

Tagging Southern Rockhopper penguins (*Eudyptes. c chrysocome*) in the Falkland Islands

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Rockhopper penguins are the smallest of the crested penguins and are found around the Falkland Islands mainly on rocky coastline, preferably on cliffs sometimes with very steep slope gradients. From the sea, the penguins reach the rocky ledges, where the nests are made, through a series of “hops” hence the name “rockhoppers”. The penguins are characterised by yellow and evident eyebrows, red eyes, a crest and the males are bigger (average of 58 cm vs 45 cm) and heavier (max 3.5 vs max 3.0 kg in breeding season and 2kg when moulting) than the females. The Rockhopper display nest and partner fidelity whereby they tend to go back to the same nest year after year. They arrive in the Falklands in October and stay until April, when they leave to go back to sea in search of food.

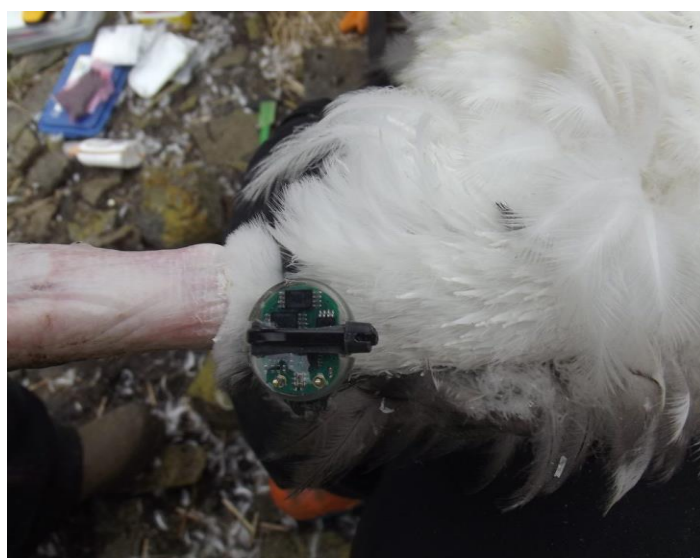


Oil exploration in the sea surrounding the Falklands is revealing a high potential of hydrocarbons reserves which could lead to extraction in the near future. One of the main environmental issues with oil extraction is unwanted oil spills, with possible impacts to the seabirds and the whole marine and coastal environment, in general. A project has been commissioned to SAERI by the Falkland Islands Offshore Hydrocarbons Environmental Forum to gather valuable data on the location of penguins and seals (higher predators) during the winter months to assess the potential for conflict between the activities carried out by the oil and gas industry and the activities of the animals (penguins, fur seals and sea lions). Essentially it is a matter of filling data gaps in our knowledge, because contrary to the summer, very little is known about where and what these animals do during the winter.

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The Project aims at tagging the rockhoppers with Global Location Sensor (GLS) devices before the penguins leave their nests and retrieve the animals and the devices in October, once the animals are back to their nests. The GLS tag (Migrate Technology, UK) has the dimension and weight of a “mentos mint” and is fastened loosely to the leg of the penguin with a couple of plastic laces. The tag records time and light level intensity which are used to estimate latitude and longitude once per day. Since light cycles are unique to each particular location on Earth it is possible to estimate the geographic position of the animals by knowing the time of sunrise and sunset and comparing the level of light intensity recorded during the day by the tag.

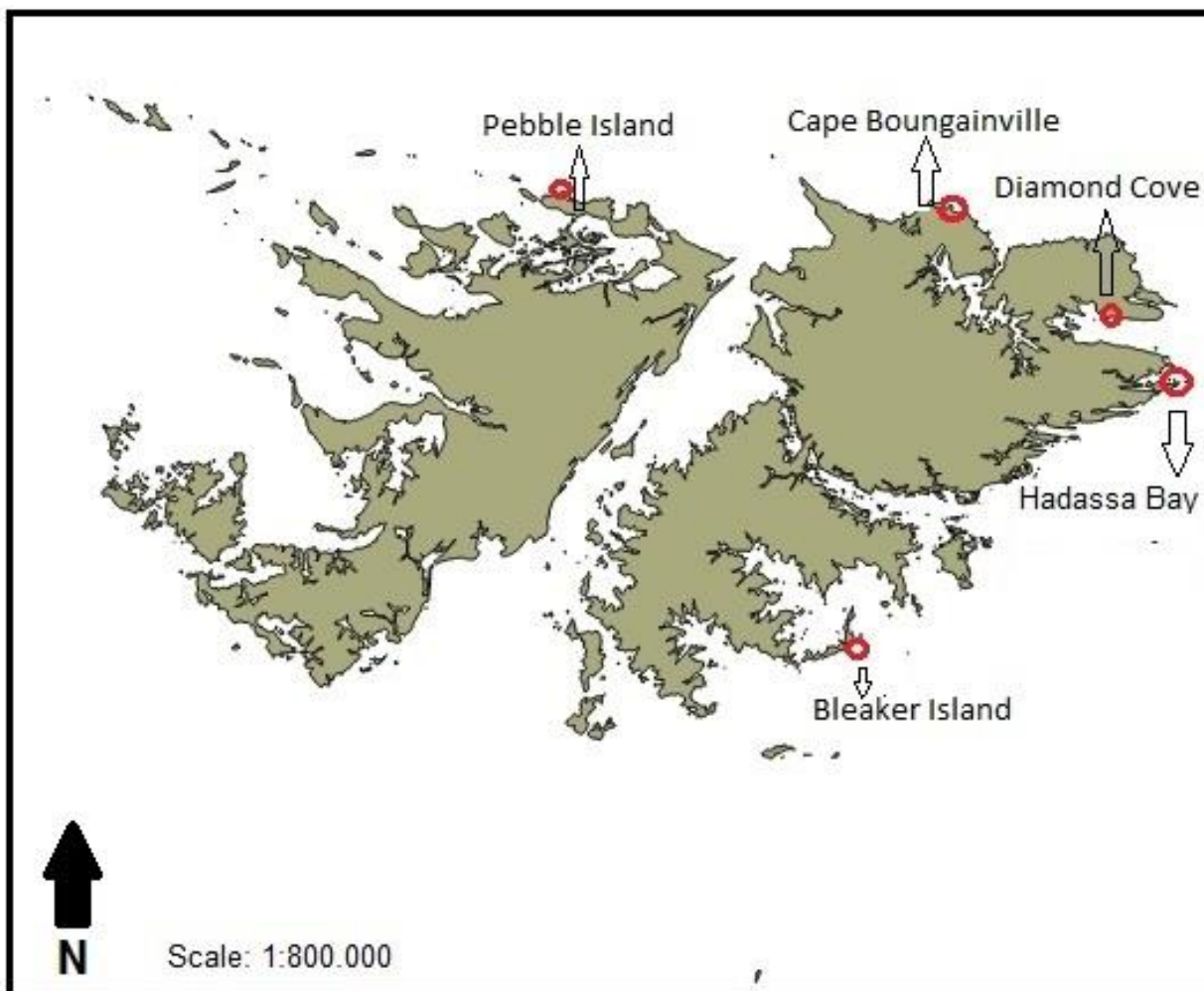


It is worth mentioning that GLS tags do not communicate the collected data wirelessly. The data are stored in the tag therefore the tagged birds need to be recaptured and the device read off of a computer for the data to be downloaded. This part of the procedures will be carried out in October 2014. A total of 100 GLS tags are going to be used for this part of the project, and most of these are being deployed on the rockhoppers, with a lesser amount of

Magellanic penguins also being tagged. The capturing of the birds started on the 25th of March and will carry on throughout the month of April, since this is the season when the penguins are moulting and are ready to leave the nests.

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The locations where penguins will be tagged in this winter (2014) regime are: Bleaker Island, Johnson's Harbour, Cape Bougainville, and possibly Pebble Island. Magellanic penguins have been tagged at Bleaker Island and may also be tagged at Hadassa Bay just east of Stanley. Hence, we are really thankful to the landowners as their collaboration and help gave us the opportunity to reach the colonies and carry out the tagging operations. Similarly, the project benefited from the collaboration of Falkland Conservation (FC) and from expertise of its staff in capturing and tagging penguins. FC staff led the operation professionally and ensured that all went smoothly for both the penguins and the team. In addition, we are very grateful to Falkland Islands Government and Falkland Islands Petroleum Licensees Association for funding the GAP analyses programme which will carry on with more data investigation.



Map showing the tagging locations for this study.

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