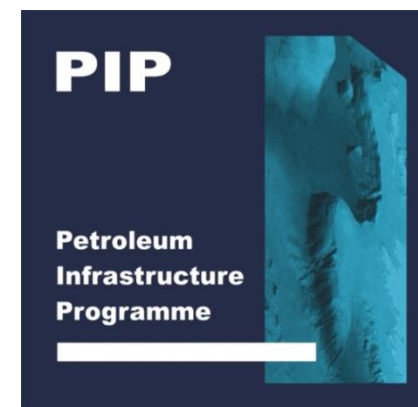


Predictive distribution mapping of central-place foragers to inform marine spatial planning



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Project outline

Large marine vertebrates, such as seabirds, are considered to be key indicator species for assessing the health of marine environments. Their distribution at sea has often been used for identifying important bird areas and designating Marine Protected Areas.

Predictive distribution models have the potential to allow a quick assessment of distributions on a large scale, and can help identify biodiversity hotspots for further investigation. This information is vital for conservation efforts and can help to inform marine spatial planning.

For this project we use a predictive distribution model which can be applied to any central-place marine foragers. It utilises already available data on colony locations and population sizes, and can be readily updated when new data is collected.



Large colonies of European storm-petrel (*Hydrobates pelagicus*), Atlantic puffin (*Fratercula arctica*) and Manx shearwater (*Puffinus puffinus*) are found on the west coast of Ireland.

Process to generate predictive distributions



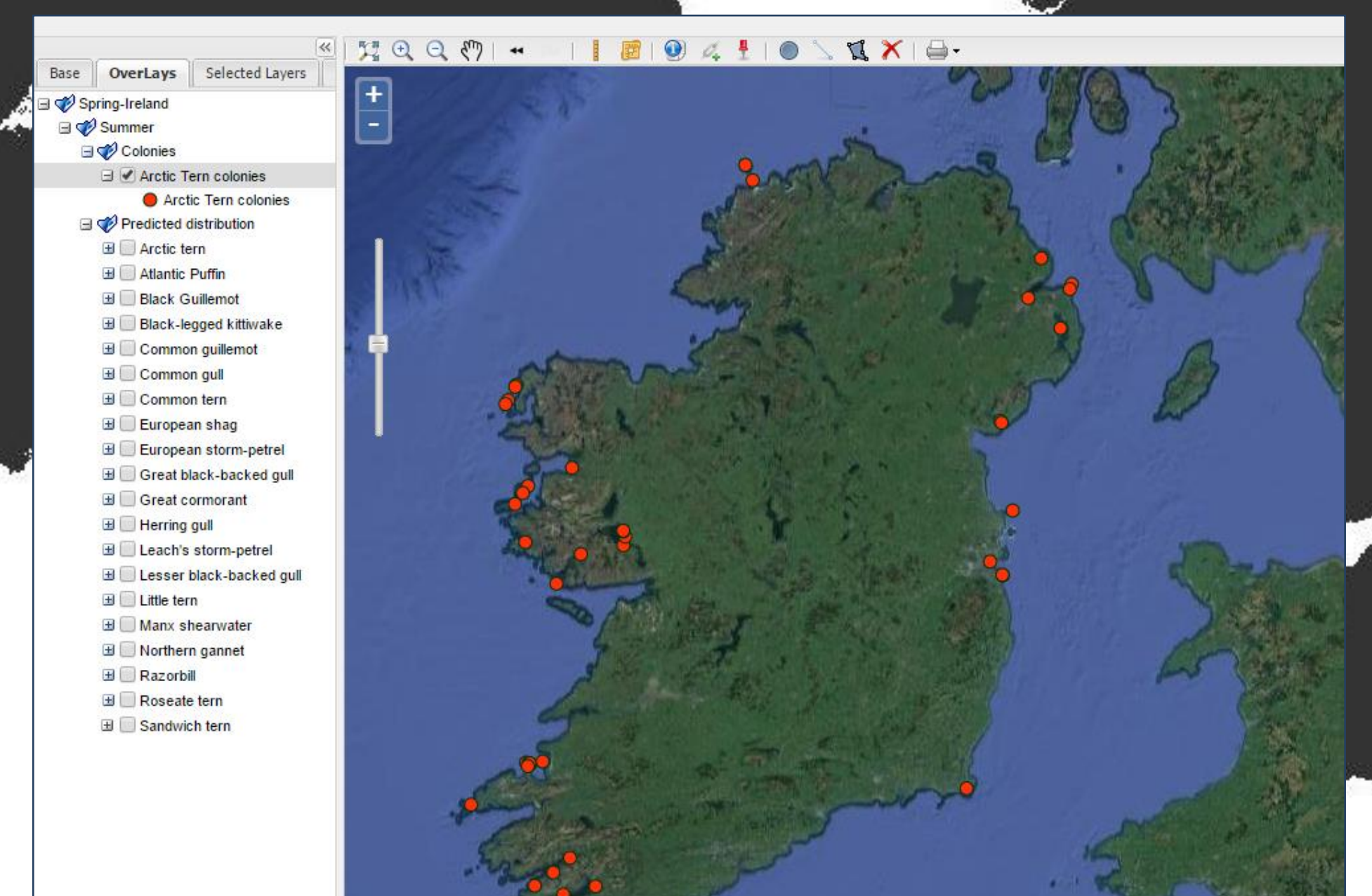
North East Atlantic Predictive Seabird Atlas

All of the information generated by this project will be made available on **NEAPSA**, the **North East Atlantic Seabird Predictive Atlas**. This open-access online map viewer will enable stakeholders, including fossil fuel and renewable energy sectors, to identify, manage and mitigate potential at-risk hotspots where vulnerable species occur.

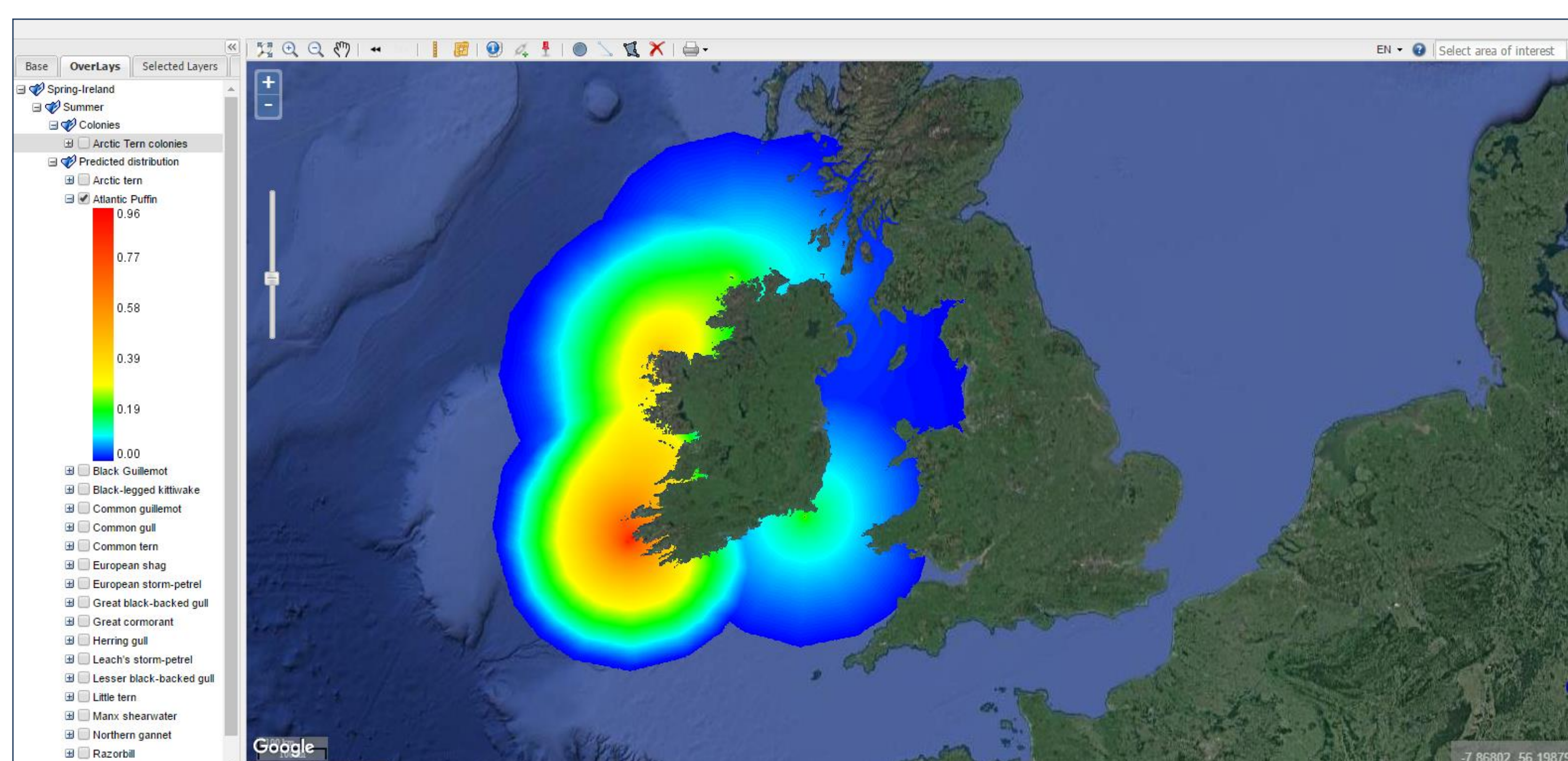
Data will be available for all seabird species in Ireland and the UK on:

- Colony locations and population size
- Predicted distributions at sea during the breeding season at a 5km² resolution
- GPS tracks for selected species

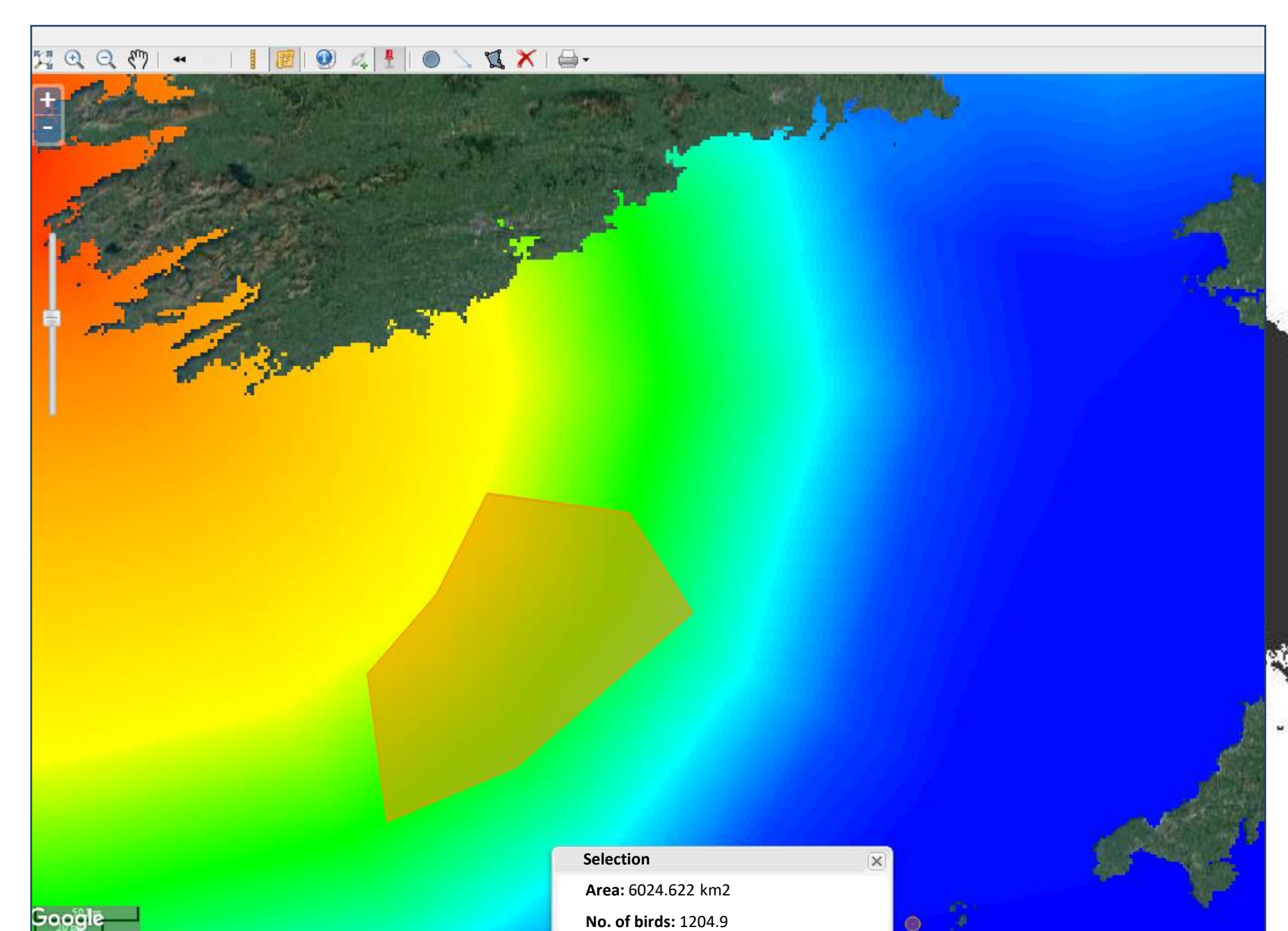
At a later date vulnerability maps will be added to the system, allowing users to assess the potential risks from oil spills or developments such as offshore wind-turbines.



A screenshot from NEAPSA showing the locations of Arctic tern colonies in Ireland.



A screenshot from NEAPSA showing the predicted at-sea distribution of Atlantic Puffin in Ireland.



One of the tools in the atlas allows users to calculate the total number of birds occurring within an area of interest.