Environmental implications of plastic debris in marine settings—entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions

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Abstract

Over the past five or six decades, contamination and pollution of the world's enclosed seas, coastal waters and the wider open oceans by plastics and other synthetic, non-biodegradable materials (generally known as 'marine debris') has been an ever-increasing phenomenon. The sources of these polluting materials are both land- and marine-based, their origins may be local or distant, and the environmental consequences are many and varied. The more widely recognized problems are typically associated with entanglement, ingestion, suffocation and general debilitation, and are often related to stranding events and public perception. Among the less frequently recognized and recorded problems are global hazards to shipping, fisheries and other maritime activities. Today, there are rapidly developing research interests in the biota attracted to freely floating (i.e. pelagic) marine debris, commonly known as 'hangers-on and hitch-hikers' as well as material sinking to the sea floor despite being buoyant. Dispersal of aggressive alien and invasive species by these mechanisms leads one to reflect on the possibilities that ensuing invasions could endanger sensitive, or at-risk coastal environments (both marine and terrestrial) far from their native habitats.

pelagic plastics marine debris entanglement and ingestion hitch-hiking alien invasions

Footnotes

One contribution of 15 to a Theme Issue 'Plastics, the environment and human health'.

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