



# Cefas

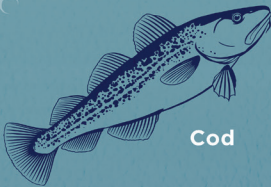
# 13 | 20



Plankton



Herring



Cod



## ASSESSING THE ECOSYSTEM EFFECTS OF FISHERIES

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Centre for Environment  
Fisheries & Aquaculture  
Science

# ASSESSING THE ECOSYSTEM EFFECTS OF FISHERIES

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Fishing and other human activities have an impact on the marine ecosystem and measuring these impacts effectively is critical to managing them. Early work investigated the physical impacts of trawl gear on the seabed and on sensitive species, which led to the implementation of Marine Protected Areas (MPAs). To monitor more complex ecosystem processes, and the impact of multiple effects, Cefas has pioneered research leading to the development of ecological indicators that provide information on the productivity and structure of marine ecosystems.

<http://ow.ly/uyKR30iWp71>

These indicators lend themselves well to the ecosystem approach to the management of our seas that ultimately lead to assessments of Good Environmental Status (GES). This holistic view of biodiversity and ecosystem health requires a strong understanding of the knock-on effects of our activities and how they propagate through the food web.

<http://ow.ly/3n5P30iWp0D>

Cefas' recent developments of measures of ecosystem health have been used to assess Good Environmental Status in UK

and EU waters as part of large-scale international assessments (the OSPAR Intermediate Assessment for the Northeast Atlantic Ocean). In particular, Cefas has demonstrated the importance of mathematical modelling to support the assessment cycle that, in turn has led, in collaboration with international colleagues, to the development of a methodology to identify robust targets for fishing and other impacts.

The marine ecosystem also responds to changes in climatic conditions and key to understanding this underlying effect on the food web requires a fuller understanding of how changes in primary production lead to impacts higher up the food web, including on fish, marine mammals and seabirds.

<http://ow.ly/qrYt30iWprm>

Future work will seek to embed indicator assessments and novel monitoring techniques with innovative modelling to improve our holistic assessments and support future management of our shared seas.

For more information please visit:

<http://ow.ly/XjIV30iWpuf>



**Cefas20**  
1902 ————— 1997–2017