

Seabirds as ecological indicators of litter in the marine environment

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Marine plastic litter is increasingly seen as a serious environmental problem not only affecting birds and mammals directly through entanglement and ingestion, but also as a potential carrier of concentrated chemical pollutants which will be released after ingestion by an organism. The chemicals will also occur in the form of microscopically small plastic particles, potentially affecting foodwebs down to filter-feeding organisms. As a consequence, an increasing number of policies are aimed at reducing marine litter, especially synthetic materials. Tools to monitor changes in the marine environment are needed. OSPAR's Ecological Quality Objectives (EcoQO's) for the North Sea area include the monitoring of marine litter based on investigations of the abundance of plastics in the stomach contents of beached fulmars (*Fulmarus glacialis*). A preliminary target for acceptable environmental quality has been set at less than 10% of beached fulmars having more than 0.1g of plastics in their stomachs. Currently, 40% to 80% of all fulmars in the North Sea have more than 0.1g of plastics in their stomachs. Shipping and fisheries are considered the main sources of plastics in the North Sea area and are thus the first target for new policies. The EcoQO approach may be adopted in the wider OSPAR area (northeast Atlantic), in the European Union through its Marine Strategy Directive, or in other parts of the world, where pilot studies will have to be made at in different locations, sometimes using different seabird species.

Monitoring litter abundance via seabirds is a reliable tool for policy decisions, and at the same time an extremely useful instrument to increase awareness among the general public and stakeholders. It will improve the acceptance of, and compliance with, policy decisions.

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