

Microplastics and Seabirds

Plastic pollution and seabirds

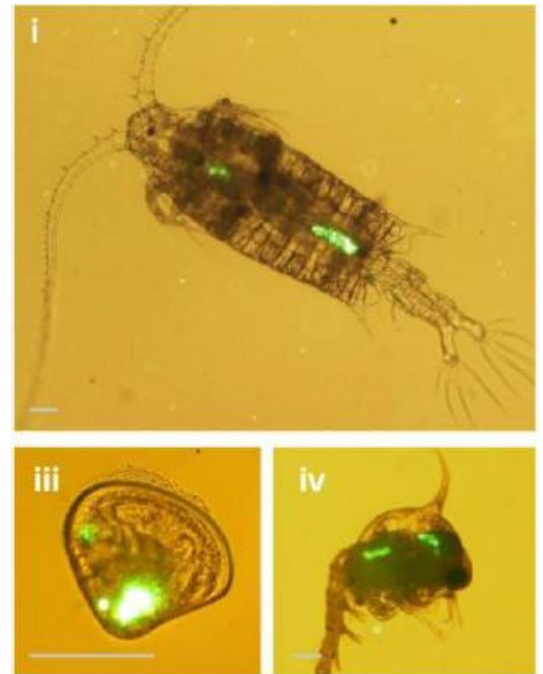
For many years plastics floating in our oceans has been recognized as a problem for seabirds and for surface-feeding species in particular. The accumulation of plastic within the stomach blocks the passage of food, causes infection, reduces the feeding stimulus, releases toxic contaminants, and can affect hormone levels and reproduction. Regurgitated plastic can be fed to chicks.

The consumption of plastics has been recorded in 80 out of 135 seabird species with studies reported in the literature between 1962 and 2012. A recent modelling analysis has estimated that by 2050, plastic ingestion will be observed in 99% of seabird species (Wilcox *et al*, 2015).

What about our shorebirds?

Attention is now turning to the problem of microplastics in the marine environment (these are small plastic particles 1–5mm in size). Laboratory studies have shown that microplastics can be ingested by small invertebrates such as polychaete worm, crustacean and bivalve larvae (Cole *et al*, 2013). These small invertebrates inhabit the tidal zone and are a food source for many wading birds which forage along sandy and rock foreshores. Sampling on the Belgium coast has shown the presence of microplastics in the Blue Mussel (de Witte *et al*, 2014), a larger prey item for several shorebird species.

Microplastics have been found in the stomach of a Bar-tailed Godwit in the United States (Robards 1993) but, to date, there has been little research on whether shorebirds are consuming microplastics along with their food.



Microscopy shows microplastics inside small invertebrates (Cole *et al*, 2013)

Which species may be affected?

The A Rocha Marine team has investigated the density of microplastics in the beaches of the Camargue in southern France. Species that feed there that may be vulnerable to microplastic pollution include:

- Eurasian Oystercatcher
- Pied Avocet
- Common Ringed Plover
- Common Sandpiper
- Sanderling
- Little Stint
- Ruddy Turnstone



Eurasian Oystercatcher feeding on a Blue Mussel (Photo: Richard Winn, Avon Light Photoart) and Sanderlings in intertidal zone (Photo: Richard Crossley, VIREO)