

# Darwin Initiative: Half Year Report

(due 31 October 2013)

<b>Project Ref No</b>	19-028
<b>Project Title</b>	Addressing the threat of Invasive Species in Pitcairn Overseas Territory.
<b>Country(ies)</b>	Pitcairn, UKOT; Republic of Kiribati; and Cook Islands
<b>Lead Organisation</b>	RSPB
<b>Collaborator(s)</b>	Natural Resources Division (NRD) Pitcairn Island, Te Ipukurea Society (TIS), Wildlife & Conservation Unit.
<b>Project Leader</b>	John Kelly
<b>Report date and number (eg HYR3)</b>	HYR1
<b>Project website</b>	To be established.

## 1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).

Output 1: As the most logistically challenging and significant component of the entire project, this output has been prioritised with two of the three measureable indicators now complete and the third currently under development. The third of the three expeditions to Henderson Island under this grant took place in July – August 2013.

### *Henderson Island*

During July and August 2013 a team was based on Henderson Island for nine weeks. The main aims of the expedition were to increase our understanding of the biology of the Pacific Rat (*Rattus exulans*), focusing on; susceptibility to Brodifacoum, food choice, home ranging and current population. This expedition also included a two day visit to Oeno island to assess the recovery of the atoll following the successful rat eradication in 1997. Results are currently being analysed. The following summarises work carried out and preliminary results:

- **Rat tracking:** 27 radio collars were deployed; 14 on male rats and 13 on female rats. Each rat was located twice a day. Although data is still to be analysed for home ranging, some rats appear to be very loyal to small areas for multiple days at a time suggesting small home range sizes.
- **Poison trials:** Eight dose levels of Brodifacoum using 58 'captive' rats were tested. The rats are more susceptible to the poison Brodifacoum than expected, potentially the lowest tolerance ever observed. Preliminary results suggest that the rats on Henderson do not have a higher resistance to Brodifacoum when compared to populations on other islands.
- **Food preference:** Four food options were tested on 30 rats (bait pellet, coconut, *Pandanus* fruit and *Myrsine* fruit). The food options were chosen because there was evidence that wild rats consumed them and the team were able to source enough for the trial. Data is not yet fully analysed however, preliminary results suggest that coconut was preferred to the bait pellet by some rats. The implications of this are being investigated and further work may be required on Henderson in 2014 to fully understand the implications of this result.
- **Rat population estimate:** Ten lines of 30 traps were set for 5 nights each. Over 250 rats caught, data collected for 242 and tail tip samples preserved in 95% ethanol from 20 (10 males, 10 females). These samples are appropriate for a genetic investigation of founder population size and origin. The rat population has increased since November 2012, further analysis needed to see if the population has returned to pre-eradication attempt levels.
- **Murphy's Petrel nest predation:** Murphy's petrel nest predation study was conducted

by regularly visiting 52 nests to monitor outcome. By the time the team departed Henderson, nine nests (17%) still had chicks, 43 (83%) nests had failed all / some / mostly / none due to rat predation?. Preliminary results suggest predation pressure is not (yet) back to pre-eradication levels.

- **Bird survey:** Point counts completed three times across all accessible parts of the island (East Beach was the exception and conducted for one set of three counts). Results not yet analysed but anecdotal evidence suggest that all the endemic land bird species remain present in good numbers.
- **Plant survey** – Dr Mike Brooke repeated all established vegetation plots; large amount of seedlings were found in some areas suggesting plants benefitted from the reduced rat population.
- **Millennium Seed Bank:** Collection of seeds for *circa* 7 plants were made and are in the post to Kew from Pitcairn. This is the first collection from Henderson for the MSB.
- **Invertebrate survey** – 5 subterranean pitfall traps dug in. Land snail samples collected for Natural History Museum of Wales, Swansea. Samples being sent from Pitcairn.
- **Miscellaneous:** Full path network opened up and weather data collected from weather station (weather station still in place for future visits).

#### *Oeno Island*

A simplified and repeatable survey method for Murphy's petrels was developed on Oeno. This involves establishment of 19 GPS circular plots, each with 8 m radius. The preliminary results from the 2013 expedition suggest a large population increase compared to pre-eradication levels and at least a 60% population increase since 2002. Other seabird species were also breeding and had young. This included Greater Frigatebirds, Black and Brown Noddy, Common White Tern, Red-footed booby, Masked Booby, and a colony of c.100 (eyeballed guess) pairs of Sooty Tern.

Analysis of all data collected over the summer will enable completion of Output 1 C: 'By end of project (EOP) long-term methods established for monitoring the biodiversity changes on Henderson and Oeno are in place'. This is currently underway.

#### **2a. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.**

The original Project Leader, Dr Richard Cuthbert, left the RSPB during September 2013. RSPB has proposed John Kelly as new Project Leader and has submitted the relevant change request. John is currently reviewing the outstanding Outputs and the best approach to delivery. The timings of some measures in Outputs 2, 3 and 4 will change from the original Logical Framework. A change request was submitted on the 29<sup>th</sup> of October.

#### **2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?**

Discussed with LTS: Yes

Formal change request submitted: Yes

Received confirmation of change acceptance No

#### **3a. Do you expect to have any significant (eg more than £5,000) underspend in your budget for this year?**

Yes  No

#### **3b. If yes, and you wish to request a carryforward of funds, this should be done as soon**

**as possible through the formal Change Request process.** However, it would help Defra manage Darwin funds more efficiently if you could give an indication now of how much you expect this request might be for.

Estimated carryforward request:      £

**4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?**

No

**If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.**

**Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with LTS International through a Change Request.**

Please send your **completed report by email** to Eilidh Young at [Darwin-Projects@ltsi.co.uk](mailto:Darwin-Projects@ltsi.co.uk) . The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message eg Subject: 17-075 Darwin Half Year Report**