

## Can red-throated divers accommodate the effects of displacement by offshore wind farms?

### Summary

Offshore wind farms cause displacement of red-throated divers but the consequences are unknown. This project will obtain empirical data on the movements and proportion of time divers spend foraging, from which their ability to accommodate additional energetic costs of displacement can be inferred.

### Work involved

Red-throated divers will be tagged with geolocators and time-depth recorders to reveal where, when and for how long divers forage during the non-breeding season. Adults breeding in Scotland, and potentially in Finland too, will be tagged during the 2018 breeding season, with tags retrieved during 2019 and 2020. Data analysis will provide estimates of where each individual wintered and detailed information on dive depth, duration, timing and frequency. If divers forage for only a small part of each day, it can be inferred they can easily meet their energetic requirements and so may have the capacity to accommodate the additional energetic costs of displacement.

### Key outcomes

- Improve knowledge on diver activity budgets and energetics;
- Fill a key marine industry knowledge gap on the capacity of divers to accommodate offshore wind farm effects;
- Reduce uncertainty around consequences of displacing red-throated divers;
- Decrease consent risk for future offshore wind farm development in areas of high diver density.

### Key partners

This project, managed by JNCC, comprises a strong partnership of government (BEIS Offshore Energy SEA), industry (Vattenfall and potentially other developers), academia (NERC/ University of Liverpool, CEH), The Crown Estate and experts in catching and ringing divers in Denmark, Scotland and potentially Finland.

### Identified research priorities

Quantifying the proportion of time divers spend foraging in the non-breeding season; understanding where divers winter; understanding diver energetics.

### Further information

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**Country:** UK

**Main driver:** Understanding impacts from offshore wind

**Period of work:** 2017-2021

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**Partnership:** Industry, BEIS, University of Liverpool

