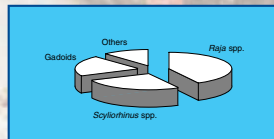
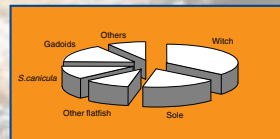
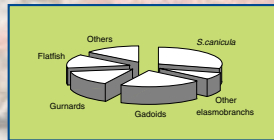
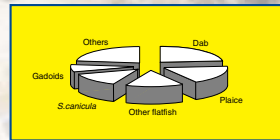


Distribution of demersal fish assemblages in the Irish Sea.



Pie charts illustrating the mean species composition (% biomass) of fish assemblages in the Irish Sea.



Thornback ray (*Raja clavata*) dominated catches west of Anglesey

Background

The distribution, diversity and species composition of offshore demersal assemblages are poorly known.

The aims of the current study were to describe and compare the assemblages of demersal fish and macro-epibenthic invertebrates in the Irish Sea.

The catches of demersal fish and macro-epibenthic invertebrates have been quantified at 54 stations. These sites were sampled with a 4-m beam trawl with 40-mm stretched mesh cod-end. All tows were of 30 minutes duration.

All species of fish were identified, weighed and counted. Invertebrates were identified to the lowest possible taxonomic level, weighed and, if appropriate, counted.

Cluster analysis of the invertebrate and fish catches was used to identify those locations with a similar assemblage structure in terms of faunal biomass. Stations were clustered using the PRIMER analytical package.

Conclusions

The spatial patterns of demersal fish assemblages were often mirrored by similarly distributed invertebrate assemblages.

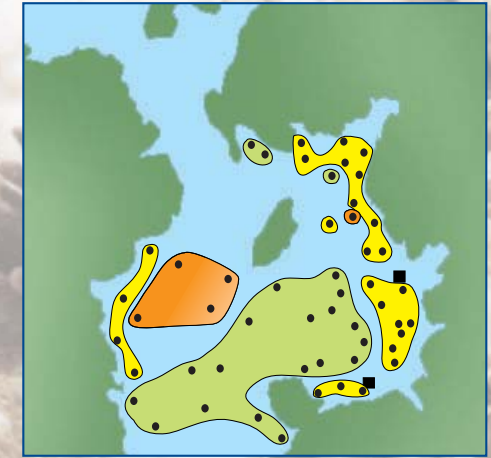
Flatfish (dab, plaice and sole) and scavenging invertebrates (starfish (*Asterias*) and swimming crabs) dominated the inshore waters of both Britain and Ireland.

A different flatfish assemblage, dominated by witch and sole occurred in the muddy grounds of the Irish Sea. The dominant invertebrates in these areas were edible crab (*Cancer*), Norway lobster (*Nephrops*) and, in some areas, red whelk (*Neptunea*).

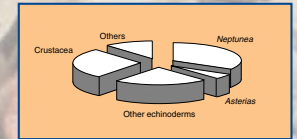
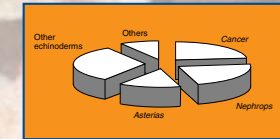
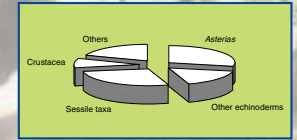
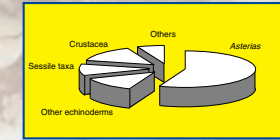
Elsewhere, the offshore waters had a relatively homogeneous invertebrate assemblage dominated by echinoderms and sessile filter feeders. Elasmobranchs formed a high proportion of the fish biomass in this area: lesser-spotted dogfish (*Scyliorhinus canicula*) in the south-eastern Irish Sea, and rays (*Raja* spp.) and greater-spotted dogfish west of Anglesey.

The distribution and composition of fish assemblages were strongly influenced by habitat (e.g. depth, substrate and structural complexity), for example small sharks were predominant in areas with a high habitat complexity. In contrast, flatfish and starfish were particularly abundant in shallow areas with a more homogeneous sandy substrate, where their infaunal prey occurs.

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Distribution of macro-epibenthic invertebrate assemblages in the Irish Sea.



Pie charts illustrating the mean species composition (% biomass) of epibenthic invertebrate assemblages in the Irish Sea.



Norway lobster (*Nephrops norvegicus*) occurs in muddy areas