{rokbox title=| Study area with demarcations and the Spanish GSAs boundaries defined :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-seafloor-study-analysis-rios-2025-thumb-et-al.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-seafloor-study-analysis-rios-2025-et-al.jpg{/rokbox}

Beatriz Rios-Fuster, **Carme Alomar**, **Salud Deudero**, 2025. **The seafloor under study: analysis of substrate and habitat influence on the distribution of benthic litter** .Environmental Pollution.Volume 384.1 November 2025.126940. https://doi.org/10.1016/j.envpol.2025.126940

Abstract: The oceans are among the most polluted environments due to marine litter, primarily driven by anthropogenic impacts and oceanographic conditions. Once in the environment, marine litter can sink through the water column and accumulate along the seafloor. The density of macrolitter along the continental shelf of the Spanish western Mediterranean Sea has been systematically quantified annually from 2015 to 2022 during bottom trawl scientific surveys. The present study explores spatial and temporal patterns of marine litter on the seafloor, considering substrate and habitat features as key factors potentially influencing its accumulation. A mean value (±SD) of 19.26 ± 138.63 kg/km2 of macrolitter was quantified. ‘Plastics’ and ‘fishing gears’ were the two main categories quantified with mean values of 4.46 ± 39.80, and 5.01 ± 124.08 kg/km2, and were present in 87 % and 50 % of the hauls, respectively. Statistically significant differences in total marine litter, ‘plastic’, and ‘fishing gears’ densities within subareas, years, substrata, and EUNIS19C habitat were identified. The ‘rock or other hard substrata’ and ‘coarse and mixed sediment’ substrata showed higher densities of marine litter than ‘sand’ substrata. Additionally, coarse and mixed sediments in upper and lower bathyal Mediterranean habitats (‘ME35/MF35’ and ‘ME45/MF45’) showed the highest marine litter densities, with significantly higher values compared to most other habitat types. These results indicate that coarse sediment habitats are the most affected by marine litter accumulation, highlighting the role of substrate type in retention processes and the increased potential vulnerability of the benthic species inhabiting these habitats.

Keywords:Seafloor habitats,Continental shelf,Marine litter,Plastic,Fishing gears.