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BOOK OF ABSTRACTS



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LAGOON LITTER: PRELIMINARY APPROACH AND PROPOSAL OF SAMPLING METHODS FOR THE FUTURE IMPLEMENTATION OF WFD

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Lagoons are one of the most productive ecosystems in the world, with unique hydrodynamic and ecological conditions. They provide many goods and services, otherwise they are located along coastal areas in which the anthropogenic pressures are very high, especially for what concerns plastic pollution. These transitional water ecosystems act as a trap for litter; in particular the impact of plastics could be higher with respect to marine litter because of the “trapping effect” of the lagoons. For this reason, the aims of this research are to analyze the methods for sampling plastics in respect to the dimension of the particles, sedimentation and suspension processes, and water circulation. Up to now, implementation methods for sampling plastics in order to measure their abundance and distribution are not well investigated, more efforts should be addressed in achieving consistency of the sampling techniques as well as standardization.

The research was carried out in the Aquatina Lagoon (South Adriatic Sea, Apulia, Italy). The investigated plastics were divided in 3 main categories: microplastics (smaller than 5 mm), mesoplastics (between 5 mm and 2.5 cm) and macroplastics (bigger than 2.5 cm).

The lagoon has been divided in different compartments that were separately considered and sampled: water surface, bottom and banks. Each compartment was sampled with different sampling methods such as: i) plankton net (200 μm) for the water surface, in order to have a better precision about the abundance and distribution of microplastic; ii) square method was applied for sampling bottom and banks. Bottom samples were collected using a grab while bank samples were collected by hand.

Since the quantifying of the plastics is the first step to analyze the consequences of this anthropogenic impact on human-health, food chain, supply natural and goods and services of lagoons, here we propose and applied sampling methods for collecting plastics in different compartments and in order to catch the most common dimensional categories of plastic particles.