

Plastic pollution in the aquatic environment of southern Iraq: What do we know about its abundance and distribution?

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Abstract

Plastic pollution of the riverine environment has become a global environmental concern due to its potential ecological and biological impacts. Plastics have potentially adverse impacts on ecosystems due to the persistent organic pollutants that may accumulate on them whereas residing in the aquatic, or the chemical additives used to make many plastic products. While plastic products are highly present in the environments of southern Iraq, there are no studies providing a summary of their distribution and abundance in this region. Hence, the objective of this study was to investigate the distribution and abundance of plastic at different sites of Shatt Al-Arab River. To assess microplastic (MP) abundance and distribution in sediments of the study sites, the quantification and morphology of microplastics were performed. The findings of the current study showed that the fiber particles were the most dominant shape (67%), followed by film shape (19.6%) and fragments (13%). The highest numbers of microplastics particles were present in sediments close to populous cities and effluent discharge. Overall, this study suggested that the sediments from the Shatt Al-Arab River were contaminated with MPs. Additionally, our results highlight the importance of investigating the MP particles across other sites in southern Iraq, to assess and reduce their risks on organisms and ecosystems in the future.

Keywords: Plastic pollution, aquatic environment, southern Iraq

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Conflict of interests

The authors declare that there are no competing interests.