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# Marine litter in the Red Sea: Status and policy implications

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## Abstract

The Red Sea's unique ecosystem is home to more than 1500 species. However, the presence of anthropogenic litter, whether from land-based or sea-based sources, may pose a potential risk to the Red Sea fauna and flora, but scientific literature about this issue is scarce. Hence, we decided to analyze quantitatively and qualitatively the marine litter present in the Red Sea by undertaking a literature review and utilizing the Drivers-Pressure-State-Impact-Response (DPSIR) framework to group findings in a survey of peer-reviewed studies. The review was further augmented with a search of gray literature, such as policy documents (covering regional and national instruments), reports for the current response landscape, (regional) action plans and available citizen science information of Non-Governmental Organizations (NGOs). Although research addressing marine litter in the Red Sea is not as rich as for other seas and data are inconsistent and incomplete, studies suggest that marine litter is abundant and that the influx of litter is mainly driven by recreational activity, fishing, and shipping. Moreover, the COVID-19 pandemic has exacerbated the influx of marine litter to the Red Sea due to improper disposal of personal protective equipment (PPE). Important to note is that the response has intensified in recent years, with regional and national frameworks established and initiatives driven by (NGOs), addressed in the most recent Action Plan (2018), issued by PERSGA. There are essential action items presented in this RAP (for instance, encouraging private companies to take initiatives against plastic item pollution; recycling). However, compared to the Mediterranean Sea's RAP, we could see differences in emphasis and enforcement. Therefore, we suggest strengthening the instruments at the regional or national level to help address and reduce marine litter in the Red Sea.

**Keywords:** DPSIR, macro litter, micro litter, microplastics, plastic, policy instruments, waste

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