

## **DRAFT TORs STECF EWG 24-02 on Methodologies for Mediterranean stock assessments and the estimation of reference points**

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### **TOR 1 Reference Points West Mediterranean EU MAP**

#### Background

As of 1 January 2025 the transitional phase of the West Med EU MAP<sup>1</sup> will end and the plans enters in the full implementation phase. As per Articles 21 of the MAP, Article 4 and Article 6(1) shall apply from 1 January 2025.

Article 4 details how the Fmsy ranges operate and the flexibilities given in the context of mixed-fisheries while accounting for the safeguards outlined in Article 6.

#### **Tor1 A**

STECF has worked on Fmsy ranges since STECF EWG 15-06 (STECF, 2015). To evaluate MSY ranges for stocks STECF has used the values of F associated with  $F=F_{0.1}$ . These are the FMSY values from the most updated assessments carried out on Mediterranean stocks assessment. Those values were then used in the formulas provided by STECF EWG 15-06 (STECF, 2015) to derive FMSY range (Flow and Fupp). The empirical relationships used to estimate FMSY range are the following:

$$\text{Flow} = 0.00296635 + 0.66021447 \times F_{0.1}$$

$$\text{Fupp} = 0.007801555 + 1.349401721 \times F_{0.1}$$

where  $F_{0.1}$  is a proxy of FMSY.

STECF concluded that none of these methods added information on the precautionary nature of the FMSY ranges; the values of Fupp and Flow. In the case of stock based on  $F_{0.1}$  the FMSY was considered to be precautionary, and because Flow is a lower exploitation rate this is will also be precautionary. As the EWG's were unable to parameterise stock recruit models, it has not been possible to evaluate Fupp, until further evaluations can be completed should not be used for exploitation, and should be replaced with FMSY.

The West Med MAP definition of Fmsy range in Article 2(4) is:

*‘range of FMSY’ means a range of values provided for in the best available scientific advice, in particular by STECF, or a similar independent scientific body recognized at Union or international level, where all levels of fishing mortality within that range result in maximum sustainable yield (MSY) in the long term with a given fishing pattern and under current average environmental conditions, without significantly affecting the reproduction process for the stocks in question. It is derived to deliver no more than a 5 % reduction in long-*

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<sup>1</sup> Regulation (EU) 2019/1022 of the European Parliament and of the Council of 20 June 2019 establishing a multiannual plan for the fisheries exploiting demersal stocks in the western Mediterranean Sea and amending Regulation (EU) No 508/2014

*term yield compared to the MSY. It is capped so that the probability of the stock falling below the limit reference point (BLIM) is no more than 5 %;*

Consider the entry into force of the legal provision for the Fmsy ranges:

1. STECF should assess if the prior work performed by STECF EWGs for deriving Fmsy ranges from precautionary F0.1 complies with the Fmsy range definition outlined above (Article 2(4)).
2. On this basis, and considering the availability of longer time series in respect to 2015, the STECF is requested to develop a methodology that would deliver:
  - a. Fmsy or Fmsy proxy targets for the key target stocks
  - b. Fmsy ranges for the key stocks defined in Article 1(2), that are compliant with the definition of Article 2(4).
3. STECF is requested to provide Fmsy ranges for the stocks of the MAP in view of providing updates in EWG 24-10.

The MAP has **specific provisions for the most vulnerable stocks**, as defined in Article 2(3), this being up to now the hake stocks in EMU 1 & 2. STECF is requested to give priority to the calculation of Fmsy or Fmsy proxies and Fmsy ranges for these stocks.

## **TOR 2 evaluation of ‘QualiTrain’ tools**

The Quality checking of Mediterranean & Black Sea data and training for Member State experts ‘QualiTrain’ project (FRAMEWORK CONTRACT - EASME/EMFF/2020/OP/021, Specific Contract No. 3) was launched to implement technical work on quality checks and to prepare, coordinate and organise technical training and information sessions for national experts on consolidated R tools for data quality. QualiTrain has integrated the work on data quality checking functions developed in the STECF-EWG 22-03<sup>2</sup>, STREAM<sup>3</sup> and RDBFIS<sup>4</sup> projects and MEDITS Coordination Group initiatives into two free, extensively documented R tools, one for performing quality checks on commercial data (RDBqc) and one for MEDITS survey data (RoME).

The Qualitrain tools are specifically designed to assist Member States prior to the data submission of official EU data call for the Mediterranean and Black Seas and are expected to contribute to a reduction in the number of data errors and/or data inconsistencies. The long-term goal is to improve the quality of Med & BS data.

In addition, it is expected that the use of the Qualitrain tools will lead to a reduction in the time spent on quality checks during the STECF EWGs on stock assessment.

The EWG is hereby requested to: (i) provide an assessment of the usefulness of the Qualitrain tools in assisting Member States to identify and eventually reduce data issues and (ii) make suggestions on how the Qualitrain tools could be further improved.

Specifically, the following requirements should be addressed:

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<sup>2</sup> STECF EWG 22-03: Quality checking of Med & BS data and reference points, 02 - 06 May 2022, online.

<sup>3</sup> [Microsoft Word - D0.3 STREAM Final Report \(europa.eu\)](#)

<sup>4</sup> [Med&MS RDBFIS – an Integrated Fisheries Information System for the Mediterranean and Black Sea \(medbsrdb.eu\)](#) and [rdbfis.eu](#)

**RDBqc package:** <https://github.com/COISPA/RDBqc>

- 1) to assess whether the functions implemented in the RDBqc package cover the main sources of potential problems in the provision of aggregated data by the Member States (e.g. misreporting of total landings and/or discards in weight, availability and consistency of length/age composition provided, availability and consistency of biological parameters, cross-checks among data calls, etc...) and to evaluate if the tools can actually reduce the number of data issues before the data submission of commercial aggregated data;
- 2) to evaluate if the documentation and material provided by the QualiTrain consortium is sufficient to run the quality checks with a basic knowledge of R and to interpret the outcomes of the checks;
- 3) to propose any further development and/or quality or coverage checks to be carried out to improve the tools.

**RoME package:** <https://github.com/COISPA/RoME>

- 1) to assess whether the checks implemented can be considered sufficient to ensure the quality of the data provided (e.g. data format, range of valid data, haul positions, reliable swept area estimates, etc...) and to evaluate if the tools can actually reduce the number of data issues before the data submission of survey data;
- 2) to evaluate if the documentation and material provided by the QualiTrain consortium is sufficient to run the quality checks with a basic knowledge of R and to interpret the outcomes of the checks;
- 3) to suggest any further development and/or quality or coverage checks to be implemented.

The EWG can evaluate the functionality of the RDBqc and RoME packages using the data provided to the EWG, as well as the dummy datasets already embedded in the packages.

The GitHub repositories contain vignettes and extended documentation describing in detail how to perform the functions and quality checks. The EWG is requested to analyse the following data calls formats:

- MED & BS: [https://dcf.ec.europa.eu/data-calls/medbs\\_en](https://dcf.ec.europa.eu/data-calls/medbs_en)
- FDI (only for landings and discards in weight cross-checks): [https://dcf.ec.europa.eu/data-calls/fdi\\_en](https://dcf.ec.europa.eu/data-calls/fdi_en)
- AER (only for landings in weight and landing value cross-checks): [https://dcf.ec.europa.eu/data-calls/aer\\_en](https://dcf.ec.europa.eu/data-calls/aer_en)

Deliverable 1.1- ‘Report on tests carried out and final version of RDBqc R package’, produced by the Qualitrain consortium, will be included as a background document. In this Deliverable, there is a description of the existing tools, new ones, as well as further enhancements. The consolidated package was tested on a subset of stocks assessed during past STECF EWGs<sup>5</sup>, covering different data issues and country/GSA combinations. All the results obtained on the selected stocks were systematically compared with the results documented in the respective STECF EWGs’ reports and in the Data Transmission Monitoring Tool (DTMT).

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<sup>5</sup> STECF EWG 22-03 (Quality checking of Med & BS data and reference points), EWG 22-09 (Working Group on Stock Assessments in the Western Mediterranean), and EWG 22-16 (Working Group on Stock Assessments in the Adriatic, Ionian, and Aegean Sea).