



Measuring the interaction between marine features of Special Protection Areas with offshore wind farm development zones through telemetry – Project Inception

A project to be undertaken by the University of Aberdeen, funded by the Department of Energy and Climate Change (DECC) Offshore Energy Strategic Environmental Assessment (OESEA) programme. For further information, contact the Project Coordinator at dmb@hartleyanderson.com.

Context

Both existing and proposed offshore wind farm development zones within UK waters likely overlap the foraging areas of several Special Protection Area (SPA) seabird features, making it important to understand the connectivity between features of SPAs and development regions. Wind farms can affect seabirds mainly through loss or change of habitat, by acting as barriers to movement, and by mortality through collision with turbines. To determine the effect of proposed wind farms on local seabird populations it is essential to determine the use made of the area by the birds and whether the birds are likely to come into contact with the turbines. The main determinants of the latter are the height at which the birds fly and any avoidance behaviour that they may show towards the turbines. Understanding movements of species during the breeding season has been the focus of previous studies, however, seabirds may make use of different areas at different times of year and therefore the true impact of a development can only be understood through a complete temporal and spatial assessment.

Many seabird species travel large distances at sea and recent work has been focused on coastal species such as terns and divers that are considered sensitive to wind farm developments, however certain pelagic seabird species may also be sensitive. BTO undertook tagging studies for lesser black-backed gulls *Larus fuscus* and great skuas *Catharacta skua* at Orford Ness, Suffolk and at the Hoy SPA, Orkney respectively between 2010 and 2013 in order to establish degree of connectivity for these species between SPA sites and offshore wind farms and wind farm zones. This project is to extend the tagging programme of lesser black-backed gulls for further seasons to the Skokholm and Skomer SPA and Walney Island (Morecambe Bay SPA) in order to compare the movements of birds from contrasting east and west-coast SPA sites, and to understand the generality of the finds (e.g. foraging ranges, flight heights, use of onshore and offshore habitats) such that they may be more widely applied. 30 tags are to be deployed in 2014 with a view to completing a study in two phases over four breeding seasons.

This project is one of a number of studies on the interaction of different bird species with offshore wind farms currently being funded by the DECC OESEA programme (see separate project information sheets for studies on northern gannets and several swan and geese species).

Project Objectives & Scope

The project objectives are to:

- Understand the connectivity of the lesser black-backed gull SPA species with areas of consented wind farms and proposed wind farm development zones.
- Understand the extent to which this species use the areas of constructed wind farms.
- Provide an assessment of the flight altitudes of these feature species that could usefully inform collision risk modelling.
- Compare and contrast the recorded variables from tags with that already collected for this species from the Alde-Ore Estuary SPA.

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- The trial of two new types of tags (GPS/GSM and GPS/RF) and a harness designed to safely fall off within 2-3 years of deployment. These would be trialled on herring gulls as they have shown to be tolerant of harnesses in previous studies, and this will also allow a comparison between these and lesser black-backed gulls. These trials may help reduce future costs of such tagging studies.

A final report for this project is due in Q4 2014.

DECC Offshore Energy SEA

The SEA process aims to help inform licensing and leasing decisions by considering the environmental implications of a plan/programme and the activities which could result from its implementation. Since 1999, DECC has conducted a series of offshore energy SEAs, the latest covering wind, tidal stream and range, CO₂ and hydrocarbon gas storage, and oil & gas – see right.

Since the first SEA, the associated research programme has targeted key information gaps on the marine environment and potential industrial impacts, to inform the SEA process, developers, consenting bodies and others. Research priorities are discussed with the SEA Steering Group and a range of other stakeholders.

For more information on the OESEA programme, visit the offshore SEA web pages on <https://www.gov.uk/> or email oepe@decc.gsi.gov.uk

A data portal for previous SEA reports and data is at <http://www.bgs.ac.uk/data/sea>

	Area	Sector
SEA 1	The deep water area along the UK and Faroese boundary	Oil & Gas (19 th Licensing Round, 2001)
SEA 2	The central spine of the North Sea which contains the majority of existing UK oil and gas fields	Oil & Gas (20 th Licensing Round, 2002)
SEA 2 Extension	Outer Moray Firth	Oil & Gas (20 th Licensing Round, 2002)
SEA 3	The remaining parts of the southern North Sea	Oil & Gas (21 st Licensing Round, 2003)
R2	Three strategic regions off the coasts of England and Wales in relation to a second round of offshore wind leasing	Offshore wind (R2 of Leasing, 2003)
SEA 4	The offshore areas to the north and west of Shetland and Orkney	Oil & Gas (22 nd Licensing Round, 2004)
SEA 5	Parts of the northern and central North Sea to the east of the Scottish mainland, Orkney and Shetland	Oil & Gas (23 rd Licensing Round, 2005)
SEA 6	Parts of the Irish Sea	Oil & Gas (24 th Licensing Round, 2006)
SEA 7	The offshore areas to the west of Scotland	Oil & Gas (25 th Licensing Round, 2008)
OESEA	UK offshore waters*	Oil & Gas (26 th Licensing Round, 2009) Gas storage Offshore wind (R3 of Leasing, 2009)
OESEA2	UK offshore waters*	Oil & Gas (27 th Licensing Round, 2012) Gas storage Carbon dioxide transport and storage Offshore wind, wave and tidal energy

*For renewable energy included potential leasing in the UK Renewable Energy Zone (REZ) and the territorial waters of England and Wales but not the Scottish Renewable Energy Zone and Northern Irish waters within the 12 nautical mile territorial sea limit