An assessment of natural capital at Thanet offshore wind farm

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Introduction

Natural capital (NC) describes natural resources that generate ecosystem services, upon which human health and wellbeing depend. Maintenance of NC is considered necessary for ecological sustainability. Through modifying ecosystems, offshore wind farms (OWFs) have the potential affect NC.

Aims and objectives

The aim of this study was to assess the interactions between ecosystem functions and services associated with offshore wind farms in the wider context of NC.

Results and discussion

This study has demonstrated the potential for NC assessments to provide a means of assessing the effects of offshore developments on ecosystems and the benefits they provide. This approach differs from the current EIA framework which focus on identifying potential impacts. Emphasis is placed on changes in natural assets at a system level in terms of extent, quality and quantity, and the flow of ecosystem services.

Conclusions

Using Thanet OWF as a case study, the potential for OWFs to support NC and ecosystem services was demonstrated. Current legislations aim to return habitat to it’s predevelopment state at the end of an OWFs life. However, for much of the North Sea this may mean returning it to an impacted state. Given that an OWF may improve NC there is a case to be made for revising legislation.

Future work

This work highlighted the paucity NC data from marine environments For other systems where gaps in data exist, those from similar habitats were applied as proxies. There is a need to close benthic data gaps so that effects on ecosystem services could be better estimated.