

Reduce levels of litter (plastic particles) in fulmar stomachs



North Sea EcoQO

There should be less than 10% of northern fulmars (*Fulmarus glacialis*) having more than 0.1 g plastic particles in the stomach in samples of 50 to 100 beach-washed fulmars found from each of 4 to 5 areas of the North Sea over a period of at least five years.

What is the problem?

Litter in the marine environment

Photo: ©John Dunn/FRS Marine Laboratory

What is the Ecological Quality Objective (EcoQO)?

The northern fulmar has its distribution in the northern part of the OSPAR area, including in the Greater North Sea (OSPAR Region II). Fulmars forage exclusively at sea, capturing prey from the sea surface. Fulmars frequently ingest floating litter, including plastic objects presumably because they are mistaken for food. Fulmars do not regurgitate plastic particles but accumulate them. The content of plastic particles in their stomachs can therefore be used as an indicator for the amount of litter encountered at sea. Ingested plastics may reduce food intake and the ability to digest food leading to a deteriorated body condition associated with increased mortality and reduced breeding success.

Has the EcoQO been met?

Over the period 2002–2006, the stomachs of 1090 beached fulmars from the North Sea were analysed. The percentage of fulmars with more than 0.1 g plastic in the stomach ranged from about 45% to over 60% per area. The Channel area was the most heavily polluted while the Scottish Islands were the 'cleanest' region with a mean mass for plastics in fulmars of about a third of the level encountered in the Channel. Currently the 10% level of the EcoQO probably only occurs in Arctic populations. A long-term monitoring series for the Netherlands shows a significant reduction in plastic abundance from 1997 to 2006, mainly through a reduction in raw industrial plastics.

How does this affect the quality status?

Litter causes problems in the marine environment for a number of species; animals die because of ingestion of litter or get entangled in larger pieces of litter. Meeting this EcoQO would indicate a reduction of litter at sea which would be of benefit to many marine species and reduce the amount of litter washed up on beaches.

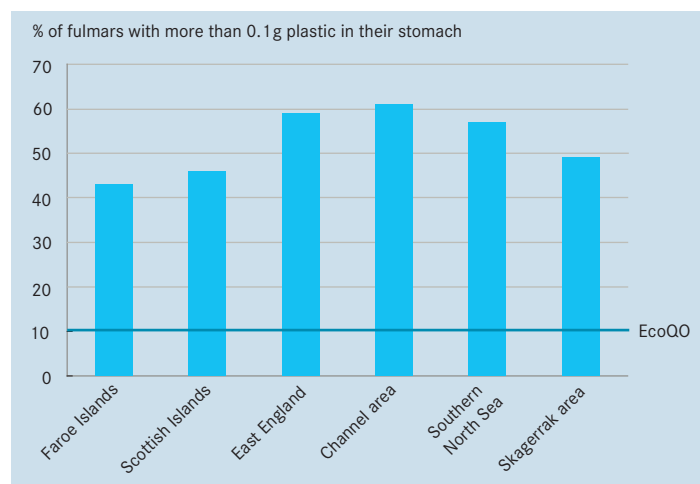
What happens next?

In order to meet the EcoQO, further refinements of the implementation of the EU Directive on Port Reception Facilities (2000/59/EC) and MARPOL Annex V may be needed as well as specific measures to reduce lost fishing gear.



Photo: ©Kees Camphuysen

Example of the stomach contents of a fulmar. Ruler shows centimeters



Percentage of fulmars with more than 0.1 g plastic found in their stomach in each sub-region over the 2002–2006 period