{rokbox title=|Graphical abstract :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-marine-plastics-mediterranean-islands-pollution-surface-waters-fagiano-et-al-2021-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-marine-plastics-mediterranean-islands-pollution-surface-waters-fagiano-et-al-2021.jpg{/rokbox}

V. Fagiano, M. Compa, C. Alomar, K. García-Marcos, S. Deudero, 2022. **Marine plastics in Mediterranean islands: Evaluating the distribution and composition of plastic pollution in the surface waters along four islands of the Western Sea Basin.**
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Abstract: To study the spatial distribution of sea surface plastics in marine protected and non-protected areas, 65 sea surface trawls were carried out using a Hydro-bios manta net coupled with a 335-μm mesh. A total of 19 sampling sites along the coastal waters of Mallorca, the “Parque Nacional Marítimo-Terrestre del Archipiélago de Cabrera” and Menorca in the Balearic Islands as well as along coastal waters of The Natural Park of Columbretes Islands (NW Mediterranean Sea) were sampled. A total of 10,637 plastic items were identified and a subset of these items was categorized by shape, color, size and polymer composition. Plastic particles were found at each sampling site and in all samples. No microscale nor mesoscale variability in floating marine plastics abundance (particles/m2) was encountered throughout the study area where similar values were found in protected areas with no local land-based contamination sources, such as Columbretes [0.04 (±0.03) particles/m2], and in high anthropized areas, such as the island of Mallorca [0.04 (±0.07) particles/m2]. However, differences were found in characteristics of plastic items (shape, polymer, and size range), with the protected area of Columbretes characterized by the presence of the highest density of very small plastic items composed mainly of fragments (93%). Quantified plastics from the marine environment were composed mainly of polyethylene (PE, 63.3%), polypropylene (PP; 24.9%), polycarbonate (PC; 4.6%) and polystyrene (PS, 3.3%). The polymer composition showed a homogenous composition between islands and differences were detected only amongst Columbretes and the other islands. Results from this study provide further evidence of the ubiquity of plastics in the marine environment and highlight that remote and protected areas, such as Columbretes, are not exempt from plastic pollution, but receptor areas for small and aged floating plastics composed mainly by fragments, which might have potentially harmful effects on protected ecosystems.

Keywords: Floating plastics, MPAs, Western Mediterranean sea