

MONITORING OF MARINE PLASTIC DEBRIS IN A MARINA IN GRAN CANARIA. A PILOT STUDY

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Abstract: The aim of this work was to study the characterisation of floating debris on the water surface inside a marina, Pasito Blanco (Gran Canaria). The separation and sampling of different inorganic debris present in this area was carried out by using two active filtering devices called Seabin (seabinproject.com), specially designed for use in harbours and marinas, which removed floating debris up to 2 mm. The study was carried out by sampling the retained material on a weekly basis between September 2020 and January 2021. The anthropogenic marine litter fractions were quantified following the guidelines proposed by the NOAA MDP for Marine Debris Monitoring and Assessment (MDMAP) into 44 items, grouped into 7 categories (plastics, metal, glass, rubber, processed wood, fabric/fabric and other/unclassified) (Lippiatt, S., Opfer, S., & Arthur, C. (2013). The identification of the filtered material was done by a manual separation process of the different types of fragments. A significant amount of seagrass wrack in the marina containing trapped litter fragments was observed. In general, a dominance of plastic fragments (more than 60%) compared to the other litter was established during the pilot study. The variability in the composition of the collected marine litter appeared to be a consequence of both hydrodynamic and environmental factors such as the current and wave intensity, winds, boat traffic and other port facility maintenance activities in the marina. The results of the sampling and the characterisation of the different fragments provide a first approach to the evaluation and quantification of the different types of marine litter in these port environments, where activities related to nautical sports and coastal transport cause floating debris to converge. The results can contribute to raising awareness of marine litter management policies at sea and in port areas with nautical activity.

Key words: Floating Litter, Plastic Fragments, Marine Debris, Ports and Marinas

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References:

Lippiatt, S., Opfer, S., & Arthur, C. (2013). Marine debris monitoring and assessment: recommendations for Monitoring Debris Trends in the Marine Environment. (Marine Debris Program (U.S.), Ed.). NOAA technical memorandum NOS-OR&R; 46. Retrieved from <https://repository.library.noaa.gov/view/noaa/2681>