampling schemes
- Define quality and identify suitable quality indicators for these evaluations, and sampling schemes
- Advise on regional and national data collection programmes under the EU MAP in support of stock assessments

The DSG will follow the Rules of Procedures set for all the RCGs. The Rules of Procedures for the Baltic RCG are provided in the RCG Baltic 2017 report. It is assumed that the other RCGs will adopt the same or similar Rules of Procedures.

According to these RCG Rules, the RCGs set ToRs for the sub-groups, so it is anticipated the ToRs of the DSG will be set via the four RCGs, plus any others proposed by the DSG itself. The DSG has proposed the aims and objectives above as a draft set of ToRs for 2017/18, subject to approval of the Liaison Meeting and RCGs.

Note that other diadromous species such as shads, lampreys and smelt, and sea trout outside the Baltic, are outside the remit of the DSG for now because data collection is not required on them by the EU MAP. But data collection and assessment of some of them is important and opportunities and drivers for regional coordination should be revisited from time to time.

ToR 4. Consider the circumstances that make sense for Regionalisation (coordination) of data collection for each species.

As part of the defining the aims and objectives, the DSG considered the merits of regional coordination of salmon, sea trout and eels in support of stock assessments. As a result of this ToR 4 is reported out of sequence. Regional coordination of especially salmon in the Baltic is well established, though not fully implemented for all stocks or sea trout. Outside the Baltic regional coordination for salmon and eel is less well established.

Baltic eel

The European eel, *Anguilla anguilla* (L.), is found and exploited all over Europe, northern Africa and Mediterranean parts of Asia. The whole stock constitutes a single, panmictic population, spawning in the far-out Sargasso Sea. On the continent, eels occur in coastal areas, estuaries, lagoons, rivers, lakes, marshes, streams and ditches. In the past century, fishing yield has gradually declined to below 10% of former levels. In 1980, a prolonged recruitment decline started, down to only 1-10% nowadays.

The eel in the Baltic constitutes an important part of the total European stock; the pre-amble of the Eel Regulation stresses the need to devote special attention to this area. Catches in commercial fisheries in the Baltic amount to approx. 1250 t, out of a European total of 5000 t (FAO data, since 2000, no trend in percentage). Most of this concerns catches in inland waters; for marine waters, Baltic catches amount to 500 t, out of a European total of 600-800 t in marine waters. Recently estimated stock indicators (current, potential and pristine biomasses) indicate that the Baltic comprises just over a quarter of the total European stock (this comprises only EU member states that did assess their stock; a substantial number of member states did not, and no non-EU countries did).

Across the whole European distribution area, biological traits, habitat characteristics and exploitation patterns of the eel differ fundamentally. Within the Baltic, stock abundance and anthropogenic pressures vary over orders of magnitude between habitats and latitudes, and the importance of different anthropogenic impacts varies from area to area. A special position is taken by the fishery on emigrating silver eel in the Straits between Denmark and Sweden, exploiting eels derived from the stocks scattered all over the Baltic; annual catches of these fisheries come at almost 500 t, equally divided between the two countries.

In 2008, Eel Management Plans have been developed on a national basis without mutual coordination, applying a variety of assessment methods, often based on freshly started national data series. The governments cooperating in HELCOM aim for integration of their national plans. In 2010, a first Baltic Eel workshop was jointly organized by HELCOM and ICES. This workshop compiled an overview of available information on the eel stock in the Baltic.

In 2012 and 2015 (and again in summer 2018), EU Member States were obliged under the Eel Regulation to report on the status of their eel stocks, and the effect of their management plans. The template for these post-evaluation reports provided a standardised reporting system for national stock indicators, allowing for mutual comparison, international integration and evaluation against the targets.

Figure 1, below, provides an extract of the results for the Baltic, for the year 2015. This figure highlights a major problem in the monitoring and assessment of the eel in the Baltic: though most Member States collect basic data, a substantial number of Member States do not assess their part of the stock, their impacts and the effect of their protective actions. This omission not only hampers the evaluation of national actions, but also disables the evaluation of the interactions between Baltic member states, and the integration at the pan-Baltic level. The mutual interactions thus remained unquantified, and the national contributions to the urgently required protection of the shared stock are hard to compare. A comprehensive coordination and integration, covering monitoring, assessments and management evaluation, is obviously badly needed.

Outside the Baltic (not shown), non-reporting is an issue, too, but no direct interaction between member states occurs in impacts or protective measures.

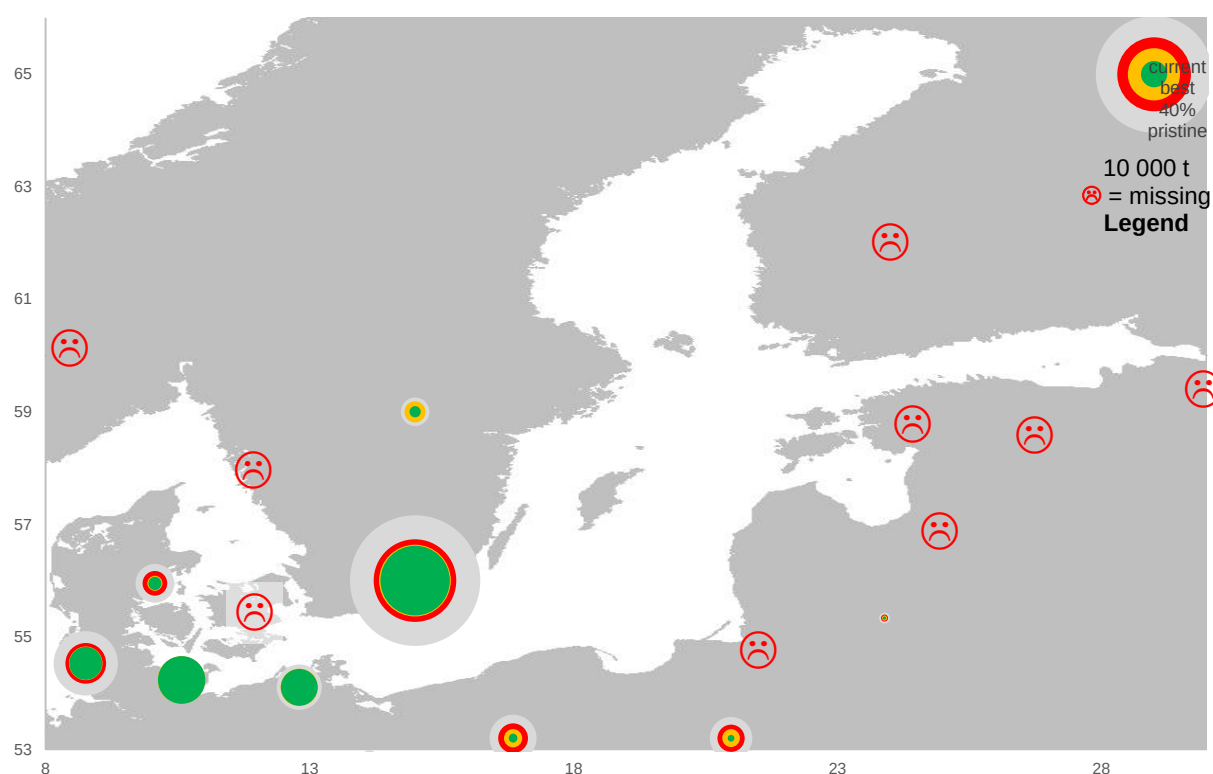


Figure 1 Estimates of silver eel runs and management targets per eel management unit, reported in 2015. For each area, estimates are given for the current silver eel run (current = green), the potential run given the current low recruitment (best = orange), the escapement target of the EU Eel Regulation (40%, red), and the pristine biomass estimate (pristine = grey); for areas without information, a weeping smiley (☹) is shown (Data from ICES, 2016a).

Eel outside the Baltic

The DSG recognizes that regional coordination for eel in the Mediterranean may be beneficial, and the General Fisheries Commission for the Mediterranean (GFCM) is thought to be developing a regional management plan. However, as little information was available to the DSG, it is **recommended** to put this question to the RCG Mediterranean & Black sea and ICES WGEEL:

- **RCG Mediterranean & Black Sea to consider and report any benefits to eel assessment of regional coordination of data collection in the Mediterranean.**
- **WGEEL to consider and report any benefits to eel assessment of regional coordination of data collection in the Mediterranean.**

The merits of regional coordination for eels in the North Sea & Eastern Arctic, and North Atlantic regions are more difficult to define. Some potential opportunities were briefly explored for eel.

Recruitment indices: WGEEL would like full coverage across EMUs and beyond. However, consideration of regional coordination would also benefit from understanding the relative importance of individual indices to the assessment. WGEEL could analyse the contributions of the indices within regions to examine whether we can establish guidelines for the number and distribution of indices. In addition, the RCG Med&BS has proposed pilot studies of eel recruitment.

Escapement and anthropogenic mortality rates (including catches & landings): catches/landings amounts required for all fisheries; anthropogenic mortality rates (fisheries & others) are required for each eel management unit. MS use various methods to develop these stock indicators, and therefore use various types of data. Although eel management plans were approved through scientific technical review in 2009/2010 at first implementation, some analytical methods have developed further since then but not all have been reviewed. The WGEEL has noted in annual reports that the data quality is uncertain and should be determined, e.g. statistically sound sampling schemes, appropriate spatial and impacts coverage. WGEEL has made preliminary proposals for data quality indicators but work remains to be done.

In general, however, as the North Sea & Eastern Arctic, and North Atlantic regions were not well represented at the DSG 2017 it was **recommended** to ask these questions to the WGEEL:

- **WGEEL to consider and recommend any regional coordination of data collection in support of eel stock assessment in the North Sea & Eastern Arctic, and North Atlantic RCG regions.**
- **WGEEL to advise on data quality indicators, the quality of data supplied by MS, the effect of these qualities on the assessments, and therefore identify any significant improvements in data quality required.**

Baltic salmon & sea trout

For Baltic salmon and sea trout the circumstances that make sense for regionalisation of data collection are covered under ToR 2 in the section below. Still DSG **recommends** it would be prudent to request WGBAST to answer this question:

- **WGBAST to consider and recommend any regional coordination of data collection in support of Atlantic salmon and sea trout assessment in the Baltic.**

At an ICES workshop in 2012 on DCF Data for eel and salmon (WKESDCF; ICES 2012) a comprehensive list of proposals for data collection was produced. Those recommendations were recently reviewed and commented by WGBAST (ICES 2016b) with respect to Baltic salmon. Table 1 provides an updated outline of the data requirements by WGBAST, and to what extent such data are provided by the current DCF. It also gives an overview on whether or not these data are used.

Type of data	Collected under DCF	Available to WG	Reviewed and evaluated by WG	Used in current assessment	Future plans	Notes
Fleet capacity	yes	no *)	no	no	n	Incompatible with current assessment model
Fuel consumption	yes	no *)	no	no	n	Incompatible with current assessment model
Fishing effort	yes	yes	yes	yes	n	-
Landings	yes	yes	yes	yes	n	-
Discards	yes	yes	yes	yes	n	-
Recreational catches	yes	yes	yes	yes	increased use	-
Recreational effort	yes	yes	yes	no	increased use	-
Age composition	yes	yes	yes	partly used	increased use	Only river samples used at present
Wild/reared origin (scale reading)	yes	yes	yes	yes	n	-
Length & weight at age	yes	yes	yes	partly used	n	Not incorporated in current assessment model
Sex ratios	yes	yes	yes	partly used	n	Not incorporated in current assessment model, river samples used
Maturity	yes***)	no ***)	no	no	n	-
Economic data	yes	yes	partly used	no	n	Incompatible with current assessment model
Data processing industry	yes	no *)	no	no	n	Incompatible with current assessment model
Electrofishing data	yes	yes	yes	yes	evaluation needed	-
Smolt trapping data	yes	yes	yes	yes	increased use	-
Tagging data	no	yes	yes	yes	n	No new Carlin-data used since 2010 (too few recoveries). In some rivers PIT-tags are used.
Fish ladder data	yes	yes	yes	yes****)	increased use	Several rivers with fish counters are not funded within DCF
Genetic data	yes **)	yes	yes	partly used	evaluation needed	Not incorporated in current assessment model, used as independent information

*) Not asked for by the working group.

***) Not mandatory under current DCF.

****) DCF requires collection but only a few, if any, countries are doing it.

****) Partial use.

n. No change.

Table 1. Overview of compatibility of Baltic salmon data collected under the DCF with the data needed for stock assessment.

At present, the various datasets listed in Table 1 are mainly retained in excel files kept by WGBAST experts. In addition to those data there are other sources of information used for the Baltic salmon assessment that are not collected under the DCF. Such information includes young fish releases and incidences of M74 (yolk sac phase mortality) at hatcheries, fish counting in several rivers and electrofishing performed within environmental monitoring programs. In addition, as described above, recreational fishery statistics and electrofishing data (parr densities) for sea trout plays crucial roles for assessment. All these data are so far retained in excel files, and should be considered to be transferred to corresponding ICES databases when possible.

The recent benchmark WKBALTSalmon (ICES 2017a) made an effort to transfer the data series of salmon and sea trout catches, discards and efforts from years 1992-2015 into InterCatch (the ICES web-based database). However, the data transfer failed, partly because all countries did not manage to submit all required data and the whole intended time series. Inputting of catch and effort data to ICES based InterCatch database is in process. Also the catch estimates of recreational fisheries are planned to soon be transferred into InterCatch.

In addition, salmon catch sampling data is retained in the RDB (at that part it is collected by MSs). So far age composition data is only partly used in the Baltic salmon assessment, but there are plans to increase the use of these data in the assessment (Table 1).

Atlantic salmon

Benefits to regional coordination for Atlantic salmon in the North Sea & Eastern Arctic, and North Atlantic regions were not immediately obvious to the DSG, possibly due to these regions being underrepresented at the DSG 2017. The DSG agreed to **recommend** the WGNAS to consider if regional coordination of data collection would be beneficial in these areas:

- **WGNAS to consider and recommend any regional coordination of data collection for Atlantic salmon assessment in the North Sea & Eastern Arctic, and North Atlantic RCG regions.**

ToR 2: Review progress towards these aims and objectives since the 2016 Regional Coordination Meetings, and list the remaining tasks

Progress

As the DSG was formed and its aims and objectives drafted at the RCG Baltic 2017 meeting, there was no direct progress in this work since the RCMs in 2016. However, the ICES Working Groups WGBAST and WGEEL have done work that is relevant to the DSG. This work is summarized here, and more detail can be found in the cited WG reports. For WGNAS a summary of work relevant to DSG was available in the WKESDCF report (ICES, 2012), of which a summary is presented here.

Baltic salmon and sea trout

The Baltic salmon and sea trout consist of multiple river stocks that are genetically distinct. Because of the pronounced population genetic structure, Baltic salmon and sea trout cannot be regarded as one single assessment or management unit. Instead, assessment is focused on restricted assessment units and rivers, and management objectives are evaluated both on an assessment unit level (salmon & trout) and on a river-by-river basis (salmon). Even though some salmon and sea trout rivers/streams are relatively small in terms of their production capacity, they may be important from a conservation perspective because of their unique genetic background and roles in local ecosystems.

During their feeding migrations salmon and sea trout stocks are subject to mixed-stock commercial and recreational fisheries in the sea (offshore and coastal), whereas fisheries in estuaries and rivers are mainly targeting a single stock. As a consequence, in addition to information collected from the commercial and recreational sea fisheries, data from fisheries and biological parameters collected in rivers are needed to assess stock status and fishing opportunities.

Baltic salmon

In the Baltic Sea there are currently 58 salmon rivers, out of which 28, 12 and 18 are considered as wild, mixed and reared, respectively. In addition, a relatively large number of potential rivers (several with ongoing reintroduction programs or occasional reproduction) exist. At present, ICES assesses stock status analytically for 17 wild salmon rivers. In addition the stock status of 25 rivers is assessed by expert evaluation based on available data.

Within the Baltic Sea area, six different assessment units (AUs) for salmon have been established (Figure 2). The grouping of rivers within an assessment unit is based on management objectives and

biological and genetic characteristics of the river stocks contained in a unit. River stocks of a particular unit are presumed to exhibit similar migration patterns at sea. It can therefore be assumed that they are subjected to the same sea fisheries, experience the same exploitation rates and are affected by management of sea fisheries in the same way. In addition, the genetic variability between river stocks of an assessment unit is smaller than the genetic differences between river stocks of different units.

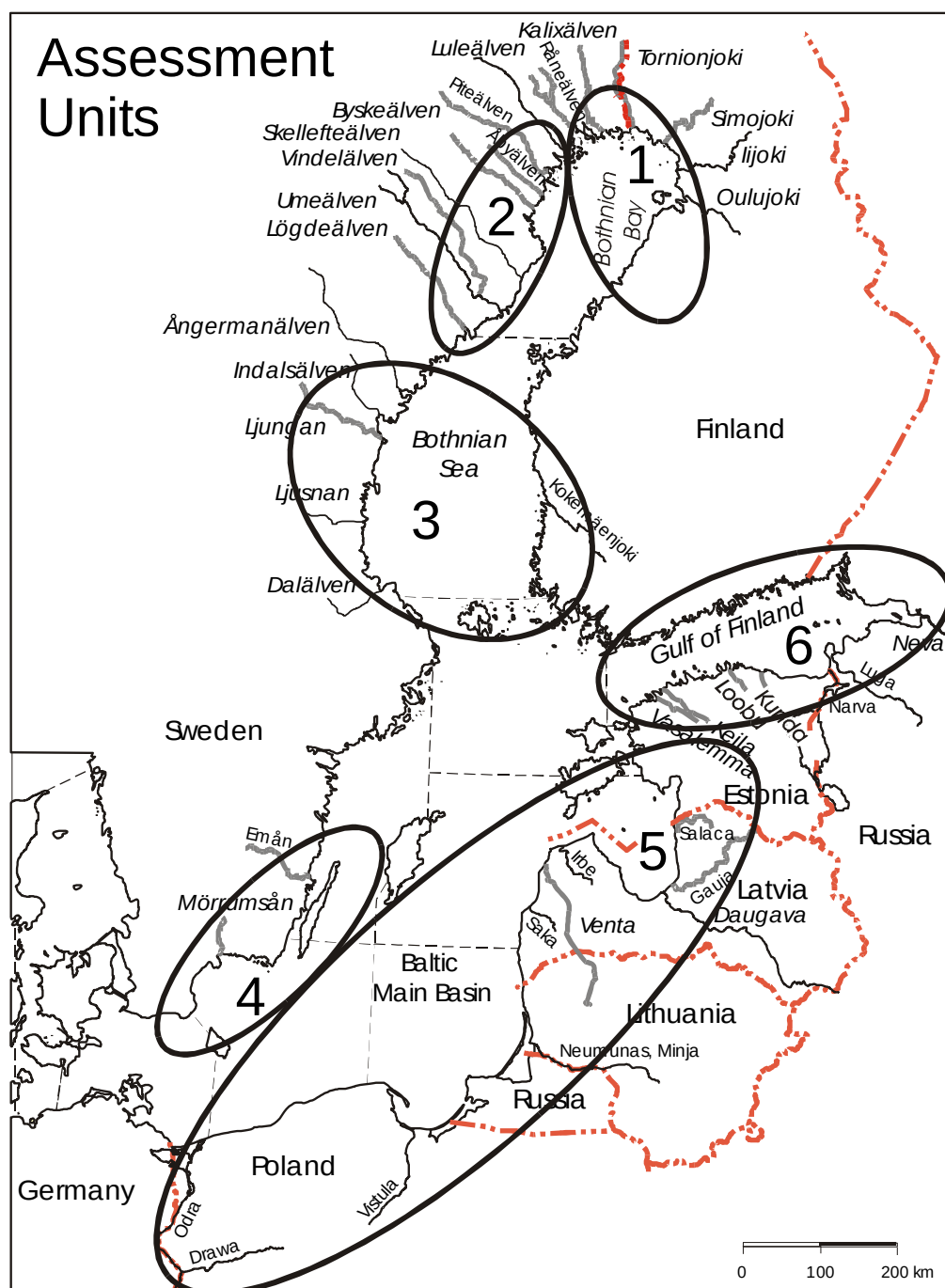


Figure 2. Grouping of Baltic salmon river-stocks into six assessment units used by WGBAST (wild salmon rivers marked in grey). The genetic variability between river stocks of an assessment unit is smaller than the genetic variability between river stocks of different units. In addition, river stocks of a particular unit exhibit similar migration patterns. Note that two Swedish "new" wild salmon rivers (Testeboån, AU3 and Kågeälven, AU2) are missing, and that not all Baltic rivers are indicated on the map.

WGBAST has continuously described and summarised ongoing data collections and needs. The amount and quality of information available differs significantly among rivers and assessment units. Because of

the discrepancies between the amounts of information available on wild salmon in different assessment units, the uncertainties in the assessment of stock status differ significantly between assessment units.

Over the years, WGBAST has repeatedly stressed the importance of the establishment of selected index rivers in all AUs. Monitoring in such rivers should consist of electrofishing, smolt trapping and counting of spawners. Index rivers are needed to monitor the actual importance of the fisheries for the future development of all river stocks within the AU, to estimate properly the at-sea survival, and to create stock-recruit functions to be able to calculate the actual potential smolt production capacity of the rivers and estimate future developments under different exploitation scenarios. However, until present full monitoring including all elements (parr, smolts, adults) has only taken place in a few index rivers not covering all AUs.

Electrofishing data are also collected and used for assessment in all non-index rivers listed as wild. In the present assessment model for Baltic salmon it is not necessary to have annual surveys in every river; they could be carried out for instance every second or third year. However, monitoring in all non-index salmon rivers should be arranged so that each juvenile cohort is sampled at least once before smoltification. Further, decisions on when to collect electrofishing data must account for how well rivers are covered with monitoring sites, and by no means should be influenced by expected changes in abundance of salmon. Even a few years with smolt trapping in non-index rivers have been documented to give valuable complementary information; a smolt trap may be used for a couple of years and then moved along to another river. Occasional smolt trapping in non-index rivers could have a high priority in relation to annual high intensity electrofishing surveys.

Tagging data are currently used for many purposes by WGBAST. Carlin-tag data are the basis of the current assessment models for salmon in the Main Basin and the Gulf of Bothnia, but because the quality of the tag-recapture data has decreased considerably, there is a need for other fishery independent tagging systems (e.g. PIT tags) providing supplementary information on migrations and survival.

Catch data on recreational fisheries is used in the Baltic salmon stock assessment. However, most estimates are uncertain and improvements in survey applications are needed. For example, the trolling fishery in the Baltic Main Basin has developed considerably and involves an increasing number of fishers in several countries (ICES 2017b). Quantity and quality of data from recreational fisheries in many rivers also need to be improved. To assess the total exploitation rate in the recreational fisheries, increased efforts to gather relevant data are needed from all countries involved.

Analyses of sea catches are regularly carried out using scale reading and genetic markers (DNA). Scale reading data is used in the assessment for estimating proportions of wild and reared salmon. In contrast, estimates of river stock catch proportions (mixed stock analyses, MSA) based on genetic data combined with smolt age information (from scales) are currently not directly incorporated into the Baltic salmon stock assessment; however, MSA results have served as a valuable source of independent information for evaluations of the assessment. Both scale reading data and genetic analyses of catch samples are regarded important, but efforts should be taken to utilise this information (especially MSA) more in the assessment than hitherto. It is further important that the collection of samples for analysis is more flexible so that it can be adapted to changing needs (ICES 2015, 2016b).

Baltic sea trout

Sea trout populations exist in hundreds of smaller and larger rivers (including tributaries) spread across all countries around the Baltic Sea. Compared to salmon, sea trout has a more complex life cycle. Recreational sea trout catches are also perceived to be proportionally more important than for salmon, although there is much need for improved data collection of the heterogeneous recreational fishery in sea and rivers all around the Baltic (rod fishing from shore and boat, gill netting, etc.).

The current assessment of sea trout in the Baltic Sea is based on a statistical model based mainly on electrofishing densities, where other basic observations are also taken into account (tagging data, spawner counts, catch statistics, etc.). Because of the large number of river stocks, whereof many are lacking data, status has to be assessed on the regional level (currently the Baltic Sea is divided into five assessment areas for sea trout). A new working group within ICES Working Group on Sea Trout (WGTRUTTA) is currently reviewing the Baltic model and other approaches for assessment of sea trout, including data needs.

With respect data collection for Baltic sea trout, WGBAST has emphasized that a better geographical coverage than hitherto, with a sufficient number of electrofishing sites from more typical trout streams, is important. This need is relevant both for the actual assessment as such, and in order to evaluate how well the application of the assessment model employed work in these areas. A better coverage is especially relevant in northern parts of the Baltic, where most present fishing sites are situated in larger

rivers, chosen primarily for salmon monitoring. Also in the southwest Baltic there is currently a lack of sites being collected annually.

The current Baltic assessment model for sea trout builds on comparisons of observed parr densities (from electrofishing) with estimated maximum densities at sites with good conditions, no migration obstacles and no or low impact from fishing. This is to a large extent depending on expert judgment. If an array of sea trout index rivers, with counts of both smolt and returning adults, was established, it would be possible to express recruitment as a proportion of maximum density, and to include spawning targets. In addition, data on recreational catches should be consistently collected, taking into account the potentially high impact of recreational fisheries on sea trout stocks and the present lack of such data in several countries.

Eel

A joint data call, Data submission for advice for European eel under WGEEL – Part 1: 2017, with deadline 18th September was recently published by ICES, EIFAAC and GFCM (http://www.ices.dk/marine-data/Documents/Data_calls/20170816_Eel_data_call_2017.pdf). The data and metadata provided for this data call (2017) will support the annual stock assessment in support of the advice for the eel stock. The call was developed by the workshop WKEELDATA that defined the data requirements and data quality standards, modified WGEEL data spreadsheets, and planned work to create a future database with ICES Data Centre.

For practical reasons this data call is split into two parts. In part one, deadline 18th September 2017, data are requested on recruitment, catches and landings, restocking amounts and aquaculture production. Not only recruitment and catches and landings are relevant to the DCF, but all are relevant to assessment of eel stock status. The data types of Part 1 are further described in the WKEELDATA report (ICES, 2017c) as well as the data call, and below.

In Part 2, deadline in 2018 but date to be confirmed, data will be requested on annual update of the Part 1 data, plus the biomass and mortality estimates which are part of the EU Eel Regulation (Council Regulation 1100/2007). Part 2 is being developed by the WGEEL during and after its 2017 meeting.

Recruitment

- Recruitment data are defined as the quantities of eel caught at specific (index) locations as they 'recruit' to the local vicinity. These captures can be either by fisheries or fishery-independent studies, which include handnets, fykenets or trapping ladders.
- The WGEEL uses these time-series data to calculate the Recruitment Indices, relative to the reference period of 1960–1979, and the results form the basis of the annual Single-stock Advice reported to the EU Commission. These recruitment indices are also used by the EU CITES Scientific Review Group in their annual review of the Non-Detriment Finding position.
- Data should be provided as annual total values.
- The units of data are either numbers or weight (kg) of eel, or indices.
- Those recruitment dataseries used in the Recruitment Indices are described in detail in the ICES European eel Stock Annex: (http://ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2015/Anguilla_anguilla_S_A.pdf). However, the data call also seeks new dataseries not listed in the Stock Annex.
- The recruitment series are categorized as glass eel, young eel, and larger yellow eel recruiting to continental habitats. The glass eel recruitment series are either comprised only of glass eel (i.e. zero age cohort) or a mixture of glass and young yellow eel. The young or larger yellow eel may consist of multiple year classes of eel but they are all 'recruiting' to the stock past the survey point in the same year.

Catches and Landings

- Catches are defined as the quantity of eel that are caught by fishing gears (defined by the FAO as the 'gross catch').
- Landings are defined as the quantity of eel that are retained after capture (defined by the FAO as the Retained Catch), or to put it another way, removed from the water basin or management unit. So, Landings should not include any eels subject to assisted migration within the same river basin, or scientific studies where they are returned alive to the waters where they were caught.
- The WGEEL uses these data to report trends in catches and landings in the ICES Single-stock Advice. This information is requested by the Administrative Agreement between ICES and the EU Commission.
- Data should be provided as annual total values, according to life stage (glass, yellow, and silver) and fishing activity type (commercial or recreational).
- The units of data are kg.

- As noted above, care should be taken to be clear whether the data reported are for catches or landings. The Stock Annex notes that there is a great heterogeneity among time-series of landings (also catches) because of inconsistencies in reporting by, and between, countries, as well as incomplete reporting of non-commercial and recreational fisheries.

Restocking

- Restocking data are defined as the quantity of eel that are released alive in-to waters of a basin or management unit other than the basin/management unit where they were caught (i.e. NOT including assisted upstream migration).
- The WGEEL uses these data to check against eel production estimates and anthropogenic mortality rates reported by countries.
- Data should be provided in annual totals per eel management unit.
- The units of data are numbers and kg of eel when they are restocked.
- Note that a potential consequence of restocking could be that estimates of silver eel production for the restocked basin could be higher than those of historic production.

Aquaculture production

- Aquaculture production data are defined as the quantity of eel produced on an annual basis from aquaculture facilities.
- The WGEEL uses these data in addressing its remit to report annually on the state of the stock, associated fisheries and other anthropogenic impacts.
- Data should be provided as annual total weights per country.
- The units of data are kg.
- Some aquaculture production data have previously been included in official landings statistics but this must be avoided.
- Some eel are grown in aquaculture for periods of time and then released alive to waters not necessarily those from where they were caught. This can be done for a variety of reasons. Such eels should be registered as re-stocked and not as aquaculture production.

North Atlantic salmon

According to the report of WKESDCF (ICES, 2012) the data required to meet international commitments for the assessment and management of North Atlantic salmon fall into three broad categories:

- data requested by the North Atlantic Salmon Conservation Organisation (NASCO) to inform management;
- data requested by ICES to undertake international assessments; and
- data required by national/regional management agencies to establish stock reference points and undertake river-specific stock assessments according to NASCO principles.

The second category includes data required by WGNAS to run the stock assessment (Pre Fisheries Abundance and national Conservation Limit model) and forecast models and the time-series of data required for the North East Atlantic Commission (NEAC) Frame Work of Indicators (FWI). The data required to meet international commitments for the management of North Atlantic salmon stocks may therefore be summarized as follows:

Data are requested annually by NASCO:

- catches and landings by country, by location (river, estuary, coast);
- unreported catches by location (river, estuary, coast);
- numbers of salmon caught and released in recreational fisheries;
- production of farmed salmon; and
- production of ranched salmon.

Data requested and updated annually by ICES to undertake the NEAC stock assessment are:

- Catch data by nets and/or rods by country/region by sea age;
- Exploitation rate estimates relating to catches, index or monitored rivers;

- Unreported catches (as totals or ratio of reported catch).
- Data requested by ICES to undertake the NEAC stock assessment but not updated annually;
- Timing (midpoint) of home water returns by age (1 Sea Winter and Multi Sea Winter);
- Fecundity of adults by age (1SW and MSW);
- Sex ratios of adults by age (1SW and MSW);
- Age composition of smolts.

Data not specifically requested by ICES or NASCO but included in ICES advice to NASCO annually to inform on the key factors affecting salmon stock status are:

- Return rates to freshwater from juvenile migration for wild and hatchery fish providing a “proxy” for marine survival and long-term changes e.g. possibly linked to climate change.
- Smolt production and adult returns for index rivers
- Data required for the NASCO-NEAC Framework of Indicators:
- The time-series of data (e.g. returning stock counts, catches and smolt-to-adult return rates) used in the FWI are agreed at the start of any multi-annual regulatory measure, but may be changed with the adoption of a new multi-annual measure; national representatives will be expected to update the FWI time-series annually (by end of January).

Data required by national jurisdictions:

- Jurisdictions require different datasets to support the variety of methods, used to establish stock specific conservation limits and to assess annual compliance with these limits (as required under NASCO Agreements and Guidelines); these data may include data from counters, traps, electric fishing surveys and other sampling programmes.

These data requirements for North Atlantic salmon were compiled as part of the ICES Workshop on Eel and Salmon DCF Data (ICES, 2012) and the assessment process is described in a Stock Annex (<http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2015/WGNAS/WGNAS%20Stock%20Annex%20for%20Atlantic%20salmon.pdf>). Even though the data requirements are not known to have changed, it would be prudent to ask WGNAS to consider if these still apply. It is therefore **recommended** to ask the following question to WGNAS:

- 1) **What are the data needs for the individual EU member states in order to conduct an annual assessment for Atlantic salmon?**

In addition, the following two questions should also be asked to WGNAS to further inform the RCG on the assessment process:

- 2) **Which are the appropriate management units for these assessments?**
- 3) **Which are the appropriate rivers where data should be collected, and what is the rationale for selecting these particular rivers?**

Remaining tasks

DSG will shortly develop an intersessional plan of work from September 2017 to September 2018, and beyond. This will include reacting to the answers provided by the ICES WGs as end-users (questions below).

ToR 3. Ease the reporting of EU MAP National Work Plans and Technical Reports by clarifying what information goes where (i.e. how to report it correctly) and under what circumstances requests are not relevant.

In preparation for work to ease the reporting and evaluation of national work plans and technical reports, the DSG examined the recent STECF reports from 2016 and 2017. The following

recommendations were extracted and are reproduced here. In addition to the recommendations specific to anadromous and catadromous species, some general recommendations are relevant to the planning and reporting of these species but are not listed here.

- It is clear that further guidance is needed by MS for example on whether sea trout (*Salmo trutta*) data are required in all areas rather than just the Baltic Sea as listed in tables 1A and 1E of the implementing decision 1251/2016.
- This table does not allow scientific evaluation of work plans. It provides a reference for compliance and is only informative. For quality evaluation of the work plans additional information would be required beyond this table.
- An appropriate Scheme ID would provide a reference to a completed line in Table 5A which would then link to any appropriate documents describing the sampling scheme and a reference to any external evaluation.
- To avoid confusion and aid clarity of meaning the heading Area has been changed to Region and Water Body to Sampling Site.
- The Scheme ID or a suitable method for creating one should be provided by the appropriate expert group (WGEEL, WGBAST, WGTRUTTA).
- The number of Eel Management Units (EMUs) and Sampling sites (Waterbodies) listed could be reduced significantly by describing the sampling schemes remotely following guidelines defined by the expert group.
- If a MS is not sampling an EMU, justification should be given in the field “reason for not sampling”. This justification can be accepted if it is in line with recommendations made by RCM and ICES/WGEEL.
- Survey ID – an appropriate expert working group should either provide the unique ID or instruction on how it is derived.
- Management unit – If management units are used, as in Eel Management Units (EMU), all of these should be listed in this field. The rivers sampled should be listed in the Sampling site field within that unit.
- It should be clarified that EU MAP chapter III.2.c applies not only to stocks where there are fisheries but to all relevant stocks/areas regardless whether there is a fishery or not.
- Sea trout (*Salmo trutta*) should be included in chapter III.2.c (the section on abundance of parr, smolts, and adults).
- It would be easier to describe (and review) the WPs for anadromous and catadromous species within a single table covering commercial and recreational fisheries, and fishery-independent requirements.
- Eurostat is not the most appropriate source of catch data for anadromous and catadromous species, so auto scripts for completing Table 1A do not work well for these species.
- The ICES WGs for salmon and sea trout (WGBAST, WGNAS, WGTRUTTA) and for eel (WGEEL) should be asked to recommend the most appropriate data sources.
- Any scientific evaluation of the Quality Assurance Framework for biological data (Table 5A) for anadromous and catadromous species should be documented.
- A key feature emphasised by the EWG 17-04 was the need to use the same structure across AR and NWP tables, to allow automating matching of tables.

ToR 5. Following the request from Baltic RCM 2016 and where necessary, agree on designated rivers and management units to be sampled.

The DSG considers that following the intent of the EU MAP, these questions should be directed to the end-users, i.e. the ICES assessment Working Groups.

However, in support of this the DSG began to develop proposals for criteria to identify these ‘index’ rivers. The example below is framed around proposals for eel in the Baltic.

Eel in the Baltic

In Commission Decision of 12 July 2016 (2016/1251/EU; O.J. L 207/113, 1.8.2016), it is stated “as regards eel, information (e.g. data, estimates, relative trends, etc.) collected annually in at least one river basin per eel management unit on: (i) the abundance of recruits; (ii) the abundance of the standing stock (yellow eel); and (iii) the number or weight and sex ratio of emigrating silver eels”. These rivers are commonly designated as “Index Rivers”.

The objective of sampling Index Rivers is to obtain comprehensive data on the eel stock, in a geographically limited area. This complements the objectives of making a stock assessment, in which specific stock indicators (abundance, mortalities) are derived, covering the stock in the whole management area.

The data to be collected in index rivers cover the incoming recruits (glass eel or young yellow eel), the standing stock (yellow eel), and the outgoing spawner escapement (silver eel). We note that this does not include monitoring the anthropogenic impacts as such. Understanding the developments in standing stock and escapement, however, will require that these impacts are known.

Strategies in selecting appropriate index rivers might be:

- Selecting a river with minimal anthropogenic impacts, so that results reflect the biological potentials in the region, and at the same time serve as an indicator for the overall status of the global eel stock in particular, the recruitment (input) and for the potential spawner escapement (output) from/to the ocean. Due to the requirement on minimal anthropogenic impacts, it is likely that smaller streams will qualify under this heading. Monitoring incoming recruitment and outgoing escapement might be technically best feasible in smallest streams, but the smaller the stream, the less representative the stream will be for the area under concern.
- Selecting a river with anthropogenic impacts close to average conditions in the country. Results will provide an easy-to-grasp indicator of the status of the stock in the country concerned, and to a lesser extend of the impacts on the stock. Care should be taken, not to prioritise/avoid specific management measures in these river basins, that is: to keep a close watch on the representativeness of the index river for the rest of the country. Due to the requirement on “averageness”, this approach will select streams of average size in the country; keeping a watch on the “averageness” requires monitoring anthropogenic impacts, management measures, and their effects, both in the index river and in the rest of the country.
- Selecting a “random” river, in which anthropogenic impacts are known and monitored, which allows for explicit comparison to other rivers in which impacting factors have been quantified. In principle, any river may qualify for this, but a river close to average conditions is to be preferred. Interpretation of results will require a close (methodological) coordination between the monitoring of the selected index river and the whole-country assessment.

The requirement in EU-MAP to monitor Index Rivers has been established only recently. It is therefore recommended, that the approach for selecting appropriate rivers is further worked out, and possibly tested on existing data. The DSG therefore **recommends**:

- **WGEEEL to work out the optimal approach for selecting the appropriate index rivers in the Baltic**

Baltic salmon and sea trout

For salmon and sea trout in the Baltic region, the WGBAST has provided some answers in its annual report (ICES 2017b), summarized above in the section under ToR 2. The approach for eel presented above might be a workable way forward for Baltic salmon and sea trout too, provided some caveats are considered. Aiming for small index rivers might be a good suggestion for sea trout, but not for salmon. In addition for Baltic salmon and sea trout the geographical units for which index rivers are considered

would be the six Baltic Assessment Units, and not countries. A more in-depth discussion at WG level is appropriate here. The DSG therefore **recommends**:

- **WGBAST to work out the optimal approach for selecting the appropriate index rivers in the Baltic**

ToR 6. Consider a Quality assurance framework

RCG sub group on Quality has compiled and graphed landings per harbor, as a way to check for data submission errors. This compilation includes eels and salmon for marine commercial fisheries data as reported to the RDB. However, the database has not been designed in a way that incorporates all the DCF Data collected for salmon, sea trout and eels because there are some data types that are unique to the diadromous species.

Baltic salmon and sea trout

Some data quality issues known to WGBAST are listed in the section under ToR 2.

Atlantic salmon

In 2017 the WGNAS (ICES 2017d) reported that there are significant uncertainties in some of the input data for the assessment models, particularly relating to unreported catches (used in the NEAC assessments). However, efforts are made to take account of these in the stock status and stock forecast models. Data deficiencies are recorded in the 'Quality Considerations' section of the annual advice document and specific concerns/ recommendations for improvement are included in WGNAS reports.

European eel

The Workshop on Eel Data (WKEELDATA: ICES, 2017c) evaluated whether it would be appropriate to modify InterCatch to suit all eel fisheries data. However, the WK concluded "the particularities of eel biology, fishery and related regulations makes it impossible to use InterCatch as an input for population assessment at its present stage" and "Because of its biological particularities (see above), it was concluded that WGEEL should have its own database within the ICES DataCentre". The WK has created a database structure to host most of the data which are used by WGEEL and in a format that is already transferable to ICES Data-Centre. The database for recruitment was created during WKEELDATA under Postgresql. All necessary SQL script can be found in ICES GIT:

<https://github.com/ices-eg/WGEEL>

The script to create the database:

https://github.com/ices-eg/WGEEL/blob/master/SQL/script_create_base_v2.sql

The script to transfer data from the old database / create new data

https://github.com/ices-eg/WGEEL/blob/master/SQL/transfer_from_old_database_script.sql

The WK also developed a data call for Eels, in two parts – see above DSG ToR 2.

Future work

As the representative of ICES attending the RCG Baltic 2017 indicated ICES is willing to adapt its RDB to suit eels, salmon and sea trout, the 'quality' sub group of the RCG Baltic will make a recommendation to ICES for the RDB to be modified to suit salmon, trout and eels. In support of that, the DSG provided details of what these other data types and circumstances were – see annex to 'quality' sub group report section.

However, the DSG noted that these details may not be complete and that the end-user assessment Working Groups should be asked to provide the definitive information.

Recommendation:

- **The Regional Database can be modified to better incorporate the data collected for salmon, sea trout and eels under the DCF. The WGBAST, WGNAS and WGEEL are asked to list the data types that should be incorporated in the RDB to achieve this.**

ToR 7. Advise on the Evaluation of sampling

This request is taken to be to define ways to evaluate whether national work plans are appropriate. In Table 2 we have depicted what kind of data is collected countrywise for eel, salmon and sea trout in the Baltic. As the required data not always fits the purposes and needs from end-users (i.e. the respective diadromous WG and assessment models), mandatory variables have been highlighted. In addition, also the extra variables required and collected in each MS are listed. As we are in a transition phase between DCF and EU-MAP, there will be some changes from 2017 to 2018. Information on what data are actually collected was given by the responsible scientists in each MS concerned.

Table 2. Overview of collected data on salmon, eel, and sea trout in the Baltic. Blue shaded cells indicate data mandatory collected under DC-MAP.

		General															In designated rivers						
Data collected/Country	Species	Landings	Effort	Discards	Landings (recreational)	Effort (recreational)	Length	Weight	Sex-ratio	Fin-clipping (wild/reared)	Life stage (like G, Y or S etc.)	Age (including wild/reared origin from scales)	Maturity (like Eye index, Durif's silver index etc.)	Fecundity	Anguillicola (swim bladder nematode)	Tagging data	Genetic data	Recruitment young eel/parr	Yellow eel abundance	Silver eel emmigration and sex-ratio	Smolt counting	Adult spawner counting	
Sweden	Eel	1	1?	n.a.	n.a.	n.a.	1	1	1	n.a.	1	1	1	0		1	n.a.		1	0	0	n.a.	n.a.
	Salmon	1	1	1	1	(1)	1/0	1/0	1/0	1	n.a.	1/0	n.a.	1/0		1	1/0		1	n.a.	n.a.	1	1
	Sea trout	1	1	1	0/1	0	1/0	1/0	1/0	0	n.a.	1/0	n.a.	1/0		1	0		0	n.a.	n.a.	(1)	(1)
Finland	Eel	1					1	1	1		1	1	1	0	1					(1)	n.a.	n.a.	
	Salmon	1	1	1	1	(1)	1	1	1	0	n.a.	1/0	n.a.	1/0		1	1/0		1	n.a.	n.a.	1	1
	Sea trout	1	1	1	1	0	1/0	1/0	1/0	0	n.a.	1/0	n.a.	1/0		1	0		0	n.a.	n.a.	(1)	(1)
Estonia	Eel	1					1	1	1		1	1	1	1	1				0	1	1	n.a.	n.a.
	Salmon										n.a.									n.a.	n.a.		
	Sea trout										n.a.									n.a.	n.a.		
Latvia	Eel	1					1	1	1		1	(1)	1	0					0	1	1	n.a.	n.a.
	Salmon	1					1	1	1		n.a.	1	0	0					1	n.a.	n.a.		
	Sea trout	1					1	1	1		n.a.	1	0	0					1	n.a.	n.a.		
Lithuania	Eel																					n.a.	n.a.
	Salmon										n.a.									n.a.	n.a.		

	Sea trout					n.a.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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n.a. = not applicable

0/1 etc. = DCF/EUMAP

(1) = partial data collection

Recommendations from DSG to ICES Working Groups

Recommendation and Question for **WGBAST** to address

Recommendations for WGBAST
WGBAST to consider and report any benefits to Atlantic salmon and sea trout assessment of regional coordination of data collection in the Baltic.
The Regional Database can be modified to better incorporate the data collected for salmon, sea trout and eels under the DCF. The WGBAST, WGNAS and WGEEL are asked to list the data types that should be incorporated in the RDB to achieve this.
WGBAST to work out the optimal approach for selecting the appropriate index rivers in the Baltic

Recommendations and Questions for **WGNAS** to address

Questions for WGNAS to address:
What are the data needs for the individual EU member states in order to conduct an annual assessment for Atlantic salmon?
Which are the appropriate management units for these assessments?
Which are the appropriate rivers where data should be collected, and what is the rationale for selecting these particular rivers?
Recommendation for WGNAS
WGNAS to consider and report any benefits to Atlantic salmon assessment of regional coordination of data collection in the North Sea & Eastern Arctic, and North Atlantic RCG regions.
The Regional Database can be modified to better incorporate the data collected for salmon, sea trout and eels under the DCF. The WGBAST, WGNAS and WGEEL are asked to list the data types that should be incorporated in the RDB to achieve this.

Recommendations for **WGEEL** to address

Recommendations for WGEEL, North Sea & Eastern Arctic & North Atlantic RCG
WGEEL to consider and report any benefits to eel assessment of regional coordination of data collection in the North Sea & Eastern Arctic, and North Atlantic RCG regions.
WGEEL to advise on data quality indicators, the quality of data supplied by MS, the effect of these qualities on the assessments, and therefore identify any significant improvements in data quality required.
Recommendations for WGEEL, Mediterranean & Black Sea RCG
Mediterranean & Black sea RCG to consider and report any benefits to eel assessment of regional coordination of data collection in the Mediterranean.
WGEEL to consider and report any benefits to eel assessment of regional coordination of data collection in the Mediterranean.
Recommendations for WGEEL
WGEEL to work out the optimal approach for selecting the appropriate index rivers in the Baltic
The Regional Database can be modified to better incorporate the data collected for salmon, sea trout and eels under the DCF. The WGBAST, WGNAS and WGEEL are asked to list the data types that should be incorporated in the RDB to achieve this.

Annex 20. Regional DataBase and Estimation System development

Regional DataBase and Estimation System development

It has been recognised for many years that there is a need to have a new version of the RDB, which is the Regional DataBase and Estimation System development, RDBES, which accommodate upload of statistical sampling information and statistical estimations. There are many benefit of the RDBES:

- Support the Regional Coordination Groups with relevant sampling data for coordination
- Higher data quality by using common quality checks across all countries' data
- Ensure only approved standardised statistical methods are used for estimating data
- Reduces the workload for the countries in estimating data because the RDBES should contain all needed methods
- Document data to detailed data level and a transparent use of estimation methods
- One data call for upload of data to the RDBES for the RCGs and the ICES stock assessment expert groups, because the estimated data will used for the ICES stock assessment

It is important that the RDBES have only approved estimation methods and it is transparent regarding the processing and estimation of data. This is in the interest of the countries, ICES and the European Commission. The countries benefit from having one system where they can do the estimations. It is known that it is time consuming to do the complex estimations and there is risk of introducing errors, when estimating data for the ICES data call for the ICES stock assessment and advice. By using the RDBES, the RDBES will ensure high data quality and the user make sure the data is ready for estimation and select the right statistical estimation method. This will reduces the work load of the countries. The countries will also benefit from the common repository of all the countries' developed estimation methods, this should also reduce the work load of reinventing estimation methods in the countries in parallel. When the RDBES has been used for estimating data, ICES does not need to issue stock assessment data calls, because the ICES Expert Groups can get the estimated data from the RDBES, which is needed for the stock assessment. This will reduce the numbers of data calls, which will benefit the countries. The countries are also interested ensuring the estimated data for the ICES stock assessment is correct, that is done by the RDBES only are using approved estimation methods which cannot be instantly manipulated. All the processes will be logged and the processes will be transparent. It is in everybody interest to have one system with high quality control and common approved statistical estimation methods (and other methods if needed). This is not only in the organisation ICES interest, it is also in the European Commission's interest, also in interest of the countries providing the data, and the expert for the ICES stock assessment expert groups. It is in the countries interest because, they want the data to be used for the assessment and they want the data to be correctly estimated. It is fundamental to directly use the data in the RDBES and use the RDBES for estimating data for the stock assessment. If that is not happening, then there will not be a transparent and documented path between the data used for the stock assessment and the data collected at detail level. This will mean there is no standardised documentation of the data processing and estimation and an increased risk of errors, and the potential of the RDBES is not utilised. It is one big black hole for the assessment groups what is going on in all the countries from the detailed data in the RDB and until the raised/estimated data is uploaded in InterCatch for the assessment groups. It has been shown that there is a discrepancy between the data uploaded at detail level in the RDB and in InterCatch, which is used for the stock assessment, and there should not be a discrepancy. Every single year since 2012 the RCM BS, NA and NS & EA have put forward a request to European Commission to fund the development of the RDB, but without luck.

The strategy for the RDBES

WGCATCH, WKRDB and the fishPi project recommend to collect and estimate data using statistical methods. The RDBES will therefor accommodate design based statistical data and statistical estimation methods. The raising/estimation of data should be based on approved statistical methods. Approved statistical methods are available in R, these methods will be encapsulated into the RDBES using version control. The encapsulation of the methods into the RDBES is important, because this will ensure the methods are approved and it is not possible to modify the encapsulated methods written in R inside the

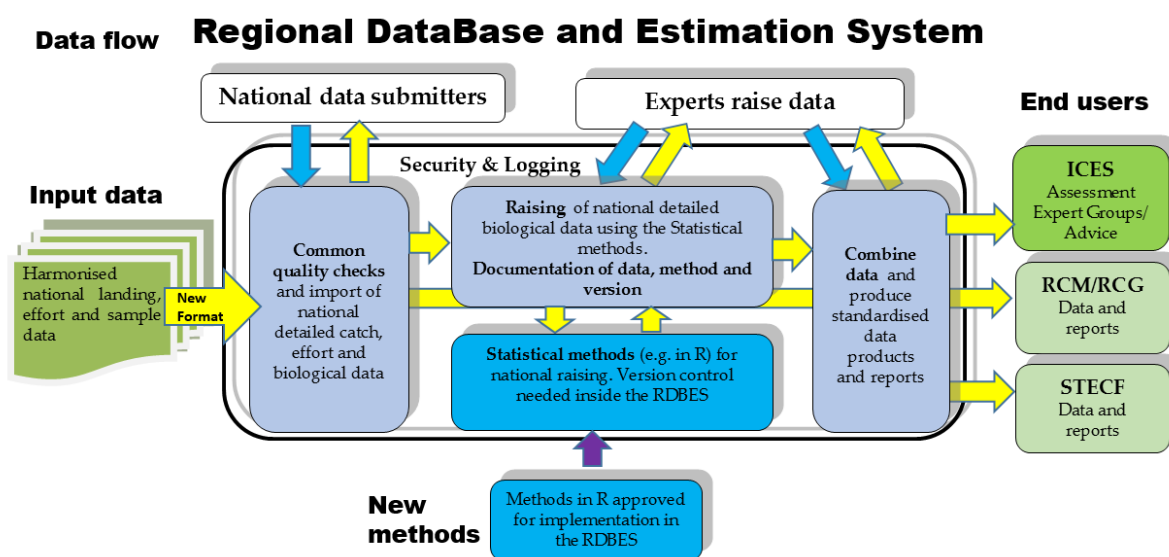
RDBES. Having the raising methods defined in R would make the raising more transparent and easier for the experts to update, if needed. It should be possible to download both the data and the methods from the RDB, so the experts easily can reproduce the estimations in the RDBES and further develop the methods.

When a group of experts have developed a new statistical raising method or updated an existing method, the group should approach the WGCATCH or a group of statistical raising experts, which have the task to test and approve raising methods. When the method has been approved, the method will be encapsulated into the RDB, using the RDB's version control of methods. The method can now be used to raise uploaded data, but the method cannot be manipulated/edited, and the raised data will be transparent and fully documented, regarding the data, the method and the version that was used.

It is important that all the persons working towards a statistical raising of sampled data continue the good work and take an active part in the transition process to ensure the RDBES fulfils their needs for uploading their design based sampling data and estimating data using statistical methods.

To be able to document both the uploaded and the estimated data, the RDBES should log all processes regarding the data. According to the Regional DataBase Data Policy the data are restricted, that is taken care of by the security in the RDBES, where all users have to be known and given access to data and processing.

The figure below gives an overview of the flow of data in the RDBES from data uploads and the interaction with the national experts to the two main end users RCGs and ICES, but data could also be downloaded for other relevant end users e.g. STECF.



The RDBES system structure

The development of the RDBES

The Steering Committee of the Regional DataBase, SCRDB, established in Dec. 2016 a RDB Project Expert Group, to specify the RDBES. So far it is only the core group of persons that have worked with ICES Secretariat to develop the data model. It was originally the aim to have the specification of the RDBES ready in mid-March 2017. But because of the complexity of the designed sampling and due to time constraints in the countries it is very difficult to specify the data model for the RDBES. The issue is that the RDBES potentially should be able to handle all the sampling in all countries for all fish species. There have been 7 internet meetings since March and a 2-day workshop in April and another 2-day workshop will be in October, where the data model will be frozen for use for development. Currently the data model is shown below, where the instead of the existing 5 data types in a 2 string hierarchy for the sampling data there so far will be 14 data types with the possibility of a lot more hierarchies.

It is also difficult to specify the data model because the countries are in the process of shifting into a new way of conducting the sampling and collecting the sample information. This is also adding to the difficulties of the specifying the data model. Which again is affecting the development of RDBES, because ICES Secretariat has not been given the specifications for the RDBES including the data model, new checks, new roles etc. When developing the RDBES it would only make sense to develop it using the most up-to-date technology, to make sure the solution is secure and not outdated in the short term. But the development of the RDBES has started and is developed using the latest Microsoft ASP.NET core framework. The RDBES has so far a basic interface to create and maintain users and rights (technically called claims). The roles and rights still have to be specified.

A new generic module for the data upload have been created. As a part of this module the critical and difficult internal conversion of data from the uploaded file to a XML data file has been developed. The new converter should be able to be adapted to the new data model, so work has been done even though the data model have not been specified. To prepare for the new data checks some of the existing checks have been written into LINQ to XML, but the specifications of the new checks for the new data model is needed.

Automated unit testing is used therefore checks are written for the units so the application should have less error especially when code is changed, which the code will be, because of the situation. This will make it possible for the users to specify a dataset and the output, which then will be tested automatically in the system, so the user does not have to perform so many tests. Hereby the system would be less error prone.