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A comparison of plastic and plankton in the North Pacific central gyre

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ABSTRACT

The potential for ingestion of plastic particles by open ocean filter feeders was assessed by measuring the relative abundance and mass of neustonic plastic and zooplankton near the central high-pressure area of the North Pacific central gyre. Neuston samples were collected at 11 random sites, using a manta trawl lined with 333 μ mesh. The abundance and mass of neustonic plastic was the largest recorded in this area at 334,271 pieces/km² and 5,114 g/km², respectively. Plankton abundance was approximately five times higher than that of plastic, but the mass of plastic was approximately six times that of plankton. The most frequently sampled types of identifiable plastic were thin films and polypropylene/monofilament line. The most frequently sampled type of unidentified plastic was plastic fragments. Cumulatively, these three types accounted for 98% of the total plastic pieces.

Full Text

ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/1999AnnualReport/10_ar11.pdf