SUDDEN CHANGES IN THE SPATIAL DISTRIBUTION OF JUVENILE PLAICE (*PLEURONECTES PLATESSA*) IN THE NORTH SEA

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To protect the main nursery area of plaice, an area called the "Plaice Box" was closed for trawl fisheries with large vessels in 1989, with the expectation that recruitment, yield and spawning stock biomass would increase. However, since then the plaice population declined and the rate of discarding outside the plaice box has increased, suggesting an offshore shift in spatial distribution of juvenile plaice. Using research vessel survey data collected since 1970, the change in distribution of juvenile age groups was analysed in relation to the distance to the coast. Further, a comparison of the distribution of different length classes of plaice between three historic periods was made (1902-09; 1983-87; 1999-2003). The available survey data clearly indicated changes in the spatial distribution of plaice. This shift particularly pronounced in the 20-29 cm and the 30-39 cm length classes. The offshore movement of juvenile plaice could be a response to the ambient temperature or food availability, a response to intra- or inter-specific competitors, or a response to predation risk. Since sole, which has higher optimum temperatures, did not show a shift in spatial distribution, the enhanced offshore movement of young plaice in the 1990s will be primarily a response to the increase in summer temperature.