

Relative contributions of different sole and plaice nurseries to the adult population in the Eastern Channel: application of a combined method using generalized linear models and a geographic information system



The Eastern Channel (ICES division 7d) is considered a unit for stock management of the common sole *Solea solea* and the plaice *Pleuronectes platessa*. At this scale, the aim of this work is to model the juvenile distribution of these flatfish. The database used, based on different surveys undertaken during the two last decades, includes 4500 coastal beam trawl hauls throughout the Eastern Channel coasts. Multivariate analyses are used to study the interannual fluctuations in flatfish recruitment of the region. This approach allows us to separate the Eastern Channel into homogeneous sectors with regard to these fluctuations. The physical parameters that contribute to the observed juvenile sole and plaice distributions are identified and their distributions are modelled using generalized linear models. The results of these models, and the areas of the different populations derived from a geographic information system, are used to identify the main nursery grounds and to compare their respective importance. This quantitative approach identifies the lack of estuarine dependence of the nursery grounds, and highlights those areas where anthropogenic

disturbance could influence these populations.

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