

## AOS Research Project

### Using geolocators to discover where Sooty Terns go between breeding seasons on Ascension Island in the South Atlantic

**Start date: July 2010**

**End date: May 2015**

Geolocators are tiny archival tags that can be deployed on birds in order to collect location data. Such tags collect light data through a photo cell and this allows us to estimate the longitude and the latitude of the bird carrying the tag through timing of sunrise and day length, respectively. Tags need to be retrieved by researchers in order for data to be used in such remote sensing studies. Figure 1 shows the type of geocator tag that was deployed



**Figure 1.** A geocator tag prior to deployment on Sooty Terns on Ascension Island in March 2011. (Photo: Simon Croson).

in the first phase of the study on Ascension Island. Tags costing £250 were supplied by Biotrack Ltd. in Dorset, UK and were manufactured by Lotek Wireless Inc. in Canada. The current study by the Army Ornithological Society (AOS) was coordinated by Dr Jim Reynolds at the Centre for Ornithology at the University of Birmingham, UK in collaboration with John Hughes (a PhD student) and Colin Wearn (British Trust for Ornithology permit holder and ringing trainer). Ascension Island is the breeding site of approx. 340,000 Sooty Terns (Fig. 2), a pan-tropical seabird species that breeds in large colonies.



**Figure 2.** A Sooty Tern at Waterside colony on Ascension Island in 2011. (Photo: Simon Croson)

Sooty Terns have been studied intensely on Ascension Island for about the last 20 years. While we know much about their population dynamics, we know relatively little about their movements outside of the breeding season. Since intense work on this project started on Ascension over 24,000 terns have been ringed and, yet, only two have been recovered in locations other than back at the breeding colony on Ascension. In 2010 a ringed bird was found dead outside the city of Abidjan in Ivory Coast and in 2011 a ringed bird was found breeding in Fernando de Noronha, Brazil. Apart from that, only one Sooty Tern that was not ringed on Ascension has appeared as a breeding bird on the island twice when re-trapped originally in April 2003 and again in February 2008. It was originally ringed in January 1993 in Fernando de Noronha. So, we know that Sooty Terns can move vast distances but we do not know where Ascension birds go between breeding seasons in one million square miles of ocean. Knowledge of such movements will be invaluable in understanding the missing part of this species' sub-annual cycle on Ascension and in informing us of which parts of the Atlantic we should be safeguarding for precious seabird species. Twenty birds were equipped with geolocators (Fig. 3) in March 2011 at the Mars Bay colony on Ascension. With luck, skill and



**Figure 3.** A Sooty Tern carrying a geolocator attached to a leg ring. (Photo: Simon Croson).

stubborn resolve we hoped to catch some of the tagged birds, retrieve the geolocators and download the precious data they contain. Three tags were recovered in January 2012 and provide some tantalising results. The birds had ranged across the Atlantic and had travelled tens of thousands of kilometres. Plans are to fit 100+ more geolocators during the next three breeding seasons and to hopefully recover as many of the tags as possible in order to unlock the secrets of inter-breeding season movements of these enigmatic seabirds.

**You can help with this research by sponsoring a geolocator please [Contact us](#) for details.**