

## Executive Summary

---

The Joint EIFAAC/ICES/GFCM Working Group on Eel [WGEEL] met in Antalya, Turkey from 24th November to 2nd December 2015. The group was chaired by Alan Walker (UK) and there were 36 participants representing 19 countries. Two representatives of the EU Commission DG MARE attended as observers. A full address list for the meeting participants is provided in Annex 3. Algeria was represented at the Working Group for the first time.

WGEEL met to consider questions posed by ICES (in relation to the MoU between the EU and ICES), EIFAAC and GFCM and also generic questions for regional and species Working Groups posed by ICES. The terms of reference were addressed by reviewing working documents prepared ahead of the meeting as well as the development of documents and text for the report during the meeting. The work is summarised in the following points:

The WGEEL glass eel recruitment indices fell from 2014 levels, to 1.2% of the 1960–1979 reference level in the ‘North Sea’ series, and to 8.4% in the ‘Elsewhere’ series. The ‘recruiting yellow eel’ index has also fallen to 11% of the level during the reference period. The reference period for glass eel indices starts at 1960 because there is only one dataset meeting the index requirements before this year. The reference period for ‘recruiting yellow eel’ is set as the same years to be consistent with the glass eel indices.

Some potential statistical issues have arisen in relation to biases in the data due to factors relating to data at the low and high extremes. The consequence of this effect will need to be evaluated in a future meeting.

Following the 2015 progress reporting of the EU-assessed area and based on the stock indicators provided by EU Member States, it was concluded that the stock in most reporting countries/areas was not within the biomass limits of the Eel Regulation and in most management units, anthropogenic mortality is not at a level that can be expected to lead to recovery. The stock in the reporting areas as a whole remains outside the biomass limit, as defined in the Regulation, and average mortality over this area was not at a level that can be expected to lead to recovery.

A pilot study has been undertaken by the countries in the GFCM region which has included a comprehensive data gathering exercise and a preliminary standardised modelling assessment on all the tidal lagoons (123) and on the main rivers (12) and lakes (ten) in the region. The model needs to be validated and some data gaps need to be filled before this can be accepted as reliable information on levels of silver eel production and escapement. The assessment covers approximately 78% of the wetted area of eel habitat within the Mediterranean region.

The total landings from commercial fisheries in 2014, provided in Country Reports and other statistics, were about 4500 t of eel. The current state of knowledge on level of underreporting, misreporting and illegal fisheries is insufficient to include these in the assessment. Catch and landings data for recreational fisheries are not consistently reported in the Country Reports: inconsistencies exist in environments, fishing gears, and life stages sampled. Therefore, it was not possible to assess the most recent total landings and catches of recreational and non-commercial fisheries.

About 39 million glass eels and 15 million yellow eels were stocked in 2014. Stocking is a component of many Eel Management Plans and in some cases the commitment could not be achieved in 2015 due to timing, market and other glass eel availability

issues. Aquaculture production has slightly decreased from 8000–9000 tonnes in 2004 to about 4000–6000 t in 2014. Some aquaculture production was subsequently used in stocking.

The working group further explored the methods proposed to conduct the international, whole-stock assessment, noting that the Eel Regulation's limit for the escapement biomass of (maturing) silver eels at 40% of the natural escapement (silver eel biomass relative to the best estimate of escapement that would have existed if no anthropogenic influences had impacted the stock). The management biomass reference limit of 40% of  $B_0$  for eel, a Category 3 species in the Data-Limited Species approach, is in line with the 40% maximum spawning potential (at  $F=0$ ) reference point (a common proxy for MSY) advised for category 3 and 4 species by ICES (2015a: WKLIFE V). Given the EU  $B_{lim}$  of 40% builds in a precautionary boundary above the standard 30% and is equivalent to the 40% maximum spawning potential, see above, the EU 40%, and its equivalent mortality limit may be used as the limit reference point for eel in the provision of advice with respect to management of the eel stock. Because current recruitment is far below its historical level, a return to the limit level is not to be expected within a short range of years, even if all anthropogenic impacts are removed. The Eel Regulation indeed aims to achieve its objective "in the long term", but it does not specify this duration. This reference point for biomass must then be considered as a long-term objective and the need for a short-term mortality limit is advocated.

The overview of models and methods used to estimate national stock indicators was updated based on information provided in the national EMP Progress Reports 2015 and the 2015 Country Reports. The Working Group also developed a more efficient data reporting spreadsheet and accompanying Country Report template, and made recommendations for more efficient work based on an internal review.

The Working Group reviewed previous recommendations regarding data deficiencies, monitoring needs and research requirements, reiterating and refreshing those that remained outstanding. A synopsis of new and emerging threats and opportunities for the eel stock and its assessment was also prepared. This included climate change, invasive species, emerging contaminants and diseases, and renewable energy developments.

During the meeting, the Working Group made a first version of a Stock Annex for Eel using the standard template. The aim of the new stock annex was to summarise the common aspects of eel biology, mortality and management and provide a background to eel science and the management process. A chapter fully describes the analysis of the recruitment data used in the ICES advice. The next steps for the development of the annex are described.