

EU request on quality assurance for data collected under the DCF, with the specifications for deliver an online international platform for age-reading workshops and calibration

Summary

The SmartDots age-reading platform facilitates quality assurance for data analysis and transmission in age estimations across all national laboratories. The platform can be used for intercalibrations and the validation of age determinations. The SmartDots platform is currently hosted by ICES, and is available to the ICES community as well as other EU countries.

During the past year a great deal has been accomplished, and it has been followed with interest by both the ICES community and those further afield. This tool is seen as a step forward in training and calibration exercises, delivering the quality-assured age readings that are a key component in stock assessment.

Since the start of 2018 the web-based user interfaces have been further developed to ensure that all the functionality needed by experts is available. Many tests were conducted in order to gather feedback from users, and this helped to prioritize and identify future development needs.

Special focus was also given to the development of user guidance. Manuals are available online (links below) and are updated every time significant changes are implemented. A user workshop took place during the Working Group on Biological Parameters (WGBIOP) 1–5 October meeting in Ghent, Belgium (ICES, 2018) so age readers had the opportunity to test the software. This provided invaluable feedback to the platform developers.

There has been a great effort to meet the needs of users, so changes were made to the user interface in response to feedback. Vocabularies were also developed for new areas and species so that the platform can be used outside ICES areas, such as in the Mediterranean (GCFM).

Another development feature is in reporting, where it is possible for the platform to produce detailed reports on age-reading events. These allow faster and more accurate comparisons between age readers to be made, making use of variables not available through traditional methods. The reports can also be tailored to the specific needs of users, and are being continually developed to incorporate more features.

The SmartDots user-interface developments are a collaboration between ICES and the community. ICES has ensured that countries have a functional tool (the Event Manager) that allows country coordinators to manage a list of specialists in the age-reading field. This is made up of a database where all age readers are listed by country, as well as by experience level, species focus, and area focus. This tool is key to running successful age-reading events. Experts at WGBIOP have recognized its usefulness in making the process of initiating and managing events much more efficient. There are currently 462 age readers listed, from 33 countries.

All events are recorded in the database and when finalized events are made public (<http://smartdots.ices.dk/>), ensuring transparency at all stages. Smartdots is currently the platform used for establishing the events of age reading.

During 2018, ICES received requests to extend the platform to other purposes such as maturity events, and this is being considered for 2019. Since the beginning of the year ICES has received requests from countries that have adopted or want to adopt SmartDots as their primary internal tool to read otoliths, which reinforces the success SmartDots has had in the community. ICES has established a GitHub website with the source code of the software and the WebAPI database script, making it available to all those that want to use it and/or further develop it.

Request

- a) *Deliver an online international platform for age reading workshops and calibration.*

The SmartDots age-reading platform, developed by ILVO (BE), facilitates harmonized data analyses and transmission of results within a quality assured process of age estimations, across all laboratories delivering data to stock assessment. The platform is intended for use in all intercalibrations and validations of age determination.

By January 2018 SmartDots will be hosted by ICES under an open source public licence, and will therefore be available to the ICES community. This transfer of the platform was agreed by a recommendation from the Liaison Meeting 2017, and now it has been requested that ICES carry out the necessary adaptation from a national to an international platform.

b) Support the development of a full specification of the RDBES, including a regional data model for commercial catch design based sampling and agreed estimations methods

The existing regional database (RDB) does not support statistical estimations and design based sampling, therefore the development of a new version of the RDB, the RDBES (RDB with Estimation System), has been started. The RDBES will fully support the RCG BS, RCG NS & EA and RCG NA and potentially RCG LDF, RCGLP and RCG MED. The specifications depend entirely on the availability of the few experts in the ICES community, who need to be allocated specifically for this task by their National Institutes, as well as on the ICES secretariat for work beyond regular maintenance.

It has been requested that ICES carry out:

- the specification of the 'Input' part of the RDBES;
- the specifications of the 'Processing and Output' part of the RDBES, and
- coding and testing the feasibility of the outputs from the workshops in the implementation of the RDBES.

c) Inclusion of DCF surveys and missing variables into DATRAS.

In light of the most recent errors in assessment input data from surveys, which at present are not part of the DATRAS system (or where not all required variables are provided), it has been requested that ICES incorporate these surveys into DATRAS. This would increase options for quality control, and the transparency/traceability of assessment outcomes.

Elaboration on the advice

The first meeting of the SmartDots Governance Group (WGSMART), met at ICES HQ between 11–13 December 2018. The main objectives was to draft a Governance Framework that will ensure the future of the SmartDots platform for the next three years.

Basis of the advice

Background:

Quality assurance of advice starts by quality assuring the input data to stock assessment. There are several stages and tasks underlying this; first steps being to assure that all data are held in databases with transparent and quality assured outputs (e.g. survey indices, raised catch data) and even before this that the data are produced in a quality assured way. This special request concerns 3 steps of the quality assurance of data collected under the DCF: a) development of the SmartDots platform for age-data, b) specifications of the RDBES for commercial catch sampling data, and c) including DCF-funded fisheries independent surveys/variables not yet held in DATRAS into the DATRAS database. All three developments would enable ICES to reduce uncertainty/error, but also more precisely quantify errors in input to assessments.

Links to user manuals

ICES 2018, SmartDots, Country coordinators, Web Application Manual:

<http://ices.dk/sites/pub/Publication%20Reports/User%20Handbooks/ICES%20Web%20Application%20Manual.pdf>

ICES 2018, SmartDots User Manual:

<http://ices.dk/sites/pub/Publication%20Reports/User%20Handbooks/SmartDots%20User%20Manual.pdf>

ICES 2018, SmartDots WebAPI Technical documentation:

<http://ices.dk/sites/pub/Publication%20Reports/User%20Handbooks/SmartDots%20Web%20API%20-%20Technical%20documentation.pdf>

Sources and references

ICES. 2018. Report Working Group on Biological Parameters (WGBIOP) 1– 5 OCTOBER 2018, Ghent, Belgium CM 2018/EOSG:07 REF ACOM & SCICOM