STEERING COMMITTEE OF THE REGIONAL FISHERIES DATABASE (SCRDB; outputs from 2019 meeting)

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STEERING COMMITTEE OF THE REGIONAL FISHERIES DATABASE (SCRDB)

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Editors

David Currie • Katja Ringdahl

Authors

Maciej Adamowicz • Liz Clarke • David Currie • Mathieu Depetris • Laurent Dubroca • Edvin Fu-glebakk • Kirsten Birch Håkansson • Neil Holdsworth • Kieran Hyder • Pedro Lino • Eirini Mantzouni • Claire Moore • Estanis Mugerza • Colin Neil • Henrik Nielsen • Sofie Nimmegeers • Nuno Prista • Perttu Rantanen • Katja Ringdahl • Oana Surdu • Els Torreele • Sieto Verver • Lucia Zarauz

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i Executive summary

The Steering Committee of the Regional Database & Estimation System (SCRDB) provides the governance function for both the existing Regional Database (RDB) and the new Regional Database & Estimation System (RDBES) that is currently in development. It is composed of representatives from ICES member countries and EU Regional Coordination Groups (RCGs). In this report the SCRDB reviews the RDBES development performed during 2019 and plans for the work required in 2020 and beyond. It also considers how RDB data has been used and proposes changes required to the current Data Policy. The recurring question of how to fund the RDBES development is also considered and the positive way forward provided by ICES is described.

The RDBES is currently planned to replace both the existing InterCatch and RDB database systems in 2022 and has an important part to play in increasing transparency and improving the quality of stock assessment within ICES. To this end a number of workshops have been planned for 2020 which will both help data submitters with the transition to the new system and encourage more people to be involved in the process. A data call is also planned for 2020 which will give further motivation for people to become involved and provide a robust test of the process. The RDBES must ensure that sample data can be used by the RCGs and authorised groups in ICES whilst ensuring that only permitted users have access to the confidential data. Thus, the Data Policy is very important and must strike a balance between encouraging greater use of the data whilst respecting the legal restrictions that apply to it. It is important to remember that the ultimate success of the RDBES will rely on the effort and contributions from a large number of people in the wider ICES/EU data collection community and not just the relatively small groups who attend the SCRDB or Core Group meetings. The SCRDB must, and will, encourage and champion these contributions.

ii Expert group information

Expert group name	Steering Committee of the Regional Fisheries Database (SCRDB)
Expert group cycle	Annual
Year cycle started	2019
Reporting year in cycle	1/1
Chairs	David Currie, Ireland
	Katja Ringdahl, Sweden
Meeting venue and dates	3-5 December 2019, Copenhagen, Denmark, 23 participants

1   Development status of the RDBES

This section reviews the work done on the RDBES so far, and plans for the future work required. It fulfils ToR (a): *"Review the status of the development of the new RDBES and its project plan for implementation, including the funding of the outstanding development. Review feedback summaries from workshops."*

At this point it is useful to provide some definitions of the various terms and groups that will be used in this report.

The **ICES Secretariat** provides secretarial, administrative, scientific, and data handling support to the ICES community.

The **ICES Data Centre** is part of the ICES Secretariat and is responsible for maintaining and supporting the existing RDB, and developing the new RDBES.

The **Regional Database (RDB)** contains detailed commercial fisheries sampling data and aggregated effort and landings data. The RDB is hosted and maintained by the ICES Data Centre. The data within the RDB remains the property of the countries that submit the data.

The **Regional Database and Estimation System (RDBES)** is a new system that is under development by the ICES Data Centre and will replace the RDB and InterCatch systems. The aims of the RDBES are:

1.   To ensure that data can be made available for the coordination of regional fisheries data sampling plans, including for the DCF Regional Coordination Groups (RCGs),
2.   To provide a regional estimation system such that statistical estimates of quantities of interest can be produced from sample data,
3.   To serve and facilitate the production of fisheries management advice and status reports,
4.   To increase the awareness of fisheries data collected by the users of the RDBES and the overall usage of these data.

The **Steering Committee of the Regional Fisheries Database (SCRDB)** is an ICES governance group which oversees the RDB/RDBES. The SCRDB consists of the following categories of members:

1.   Up to two representatives from each RCG that uploads data to the RDB/RDBES. RCGs that do not currently upload data but are intending to may also send one representative after approval from the Chair.
2.   One representative from each ICES member country that wishes to attend.
3.   Representatives from the ICES secretariat.
4.   Representatives from the European Commission.
5.   Chair invited guests.
6.   Observers.

The **RDBES Core Group** supports the ICES Data Centre in the RDBES development – membership of this group is open to suitably interested and qualified people. It has the following ToRs:

1.   Follow, and advise on the development of the project
2.   Provide substantial input to the user requirement specifications, including:

    i.   The drafting of a requirement specification document.
    ii. Specify data exchange format,
    iii. Define user roles, processing of data, data checks, methods for estimation, output.

3.   Be responsive to the project team in providing input to issues in the implementation of the RDBES.

4.   Testing and approval of developments

The SCRDB organises **workshops** (such as WKRDB-POP and WKRDB-EST in 2019) which are necessary to move the development of the RDBES forward.
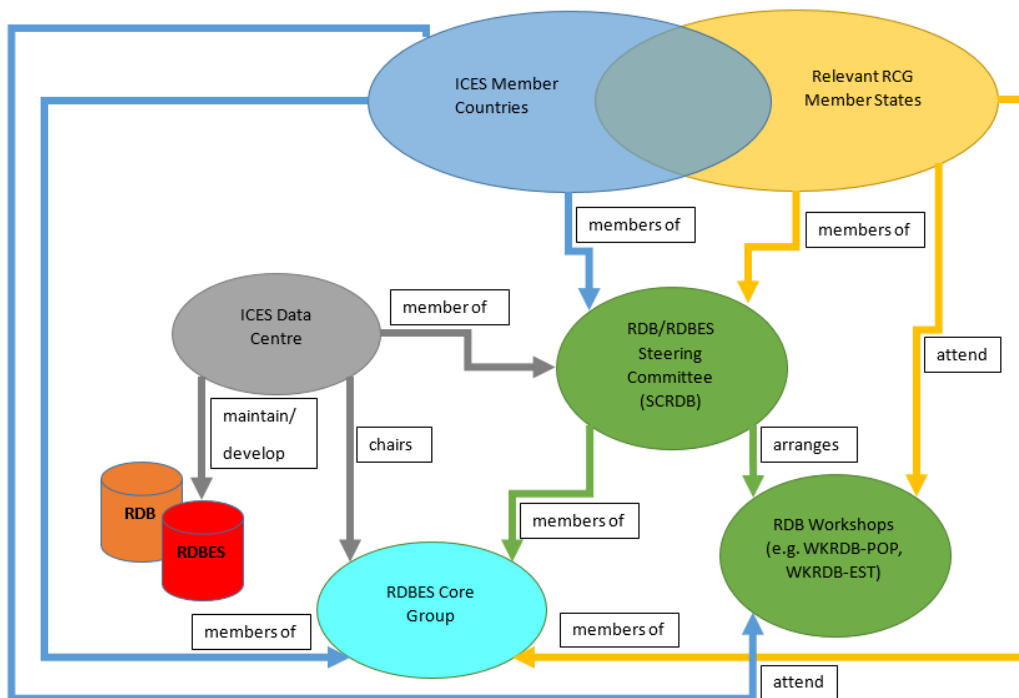
Figure 1 Relationships between selected RDBES groups

1.1   RDBES Core Group Summary

This year there has, like the previous year, been a lot of work done to further specify the data model for the sample data (CS). Since January the Core Group has had 14 WebEx meetings, one 1½-days physical meeting and two 5-days workshops, WKRDB-POP and WKRDB-EST. One of the main additions to the sampling data this year was that the number of upper hierarchies increased from 8 to 13. A number of fields have been added, especially there have been fields added for the recording of bycatch data. Another major change is that the Vessel Details and the Species List tables are moved out of the hierarchies.

The Vessel Details table should be updated before uploading sampling hierarchies data. Each vessel will have an encrypted id assigned by the MS. If the vessel's parameters change during the year, a new encrypted id for the vessel could be uploaded by the country, so sampling data could refer to the previous version of the vessel or the new vessel details - whichever the submitter thinks is most appropriate.

The landing (CL) and effort (CE) data model specification was also started this year - compared to the old RDB format, the data structure for landings and effort has been extended by many new fields. Since the data are much simpler than the sampling data it should require less work

to finalise these models - the main requirement is feedback from the countries. A number of fields have been added to the CL and CE tables, for example "Data type of scientific weight/effort" ("Census" or "Estimate"), and "Source of scientific weight/effort" ("Logbook", "Sales notes", "Other declarative forms", "Combination of census data").

Two fields have been added specifically with the aim of being able to fulfil the STECF Fisheries Dependent Information (FDI) data call using data submitted to the RDBES. One of the new columns is "Exclusive Economic Zone" - it will hold general information on whether fisheries took place inside or outside EU waters, rather than the exact country code.

The next steps for the Core Group are to test the RDBES system, specify quality checks and develop the R script for statistical estimation.

1.2   ICES RDBES Development Summary

The RDBES database and web application/system is now implemented on a test server. The countries can upload data for all sampling schemas (all 13 specified upper hierarchies). A security module has been implemented which ensures that data submitters can only upload data for their own country. The data checks in the RDBES currently ensure that that data is in a valid format and that valid codes have been used. The data can be exported in the same format as the uploaded RDBES format.

The data upload tool for the first 8 upper hierarchies was written and available online in February 2019 (it complied with data model specification version 1.15). In September 2019 5 extra upper hierarchies were added and the first 8 hierarchies were updated to comply with data model version 1.17. One of the main overheads in this project is that the specifications of the RDBES data model, done by the Core Group, is an ongoing process in parallel with the software development done by ICES Secretariat. New versions of the data model require changes to be made to the RDBES database and web application.

Further progress made included:

- A system for automatic synchronisation of codes from the ICES vocabulary server to RDBES was implemented.
- A program to generate test data for all 13 upper hierarchies was written.
- Unit tests for all main functionalities have been developed e.g. to validate all 13 hierarchies.
- The application source code has been upgraded to .NET CORE v2.2 and the client application upgraded to Angular v7.0.
- Checking of duplicate data in the uploaded file has been implemented.
- The Vessel Detail table, VD, and the Species List table, SL, have both been moved out of the upper hierarchies to ease the upload process. That means that new checks have to be developed to check VD and SL fields against the specific VD and SL tables. This is complicated because in one hierarchy VD is mandatory whilst in another hierarchy VD is optional. The data export function has been updated accordingly in line with these changes.
- Overwriting rules are almost implemented, it was changed and needed to be updated.
- The source code for uploading the Landing data, CL, and Effort data, CE, are being developed.
- The data models and documents on GitHub are constantly being updated.

A few questions arose after the presentation about the summary of the RDBES system development. Overwriting rules, which are almost implemented, assume that the database will not keep old versions of data - data that are re-uploaded will overwrite the previous version. ICES will

back up the database regularly so in extraordinary cases the data from a specific point in time can be retrieved but data submitters should not rely on this - they are responsible for maintaining their own historical data. It is currently ICES policy to also retain a copy of the original files that were uploaded.

It was emphasized that at the current stage of development of the RDBES system, each single change of the data model requires a lot of time to modify the database and the application.

The Core Group also needs to decide on the possibility to allow upload of more than one year of data at once.

1.3   Summary of RDB related news from the Commission

The Commission is generally supportive of the development of compatible regional databases. This is specified in legislation, especially Article 18 of the recast DCF (Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017) was highlighted:

"With a view to reducing costs and facilitating access to detailed and aggregated data for end-users of scientific data and other interested parties, Member States, the Commission, scientific advisory bodies and any relevant end-users of scientific data shall cooperate to develop compatible data storage and exchange systems, taking into account the provisions of Directive 2007/2/EC. Those systems shall also facilitate dissemination of information to other interested parties. Such systems may take the form of regional data-bases. Regional work plans referred to in Article 9(8) of this Regulation may serve as a basis for agreement on such systems."

The important points about the RDBES development from the Commission's point of view are:

- To ensure RDB functionality for RCG use is uninterrupted,
- That access to data is provided in line with EU policy (MS ownership of data and agreement before use; RCGs have access to the RDB at all times and can use the data; confidentiality rules),
- The Commission supports any extension of the RDBES to other variables (such as recreational fisheries, large pelagics) and other currently separate databases.
- To be able to use the future RDBES for automatic reporting of DCF deliverables such as Annual Reports or Work Plans – National Correspondents should be able to extract data to create the required tables.
- It is important to ensure compatibility between the ICES RDBES and other similar databases (i.e. the proposed Med&BS regional database). It would be good for ICES RDBES representatives to attend the Med&BS regional database technical meeting in January if possible.

Previously, the Commission has paid ICES for its fisheries advice under an administrative agreement. This has now been changed to a 4-year Framework Partnership Agreement (FPA), coupled with a yearly grant agreement (GA) to ICES which is a contract between the parties for the provision of recurrent and non-recurrent advice. Among other things, this change in financial agreement triggered a restructuring of how ICES accounted for costs, as the overhead rate is now very small in the GA and all services have to be directly accounted for in the budget. Therefore, provision for the RDB and RDBES was refactored so that funding for the current RDB maintenance and hosting, as well as development of the RDBES in 2019 is €163,052 plus travel costs (around €13,000, together with DCF travel). A proportion of this amount that is not consumed by maintenance, support and hosting is used to contribute to the development of the RDBES. The 2020 Grant Agreement was still under discussion at the time of writing this report. For context, the total grant amount to ICES in 2019 is €1.9 million, and the RDB/RDBES represents just over 8% of this figure.

In 2017 the Commission funded specific RDBES developments under ARES request (2017) 5698513 ("Quality assurance for data collected under the DCF with the specifications of RDBES for commercial catch sampling data": €121,262).

The Commission has not foreseen any short term direct funding of RDBES development. Other options for funding could include the MS funding that was proposed during the 2019 RCG meetings, or an ICES project.

To summarise whilst the Commission is generally supportive of the RDBES it was not in 2019 offering direct funding to the RDBES as any funding would be provided via the Framework Partnership Agreement with ICES. However, this funding is also required to maintain the current RDB until the transition to the RDBES can be made, alongside the many other ICES activities required to deliver advice.

During further discussions at the SCRDB it was felt that the improvements the RDBES could provide compared to the existing RDB have not always been clearly explained to the Commission, and that communication should emphasise the extra functionality of the RDBES rather than the technical details. One such example is the potential of the RDBES to help monitor the progress of EU countries (and ICES in general) towards the statistically sound sampling of commercial catches. Statistically sound sampling is a requirement of the EU-MAP (Commission Implementing Decision (EU) No 2016/1701, article 5) that is only fully effective if the data can be stored alongside the main elements of its statistical design, an aspect that the RDBES now makes possible.

1.4   RDBES Funding Status

The funding status of the RDBES development has been precarious for a number of years and it has been difficult to secure money to continue this vital work. For example, during 2019 a proposal was presented to the National Correspondents that would involve the relevant EU member states making a small annual contribution (€5k each) to pay for the development. This proposal was not agreed.

However, in a positive development, the ICES Council has approved funding for the software development of the RDBES database and web application for the next 4 years. After the first 2 years the progress will be evaluated and if the development requirements are fulfilled the development will continue at the same level for the following 2 years. This should allow the RDBES development to be completed successfully.

The RDBES development ties in with ICES Advisory Plan priority areas 1 (Assuring Quality) and 4 (Sharing Evidence). The aim is to Continue the development of a comprehensive ICES quality management system for advice including implementing the Regional Database and Estimation System (RDBES), Transparent Assessment Framework (TAF), etc. that will, where possible, ensure that all advice products are based on data that adhere to the FAIR principles. This activity will support the preparation of the ICES advisory system for an international quality accreditation and sharing evidence.

The funding requires the delivery of:

- A fully operational ICES Regional Database (RDBES) with a regional estimation system such that statistical estimates for stock assessment can be produced from detailed sample data in a transparent manner by 2022;
- Incorporate detailed data on Bycatch and PETS AND/OR Recreational data (to be determined by SC-RDB) in the RDBES by 2023.

The ICES funding is a very positive move and is welcomed as such by the SCRDB but it is not a panacea. The ICES funding covers the cost of a developer to create and maintain technical features of the RDBES such as the database and web application. A large part of the remaining work will involve the creation of estimation scripts and there is also no direct funding for this. It also does not provide any funding for training or workshops. It is assumed that ICES countries / EU Member States will be willing and able to provide national experts' time, travel and subsistence to attend workshops and develop estimation scripts. **It is worth highlighting at this point that the RDBES project will only be successful with the commitment of the ICES/EU community and whilst the SCRDB will encourage this it cannot control it directly.**

1.5   WKRDB-POP Summary and feedback

WKRDB-POP was arranged 18–22 February 2019 at ICES Headquarters. The workshop was chaired by David Currie and Edvin Fuglebakk. The workshop contributed to spreading understanding of the data model proposed for RDBES well beyond the core group with 29 participants from 20 countries and 17 institutions. Most participants started preparations for adapting data from national formats to the RDBES data model. Some minor issues in the data model were reported, but no serious impediments to moving forward in the RDBES development was identified.

For a more detailed summary, consult the workshop report: WKRDB-POP 2019.pdf

The main outcomes of the meeting were country specific feedback (see the WKRDB-POP report for details). Some issues raised still need addressing by the RCBES Core Group (e.g. recording the total live weight of each length class, clarifying the documentation describing the difference between live weight and measured weight of a sample)

The plan is to hold another WKRDB-POP workshop in 2020 - some points raised about this are:

- Some updates to data model have been made since then (e.g. species list) - it will be important to see how countries feel about it in the next round,
- Identifying the difference between parallel sub-samples and sub-sub-samples should be possible now,
- The next WKRDB-POP aims to be more orderly with documenting and answering issues from countries so they do not fall between stools,
- The data upload tool will be ready and conform to the latest version of the data model and people will actually be able to upload it and test it before the next WKRDP-POP meeting (this was not possible in 2019),
- The continuity with the WKRDB-EST workshop should be improved - it may be easier in 2020 if there is a data call between WKRDB-POP and WKRDB-EST,
- Getting data ready and uploaded to RDBES for the following WKRDB-EST is a key task to enable estimation script development.

1.6   WKRDB-EST Summary and feedback

The Workshop on Estimation with the RDBES data model (WKRDB-EST) co-chaired by Nuno Prista, Sweden and Kirsten Birch Håkansson, Denmark, and met in ICES HQ, Copenhagen, from 30 September to 4 October 2019. Its aims were: a) Develop and document R scripts for design based estimation for each hierarchy in the RDBES data model; b) Identify and document any problems with RDBES data model relating to design based estimation.

The main outcomes related to R estimation script development (ToR a) were:

- Prepared data for 8 of the 13 upper hierarchies of the RDBES
  - This data can be used for further development and testing
- Developed a first set of R-scripts that handles design-based estimation in the RDBES data model.
  - Scripts to help prepare and upload data
  - Scripts to extract data from RDBES
  - Estimation scripts (these included first draft estimation functions and proofs-of-concept; along with one prototype full script),
- Coordination of coding practices and object structure,
- Confirmation of the usefulness of the data model for design-based estimation
- Developments publically available in the ICES GitHub (https://github.com/ices-eg/WK_RDBES/tree/master/WKRDB-EST) and other public personal repos (see report for details)

The main outcomes related to evaluating the suitability of the RDBES data model for design based estimation (ToR b) were:

- Examined and tested version v.1.17 of the RDBES model
- The data model can now be considered relatively stable with mostly minor issues being identified
- A proposal for Species List restructuring to accommodate sampling by commercial species was made

Among the main issues identified that still need addressing are:

- The handling of Species Lists and Multi-level Sample table,
- Several code adaptations to allow both 2D and 3D matrices
- Developing code with regards to domain estimation and post-stratification

Additionally,

- There is a need for guidance on the population of the Species List table (WKRDB-POP)
- There is a need to include unique sample ids and selection probabilities in the data model
- There is a need for new hierarchies that clearly differentiate Species Frames from Species Selection to cover cases of randomized selection of species
- Adjustments might also be needed to adapt the system to the ICES Transparent Assessment Framework (TAF).

The way forward in development of estimation within the RDBES was discussed. Design-based estimation should continue to be a priority for future developments at national and regional sampling schemes and RDBES development.

The RDBES Core Group will tackle issues and continue development intersessionally. A new WKRDB-EST is forecasted for the end of 2020. The final aim is to produce an R-package that aggregates a) a generic set of estimation functions and b) vignettes documenting design-based estimation in each type of sampling hierarchy.

The SCRDB discussed the outcomes of WKRDB-EST - the main points were:

- The RDBES estimation script development is still at an early stage. Quite a lot of script development still needs to be done before the RDBES can be made live with regards to design-based estimation. There is (cautious) optimism following this workshop.
- The development of RDBES ratio and model assisted estimation scripts still need a lot of work. Development work has been started on the design based estimation scripts but they are not complete - there is plenty of work still to be done.

- New work methods (Git, GitHub, R-packages) are relatively unknown for most of the participants so time is needed to become familiar with them. To harvest the potential of collaborative process and maintain collaboration long-term, there is a need for training on both sampling design/estimation and on git/software development. How should we do this?
- Use of the R "4S" object structure is not yet being considered - this could be worth exploring
- The way future scripts will interact with the web service needs to be clarified. Is it possible to create one package to CRAN including all the functions needed for estimation? How will the long term maintenance of packages be secured?
- The road forward in estimation has two different goals

  o The shorter term goal is to improve data provision and transparency (this also relates to the Transparent Assessment Framework). The work for this goal will involve re-implementing existing estimation procedures in R using the RDBES data as an input.
  o The medium and longer term goal is to improve the estimation methods used within ICES. This closely aligns with the work of WGCATCH.

- National data processes providing data to Intercatch are mostly unknown and not transparent. The combination of RDBES and TAF will improve this situation.

1.7 RDBES and TAF

The RDBES web application will provide certain functionality such as data uploading, and managing permissions but stock estimation and imputation will be performed in the [Transparent Assessment Framework (TAF)](#).
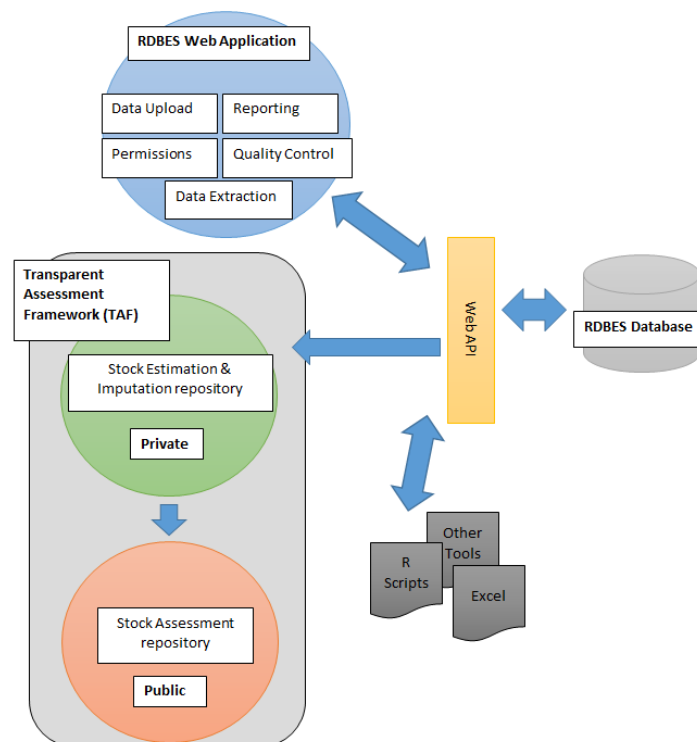
Figure 2 RDBES and TAF

Basing the stock estimation functions of RDBES on the TAF system has a number of advantages:

- The TAF exists and users are already gaining expertise in it,
- There will be technical and content support available,
- Version control of data and scripts is established,
- It provides strong linkages to stock assessment groups,
- The Stock Estimation repository will be private even though the final stock assessment repository will be public,
- Demo https://taf.ices.dk/app/demo
- ICES TAF package https://cran.r-project.org/web/packages/icesTAF/index.html

Extracting data for end-users such as RCGs or STECF reports will be done either via the reporting modules in the RDBES application or by using tools like R scripts to call functions in the WebAPI.

Following WKRDB-EST the following approach was agreed for a first RDBES/TAF demo for Kattegat cod (cod.27.21):

1. Create country specific estimation repos for Denmark (https://github.com/ices-taf/2020_cod.27.21_rdbes.DK) and Sweden (https://github.com/ices-taf/2020_cod.27.21_rdbes.SE) - these will be used to create national stock estimates
2. Use existing national stock estimates from Denmark and Sweden as inputs, along with simple Data.R, Model.R, Output.R scripts to just copy the input data to the output of the repo

3. Create a stock estimation repo that will take the Swedish and Danish national estimates as inputs and write a simple Model.R script to combine them into a stock estimate (https://github.com/ices-taf/2020_cod.27.21_rdbes.combined).

4. In the future the output from the stock estimation repo would then be used as an input to a stock assessment repo.
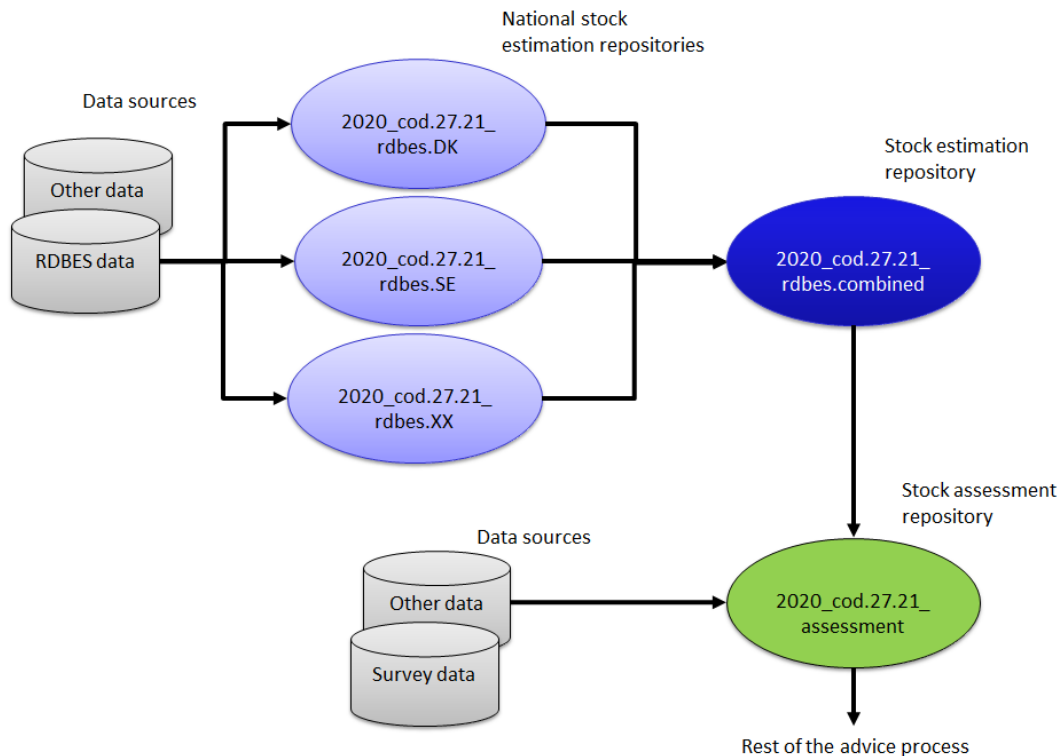
Figure 3 Simple RDBES/TAF Demo

A simple demo was prepared using this approach - no actual estimation was performed, instead two files were simply moved through the system to give an example of how it could work.

The further tasks that are required are:

*   Agree the repo structure

    o   This can vary by year and stock depending on which model for estimation task allocation is used

*   Complete the combined stock estimation repo so that it reads the outputs from the national repos
*   Develop web services so that RDBES data can be accessed securely
*   Use WKRDB-EST outputs to build an RDBES estimation package
*   Develop estimation scripts that use the RDBES estimation package

GitHub is a publically available website, and although repositories can be created to be "private" and thus have restricted access there was a discussion about whether this was sufficient for storing detailed sample data (such as would be outputted from the RDBES). There were also questions about whether GitHub's policy on its access to data within private repositories would be compatible with RDBES detailed sample data. There are technical alternatives to the GitHub

website such as ICES hosting its own Git server, GitLab, and GitHub Enterprise. It was decided the TAF Governance Group (WGTAFGOV) would be best placed to answer these questions and a recommendation to them will be formulated.

1.8   Progress on Long Distance data

In 2016 RCG LDF expressed the wish to start using the RDB for its work. Progress has been made regarding reference lists (e.g. species and area codes) and from 2019 onwards the RDB was ready to process and store the data from the LDF fisheries. In response to the 2019 data call by the RCG LDF, 10 MS have provided data through the RDB. For some MS or institutions, this was the first use of the RDB. With the helpful support by ICES, each MS managed to upload their data.

As the area codification and the way area codes are used in the CECAF area differs from the system in EU-Waters, some data could not be stored at the preferred level of detail. This is due to a mismatch between the official areas and national jurisdictions/fisheries agreements with the RDB areas. This discrepancy prevented MS from uploading their data to the full extent or for the exact area, thus a recommendation was made to the SCRDB to seek a solution to this problem.

The RCG made good use of the data for their analysis of the fisheries and also created the first versions of fisheries overviews. These overviews were based on the overview format as created by the Intersessional subgroup on Fisheries Overviews. From 2019 onwards, RCG LDF is represented in this subgroup as well.

RCG LDF made three recommendations regarding the RDB. These recommendations are covered under Section 2.1.

1.9   Progress on Large Pelagic data

Links and relationships between the RCG LP and the RDBES begin in 2016, when the RCG recommended joining the RDBES process. In 2018, 3 case studies (tropical tuna purse seiner fishery and swordfish pelagic longline in the Atlantic Ocean, and bluefin tuna caging in the Mediterranean Sea) were tested to fit with the RDBES data model. Results were presented during the last SCRDB (in 2018) and in the 2019 annual RCG LP meeting. Since these meetings, a lot of discussions happened within the RCG LP members but without a clear consensus. Potential blocking points were identified and need clarification before going further in the RDBES process. These questions are even more relevant because the RCG LP has a different process than the other RCGs. For example, the utility of a regional database for the RCG LP is for European Union-wide storage and estimations/corrections (on data) but not for modelling stock assessment (currently made by the relevant RFMO). Furthermore, stocks in relation to the RCG LP have different levels of complexity and complicate the discussions.

During the presentation, 5 major questions were discussed.

First, the RCG LP proposed to select one LP stock (more precisely the tropical tunas associated with the purse seiner, where data almost fit with the RDBES data model) and include it in the stocks planned to be tested in 2020.

Another question was in relation to the management and the possibility of administration of the RDBES (roles and policy). Currently, there are 3 user roles identified for the RDBES:

- Data viewer: can view and export data and estimation scripts for the specific stock area.
- Estimator: can create and run scripts to create national stock estimates for a specific country and stock area.

- Stock coordinator: can create and run scripts to produce stock estimates for a specific stock.

For the RCG LP, only the first two are useful. In addition, 4 models of administration are proposed:

Model 1

	Roles		
	Data Viewer	Estimator	Stock coordinator
Countries	View data, scripts, and estimates	Create the national estimates	Create stock estimate
Country 1	Person 1		
Country 2	Person 2	Person 3	
Country 3	Person 3		
Country 4	Person 4		

Model 2

	Roles		
	Data Viewer	Estimator	Stock coordinator
Countries	View data, scripts, and estimates	Create the national estimates	Create stock estimate
Country 1	Person 1	Person 1	
Country 2	Person 2	Person 3	Person 3
Country 3	Person 3		
Country 4	Person 4	Person 4	

Model 3

	Roles		
	Data Viewer	Estimator	Stock coordinator
Countries	View data, scripts, and estimates	Create the national estimates	Create stock estimate
Country 1	Person 1	Person 1	
Country 2	Person 2	Person 2	Person 3
Country 3	Person 3	Person 3	
Country 4	Person 4	Person 4	

Model 4

	Roles		
	Data Viewer	Estimator	Stock coordinator
Countries	View data, scripts, and estimates	Create the national estimates	Create stock estimate
Country 1	Person 1	Person 1	
Country 2	Person 2	Person 2	Person 5
Country 3	Person 3	Person 3	
Country 4	Person 4	Person 4	

Figure 4 RDBES user role models

If this model does not match with the Large Pelagic group's requirements, they can make a proposal for changes via the Core Group.

This question was linked with another focusing on the confidentiality of the data, and more precisely what kind of data is supposed to be in the database (for example anonymous data). The database of the RDBES should store anonymous detailed raw data. All data stored in the database are private and have specific access rights.

Regarding the financial part, the RCG LP asked about clarification of development already secured financially and part still not validated. ICES have provided funding for the technical development of the RDBES but this would not currently include work specifically for the LP group's requirements. If the LP data only requires minor changes then it is possible that it could be included within the current development - if more substantial changes are required then additional funding would need to be found.

The last question concerning the relation between the Fisheries Dependent Information database (related to the new FDI data call) and the RDBES process. It would be very positive for countries if the RDBES data could also be used to answer the FDI data call and some extra fields have been added to the RDBES data model to allow this. However, there is no guarantee that the FDI data call will not change again in the future and request data that is not in the RDBES data model - in that case the RDBES could no longer be used to respond to the FDI data call.

Generally it was highlighted that the best way for the LP group to make sure their needs are considered during RDBES development is for them to send a representative to the RDBES Core Group.

1.10   Progress on Recreational data

As the RDBES is designed to store official catch statistics and raw sampling data, the SCRDB agreed last year that it would make more sense to store the raised length–frequency distributions and estimations of catch and effort from the marine recreational fisheries (MRF) in separate tables in the existing RDBES.

The objective to incorporate recreational data in the RDBES, is included in the ICES strategic plan 2020–2024 and scheduled for 2022–2023. However, as there is no existing database to host the recreational data for the moment, it would be beneficial to have the separate MRF tables in the RDBES available as soon as possible.

A cost estimate was provided by the ICES Data Centre to include two new tables: one designed to host the catch and effort data, with their corresponding error measurements, at a given temporal and spatial resolution, and one to host raised length–frequency distributions. Taking into account a period of 4 months to implement this and the time needed to find the extra funding, the beginning of 2021 was stated as a realistic timing.

This development was agreed as the way forward and therefore the possibilities to get the extra funding will be explored. Excluding the incorporation of the MRF data from the ICES strategic plan budget, would imply that more money is left to incorporate detailed data on PETS and bycatch in the RDBES.

The SCRDB agreed that it would be good to increase the documentation and transparency of the recreational data used in ICES assessments. This is a complicated matter as each of the recreational surveys is conducted in its own way depending on cultural specifications and there is a wide variety of methods being used to sample (various types of in-situ and offsite methods covering both catch and effort). So, the first priority is to have the national estimates included in the RDBES and only then to clarify the integration of sample data and estimation procedures.

1.11   Progress on diadromous data

Diadromous data was discussed at the SCRDB 2018 meeting - the important points were:

- Currently no direct funding is available for this work
- An eel database already exists – further discussion between ICES and WGEEL is needed about the way forward for the database
- WGEEL and ICES need to review data use policies for eel data
- Need to trial an eel assessment in TAF
- Salmon data is at an earlier state than eel data

In general it was felt that whilst it would be a positive step for the diadromous data to be centrally hosted there were a number of steps to be taken before agreeing whether the RDBES is the appropriate place for all/some of this data.

Limited progress was made on diadromous data in 2019, as the focus is to have a data storage and estimation system for the commercial fisheries data for the RCGs (NANSEA, BSEA) and ICES. The fact that there is currently no direct funding available might also hamper the progress towards inclusion of those data in the RDBES. In December 2019, a WebEx will take place with the experts from WGEEL to discuss the policy to use the eel database and what is the best way forward. Other diadromous expert groups like WGNAS, WGBAST and WGTRUTTA also need to be consulted about their data needs.

We need to be careful with extending the scope of the RDBES, as storing all data in one database increases the complexity and limits the people that are responsible. Therefore, it is important to keep in mind both whether it makes sense and whether it is technically feasible to include specific types of data in the RDBES.

1.12 Progress on bycatch data

Important data model developments made in order to support by-catch monitoring:

- Species List (inference of true zero observations and opportunistic recordings),
- The fields FOobservationCode and SSobservationActivityType (support for coding the part of the fishing process observed),
- The field SSobservationType (support for encoding means of observing bycatch: visual inspection, sorting of subsample),
- The field SAspecimentState (support for encoding the state of the bycatch in order to infer potential survival, and potential mortality not related to the fishing operation).

In addition some previously optional fields in at-sea sampling were made mandatory in order to support bycatch analysis. These developments resolve all issues identified by WGBYC.

Some concerns were raised during the discussion of the mandatory status of the fields. A balance needs to be struck between making sure parameters that are near-universally observable get recorded and submitted, and on the other hand not encourage data submitters to make unjustified assumptions in order to get submissions to pass error-checks. We have commonly adopted "unknown"-codes to make sure there is a way out of this, but this is not technically facilitated for integer parameters. We would like to avoid the use of "magic numbers" (e.g. -9) to indicate an unknown integer value.

Concerns were also raised about whether the new fields SSobservationType is sufficiently distinguished from the unit-fields, or whether it could be incorporated there (e.g. adding 'volume' and 'visual screening' to the code lists for units). It was clarified that the introduction of this field was made for structural reasons, because it may be necessary to specify different species lists for different means of observation.

1.13   Development roadmap

The RDBES development roadmap was reviewed and updated in light of the progress made during 2019 - it is shown below.

Table 1 RDBES Roadmap

Year	RDB System	Inter-Catch	RDBES	Data calls	Estimation incl. coordination	ICES Secretariat	Core Group	WGCATCH/ PGDATA	Countries	RCGs
2020	Production Data in/out	Production Data in/out	Development Test data in/out Test by selected stocks	Selected stocks and test bycatch	Test estimation on selected stocks (TAF)	System development	WKRDB-EST2 continue design-based estimation WKRDB-POP2 target primarily selected stocks of data-call. WKRDB-RAISE&TAF to help with migrating estimation routines to TAF Continue specifying RDBES system	WKRATIO to develop ratio estimation based on RDBES format WGCATCH to evaluate progress and provide guidelines and algorithms for general estimations (ratio/statistical/design based). PGDATA: Describe how the RDBES fits into the QAF.	Test data call. Upload data for selected stocks. Start migrating estimation routines to TAF using RDBES format as input.	RCG chairs to request countries to participate in WKRDB-POP2 and WKRDB-EST2. RCG support the countries to allocate sufficient time for these WKs.
2021	Production Data in/out	Production Data in/out	Development Test data in/out Test by all stocks	Test all stocks and test bycatch	Test estimation all stocks (TAF)	System development	WKRDB-EST3 continue design-based estimation WKRDB-POP3 target all stocks of data-call. WKRDB-RAISE&TAF2 to help countries with migrating estimation routines to TAF Continue specifying RDBES system	WGCATCH to evaluate progress and provide guidelines and algorithms for general estimations (ratio/statistical/design based).	Test data call. Upload data for all stocks. Finish migrating estimation routines to TAF using RDBES format as input	RCG tools and code adapted to RDBES format
2022	Stay alive Data out	Stay alive Data out	Production Data in/out	All stocks 2021 data. Bycatch/PETS data and/or recreational data	Estimation in TAF for all stocks.	System maintenance and additional development	WKRDB-EST4 finalize design based estimation Specify any further RDBES changes required.	WGCATCH to evaluate progress and provide guidelines and algorithms for general estimations (ratio/statistical/design based).	Real data call. Upload data for all stocks. Perform estimation for all stocks.	RCG tools and code need work with RDBES format

Year	RDB System	Inter-Catch	RDBES	Data calls	Estimation incl. coordination	ICES Secretariat	Core Group	WGCATCH/ PGDATA	Countries	RCGs
2023	Stay alive\n\nData out	Stay alive\n\nData out	Production Data in/out	All stocks 2022 data, and historic data if possible.\n\nBycatch/PETS data and/or recreational data	Estimation in TAF for all stocks.	System maintenance and additional development	Specify any further RDBES changes required.		Real data call. Upload data for all stocks.\n\nPerform estimation for all stocks.	
2024	Terminated (if appropriate)	Terminated (if appropriate)	Production Data in/out		Estimation in TAF for all stocks.	System maintenance and additional development				

The RDBES will still be in development during 2020 and 2021 and it is scheduled to move into production in 2022. **Currently it is planned to have a data call in 2022 for 2021 data - this will be used to provide estimates for "all stocks". The feasibility of this "big-bang" approach must be carefully reviewed during 2020 and 2021. Its success will rely on the effort and contributions from a large number of people in the wider ICES/EU data collection community and not just the relatively small groups who attend the SCRDB or Core Group meetings**. It may be more realistic and involve lower risk to have a phased approach where the RDBES is used to produce 2021 estimates for a selection of stocks or particular assessment working groups in 2022. This should be decided upon at the SCRDB meeting in 2020 in light of the progress made during the year.

Key activities in 2020

RDBES Test Data Call for selected stocks

ICES will issue a mandatory data call for sample (CS), landings (CL), and effort (CE) data in the new RDBES format. Countries will need to upload data from 2019 to cover the following stocks:

- **spr.27.22-32**: Sprat (*Sprattus sprattus*) in Subdivisions 22-32 (Baltic Sea)
- **cod.27.21**: Cod (*Gadus morhua*) in Subdivision 21 (Kattegat)
- **whb.27.1-91214**: Blue whiting (*Micromesistius poutassou*) in subareas 1-9, 12, and 14 (Northeast Atlantic and adjacent waters)
- RCG LP **Tropical tuna**
- **sol.27.7fg**: Sole (*Solea solea*) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)
- **mur.27.67a-ce-k89a**: Striped red mullet (*Mullus surmuletus*) in subareas 6 and 8, and divisions 7.a-c, 7.e-k, and 9.a (North Sea, Bay of Biscay, southern Celtic Seas, and Atlantic Iberian waters)
- **mac.27.nea**: Mackerel (*Scomber scombrus*) in subareas 1-8 and 14 and division 9.a (the Northeast Atlantic and adjacent waters)
- **mon.27.78abd, mon.27.8c9a, ank.27.78abd, ank.27.8c9a**: White anglerfish (*Lophius piscatorius*) and Black-bellied anglerfish (*Lophius budegassa*) in Subarea 7 and divisions 8.a-b and 8.d (Celtic Seas, Bay of Biscay), and in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters).

The list of stocks has been chosen to include stocks of interest to the relevant RCGs and also to provide a good coverage of data submitting countries. Countries will also be encouraged to upload any/all 2019 data for stocks that aren't listed as well. It should be noted that countries will probably need to upload data for a number of their sampling schemes to cover the requested stocks - this will probably require them to extract their data using a number of different upper hierarchies.

The deadline for the data call is proposed to be 30 September 2020. The data will not be used for fisheries advice but is intended to compel countries to ensure they can extract their national data into the new RDBES format. Countries will also be encouraged to use the data themselves at workshops such as WKRDB-EST2, WKRDB-RAISE&TAF, and WKRATIO.

Since the data call is not directly being used for fisheries advice we will need to allow 2 months for submissions so it must be issued by 31st July 2020. We would like to give countries as much notice as possible so intend to circulate a draft version of the data call to countries by the end of January 2020.

WKRDB-POP2

This is a follow-on workshop from the WKRDB-POP in 2019 and it will have similar ToRs:

a) Describe and explain the RDBES data model to national data submitters using worked examples.

b) Provide hands-on guidance and assistance to national data submitters to write working data extraction scripts to convert national data formats to the RDBES data format.

c) Identify and document any problems in converting national data formats to the RDBES format.

d) Encourage national data submitters to join the RDBES testing group.

It will be chaired by David Currie and Edvin Fuglebakk and will be held at the VAC Building, Ghent, Belgium from **2 - 5 June 2020**. The ideal conclusion is that at the end of the workshop each country has developed working scripts to extract the data requested by the RDBES data call. For this reason it is important that the RDBES data model does not change significantly between WKRDB-POP2 and the data call deadline - countries must have confidence that any working scripts developed during the workshop will work for the data call.

WKRDB-EST2

This is a follow-on workshop from WKRDB-EST in 2019 and its ToRs will be:

a) Continue to develop and document R scripts for design based estimation for each hierarchy in the RDBES data model.

b) Identify and document any problems with RDBES data model relating to design based estimation.

c) Discuss road forward with regards to development of estimation within the RDBES.

It will be chaired by Nuno Prista and Kirsten Birch Håkansson and will be held in Ghent, Belgium from **14 - 18 September 2020**. Its focus is to continue working towards using RDBES data for design-based estimation.

WKRDB-RAISE&TAF

Whilst a lot of effort in the ICES community has been put towards developing statistically sound sampling schemes (4S) and using design-based estimation it is recognised: 1) that not all data is collected using 4S designs, and 2) design-based estimation is not currently in wide-spread use. There is therefore a need to help countries migrate their current raising procedures to data in the new RDBES format, and using TAF. This will also help to preserve the data time-series since there will not be an immediate change in how the estimates have been produced.

The workshop will be chaired by Laurent Dubroca and another co-chair (ideally one with extensive experience of the TAF system) and will be held at ICES Secretariat HQ in Copenhagen from **16 - 20 November 2020**.

WKRATIO

WGCATCH have proposed a workshop to develop ratio estimation scripts using the RDBES format. It will be co-chaired by Laurent Dubroca and Liz Clarke - WGCATCH will agree the details of the workshop.

The table below summarises these important activities in 2020.

Date	Name	Chairs/responsible
31 January 2020	Publish draft RDBES Data Call	Henrik Kjems-Nielsen
2 - 5 June 2020	WKRDB-POP2	David Currie and Edvin Fuglebakk
31 July 2020	Release RDBES Test Data Call	Henrik Kjems-Nielsen
14 - 18 September 2020	WKRDB-EST2	Nuno Prista and Kirsten Birch Håkansson
30 September 2020	RDBES Test Data Call Deadline	Henrik Kjems-Nielsen
16 - 20 November 2020	WKRDB-RAISE&TAF	Laurent Dubroca and TBC
1 - 3 December 2020	SCRDB Meeting	David Currie and Katja Ringdahl
TBC	WKRATIO	WGCATCH / Laurent Dubroca and Liz Clarke

1.14 Mediterranean RDB

The MED&BS RDB Steering Committee (SC) met in Rome during 28–30 January 2019 to discuss the development of the Regional Database (RDB) for the Mediterranean and Black Sea (MED&BS) Region. The SC had been established by the MED-BS Regional Coordination Group (RCG) during the 2018 Annual Meeting, following the Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 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"

The decisions were largely based on:

- the obligations derived from the aforementioned EU regulation;
- the input requested by the Commission from the DCF National Correspondents of the MS to articulate their preference on the RDB host and provide the reasons for their preferred choice;
- the questionnaire circulated by the SC to the MS regarding their preferences and reservations on the RDB scope and data types;
- the grant STREAM "STrengthening REgional cooperation in the Area of fisheries biological data collection in the Mediterranean and Black Sea" funded under the EU Call for Proposals MARE/2016/22, provided some insight on the possible solutions related to the storage, processing and analysis of the RDB data taking into account the current situation, ongoing studies and developments;
- the 1st Steering Committee Meeting for the Mediterranean and Black Sea Regional Database (Med&BS RDB) held in 2012;
- input from potential hosts.

The main decisions of the SC were the following:

- The preferred host of the RDB is still under discussion, with several options on the table at the moment;
- The Med&BS RDB should contain, as a first step, detailed biological and aggregated transversal data (i.e. landings and effort);

- A data policy document is proposed, dealing with data confidentiality and data ownership issues;
- The main functionalities include the estimations required for the various data calls, as well as further analyses that will be proposed by the MS;
- Existing development initiatives (like RDBES in ICES) need to be incorporated in the new RDB;
- The development will be undertaken by a technical committee proposed by the MS, where also GFCM will participate;
- Regarding cost for development and maintenance, the issue can be discussed at the RCG Mediterranean and Black Seas meeting.

This proposal was considered by the National Correspondents (NC) and RCG Med&BS during 2019.

Proposed functionalities for the Med&BS RDB:

- Raising procedures required for the data calls, adapting the methodology currently being developed for the ICES RDBES;
- Data quality checks, automatized data quality and coverage reports;
- Reporting facilities, e.g. automatic completion of Annual Reports tables and standard formats required by end-users;
- Optimization of regional and national sampling programmes and cost efficient data collection, and implementation of data quality checks following the outcomes of the STREAM project;
- Georeferenced presentation of data.

Additional potential functionalities for the Med&BS RDB include:

- GIS- based Visualization;
- Spatial data, inventory (i.e. Geonetwork, Geoserver);
- Integrate existing open source packages (e.g. MCDA- multi-criteria decision analysis to extract fishing footprints and estimate fishing pressure);
- Combination of Biotic and Abiotic factors;
- Input /Output to Marine Strategy Framework Directive (MSFD);
- Parametric tables (Fleet, LW, ALK, Growth parameters…);
- Legislation;
- Historical fisheries statistics data (analysis & presentation of fishing fleet, production, employment);
- Migrant species.

After the presentation several questions/discussions appeared. The first was in relation to the cost and the funding of the Med&BS RDB. In the presentation, the proposal was to consider this topic in cooperation with the DG MARE. Discussion about this subject should be covered during the next RCG meeting at the beginning of the year.

Another point was discussed about the overlap of RCG Med & BS sampling with ICES stocks and it appears that there is not overlapping sampling. Furthermore, the DG MARE representative suggested that a person from the Core Group (or from the SCRDB) participate in the Med&BS RDB technical meeting in January to be sure that what the RCG expected is compatible with the RDBES development. David Currie, Katja Ringdahl and Henrik Kjems-Nielsen were invited and at least one of them will be present (in a video conference or physically).

On this same topic, it is necessary to check if definitions and standards of the RCG Med & BS are the same as the RDBES process to be sure that the same methodology is adopted. In addition, the SC suggest sharing code lists (for example on species). Furthermore, it was clear from the

RCG Med & BS that they are interested in adopting the current RDB exchange format rather than using the newer RDBES data model.

In summary it can be seen that there are a lot of areas of overlap between the ICES RDBES and Med&BS RDB. It will be vital to keep the two steering groups communicating to ensure compatibility between the two systems (e.g. ensure the two systems use the same code lists when relevant).

2 Respond to Recommendations

This section fulfils ToR (b): *"Respond to recommendations put forward to the SCRDBES by the Regional Coordination Groups (RCGs) via the Liaison Meeting, and ICES expert groups."*

2.1 Recommendations relating to RDBES development

Recommendation 2019-R1: Updating national data to the RDB	
RCG-LDF 2019 Recommendation	RCG LDF recommends that MS continue to update historical data as well as most recent data prior to the 2020 RCG LDF data call.
Follow-up actions needed	MS to update their data and promote set up of routine procedures to provide data to the RDB.
Responsible persons for follow-up actions	NCs of all RCG LDF MS.
Time frame (Deadline)	Prior to the RCG LDF 2020 data call.
LM comment	No comment
Follow up from SCRDB	SCRDB endorse this

Recommendation 2019-R2: Funding of RDB work for RCG LDF	
RCG-LDF 2019 Recommendation	RCG LDF recommends that, in line with the arrangements for RDB work for other RCGs, the RDB activities by ICES to facilitate RCG LDF work are funded through the agreement between the Commission and ICES
Follow-up actions needed	Include the costs in future agreement between Commission and ICES.
Responsible persons for follow-up actions	Commission representatives and ICES
Time frame (Deadline)	When agreement is renewed
LM comment	LM precises that new species, areas and metiers means extra workload and time allocation for RDB development.
Follow up from SCRDB	SCRDB endorses this

Recommendation 2019-R4: Facilitate combined area upload.	
RCG-LDF 2019 Recommendation	SC-RDB to discuss and seek a solution to facilitate future uploads for combined areas in the RDB
Follow-up actions needed	Contact SCRDB and put request on agenda for December meeting
Responsible persons for follow-up actions	Chair RCG LDF
Time frame (Deadline)	After LM 2019
LM comment	No comment
Follow up from SCRDB	For the current RDB an existing field will need to be repurposed - RCG LDF will work with ICES Data Centre.
	For the new RDBES a new field to hold this information needs to be added to the data model. The RCG LDF will forward suggestions to the Core group.
	In both cases a code list needs to be specified - the RCG LDF will specify this.

NA NS&EA R4 – Funding requirements and timescales for inclusion of recreational fisheries data in RDBES.	
Recommendation	ICES to consider funding requirements and timescales for inclusion of recreational fisheries data in the RDBES.
Justification	Recreational fisheries data are no longer collated by the economic data call, so catch estimates should be included in the RDBES. A clear timescale and funding requirements need to be developed by ICES, so that it is clear how this can be achieved.
Follow-up actions needed	ICES
Responsible persons for follow up actions	RCG
Time frame (deadline)	October 2019
LM comment	
Follow up from SCRDB	ICES have supplied cost estimates for the inclusion of recreational data within the RDBES.
	Recreational fisheries have been included in the "2+2" ICES funding roadmap - either by-catch and PETS data *OR* Recreational data will be included in the functional RDBES by 2022. If the recreational group can provide additional funding to ICES then that would allow both types of data to be included. It could be possible to include recreational data by the beginning of 2021, subject to prioritisation of the work.
	SCRDB considers it would be an important aim for WGRFS to continue the development so that detailed sample data and estimation scripts could be included in the RDBES and TAF in the future.

WGBYC (Recommendation ID 90) – PETS	
Recommendation	WGBYC concluded that the 2017 fishing effort data from the RDB could not be used for their PETS bycatch estimates WGBYC recommends that RDB discusses with the data needs of WGBYC to fulfil its advisory role to the European Commission.
Responsible persons for follow-up actions	RCMs; Secretariat; SCRDB
Time frame (Deadline)	2019
Follow up from SCRDB	The Core Group has worked with WGBYC to adapt the RDBES data model to fulfil these needs with respect to sampling data. Further work needs to be done to evaluate if the RDBES fishing effort and landings data (CE, CL) format is suitable.

WGBYC (Recommendation ID 91) – PETS	
Recommendation	In 2018, WGBYC recommended the RDB Steering Group include additional fields to accommodate the new format of protected species data collection. New data fields were recommended by PETSAMP and reviewed by WGBYC. In 2019, WGBYC recommend that the RDB continue to work with WGBYC to ensure RDB(ES) can store PETS data from 2020.
Responsible persons for follow-up actions	RCMs; Secretariat; SCRDB
Time frame (Deadline)	2019
Follow up from SCRDB	The RDB Core Group has worked with WGBYC to adapt the RDBES data model to fulfil these needs. The RDBES is still in development with the aim of being functional by 2022 so it will not be able to be used for a PETS data call in 2020 or 2021.

WKRDB-EST (Recommendation ID xx) – Data Call	
Recommendation	Reduce the number of countries involved in 2020 test data calls on RDBES format and data workshops.
Responsible persons for follow-up actions	SC-RDB
Time frame (Deadline)	2020
Follow up from SCRDB	The details of the data call are included in the plan for 2020. There are 2 main goals for the data call: (1) ensure that as many countries as possible are able to successfully submit data to the RDBES, and (2) ensure we have complete data for some stocks in time for the WKRDB-EST in 2020. SCRDB acknowledges this will be a significant work-load for submitters in 2020 so we have selected the target stocks that involve a lower number of sampling schemes per country.

2.2   Recommendations relating to RDB data use

RCG NA NS&EA 2019 R2 - Stock column in the RDB is completely filled according to a reference list based on area	
Recommendation	ICES to ensure that the stock column in the RDB is completely filled according to a reference list based on area. Where there is spatial or temporal overlap between stocks of the same species ICES should contact the assessment group (by month / area).
Justification	During this year's RCG it was not possible to use the stock variable in the RDB to investigate the importance of the thresh hold values and thereby improve the regional coordination of the stocks with a lower amount of landings as too many data mistakes were discovered in the stock variable.
Follow-up actions needed	ICES Data Centre
Responsible persons for follow up actions	RCG NA NS&EA and ICES Data Centre
Time frame (deadline)	Before Q1 2020.
LM comment	ICES is aware of the issue and commits to complete the stock column information.
Follow up from SCRDB	SCRDB endorses this recommendation.

RCG Baltic 2019-R1 Data check in RDB	
Recommendation	Data check in the RDB
Justification	Presently there seems to be a difference between data uploaded to the RDB and IC.
Follow-up actions needed	ICES data centre to compare data for 10 stocks (central herring, eastern Baltic cod, sprat 22-32 – from the Baltic) between IC and RDB. This information needs to be sent to MS contact list before 1. October 2019. MS to look into data difference and explain difference, correct them if mistakes are discovered and re-uploaded before 1. December 2019.
Responsible persons for follow up actions	ICES data centre and MS
Time frame (deadline)	Before 2020.
LM comment	ICES will be in dialog with RCGs to see where the differences are and try to resolve this issue.
Follow up from SCRDB	SCRDB notes that the ICES Data Centre have sent this information to the RCG chairs - the Data Centre are currently waiting for a response from the RCG Chairs.
	Once the RDBES replaces InterCatch and RDB then any discrepancies between detailed data and estimates will be documented.

NA NS&EA BS D2 Annual fisheries overview – to be public available	
Relates to	Outcome of ISSG 'Facilitate the production of regional overviews of fisheries and sampling'
When	Brussels, September 2019
Details of Decision to be taken	NCs to approve whether the overviews can be made public as a stand-alone published document after RCG use
	The document will be reviewed before publication. Decide on who to review and approve (RCGs, SC-RDB, other ?)
Implication	The report of the latest fisheries overview (one year back) would be made public after the RCGs
Who needs to take decision/agree	NC´s NA NS&EA and Baltic region
Supporting Documentation	Section 5.2.1, Google Docs: 001_annual_fisheries_overview
LM comment	No comment
Follow up from SCRDB	Need to check that the Fisheries Overviews follow the RDBES Data Policy. If they do, then there shouldn't be a barrier to publication. A sub-group (DC, KR) of the SCRDB will do this task and report back to the RCGs.

WGBIOP (Recommendation ID XX) – Link between RDBES and SmartDots	
Recommendation	To investigate the development of a streamlined dataflow between RDB, SmartDots and data quality report archives so that the outputs can be integrated and used to support future regional data quality assurance
Responsible persons for follow-up actions	SCRDB, WGSMART
Time frame (Deadline)	2020
Follow up from SCRDB	This should be an agenda item for the WebEx between the chairs of the data governance groups. The solution from the RDBES is for countries to ensure that the same fish id is used in the BV table as that used in SmartDots

2.3   Recommendations relating to RDB/RDBES data policy and confidentiality

RCG NA NS&EA 2019 – R5 – Revision of RDB/RDBES Data Policy to improve the process to give pre-approved ICES expert groups access to detailed data	
Recommendation	SCRDB to review the RDB/RDBES Data Policy to improve the process to give pre-approved ICES expert groups access to detailed data
Justification	The RCG NA NS&EA recommends that the RDB/RDBES data policy is reviewed with respect to the access to detailed data by preapproved ICES fisheries expert groups (EG). Under the RDB/RDBES Data policy https://www.ices.dk/marine-data/Documents/Data_Policy_RDB.pdf landings (CL) and effort data (CE) are considered aggregated data, whilst sample data (CS) are considered detailed data
	Currently every pre-approved EG has access to aggregated data but has to request access to detailed data from all relevant countries' National Correspondents (or ACOM member for non-EU countries). This is burdensome both to the EG and to the MS, and can cause delays in the availability of RDB data for those EG.
	In 2018 the National Correspondents at the RCG Baltic 2018 agreed to grant ICES expert groups and related benchmark groups providing advice to fisheries management access to detailed data for the sub-division 22-32 (Baltic Sea) stored in the RDBES (RCG Baltic 2018-A7 - RDB Data Policy #2).
	The SCRDB should draft a revision to the RDB/RDBES Data Policy which would improve the system for giving access to detailed data to pre-approved EGs during their 2019 meeting and then present it for discussion, review, and agreement during the 2020 RCG meetings.
Follow-up actions needed	Draft a revision to the RDB/RDBES Data Policy.
Responsible persons for follow up actions	SCRDB
Time frame (deadline)	April 2020
LM comment	No comment
Follow up from SCRDB	A revision of the Data Policy has been drafted and will be sent to the RCGs for review, and ultimately, NCs for approval.

RCG NA NS&EA 2019 – R6 –Create an RDB/RDBES Data confidentiality agreement to be signed by detailed data users	
Recommendation	SCRDB and ICES Data Centre to create an RDB/RDBES Data confidentiality agreement to be signed by detailed data users
Justification	It is recommended that the best way of ensuring the use of RDB/RDBES data by ICES Expert Groups (EGs) is in line with the RDB/RDBES Data Policy is to have each member of the EG sign a standard "RDB/RDBES Data confidentiality agreement" which will remind people of the RDB/RDBES Data Policy and their obligations under it.
	For the existing RDB
	It is recommended that the Chair of the EG will have all participants with access to the RDB data sign a standard "RDB/RDBES Data confidentiality agreement", which will be scanned and uploaded on the EG's SharePoint site in the Data folder.
	For the forth-coming RDBES
	It is recommended that the Chair of the group will have all participants with access to the RDBES data sign a standard "RDB/RDBES Data confidentiality document", which will be scanned and uploaded on EG's SharePoint site in the Data folder.
	It is recommended that if the data is downloaded via an RDBES web application then a pop-up window is shown where the user is required to tick a box to say they have read and under-stood the RDB/RDBES Data Policy.
Follow-up actions needed	Create a RDB/RDBES Data confidentiality agreement.
	Create a procedure to ensure EG members who use detailed data sign the agreement.
Responsible persons for follow up actions	SCRDB, ICES Data Centre
Time frame (deadline)	March 2020
LM comment	No comment
Follow up from SCRDB	This document has been drafted and will be sent to the RCGs for review, and ultimately, NCs for approval.

DIG (Recommendation ID 54) – Data Policy	
Recommendation	Review comments, edits, and observations to the RDB + RDBES data policy made by DIG as part of routine review of ICES Data Policies. Final edits and updates to published policy is for agreement with SCRDB
Responsible persons for follow-up actions	SCRDB
Time frame (Deadline)	2019
Follow up from SCRDB	DIG were not able to provide the detailed comments before the SCRDB meeting so they could not be taken account of.

2.4   Recommendations related to training

WKRDB-EST (Recommendation ID xx) – 4S Training	
Recommendation	Discuss the possibility of setting up of a new training cycle in statistically sound sampling design and estimation
Responsible persons for follow-up actions	SCRDB
Time frame (Deadline)	2020
Follow up from SCRDB	SCRDB endorses this but did not have time to fully discuss it. ICES Data Centre will investigate this further.

WKRDB-EST (Recommendation ID xx) – Git / R package Training	
Recommendation	Discuss the possibility of conducting training in Git and building of R-packages
Responsible persons for follow-up actions	SCRDB and ICES Data Centre
Time frame (Deadline)	2020
Follow up from SCRDB	SCRDB agreed that this is a good idea. Perhaps some short "How-to" videos can be created to illustrate basic Git concepts. This should also be tied in to TAF training. It would be a good idea to include a short session on Git and R package construction before the start of WKRDB-EST via WebEx. A skeleton R package could be created before WKRDB-EST - participants can then easily fill their code into the correct places.

3   Summary of the use of the RDB

This section fulfils ToR (c) *"Summarize how the RDB has been used in the RCGs, along with any other uses. Discuss how the code is being shared from these different uses."*

3.1   Response to RDB Data call and summary of ICES EGs using RDB Data

Response to RDB Data call RCG Baltic Sea

Below is a representative example of one of overviews showing the data uploaded by the countries per year, in this example it is the length data.

Table 1 Number species in length data HL

Sampling country (HL)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Denmark	37	45	38	29	39	42	31	39	32	32
Estonia	5	12	19	30	32	42	3	6	6	6
Finland	22	26	30	32	31	33	33	32	31	30
Germany	24	30	25	27	30	32	20	38	32	28
Latvia	4	6	16	13	14	17	16	19	26	31
Lithuania	4	4	4	4	9	15	13	8	16	7
Poland	29	29	40	44	46	47	50	40	35	36
Sweden	45	29	42	43	50	49	42	42	46	50

The conclusion looking into all data overviews (not just the above overview) is:

- All the Baltic countries have uploaded landings and effort data
- All the Baltic countries have uploaded both age and length sample data
- According to the time series it looks like all the Baltic countries have uploaded all data

All the countries in the RCG Baltic Sea have uploaded all data

Response to RDB Data call RCG North Atlantic, North Sea and Eastern Arctic (NA NS&EA)

Below is the overview showing the data type for which most data is missing. The overview shows the length data uploaded by the countries per year.

Table 2 Number species in length data HL

Sampling country (HL)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Belgium	11	25	20	17	15	14	15	15	16	19
Denmark	93	94	94	92	97	95	100	93	95	117
England	138	132	129	153	132	115	131	129	128	1
Estonia	1	1	1	7	15	2		7		
France				1					267	270
Germany	72	87	70	110	107	111	100	107	133	123
Ireland	113	116	126	125	105	108	124	104	108	105
Latvia	1	1	5	1	1	1	1	1		
Lithuania			11	8	2	2	2	2	2	2
Netherlands	33	38	40	41	37	42	41	41	49	33
Northern Ireland								57		57
Poland	11	18	3	17	16	16	30	35	20	11
Portugal	213	214	235	224	233	228	240	225	255	256
Scotland		24	26	26	144	114	130	126	109	111
Spain	27	34	24	29	28	222	221	215	221	192
Sweden	4	75	76	81	71	80	98	90	97	99
United Kingdom	54	65	58	70	60	60	57		53	
Wales								10		

It can be seen that there has been some inconsistency over time in how data from the United Kingdom and its constituent countries (England, Scotland, Wales, and Northern Ireland) has been recorded so care must be taken in how it is interpreted. This should be resolved in discussion with the relevant data submitters.

The conclusion looking into all data overviews (not just the above overview) is:

- All the NA, NS & EA countries have uploaded landings and effort data.
- All the NA, NS & EA countries have uploaded age sample data
- All the NA, NS & EA countries have uploaded length sample data, except United Kingdom/England

ICES Expert Groups use of RDB data in 2019

In 2019 the largest number of ICES Expert Groups, EG, have requested data from the RDB. The following is a summary of the ICES/EC/RCG Expert Groups that requested data from the RDB. First is the requesting EG: Month. Data - level/permission

- WGCATCH: Jan. CL - for foreign landings
- WGBYC: Mar. CE – effort GT days
- RCG Subgroup: Mar. CL, CE, CS - for overviews
- HAWG: Mar. CS CL - subdivisions 20-25 National permission
- WGMIXFISH-METH: May. CS, CL, CE - National permission
- WGCSE Saithe data (pok.27.7-10): Aug. CS - aggregated length data
- ICES Spec Req Seabass data bss47: Aug. CS - National permission

- EC Cristina Ribeiro: Aug. CL - aggregated
- ICES Spec Req Eastern Baltic Cod: Sep. CL - aggregated
- WGSCALLOP: Oct. CL, CE - for assessment

3.2   Use of RDB Data in WGMIXFISH

The aim of this work was to develop and apply methods to identify targeting behaviour in a fishery by scientifically categorising species as: "target", "hybrid", "valued bycatch" and "collateral bycatch". The data requirements were catch, effort, and biological sample data (age and length) for all species at trip level, including fleet, métier, and season information. The existing RDB is the only currently available international data source that could supply this.

WGMIXFISH is on the ICES pre-approved list so could have access to aggregated data but needed to request access to the detailed data by sending a request to the relevant National Correspondents. This was found to be a time consuming and inefficient process - in some cases it was necessary to speak to individuals who were physically attending the same meeting as a National Correspondent and ask them to pass on a reminder about the request.

Once the detailed data was available its quality and consistency was evaluated. Issues identified included

- Missing years in the data,
- Inconsistencies between the landings and sampling tables (e.g. species names, métier names),
- No landings or discards information for some countries.

The primary issue was the incompatibility between the landings and sample tables. This incompatibility meant that the observed length/age structures found in the sample tables could not be raised to the level of total landings, rendering it impossible to produce the analysis required.

3.3   Use of RDB data in RCG Sub-Groups

Regional fisheries and sampling overviews are important background documents for decision making at RCGs. As of 2018 the different RCG were conducting their own data analysis and partial overviews on RDB data with minimal standardization and exchange. This situation resulted in redundancies and efficiency loss (e.g. scripts not readily available, redundant discussions about the content and data). Furthermore a substantial part of the work was being carried out during the RCG meetings themselves (or even after) and so not readily available to inform RCG preparation and meeting discussion.

To remedy this a pan-regional inter-sessional RCG sub-group was created to develop a common fisheries overview. The work of this group included creating:

- a common format for RDB data exchange,
- a common format for data preparation,
- a common private repository for RDB datasets (sharepoint),
- a common public repository for code development (GitHub),
- a common set of functions (barplots, maps, river plots) and auxiliary datasets (e.g., colour coding, shapefiles, RCG specific graphical parameters),
- an agreement on common structure for annual fisheries overviews, multi-annual fisheries overviews, sampling overviews and stock overviews,
- a common R-markdown script for annual fisheries overviews,

- 2018 fisheries overview documents for all RCGs.

At the National Correspondents decisions meeting it was asked whether they approved of the documents for use in RCG work, and whether they could be made publically available. Whilst the NCs thought the documents will be very useful to support RCG work they had concerns whether the reports might inadvertently violate RDB data confidentiality. They also thought the proposed time-frame for publishing the reports publicly was too short.

A sub-group of the SCRDB will look at these documents and decide whether they comply with the existing RDB Data Policy. **It should be noted that it is very difficult, if not impossible, to determine whether it would be possible to infer detailed data about an individual fishing vessel when given aggregated data.** This is partly because it will depend on what other data the reader of the report has available to them - to take a trivial example, if they have data for all fishing vessels apart from one then they could clearly infer the data for the unknown vessel whatever level of aggregation is used.

The SCRDB will need to take a practical, risk-based approach. This will involve assuming what other data the report readers might have available (including public sources like FAO statistics, ICES WG reports, and fleet registers, easily available sources like AIS data, and private sources like a skipper's own logbook records), and what the risk is if individual data might be inferred (e.g. catches in an ICES division aggregated over a year could be considered lower risk than catches from an ICES statistical rectangle aggregated over a month).

4 The RDB/RDBES Data Policy and Confidentiality Agreement

This section fulfils ToR (d) *"Review the RDB/RDBES Data Policy."*

4.1 Issues identified with the current Data Policy

The current process for ICES expert groups who have been granted access to aggregated data to request access to detailed data is not effective since it relies on contacting a number of National correspondents.

The number of ICES expert groups who have been granted access to aggregated data is quite large (90 - 100 groups) - many of these groups might have no interest in using RDB/RDBES data.

4.2 Recommended changes to the Data Policy

Annex 5 contains the Data Policy with recommended changes - the majority of these changes are minor and are just to clarify the current meaning of the Policy.

The following paragraph has been added to the "Access Rights" section to try and make the process of applying for access to detailed data smoother - the aim is to allow countries to pre-approve a list of ICES expert groups to have access to detailed data without needing to respond to every individual request.

"EU MS / ICES countries can choose to pre-approve access to detailed data for all EGs on the list in (i) – this approval must be given in writing to the RDBES host. This approval must be renewed by 31 Jan each year in writing to the RDBES host."

Although the list of ICES expert groups that have access to aggregated data is not defined in the Policy it is recommended that the ICES Data Centre and SCRDB review the groups on the list and see if it can be rationalised. A clear mandate from NCs needs to be obtained for the access of ICES expert groups to detailed data with a possibility to renew the above mentioned list each year.

There will be further changes required to the Data Policy as the RDBES nears production status (for example the user roles in the "Access Rights" section will need to be expanded) however it was felt that those changes are not required to be made this year. The data processor role – preparation of data – should be clarified in a future version of the "Access Rights" full document, which should be published together with the Data Policy document when finalised.

4.3 Confidentiality Agreement

A document called "Conditions for detailed RDBES data use" has been created and is included in this report as Annex 6 (this was based on the existing "Conditions for detailed VMS/log book data use"). It is intended that the members of any ICES expert groups who use RDBES detailed data will need to sign a copy of this document to show that they understand and agree to its terms of use - the chair of the group will then scan the signed agreement and store a copy of it in the relevant SharePoint site.

5   Testing the RDBES

This section fulfils ToR (e) "*Discuss how to setup a testing group of persons from the Core Group and from all countries for testing the RBDES system functionalities with national data. This could be combined with discussions on how to make the countries more engaged in preparing for the format*."

Over the last few years, the RDB Core Group and various workshops have contributed to the design and development of the RDBES and its population with data. The RDBES model has been settled more or less now, unless crucial gaps are identified, and the functionalities of the system are being developed at a high pace. More rigorous and in-depth testing needs to be done in 2020 to ensure RDBES can meet its deliverables and to ensure the system and all supporting facilities are functioning as envisioned and designed. Testing should focus on upload and download facilities (working as expected, clear messages, technical aspects of interface) in the beginning, while including reporting facilities, for example, at a later stage. The current Core Group can do some of the testing, but a wider selection of contributors such as national data submitters is required to cater for all the tests required.

SCRDB discussed the set-up of a testing group, various options were discussed but SCRDB concluded to address the request to participate in the testing group to all current data submitters as well as the Core Group. In addition, the WKRDB-POP resolutions can be expanded to include the set-up of this testing group and to strive to include all countries in the test-phase of the RDBES. By joining the test group, countries can benefit from the experience gained in this group when addressing future RDBES data calls.

6 Naming of the SCRDB group

Given that the SCRDB acts under the ICES umbrella, despite being a combined ICES/EU RCG group, the acronym of the group should be aligned with the ICES naming guidelines. These guidelines reflect the ICES hierarchy and reporting structure where Working Groups report to Steering Groups. "Steering Group" is a reserved name for a group managing working groups and the workshops under its remit. Thus, a Steering Committee sitting under a Steering Group is not in line with this structure. Also, the current guidelines specifically allow the establishment of governance groups like those for DATRAS and SMARTDOTS. Ideally, the SCRDB acronym should have been aligned a while ago, but given the 'special' status, this was postponed.

SCRDB discussed its proposed future acronym and related subjects like the route for recommendations, nominating procedures and definitions of ToRs. Regarding the recommendations, in line with the ICES structure, recommendations from groups have to be reviewed by its Steering Group chair. Unlike other groups, this group can make specific recommendations or requests to RCGs, this shall not be blocked by the ICES structure or working procedures. Also, the nominating procedures for this group shall not be modified from the current set-up where both RCGs and ICES countries can nominate participants. As part of the working procedures, standing three-year ToRs shall be set up by this group for future work and the progress made by the group shall be self-reviewed every third year. Unless serious issues arise during such an evaluation, the group is expected to continue uninterrupted.

In line with other governance groups under the ICES naming guidelines and having discussed related procedures for these groups, SCRDB proposes to rename itself to WGRDBESGOV. This proposal will be brought forward to the 2020 RCG technical meetings for input and follow-up by the RCG decision making meeting.

7   Next meeting date/venue

The next meeting of the SCRDB is planned to take place from Tuesday 1 December until Thursday 3 December 2020 at ICES Secretariat HQ, Copenhagen.

8 Actions

Who	When	What
David Currie and Edvin Fuglebakk	Jan 2020	Draft ToRs for WKRDB-POP
Nuno Prista and Kirsten Birch Håkansson	Jan 2020	Draft ToRs for WKRDB-EST
Laurent Dubroca	Jan 2020	Confirm co-chair and Draft ToRs for WKRDB-RAISE&TAF
Henrik Kjems-Nielsen	Jan 2020	Draft letter giving advance notice of the 2020 data call
Henrik Kjems-Nielsen	May 2020	Write 2020 data call
David Currie	Feb 2020	A workshop on adapting national databases to the RDBES was proposed (WKRDBES-ADAPT) - contact NC with proposed date and ToRs and ask if there is interest
David Currie and Katja Ringdahl	April 2020	Review the Fisheries Overviews and decide if they follow the current RDB Data Policy

Annex 1: List of participants

Name	Institute / RCG	Country (of institute)	Email
Maciej Adamowicz	National Marine Fisheries Research Institute/ RCG BS	Poland	maciej.adamowicz@mir.gdynia.pl
Liz Clarke	Marine Science Scotland	UK (Scotland)	liz.clarke@gov.scot
David Currie	Marine Institute / RCG NANSEA	Ireland	david.currie@marine.ie
Mathieu Depetris	IRD/ RCG LP	France	mathieu.depetris@ird.fr
Laurent Dubroca	Ifremer	France	laurent.dubroca@ifremer.fr
Edvin Fuglebakk	IMR	Norway	edvin.fuglebakk@hi.no
Kirsten Birch Håkansson	DTU Aqua	Denmark	kih@aqua.dtu.dk
Neil Holdsworth	ICES	-	NeilH@ices.dk
Kieran Hyder *	CEFAS	UK (England)	kieran.hyder@cefas.co.uk
Pedro Lino *	IPMA/ RCG LP	Portugal	plino@ipma.pt
Eirini Mantzouni *	FRI/ RCG MED&BS	Greece	emantzo@inale.gr
Claire Moore *	Marine Institute	Ireland	claire.moore@marine.ie
Estanis Mugerza *	AZTI	Spain	emugerza@azti.es
Colin O'Neil *	Fisheries and Oceans Canada	Canada	Colin.O'Neil@dfo-mpo.gc.ca
Henrik Kjems-Nielsen	ICES	-	henrikkn@ices.dk
Sofie Nimmegeers	ILVO/ RCG NANSEA	Belgium	sofie.nimmegeers@ilvo.vlaanderen.be
Nuno Prista	SLU	Sweden	nuno.prista@slu.se
Perttu Rantanen	LUKE	Finland	Perttu.Rantanen@luke.fi
Katja Ringdahl	SLU/ RCG BS	Sweden	katja.ringdahl@slu.se
Oana Surdu	European Commission	-	Oana.SURDU@ec.europa.eu
Els Torreele	ILVO/ RCG NANSEA	Belgium	els.torreele@ilvo.vlaanderen.be
Sieto Verver	Wageningen Marine Research/ RCG LDF	Netherlands	sieto.verver@wur.nl
Lucia Zarauz *	AZTI	Spain	lzarauz@azti.es

* Via WebEx

Annex 2:   Resolutions

2019/2/EOSG02   The meeting of the Steering Committee for the Regional Database and Estimation System (SCRDB), chaired by David Currie, Ireland, and Katja Ringdahl, Sweden, will meet in ICES Secretariat HQ, Denmark , 3–5 December 2019 to:

a) Review the status of the development of the new RDBES and its project plan for implementation, including the funding of the outstanding development. Review feedback summaries from workshops.

b) Respond to recommendations put forward to the SCRDBES by the Regional Coordination Groups (RCGs) via the Liaison Meeting, and ICES expert groups.

c) Summarize how the RDB has been used in the RCGs, along with any other uses. Discuss how the code is being shared from these different uses.

d) Review the RDB/RDBES Data Policy.

e) Discuss how to setup a testing group of persons from the Core Group and from all countries for testing the RBDES system functionalities with national data. This could be combined with discussions on how to make the countries more engaged in preparing for the format.

SCRDB will report by 10 January 2020 for the attention of EOSG, SCICOM and ACOM

Annex 3:   Meeting Agenda

Date	Time	ToR	Subject	Details	Presenters/ Lead
03/12/2019	13:00 - 13:30		Welcome and housekeeping		David/Katja
	13:30 - 14:00	a	RDBES Core Group summary	Progress on CS, CE, and CL data formats	Henrik
	14:00 - 14:20	a	ICES RDBES System development summary	Summary of the technical developments made by ICES	Henrik
	14:20 - 14:40	a	WKRDB-POP Summary	Summary of the workshop and its outputs, along with next steps taken	Edvin
	14:40 - 15:00	a	WKRDB-EST Summary	Summary of the workshop and its outputs, along with next steps that need to be taken	Kirsten
	15:00 - 15:30	c	Use of RDB data in WGMIXFISH	Summary of how WGMIXFISH used RDB data and recommendations for improving the process	Claire
	15:30 - 16:00		Tea/Coffee		
	16:00 - 16:30	a	RDBES & TAF	Presentation of the RDBES/TAF demo system	David
	16:30 - 16:45	c	RDB Data Call	Summary of the response to the RDB data call and overview of ICES WG using RDB data	Henrik
	16:45 - 17:15	c	Use of RDB in RCG sub-groups	ISSG "Facilitate the production of regional overviews of fisheries and sampling" (includes discussion on NA NS&EA BS decision D2 "Annual fisheries overview – to be public available?")	Nuno
	17:15 - 17:45	a	Mediterranean RDB summary	Present a summary of the Med&BS progress and discuss how we can work together.	Eirini
04/12/2019	09:00 - 09:15		Recap and plan for the day		David/Katja
	09:15 - 09:45	a	Commission Update	Update from the Commission on relevant topics	Oana
	09:45 - 10:30	a	RDBES Funding status	Status of the current funding situation and its consequences	Neil
	10:30 - 11:00		Tea/Coffee		
	11:00 - 11:20	a	Review the inclusion of different types of data in the RDBES and what is still required.	Progress on Long Distance Fisheries data. Issue of area split in CECAF areas	Sieto
	11:20 - 11:40	a		Progress on Large Pelagic data	Mathieu
	11:40 - 12:00	a		Progress on Recreational data. Includes RCG NA NS&EA recommendation R3 – Funding requirements and timescales for inclusion of recreational fisheries data in RDBES.	Henrik/Kieran/Lucia/Estanis
	12:00 - 12:10	a		Progress on Diadromous data	David

Date	Time	ToR	Subject	Details	Presenters/ Lead
	12:10 - 12:30	a		Progress on Bycatch data.	Nuno
	12:30 - 13:00	b	Recommendations	Discuss recommendations not captured in other discussions. (Continue on Thursday morning if necessary)	All
	13:00 - 14:00		Lunch		
	14:00 - 1415		Sub-group work	Confirm sub-groups. Sub-group 1: Data policy and confidentiality. Sub-group 2: Development roadmap.	
	14:15 - 16:30	b,d		Sub-group 1. Revision of RDB/RDBES Data Policy to improve the process to give pre-approved ICES expert groups access to detailed data. Create an RDB/RDBES Data confidentiality agreement to be signed by detailed data users. (Fulfils RCG NA NS&EA recommendations R5 and R6, and ICES Recommendation No 54 from DIG)	
	14:15 - 16:30	a		Sub-group 2. Review the RDBES development roadmap and update as required. Agree the details for what will happen in 2020.	
	16:30 - 17:30		Sub-groups present work for discussion		
	19:30		Social dinner @ H15		
05/12/2019	09:00 - 09:15		Recap and plan for the day		David/Katja
	09:15 - 09:45	b	Naming of ICES SCRDB group	ICES would like the name of the group to follow its current naming guidelines	Neil
	09:45 - 10:30	e	Set up testing group and expand Core group	Discuss how to setup a testing group of persons from the Core Group and from all countries for testing the RBDES system functionalities with national data	Henrik
	10:30			Agree dates for next meeting	David/Katja
	10:30 - 11:00		Tea/coffee		
	11:00 - 12:00	b	Recommendations	Discuss recommendations not captured in other discussions. (Continued from Wednesday)	All
	12:00 - 13:00		Deal with any outstanding issues and prepare report text		
	13:00		Conclude meeting	Agree dates for next meeting	

Annex 4: Draft ToRs for Proposed Workshops

WKRDB-POP 2 – Second Workshop on Populating the RDBES data model

The **Second Workshop on Populating the RDBES data model (WKRDB-POP2)** co-chaired by David Currie, Ireland and Edvin Fuglebakk, Norway will be held at the VAC Building, Ghent, Belgium from 2 - 5 June 2020 to:

a) Describe and explain the RDBES data model to national data submitters using worked examples.

b) Provide hands-on guidance and assistance to national data submitters to write working data extraction scripts to convert national data formats to the RDBES data format.

c) Identify and document any problems in converting national data formats to the RDBES format.

d) Encourage national data submitters to join the RDBES testing group.

WKRDB-POP2 will present a written report to ACOM by 5 July 2020.

WKRDB-EST2 – Second Workshop on Estimation with the RDBES data model

The **Second Workshop on Estimation with the RDBES data model (WKRDB-EST)** co-chaired by Nuno Prista, Sweden and Kirsten Birch Håkansson, Denmark, will meet in Ghent, Belgium from 14 to 18 September 2020 to:

a) Continue to develop and document R scripts for design based estimation for each hierarchy in the RDBES data model.

b) Identify and document any problems with RDBES data model relating to design based estimation.

c) Discuss road forward with regards to development of estimation within the RDBES.

WKRDB-EST will present a written report to ACOM by 18 December 2020.

Annex 5: Data Policy

Commercial Fisheries Data

Data policy for the Regional Database (RDB) and Regional Database and Estimation System (RDBES)

Release: 05 December 2018

About this version: This policy is the 2nd version of the data policy. It was reviewed and updated by the Steering Committee of the Regional Fisheries Database (SCRDB) in 2017 taking into account changes in the EU regulations, inclusion of considerations for non-EU countries and clarifications on use and publication of data from the RDB and RDBES. The data policy has been agreed by Regional Coordination Groups (Baltic, North Atlantic, and North Sea) in 2018

1.   *Goal*

The present Regional Database, and the new Regional Database and Estimation System are herin referred to as the RDBES. The Regulation (EU) 2017/1004[1] is hereafter referred to as the Data Collection Framework (DCF).

The main aim of the RDBES is to:

1) To ensure that data can be made available for the coordination of regional fisheries data sampling plans, including for the DCF Regional Coordination Groups (RCGs),
2) To provide a regional estimation system such that statistical estimates of quantities of interest can be produced from sample data,
3) To serve and facilitate the production of fisheries management advice and status reports,
4) To increase the awareness of fisheries data collected by the users of the RDBES and the overall usage of these data.

The goal of this policy is to clearly state the conditions for data submission, data access and usage rights.The database herein is a regional database as referred to in Article 18(1) of the DCF.

2.   *Scope*

For the European Union Member States, the basis for data policy rules are the provisions of the DCF. (See annex 1 for relevant articles of DCF)

For non-EU countries, the basis for data policy rules is in accordance with the limitations on data use specified by each country[2].

This policy applies to all providers and users of data uploaded into the RDBES, and to ICES activities for providing access to data.

3.   *Access rights*

According to the DCF, provision on access rights and time frame are described under Articles 17(1), 17(3) and 17(4) provided in the annex 1 to this document.

The DCF defines:
  i)   **Detailed data** as data based on primary data in a form that does not allow natural persons or legal entities to be identified directly or indirectly

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[1] Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 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)

[2] In response to official data calls to the RDBES

ii)   **Aggregated data** as the output resulting from summarising the primary or detailed data for specific analytical purposes

Data use for fisheries management:

Advice to Fisheries Management

i)   Countries grant permission for **aggregated** data, see Annex 2, to be used by ICES in the provision of scientific advice to the European Commission and other ICES clients of scientific advice. A list of the ICES groups that require access to aggregated data will be provided to the RCG's and ACOM members by **01 DEC** each year.

ii)   EU Member States (MS) grant permission for **detailed** data to be used by the RCG's for the purposes of Article 9 of the DCF.

iii)   An ICES entity on the approved list in (i), requiring **detailed** data from the RDBES, via the RDBES host can request access in writing to each country and EU MS[3]. The EU MS will be obliged to respond within two months from the date of the request.

EU MS / ICES countries can choose to pre-approve access to detailed data for all EGs on the list in (i) – this approval must be given in writing to the RDBES host. This approval must be renewed by **31 Jan** each year in writing to the RDBES host.

Other uses

iv)   An entity requiring **detailed** or **aggregated** data from the RDBES, can request access in writing to each Country[Error! Bookmark not defined.]. The EU MS will be obliged to respond within two months from the date of the request.

For requests related to scientific publication, for EU MS Article 17(7) of the DCF applies.

Persons from the European Commission have full access to, or can receive, EU countries' data from the RDB/RDBES.

An **inventory** of data housed in the RDBES is available without restriction on the RDBES website.

4.   Access Roles

Based on the access granted in Access rights, users are given access to RDBES according to a role based matrix. For simplification and as guidance, the version presented below is shown with fewer roles and access types than are available in the actual role

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[3] The focal point in EU MS being National Correspondents in consultation with individual countries or autonomous data providers within member states. For non EU countries the ICES delegate is considered the focal point.

matrix that controls access in RDBES. All roles are managed by password controlled login, with the exception of 'Public' where no login is granted/required.

	Data Owner	Detailed Data Reader	Aggregated Data Reader	Public
Manage	X			
Process/estimate	X	X		
Read/Download data				
- Detailed data	X	X		
- Aggregated data	X	X	X	
- Inventory	X	X	X	X

5.   *Governance of the RDBES*

The RDBES is hosted by ICES and is managed by a steering committee (SCRDBES).

6.   *Security*

RDBES is hosted on a secure server and restricted to persons who have a user name and a password, a user name is for the sole use of that individual. Login is through a website secured with HTTPS protocol.

Extracted data may also be shared with authorised users via a secure SharePoint, private git repository or equivalent secure system.

The RDBES follows the principles of personal data protection, as referred to in Article 2 of the DCF.

7.   *Data ownership*

The national data in RDBES is owned by the individual countries.

8.   *Policy for Data Providers*

Although the ICES Data Centre may perform some data quality/integrity control, the data providers always retain complete responsibility for data processing and data quality, according to Articles 14 and 16 of the DCF.

When changes (new data and revisions) are made in the data source (the national database containing the primary data) countries are responsible to in a timely manner update and process their own data in the RDBES.

It is the responsibility of the data provider to make sure that data that cannot be identified to any individual vessel or legal entity or at a resolution violating confidentiality rules[4].

9. Policy for Use of Data

ICES, as the host and maintainer of the RDBES, will make data available in a timely way according to the defined **Access rights**

- Correct and appropriate data interpretation is solely the responsibility of data users.
- Data sources (individual data providers) must be duly acknowledged.
- Data Users are obliged to inform ICES of any suspected problems in the data.
- Data Users must respect any and all restrictions on the use or reproduction of data such as restrictions on use for commercial purposes

Data can be shown in reports as described in Annex 2

10. Data Quality

According to Articles 14(1) of the DCF Member States are responsible for the quality and completeness of the primary data collected under national work plans, and for the detailed and aggregated data derived therefrom which are transmitted to end-users of scientific data. For non-EU countries, with reference to the ICES Data policy, data providers are responsible for the quality and completeness of data delivered to ICES.

On the basis of the recommendations made by the SCRDBES, ICES develops and applies quality assurance procedures as appropriate and feasible, and in cooperation with data providers and other organizations. ICES may also receive reports on potentially erroneous data. ICES will inform data providers of relevant quality issues.

11. DISCLAIMER

Correct and appropriate data interpretation is solely the responsibility of data users. Data Users must not expressly or otherwise imply ICES substantiation of their work, results, conclusions and/or recommendations.

Whilst the data have been quality controlled by the supplying institutes, there are inherent flaws in gathering the information and care should be taken in analysing the data for purposes that the data were not primarily intended for. Thus users are urged to treat the data with caution.

If the user has any queries on the validity of the data, to report errors, or the conclusions to be drawn from the analysis they have undertaken, please contact RDBsupport@ices.dk. If the query is about a specific national dataset then the user may wish

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[4] The principles of personal data protection, as referred to in Article 17(2) in Regulation (EU) 2017/1004.

to contact the National Focal Point for Fisheries data collection (http://datacollec-tion.jrc.ec.europa.eu/national-correspondent) or ACOM member for non-EU countries (http://ices.dk/community/groups/Pages/ACOM.aspx).

12. Annex 1: Relevant articles from *"Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 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"*

Article 2 (Data protection): Where relevant, the processing, management and use of data collected under this Regulation shall comply with, and be without prejudice to, Directive 95/46/EC and Regulations (EC) No 45/2001 and (EC) No 223/2009.

Article 14(1): Member States shall be responsible for the quality and completeness of the primary data collected under national work plans, and for the detailed and aggregated data derived therefrom which are transmitted to end-users of scientific data

Article 17(1): EU Member States shall set up adequate processes and electronic technologies to ensure an effective application of Article 25 of Regulation (EU) No 1380/2013 and of this Regulation. They shall refrain from any unnecessary restrictions to the dissemination of detailed and aggregated data to end-users of scientific data and other interested parties.

Article 17(3): In the case of requests made by end-users of scientific data in order to serve as a basis for advice to fisheries management, Member States shall ensure that relevant detailed and aggregated data are updated and made available to the relevant end-users of scientific data within the deadlines set in the request, which shall not be shorter than 1 month from the date of receipt of a request for those data.

Article 17(4): In the case of requests other than those referred to in paragraph 3, Member States shall ensure that the relevant data are updated and made available to the relevant end-users of scientific data and other interested parties within a reasonable period of time. Within 2 months from the date of receipt of the request, the Member States shall inform the requesting party of the duration of such time, which shall be proportionate to the scope of the request, and of the possible need of additional processing of the data requested.

Article 17(7): Where detailed data are requested for scientific publication, Member States may, in order to protect the professional interests of data collectors designated by the body in charge of the implementation of the national work plan, require that the publication of data be delayed by 3 years from the date to which the data refer. Member States shall inform the end-users of scientific data and the Commission of any such decision and of the reasons therefor.

Article 18(1): With a view to reducing costs and facilitating access to detailed and aggregated data for end-users of scientific data and other interested parties, Member

States, the Commission, scientific advisory bodies and any relevant end-users of scientific data shall cooperate to develop compatible data storage and exchange systems, taking into account the provisions of Directive 2007/2/EC. Those systems shall also facilitate dissemination of information to other interested parties. Such systems may take the form of regional databases. Regional work plans referred to in Article 9(8) of this Regulation may serve as a basis for agreement on such systems.

Link to Regulation

https://publications.europa.eu/en/publication-detail/-/publication/dd3dc59f-557f-11e7-a5ca-01aa75ed71a1

ANNEX 2 Use and Publication of data

Detailed and Aggregated data

According to the definitions in this Data Policy, which is taken from the EU Regulation 2017/1004, landing (CL) and effort data (CE) are considered aggregated data, and sample data (CS) are considered detailed data. The sample data (CS) will have to be aggregated to month and sub-division/unit to be considered aggregated.

Rules for use of data from the RDBES

Refer to the "Conditions for detailed RDBES data use" agreement.

Showing data in public reports

General Rule

Sample data (CS), landing data (CL) and effort data (CE) can always be shown when data are disaggregated at the following level:

Year	Quarter	Species	Metier level 4-6	Area[5]

Landings (CL) and Efforts (CE) specific rules

The data that will be publicly available through the RCGs or ICES Expert Groups reports must be aggregated to at least the following highest resolution level.

In the overall data there in general must be more than two different units in each variable to be able to aggregate over the variables (e.g. to aggregate by country the data must include at least 2 different countries). When showing landings and/or effort data in a public report the highest resolution is determined by selecting at least 4 out of the 7 following variables. Only one option/figure can be shown to ensure conclusions cannot be drawn from a combination of several figures:

Vessel flag country	Year	Month	Species	Metier level 4-6	Vessel length category	Statistical rectangle

The following are some examples of this rule

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[5] Subdivision or unit (FAO definition,http://www.fao.org/fishery/area/Area27/en)

Examples:

Landings data can be plotted by species, statistical rectangles and year when data are aggregated over country, month, metier level 4-6 and vessel length category.

Effort data can be plotted by metier level 4-6, statistical rectangles and year when data are aggregated over country, month and vessel length category and species.

If it is needed to publish data at higher resolution the relevant National Correspondents have to be asked for approval.

Sample (CS) specific rules

The data that will be public available through the RCGs or ICES Expert Groups reports should be aggregated to the same level as the landings data.

The CS data holds information (auxiliary variables and obtained data) from sampled trips. **It is not allowed to publish CS data in a report in such a way that the individual catches from a given trip are shown**.

Data need to be aggregated before shown in tables or figures. In this context data covers both the data in the CS and data derived from the CS data e.g. estimated discard.

In the overall data there in general must be more than three different samples in each variable to be able to aggregate over the variables. When showing sample data in a public report the highest resolution is determined by selecting at least 3 out of the 9 following variables, and only one option/figure can be shown to ensure conclusions cannot be drawn from a combination of several figures:

Vessel flag country	Year	Month	Species	Metier level 4-6	Vessel length category	Vessel size category	Vessel power category	Statistical rectangle

The following are some examples of this rule

Sampling example:

Sampling data can be plotted by species, statistical rectangles and yearonly when data are aggregated over country, month, metier level 4-6, vessel length category, vessel size category, vessel power category.

Map Plotting

Individual hauls (HH) holds information on the geographical positions from sampled fishing operations. It is sometimes valuable to show these positions (e.g. for QA purposes). If doing so only meta data or auxiliary variables can be used in the plots - never the result of the actual sampling. When plotting maps a *maximum* of three of the following variables can be used.

Vessel flag country	Year	Month	Species	Metier level 4-6	Vessel length cat-egory	Vessel size cate-gory	Vessel power category	Position

This rule does not apply if the amount of data in the map is so sparse that individual vessels or trips might be identified. It is the responsibility of the data user to ensure that maps do not plot data that comes from a small number of vessels or trips.

Example: It is allowed to plot the positions of fishing operations by year, species and countries as long as metiers, vessel size category, vessel power category, vessel length category and month are left out. If the data user wanted to include metiers instead then one of the other variables (year, species or country) would need to be left out

If it is needed to publish data at higher resolution the relevant National Correspondent have to be asked for approval.

Individual fish

Individual fish (CA) holds information on measurement from individual fish. It is always ac-ceptable to show these as individual measurements.

Annex 6:   Conditions for detailed RDBES data use

Conditions for detailed RDBES data use

Access and use conditions for detailed RDBES data

December 2019

Goal

This policy governs the process of who is given access and what they can do with the detailed RDBES data (as defined in the RDBES Data Policy).

Scope

This policy applies to all data users[6], and to ICES activities for providing access to these data.

Data *user security requirements*

1. Data shall be used only for the purposes of facilitating scientific advice and will be strictly related to the agreed terms of reference of the activity executed by the data user.
2. Downloaded data shall be secured by appropriate safeguards, such as encryption and password protection of the computer on which it is held.
3. Electronic data provided to the data user(s) shall not be kept on a users computer/database upon completion of the task related to the term of reference.
4. Data users shall treat the data as confidential and the transmission or sharing of these data are not allowed.
5. Data users shall ensure that visualisations or data products derived from the data adhere to Annex 2 of the RDBES Data Policy.

Data ownership

As per the RDBES Data Policy the national data in RDBES is owned by the individual countries.

Limitations of the data

See the Disclaimer in the RDBES Data Policy

Policy for Use of Data

Data users must read and understand RDBES Data Policy (http://www.ices.dk/marine-data/Documents/Data_Policy_RDB.pdf)

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[6] All persons (and groups of persons) that are members of an ICES Group (e.g., Expert Group, Advice Drafting Group, Workshop), or members of the ICES secretariat involved in the acquisition and processing of these data.

Acknowledgement and agreement to these conditions

End user name (printed)	Email address	Date	Signature