

At-sea distribution and behaviour of seabirds in relation to oiling risk

Darby J^{1,2}

de Grissac S³

Bennison A^{1,2}

Quinn J¹

Jessopp M^{1,2}

¹ School of Biological, Earth and Environmental Sciences, University College Cork, Ireland

² MaREI Centre, Environmental Research Institute, University College Cork, Ireland

³ Swansea University, Swansea, Wales

Co-funded by the Petroleum Infrastructure Program (PIP) and an IRC Enterprise Partnership postgraduate award



Using GPS tracks from pelagic foraging seabird species such as northern fulmar (*Fulmarus glacialis*, pictured) and Manx shearwaters (*Puffinus puffinus*) to infer at-sea behaviour and identify areas of increased oiling risk. Birds were tracked using miniature GPS devices attached to feathers on the back during the breeding season.

Northern fulmar are a wide-ranging pelagic-foraging seabird. They feed at or just below the surface, making them vulnerable to surface pollutants, such as oil and plastic.

The northern fulmar was recently scored as highly vulnerable to oiling in a related PIP-funded study.

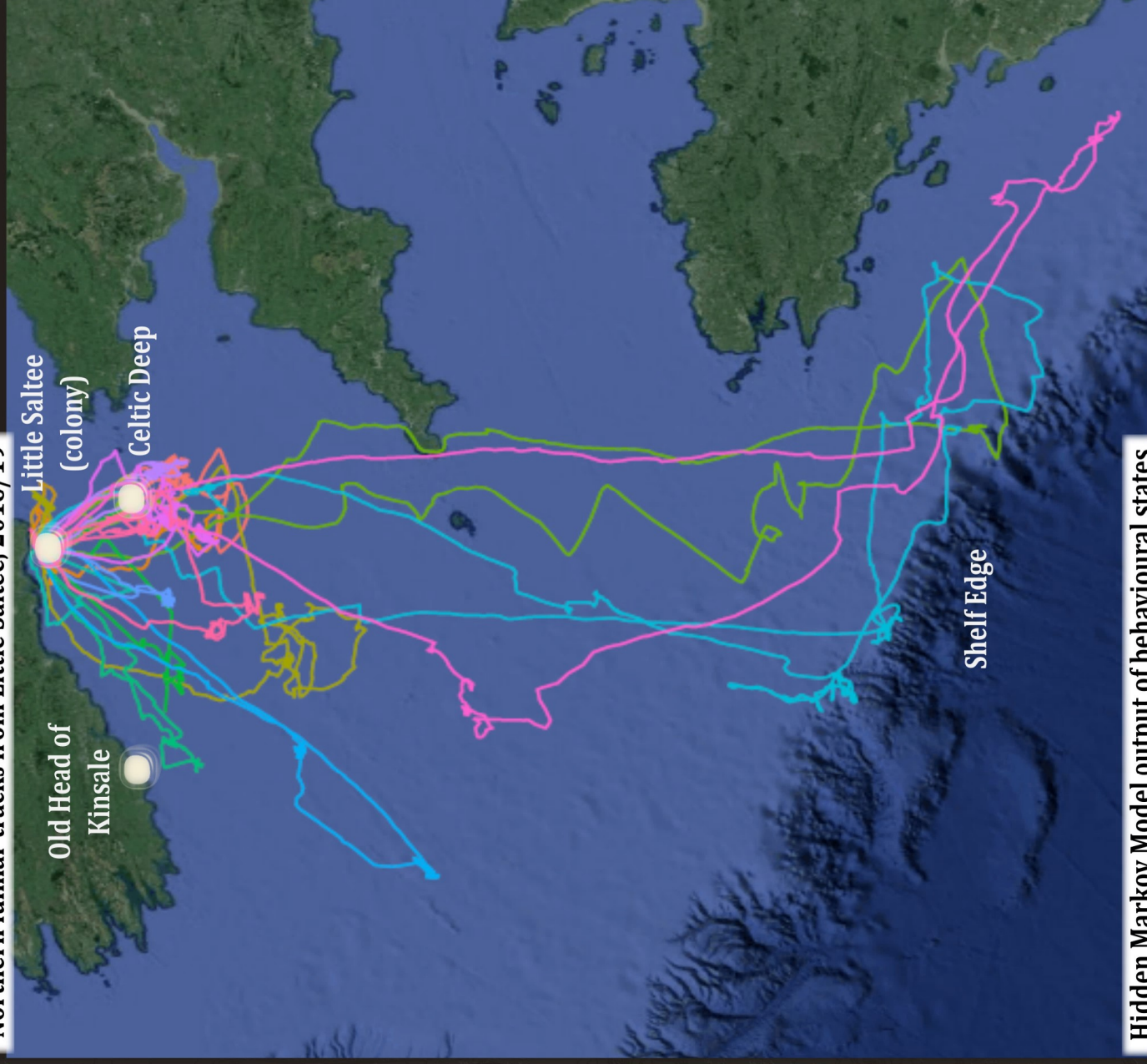
Tracking data from the Saltee Islands, southeast Ireland showed fulmar ranging up to 700km, across oil & gas exploration areas.

Manx shearwaters from Little Saltee Island will be tracked using GPS tags in summer 2020.

Hidden Markov Models will be used to discern behaviours that may expose individuals to surface oil.

These tracks will be compared to shearwater tracks from the west coast and used to build an understanding of foraging hotspots and distribution.

Northern fulmar tracks from Little Saltee, 2018/19



Hidden Markov Model output of behavioural states

