

The 'Adopt a Sooty Tern' Scheme: get involved in the twists and 'terns' of seabird migration on Ascension Island

Dear AOS member,

Since 2008 I have been accompanying the AOS expeditions to Ascension Island in the South Atlantic when I have been acting as a scientific advisor. As you will no doubt have been aware, Ascension has been the destination of such expeditions since the early 1990s and since then AOS members have contributed to the collection of long-term data concerning the island's seabird populations.

In the most recent work on the island we have been using the very latest technology to track the migration of Sooty Terns (*Onychoprion fuscatus*). We use tiny 2 g devices called geolocators (Fig. 1)



Figure 1. A geolocator deployed on the left leg of an adult Sooty Tern breeding on Ascension Island in the South Atlantic. (Photo: Simon Croson)

that are deployed on rings on each bird's leg to track its migration across some 1 million square miles of ocean. Each geolocator contains a photoreceptor cell that through changes in light intensity detects sunrise and sunset at the location of the bird on a daily basis. Data are downloaded to a memory card which is 'on board' each device and then they are downloaded from the geolocator once the bird is recaptured on its return to Ascension for its next breeding attempt. Day length and time of sunrise data allow us to determine latitude and longitude, respectively, of the tern for each daily fix.

In March 2011 we deployed these devices on 20 adult Sooty Terns at the Mars Bay colony and at the beginning of this year we returned to the island to continue our seabird monitoring work. Despite only about 10% of the Sooty Tern breeding population having returned, we managed to recapture three birds carrying geolocators from which we retrieved some fascinating data (see example in Fig. 2). By tracking the movements of Sooty Terns between their breeding seasons, we hope to add to our rather limited knowledge about the migration ecology of perhaps the most aerial of bird species in the world.

Sooty Terns are of 'Least concern' according to BirdLife International. While they are distributed in very large numbers, they only occur at a few circumequatorial breeding colonies that are typically remote oceanic islands like Ascension. Our work informs applied avian conservation and provides valuable movement data that are fundamental to the establishment of new marine protected areas (MPAs) and to biological action plans (BAPs) for the island.

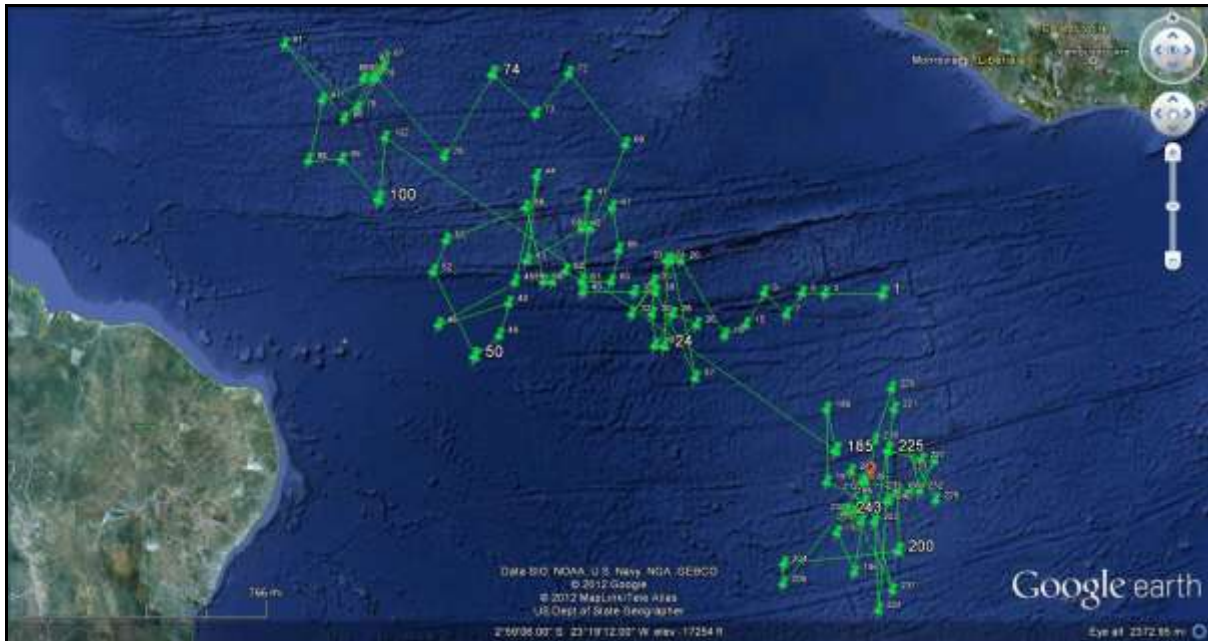


Figure 2. The track of a female adult Sooty Tern deployed with a geolocator on 30th March 2011 at Mars Bay on Ascension Island. Day 1 of tracking is on 4th May 2011 while each fix is annotated with the corresponding day of migration. The geolocator was recovered on 6th January 2012 and data revealed that the bird had migrated a minimum distance of 21,951 km over only 7 months

These are the first movement data for this species and they are a great start. We have shown that it is possible to use the most modern and miniature technology to achieve some astounding results. The technology is reliable and the geolocators have no adverse effects on the birds carrying them. However, we are appealing to you for help to take this research to the next level.

We are launching the 'Adopt a Sooty Tern' Scheme in the hope that we can obtain movement data from a sufficient number of Sooty Terns that will allow us to determine with confidence the locations in the Atlantic Ocean that are most important to the species between breeding seasons. We will return to Ascension in late November in the hope of recovering the remaining 17 geolocators from birds. Data will be recoverable from these devices but we want to deploy many more devices to continue this study.

In return for your purchase of a €291 geolocator, we will provide you with

- details of when and where the bird was caught
- a photograph of the bird with the geolocator deployed on its leg
- the ring number of the bird
- an opportunity to name the bird
- details of geolocator recovery efforts on two subsequent AOS expeditions to the island
- when and where the geolocator was recovered
- a jpeg image of the migration path of the bird as visualised in Google Earth (as in Fig. 2)
- the actual geolocator that has been carried across the South Atlantic by 'your' migrating bird

Further information can be obtained from me (e-mail: J.Reynolds.2@bham.ac.uk). It is hoped that through your support and through pre-existing collaborations, we can push forward with this

research initiative promoting Ascension as one of the most globally important sites for breeding seabirds.

We look forward to hearing from you at your earliest convenience.

Very best wishes,

A handwritten signature in black ink, appearing to read "S. Reynolds", written on a light-colored background with faint horizontal lines.

Dr S. James Reynolds & the AOS

Monday 6th August 2012