

{rokbox title=|Map of the study area showing the selected trawled and not trawled areas ::

Image: Authors|

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Francesc Ordines, Montserrat Ramón, Jesús Rivera, Conxi Rodríguez-Prieto, **M. Teresa Farriols**, **Beatriz Guijarro**

,
Catalina Pasqual

,
Enric Massutí

, 2017.

[Why long term trawled red algae beds off Balearic Islands \(western Mediterranean\) still persist?.](#)

Regional Studies in Marine Science. Volume 15. September 2017. Pages 39-49.

Abstract: The bottom morphology, the surface sediments and the epibenthic community of two adjacent areas within the fishing ground traditionally known as *Pesquera Rica* (Balearic Islands) were characterized using multibeam echosounder, van Veen dredge and beam trawl. Red algae beds predominate in both areas, but one has been exploited by trawling since at least 90 years ago, whereas the presence of natural barriers prevents this fishing activity in the other one. Comparisons between the two areas showed a biomass reduction of 46.8 and 39.3% of dominant red algae taxonomic groups Peyssonneliaceae and

Corallinophycidae

, respectively, in the trawled area (TA). Similarly, both mean abundance and biomass of most groups of fauna were higher in the not trawled area (NTA). N90 biodiversity index showed higher mean values of algae species in NTA than in TA (7.0 and 4.9, respectively), whereas no differences were detected neither for sessile nor for mobile fauna. SIMPER analysis showed that large species of both sessile and mobile epibenthic fauna (e.g. the ascidia

Polycarpa mamillaris

and the echinoderm

Spatangus purpureus

, respectively) presented higher abundance and contribution to within area similarity in NTA than in TA. In coincidence, these are the most abundant epibenthic species in the commercial hauls from the

Pesquera Rica

. The relatively low fishing effort and the gears used, addressed to avoid large catches of algae

allowing longer hauls, may explain the subsistence of red algae beds in the Balearic Islands trawl fishing grounds. However, the detrimental effects shown here claim for urgent management measures aiming to preserve these beds.

Keywords: Fishing impact, Bottom trawling, Red algae beds, Peyssonnelia beds, Long term fishery, Western Mediterranean