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THE PREVALENCE OF PLASTICS IN OUR MARINE ENVIRONMENT

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Centre for Environment Fisheries & Aquaculture Science

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Marine litter is the term for any solid material which has been deliberately discarded or unintentionally lost on beaches and on shores or at sea, and includes materials transported from land into the marine environment by rivers. drainage or sewage systems or carried on the wind. Plastic litter, both at the macro- and micro-scale, is widespread and has accumulated worldwide in the marine environment. In marine habitats (beaches, the sea surface, the water column, and the seafloor) plastics are exposed to different environmental conditions that cause physical, chemical and biological degradation.

As a result, many plastic items break down into fragments, below 5 mm in diameter, termed microplastics. These microplastics can be ingested by marine organisms and enter the food chain. The durability of plastic leads to long-term persistence in the marine environment and there is increasing evidence that plastic litter can cause harm to a great variety of organisms, including humans.

Cefas has one of the world's longest datasets on seafloor litter. Data collection began in 1992 as part of environmental and fisheries surveys in UK waters and has expanded in recent years to include the monitoring of macro- and microplastics in different parts of the marine environment.

Cefas has also developed new techniques for microplastic analysis; created seafloor litter distribution maps, examined impacts on marine organisms; advised national governments and helped to develop international frameworks on best practices and measures. As a result, Cefas' marine litter science has been used to predict the potential impacts on the marine environment, to inform management practice, and to track progress and effectiveness of marine litter related measures.

