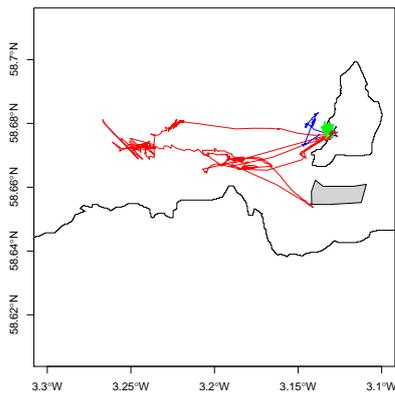


PROJECT REPORT SG20: ASSESSING THE POTENTIAL IMPACTS OF MARINE RENEWABLE ENERGY DEVELOPMENTS ON BLACK GUILLEMOTS IN THE PENTLAND FIRTH

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The funding During June/July 2012 I spent time on the island of Stroma in the Pentland Firth tagging black guillemots to monitor their movements in relation to proposed marine renewable energy developments. Although the project focussed on black guillemots, I also deployed tracking devices on European shags. The £500 funding received from the MASTS small grant contributed to covering the costs of accommodation on Stroma for a team of 2-4 people for 8 weeks.



Key findings I deployed 8 GPS devices on breeding black guillemots. Unfortunately one of the devices failed, and some were removed by the birds. Here I report preliminary findings from the device (red) that was deployed the longest (34.4 hours). Four foraging trips were recorded during this time, one reaching the MeyGen development area (grey polygon). The mean maximal distance travelled from the colony was 3.26 km (max = 7.61 km). The mean trip duration was 180 mins (max = 399 mins). The longest trip was between 03:05 and 09:44 UTC and unexpectedly began before sunrise.

The impacts and expected outputs Compared with other seabirds such as the European shag or common guillemot, the black guillemot is not well studied. The information we have gained during the project adds to data collected on diving in 2011 and is gradually improving our knowledge of the behaviour and ecology of black guillemots. It is also of value to developers, particularly Meygen and Scottish Power Renewables who have leasing sites for tidal stream energy devices close to Stroma, in the Inner Sound and the Ness of Duncansby. The black guillemot is also a search feature in the current Marine Protected Area selection process, therefore the information I have collected will be available to SNH and JNCC to aid the protection of this species. Combining the results from the black guillemot and shag tracking, I expect to produce a manuscript to submit for scientific peer-review.

The value of MASTS Being part of MASTS has definitely enhanced this research. ERI is a relatively small institute located in the far north of Scotland. This is ideal for fieldwork as the field sites are on our doorstep but I must ensure that I stay connected to the rest of the scientific community in Scotland and that my research is not isolated. Through MASTS, its meetings and the Kelpie newsletter there are direct channels to communicate my research ensuring that other seabird researchers within MASTS are aware of the black guillemot project.

New collaborations In addition to the research on black guillemots, I also deployed tracking devices and colour rings on European shags whilst on Stroma. The colour rings were provided by Dr Francis Daunt at CEH Edinburgh and the collaboration meant that I was able to uniquely identify the birds which had tags but beyond my project, the colour rings would contribute to a larger project investigating the movements of shags around the UK. The first of the Stroma birds, a shag with red colour ring RDR ringed as a chick on Stroma, has turned up at Scotstown in Aberdeenshire. This is valuable information as little known about how often birds from the north of Scotland move south.