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### ***Scraping the bottom of the barrel - Assessing the impact of bottom trawling fisheries on ecosystem functioning and ecosystem services in a Habitats Directive area***

In 2014 the Belgian government approved a new maritime spatial plan for the Belgian Part of the North Sea by Royal Decree. In this plan, seabed -disturbing fishing techniques i.e. bottom trawling fisheries were excluded from parts of the Flemish Banks Habitats Directive area in order to preserve the sea bottom integrity and achieve favourable conservation status. The exclusion areas were specifically defined to conserve two ecologically valuable and protected types of habitat: naturally occurring gravel beds and shallow sand banks with high densities of sand mason worms (*Lanice conchilega*). Here we compare the current status of biodiversity in the Habitats Directive area with a historic baseline and discuss how ecosystem functioning and ecosystem services may have changed as a result. We focus on the impact of abrasion, reducing habitat heterogeneity in gravel beds, and removal of non-target species, impacting bioturbation in soft sediments both in relation to (the exclusion of) bottom trawling. This work is conducted in the framework of the AQUACROSS (Knowledge, Assessment, and Management for AQUATIC Biodiversity and Ecosystem Services aCROSS EU policies) project.

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