

Ecological Network Analysis with Benthic indices to assess ecological and functional status of soft-bottom subtidal habitat in the English Channel

The eastern part of the English Channel (north-eastern Atlantic) in a megatidal environment is one of the most impacted area in the world wide ocean. To the traditional fish activities and maritime transports with dredging and deposit spoil sediment which impact the ecosystem, aggregate extractions and implementation of offshore wind farms increase the pressures in this shallow epicontinental sea. The soft-bottom sea bed was mainly covered by sandy gravels and gravelly sand located offshore under high tidal currents while medium sand and muddy fine sand were deposit along the coast in area with weak currents. A large number of benthic indices had been recently developed mainly to the implementation of the European Water Framework Directive, but to structural assessment, development of more integrate method such as Ecological Network Analysis with the Ecopath model permit to furnish a functional assessment of the benthic habitats. Several studies in diverse sediment type under human pressures or future activities with reef and protected scenarios within an offshore windfarm permit to evaluate the suitability of structural and functional indices to reveal spatio-temporal statutes and changes of the Ecological Status of the benthic ecosystems.

Keywords: Benthic assessment, Ecopath model, benthic indices, global approach

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