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Large filter feeding marine organisms as indicators of microplastic in the pelagic environment: the case studies of the Mediterranean basking shark (*Cetorhinus maximus*) and fin whale (*Balaenoptera physalus*)

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**ABSTRACT**

The impact of microplastics (plastic fragments smaller than 5 mm) on large filter feeding marine organisms such as baleen whales and sharks are largely unknown. These species potentially are ingesting micro-litter by filter feeding activity. Here we present the case studies of the Mediterranean fin whale (*Balaenoptera physalus*) and basking shark (*Cetorhinus maximus*) exploring the toxicological effects of microplastics in these species measuring the levels of phthalates in both species. The results show higher concentration of MEHP in the muscle of basking shark in comparison to fin whale blubber. These species can be proposed as indicators of microplastics in the pelagic environment in the implementation of Descriptor 8 and 10 of the EU Marine Strategy Framework Directive (MSFD).

**Keywords:** microplastic, phthalates, organochlorines, basking shark, fin whale, Mediterranean Sea.