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Towards a Regional Database and Estimation System for Fisheries

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From the RDB to RDBES

There is currently a Regional Database (RDB) which is used to store detailed commercial fisheries sampling data. This is a regionally coordinated database platform and covers fisheries in the North Atlantic Ocean, the North Sea and the Baltic Sea. It addresses fishery management needs related to the European Union Common Fisheries Policy. However, it has been recognised for many years that there is a need to have a new version of the RDB which would also store details about how the sampling was performed and enable statistical estimations to be made. This new version is known as the Regional Database and Estimation System, RDBES.

The aims of the RDBES are:

- 1) To ensure that data can be made available for the coordination of regional fisheries data sampling plans, in particular for the EU DC-MAP 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 in order to deliver data for ICES stock assessments and advice,
- 3) To increase the data quality, documentation of data and ensuring of approved estimation methods are used,
- 4) To serve and facilitate the production of fisheries management advice and status reports,
- 5) To increase the awareness of fisheries data collected by the users of the RDBES and the overall usage of these data.

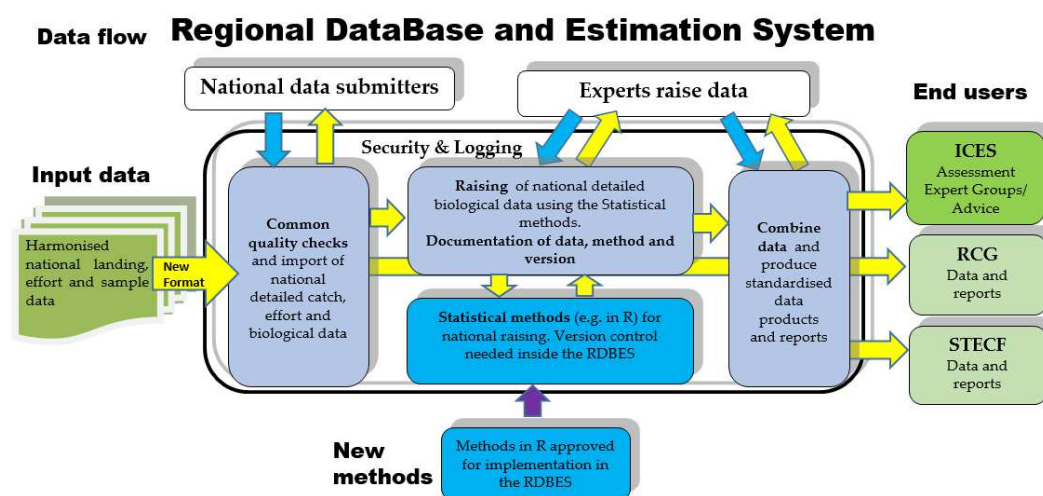


Figure 1: Diagram of the data flow and processes including the estimation using R

It is expected that the new RDBES will replace both the current ICES RDB and InterCatch systems and provide a single platform for countries to produce statistical estimates of quantities of interest (such as discards and age distributions) which will then be used as inputs for fisheries stock assessment working groups.

The RDBES is an evolution of the work already done in defining and using the current RDB and the COST data models and functions. The current RDB data model provides a common data structure to describe commercial sampling data at a disaggregated level, and commercial landings and effort data at an aggregated level. **The significant difference in the new RDBES data model is that it provides a common structure to describe both the disaggregated sampling data and, most importantly, how it was sampled.**

The RDBES data model allows a variety of different estimation techniques to be used including the COST functions that make use of Age-Length keys, ratio estimators, and unbiased design based estimations.

The RDBES data model should be seen as part of the movements towards:

- Statistically Sound Sampling Schemes (4S),
- Greater regional coordination,
- Transparent Assessment Framework (TAF),
- Improved estimates to ICES stock assessments and advice.

Whilst the RDBES data model is designed to hold 4S data it will also be able to store data that is not sampled in a statistical manner – this is important so that historical data can be uploaded and stored. However, in doing so, the new RDBES data model flags those data thus allowing their appropriate interpretation during estimation.

It is important that the RDBES uses only approved estimation methods and it is transparent regarding the processing and estimation of data. This is in the interest of the countries, ICES and the European Commission. The countries will benefit from having one system where they can do the estimations. It is known that it is time consuming to do the complex estimations and there is risk of introducing errors, when estimating data for the ICES data calls for stock assessment and advice. The RDBES will help ensure higher data quality and that the users ensure the data is ready for estimation and select the right statistical estimation method. The countries will also benefit from the common repository of all the countries' developed estimation methods, this should also reduce the work load of reinventing estimation methods in the countries in parallel.

The hosting and maintenance of the existing RDB is funded through an Administrative Agreement between the European Commission (EC) and ICES. ICES have provided funding for the development of the RDBES.

References

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