

i Executive summary

The Working Group on Age Reading of European and American Eel (WKAREA) seeks to improve the accuracy and precision of age estimates across the range of the species based on standardized methods and criteria, in order to support stock assessment at local and global levels. The group conducted a collective reading of European eel otoliths extracted from eels sampled in six aquatic systems from the South West Europe area (SUDOE area), which had been poorly represented in previous workshops. In this report the group analyses the results of the intercalibration process, identifies causes of error and their consequences on precision and accuracy, and provides recommendations for future work. The aging performance of advanced and basic readers was poor, suggesting that the growth patterns rather than the reader experience are responsible for the low consistency among readers. The otoliths from the southern part of the eel range presented an overall growth pattern, that is completely different from what has been seen in otoliths from the northern area. The irregular pattern of annuli along with the presence of numerous supernumerary rings complicated the interpretation of the growth pattern in the otoliths used in the exchange. It was concluded that it was impossible to distinguish between annuli and supernumerary rings. In habitats from the south, especially the Mediterranean region it is likely that low river flow during summer, associated with high temperatures, are responsible for the deposition of many supernumerary rings. In view of the uncertainty associated with the age estimation of eels in the southern area, there are concerns in the use of age readings data for stock assessment. To further increase precision and reduce the risk of biased growth estimates in the southern area, it is a priority that mark recapture studies are conducted to ground truth the age and identify patterns of ring formation. A field study to test the effect of summer temperature and river flow on eel growth patterns in the southern area should clarify the patterns of annuli formation.

ii Expert group information

Expert group name	Third Workshop on Age Reading of European and American Eel (WKAREA3)
Expert group cycle	Annual
Year cycle started	2019
Reporting year in cycle	1/1
Chair(s)	Isabel Domingos ,Portugal
	Françoise Daverat, France
	Kélig Mahé, France
Meeting venue(s) and dates	17-18 June, Bordeaux, France, (32 participants)