



## WHEN THE MERMAIDS CRY

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Human activities are responsible for the major decline of world's biological diversity, and it was accelerated present extinction rates to 1,000-10,000 times the natural speed. In ocean, one particular form of human impact constitutes a major threat to marine life: The pollution by plastic debris. A large number of marine species is known to be harmed or killed by the deleterious effects of plastic debris.

“Humanity's plastic footprint is probably more dangerous than its carbon footprints,”

Annually throughout the world 260 million-tons of plastic is produced, and about 10 % ends up in Ocean. There are 5.25 trillion pieces of plastic debris in the Ocean, of that mass, 269,000 tons float on the surface. There is no state or country that banned the use of plastics. However a few cities have put a major restriction on plastic use including retail/grocery bags, straws, packaging, etc. In India Sikkim was the first state that banned plastic, followed the feat by Gujarat, Odisha, West Bengal, Telangana, Himachal Pradesh and Tamil Nadu, Kerala, etc.

Plastic are synthetic organic polymers, lightweight, strong, durable and cheap, characteristics that make them suitable for manufacture of very wide range of products. It enters both directly and indirectly in marine. With exposure to UV rays and Ocean environment, plastic breaks down into smaller fragments less than five Millimetres, called 'micro-plastic'. There are over 150 invasive species that are believed to have been introduced to areas in ocean by

attaching themselves to the surface of micro-plastic, e.g. hydroids, bryozoans, bivalve-molluscs, barnacles, tube worms and algae.

Marine animals are mostly affected by plastic debris and kill over 1 million species including mammals, fish, sharks, turtles and birds each year. Seabirds select specific plastic shapes and colours, mistaking them for potential prey items, fed with it and results indicated that ingested plastics reduce meal size by reducing storage volume of stomach and feeding stimulus, e.g. Procellariiformes. Many sea turtle

rehabilitation facilities commonly deal with “Bubble butts,” turtle's that float as result of trapped gas caused by harmful decomposition

of marine debris inside turtle's body, which leads to starvation or makes them easy target for predators. At least two-thirds of world's fish stocks is suffering from plastic ingestion.

With plastic entering marine food chain all marine animals consume plastic. Marine plastics floating on surface of water block sunlight from penetrating through water column and affect algae, sea grass and phytoplankton to producing energy. Also coral reefs, the zooxanthellae cannot photosynthesise, causing polyp mortality and bleaching which has detrimental effects on rest of the food chain. There is a dire need to educate people about the harmful effects of plastics and focus on Reduce, Reuse and Recycle of plastics.

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