

Impact and Solution of Marine Plastic Pollution: A Review

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Abstract: Ocean Plastic pollution is considered as a critical anthropogenic concern. There are several land based and water based contaminants that are primary sources marine plastic pollution. The accumulated plastics in the ocean basins can be broadly classified into the following five levels based on their sizes: mega-, macro-, meso-, micro- and nano-plastics. Microplastics in primary and secondary forms reveal a major distribution in the water. Microplastics are consumed by marine animals through which they enter the food web and affect the lifecycle of every living organism. Socio-economic impacts, Ingestion, entanglement, starvation, suffocation, most probably leading to death of organisms are some of the profound amount of negative impacts of plastic debris in the oceans on the ecosystem. The global production of plastic has only increased within past years. Developing and developed countries contribute their parts in the pollution in their own ways. Asia remains to be the major plastic producer in the last decade. Immediate and appropriate steps have to be taken in order to stop marine plastic pollution. Existing and adopted policies, legislations and initiatives at global, national and even local levels play a crucial role in reducing plastic debris in the oceans. Preventing accumulation of plastic in the coastal area, abiding by the 4-Rs (Reduce, Reuse, Recycle and Refuse), waste management and water consumption are some of the ways by which marine plastic pollution can be prevented or at least be reduced. On the whole, this paper provides an overall view of the age old problem of plastic accumulation in the marine ecosystem and the hazardous impacts it can have on the life on earth. Towards the end it offers with some of the solutions to the problem that can be our first step towards healthy oceans and safe future.

Keywords: Deadly trio; Anthropogenic ; Giga-tonnes; Polymers; Micro-plastics; Garbage patch; marine debris; Polychlorinated biphenyl(PCB); toxic compounds; Micro-beads.

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