

### “DISCBIRD”

## The impact of fishery discarding rates on seabird communities

*The EU's Common Fisheries Policy aims to manage fisheries so as to increase yields, while at the same time minimise damaging impacts on ecosystems, including top-predators such as seabirds. Scavenging seabirds eat many of the demersal fish that are discarded by fisheries. Changes in fishery discarding rates may therefore have an impact on the stability of seabird communities, although the extent of this impact is unknown.*

*For this reason, the European Community (EC), the International Council for the Exploration of the Sea (ICES), and the Food and Agriculture Organisation (FAO) have identified the knowledge of impacts of discarding rates on seabirds as a prerequisite.*

The **DISCBIRD** study has provided such information. The project's main objective was to **quantify the impact of change in fishery discarding rates on seabird communities in order to better inform fishery discard management.**

New state-of-the-art technologies (such as satellite tracking, geolocational data loggers, stable isotope and fatty acid biomarkers) were used to quantify the importance of discards in seabird population ecology related to measures of breeding success. In addition, existing databases were analysed to determine how changes in discarding rates in well-documented fisheries in the north-west North Sea and western Mediterranean have influenced seabird diet, demographic parameters and populations over the years.

The contrasts between demersal trawl fishery management in the North Sea and in the Mediterranean appeared to be of particular interest in the context of their impact on seabird communities:

In the **Mediterranean**, frequent short term closures of trawl fishing (known as moratoria) have resulted in sharp decreases in food availability to scavenging seabirds that could have

dramatic impacts on breeding success. In contrast, in the North Sea there have not been such frequent closures of trawl fishing. Instead, fishing impact on target stocks has been regulated by technical measures such as minimum landing size, minimum net mesh size and species catch quotas.

For this reason, availability of discards in the North Sea has been consistently very high for several decades, whereas in the Mediterranean the moratoria have created periods of food shortage that may have inhibited the increase in populations of scavenging seabirds in a way that has not been the case in the North Sea.

In recent years, there have been dramatic reductions in discard volumes in the North Sea as a result of reductions in demersal trawl fishing effort and the fact that quotas for haddock and whiting – the main discards – have now become relatively large in relation to permitted fishing effort. There is therefore no longer a strong incentive for fishermen to discard species for which quotas have been met. This sudden reduction in food availability to great skuas has led to diet switching, with skuas killing unsustainable numbers of smaller seabirds. This represents a major conservation issue.

**Project acronym:**

DISCBIRD

**Full title of Project:**

Effects of changes in fishery discarding rates on seabird communities.

**EU contract number:**

Q5RS-CT-2001-00839

**Web-site:**

[www.gla.ac.uk/ibls/DEEB/rwf/ecql.html](http://www.gla.ac.uk/ibls/DEEB/rwf/ecql.html)

**Coordinator**

Prof. Robert W. Furness  
University of Glasgow  
Institute of Biomedical and Life Sciences  
Graham Kerr Building  
Glasgow, G12 8QQ  
UK

Phone: +44 (0)141 330 3560

Fax: +44 (0)141 330 5971

Email: [R.W.Furness@bio.gla.ac.uk](mailto:R.W.Furness@bio.gla.ac.uk)

**“THE DISCBIRD RESEARCH HAS SHOWN THAT THE AVAILABILITY OF FISHERY DISCARDS CAN AFFECT THE STABILITY OF SEABIRD COMMUNITIES THROUGH INFLUENCES ON PREDATOR-PREY RELATIONSHIPS”**

However, it is clear that there should be no reason to encourage discarding to be continued ‘for the sake of scavenging seabirds’. Seabird communities have altered in composition as a consequence of the abundance of discards made available over many decades. The objective should therefore be to return to a more natural and sustainable system in which seabirds are not provided with food that they could otherwise not obtain naturally, meaning that ecosystem based management should aim to reduce demersal fishery discarding to zero.

Such a change in food availability will cause breeding failures among scavenging seabird colonies, and – as said earlier – may lead to diet switching and predator-prey impacts on other seabirds. To reduce this effect, and since these animals have high adult survival rates, there may be questions about the possibility of culling such seabirds as great skuas, great black-backed gulls or yellow-legged gulls. Otherwise, it might take decades for the seabird community to return to its natural, original status...

**The DISCBIRD research has clearly shown that fishery discards are important food for many scavenging seabirds, that provision of discards has important effects on scavenging**

**seabird population community, and that this can affect the stability of seabird communities through influences on predator-prey relationships.**

With these results, DISCBIRD has provided a better understanding of scavenging seabird ecology that can be used to inform policy makers on discard management.