

## THE CONTRIBUTION OF SPRINGTIME AND AUTUMN GLASS EELS (ANGUILLA ANGUILLA) TO STOCK : RESULTS BASED ON OTOLITH MORPHOMETRY.



A double mark, called a transition ring, or elver mark, was identifiable in light microscopy on otoliths of young yellow eels. In the Vilaine watershed, the radius of this mark decreased from 178 µm in yellow eels corresponding to glass eels arriving in autumn 1997 to 163 µm in yellow eels arriving in spring 1998. The mean transition ring radius of the freshwater eel population in the Vilaine river had an intermediate value between spring and autumn recruits. This implies that it consisted of a mixture of spring and autumn recruits. In the Vilaine estuary and the Frémur populations, the mean radius of the transition rings was close to the autumn one. The springtime recruits formed 68 % of freshwater and 15 % of estuarine population in the Vilaine for the 1998 cohort. This result was in sharp contrast with the available assessments of recruitment, which both in estuary and in the fluvial part of the watershed, were dominated by spring recruits. This contrast is possibly the consequence of density-dependent mortality, which would have been particularly important in springtime for glass eels whose migration was inhibited by the dam.

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