Trophic relationships in the eastern English Channel: how to simplify food web structure description for trophic niche determination?

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Acknowledgements: CHARM3, with a total financing of 5 825 462 €, is a project selected within the scope of the INTERREG IVA France (Channel) – England cross-border European cooperation programme, co-financed by the ERDF.

Methods

We used the Eastern English Channel as a food web from particular case study. We sampled the Eastern English Channel as a case study. We sampled organic matter to top-predator fish.

By stable isotope analysis and stable isotope analysis to determine individuals’ trophic position. Afterwards, hierarchical cluster analysis coupled to a bootstrap procedure were used to determine functional groups. Finally we ran SIAR mixing model as well as SIBER routine to determine consumers’ trophic and isotopic niches.

Context

Since its first definition by Elton in 1927, the perception of species trophic niche has greatly evolved and several tools were developed to study this particular component of the ecological niche. More precisely, stable isotopes draw interest and are used to describe species trophic and isotopic niches. Using this tool, we simplified the food web of the Eastern English Channel into functional groups to further determine consumers’ trophic niches and the resulting potential overlap of utilized food resources.