



**SEABIRD ECOLOGY IN BIOT:
January - February 2020 Research Expedition Report.**



Malcolm Nicoll & Alice Trevail.



Executive summary

This scientific expedition to Diego Garcia and remote islands of the British Indian Ocean Territory (BIOT) from 14th January to 7th February 2020 was originally a collaboration between the Bertarelli Programme of Marine Science seabird and drone research teams. However, due to delays in getting various seabird and drone team members to Diego Garcia, as a result of cancelled AMC flights, the planned expedition did not happen. Therefore, this report only describes the limited seabird research that was undertaken as part of a revised plan.

A seabird research team of two, from The Zoological Society of London, spent 5 days at Barton Point recapturing red-footed boobies and recovering long-term tracking devices that were deployed in 2018. In total 14 devices were recovered. The data from these devices will be used to determine if the boobies spend their non-breeding seasons within BIOT or undertake a migration to elsewhere in the Indian Ocean. Preliminary analyses of the data suggest that the boobies remain in BIOT.

Unfortunately, the original plan for the seabird team to spend 12 days on Nelson's Island undertaking the tracking of breeding red-footed and brown boobies was not feasible. However, the team were able to spend one day on Nelson's Island (as part of an OISP) censusing breeding seabird species, including red-footed booby, brown booby and wedge-tailed shearwater.

A presentation on the seabird research programme in BIOT was given on Diego Garcia.

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Cover photo: The 'Red-footed booby colony' at Barton Point (credit; Alice Trevail)

Introduction

In January 2020, as part of the Bertarelli Programme in Marine Science (BPMS) the Zoological Society of London (ZSL) with collaborators from the University of Exeter (UoE) and Loughborough University (LU) were scheduled to undertake a research expedition to Diego Garcia (DG) and Nelson's Island (NI) in the British Indian Ocean Territory (BIOT). The original aim had been to for a seabird team of two people to initially undertake research at Barton Point on DG after which they would be joined by two additional seabird team members and the drone team to head north to NI. While the seabird team were on NI for 12 days the drone team would then conduct their research aboard the BPV Grampian Frontier within the BIOT Marine Protected Area (MPA). However, due to AMC flight cancellations the remainder of the seabird team were not able to make it to DG to undertake the expedition to NI and the drone team did not arrive in DG until 8th February. Therefore, this report only covers research undertaken by the seabird team, as part of a revised plan, at Barton Point and onboard the BPV during an OISP to NI, Peros Banhos and Salomon Islands.

This research expedition was part of the ongoing four-year seabird ecology programme to explore the importance of the BIOT MPA for seabirds. It compliments and expands upon previous research conducted over the last three years at Barton Point, NI Island and Danger Island.

The revised expedition plan focused on the following two objectives:

Objective 1

To recover Migrate Technology geolocation tags (GLS) from red-footed boobies (RFBs) (*Sula sula*) deployed at Barton Point and Cust Point in 2018. These devices were deployed to document the non-breeding season movements of RFBs.

Objective 2

To document the distribution and status of breeding seabirds at known breeding colonies throughout the archipelago.

Methodology

Objective 1

For five days at Barton Point and Cust Point surveys were conducted twice a day through the RFB colonies looking for RFBs with leg-mounted GLS tags. Where GLS were observed birds were caught by hand and the tags removed.

Objective 2

Species of seabirds which exhibited breeding signs (nest building, eggs or chicks) were noted across visited islands and other non-breeding species observed recorded.

Results

Objective 1

In total 14 GLS were recovered and an additional 9 birds with metal ID rings were recaptured and their details recorded. Preliminary examination of the tag data suggests RFBs from DG during their non-breeding season remain in the Chagos Archipelago.

Objective 2

A survey of NI was conducted on 27th January and the following species were observed on the island: greater (*Fregata minor*) and lesser frigate (*Fregata ariel*) bird; common white tern (*Gygis alba*); lesser (*Anous tenuirostris*) and brown (*Anous stolidus*) noddy; great crested tern (*Thalasseus bergii*); red-footed* and brown* (*Sula leucogaster*) booby, wedge-tailed shearwater* (*Ardenna pacifica*) and Sooty tern (*Onychoprion fuscatus*).

* Observed breeding: 249 RFB and 7 brown booby apparently occupied nests (AONs) nests were observed. Active wedge-tailed shearwater burrows containing chicks aged 40-60 days were observed at two locations.

In Peros Banhos active sooty tern colonies were observed at Grand and Petite Coquillage Islands. No breeding seabirds were observed on Yeye.

Conclusion: The January-February 2020 joint seabird and drone team expedition to DG and NI did not progress as planned. However, the seabird team managed to recover some long-term tracking devices from red-footed boobies at DG and census the RFB population and other breeding seabirds on NI (as part of a day visit). A separate report will be submitted by the drone team documenting their research from 8th February onwards.

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Seabird research expedition data summary

Expedition ID	Dates	Location (place or coordinates)	Taxa or Species	Objective	Method	Data
January 2020 seabirds	14/01-07/02/2020	Diego Garcia – Barton Point Island	Red-footed booby	Year-round use of MPA	Tag recovery: Geolocators	Year-round movement data for ~14 individuals
January 2020 seabirds	27/02/2020	Nelson’s Island	Red-footed booby & brown booby	Population census	Counts of apparently occupied nests (AONs)	249 AONs recorded and breeding phenology data

NOTE: For further information please contact Malcolm Nicoll at malcolm.nicoll@ioz.ac.uk