



Department
for Environment
Food & Rural Affairs



Foreign &
Commonwealth
Office



Department
for International
Development



Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

Important note *To be completed with reference to the Reporting Guidance Notes for Project Leaders:
it is expected that this report will be about 10 pages in length, excluding annexes*

Submission Deadline: 30 April

Darwin Plus Project Information

Project Ref Number	DPLUS011
Project Title	Ile Vache Marine restoration project
Territory(ies)	British Indian Ocean Territory (BIOT)
Contract Holder Institution	Chagos Conservation Trust
Partner Institutions	UK FCO; The RSPB; Royal Botanic Gardens Kew; University of Warwick
Grant Value	£32,256
Start/end date of project	April 2013 – September 2015
Reporting period (e.g., Apr 2015-Mar 2016) and number (e.g., AR 1,2)	April 2014 – March 2015 Annual Report 2
Project Leader	Peter Carr
Project website	N/A
Report author and date	Charley Cranmer and Peter Carr, 23.4.15

1. Project Overview

This project aims to repair the ecosystem of Ile Vache Marine by eradicating the introduced invasive black rat (*Rattus rattus*). This will: improve the breeding conditions for Critically Endangered Hawksbill and Endangered Green sea-turtles; and allow for the re-colonisation of seabirds from the surrounding six Important Bird Areas. Island ecological restoration has been successfully conducted elsewhere and is seen as the only method available to increase biodiversity and biomass of original species.

The problem of rat infestation on Ile Vache Marine is very clear to see on the island with the naked eye, and has been noted by all of those (e.g. scientists on expeditions) who have visited it over the years. The island is uninhabited and so there is no relevance of this project to human development.

Originally, the project rationale included managing other non-indigenous species and native pest species, particularly coconut palms, as part of the rat eradication. However, the rat eradication expert that was contracted, Grant Harper, conducted a recce of the island in January 2014 during which he established that this level of vegetation management (output 1.6 in the project logframe) would not be required. This was explained in the 2014 Annual Report for this project and in a change request form submitted at that time.

Ile Vache Marine is a tiny island (approximately 1.5 km²) in the Chagos archipelago (05° 25' 26" S, 71° 49' 50" E; 2m elevation; 500m x 300m). Please see Appendix 1 for maps.

2. Project Progress

2.1 Progress in carrying out project activities

As advised by the contracted professional rat eradication expert, Grant Harper, the plan for this project was simplified. This was communicated to LTS International in the 2014 Annual Report including an updated project implementation table. This simpler plan was followed in the year currently reported on, with all of the scheduled project activities completed in the manner and time planned.

The Project Leader, (Peter Carr) and Grant Harper undertook the eradication exercise and are both very satisfied with the operation. Two different types of bait were hand broadcast on different days, in case any rats resisted the first type. In addition, 150 bait boxes were left on island loaded with two further types of bait (chocolate and coconut flavoured). The baiting plan could be viewed as weighty, but as there are still more rat eradication failures on tropical islands than successes, the team wanted to do everything possible to ensure success.

2.2 Project support to environmental and/or climate outcomes in the UKOT's

The outcomes of this project will contribute to the Foreign and Commonwealth Office's ambition as stated in the Overseas Territories White Paper to achieve exemplary environmental management in the uninhabited UK Overseas Territories. The academic paper that will be produced (after September 2016) describing the lessons from this project will contribute to improving capacity to managing environmental assets in the UK Overseas Territories. This academic paper will be shared widely in this fast growing field, in which knowledge of eradications on tropical islands is still growing.

2.3 Progress towards project outputs

The pre-eradication vegetation management on Ile Vache Marine (outputs 1.3 and 1.7) was completed in June 2014, by volunteers from the British Forces based in British Indian Ocean Territory. The rat eradication phase happened on Ile Vache Marine as planned, between the 1st and 18th August 2014 (outputs 2.2, 2.3, 2.4, 2.5, 2.6 and 2.7). Please see Appendix 2 for two photographs.

Apart from the ongoing continued technical liaison between project partners (output 1.2), there are only three outputs left to be completed (3.1 – 3.3), which are related to post-eradication monitoring and the writing and dissemination of a related academic paper. These outputs will be completed as soon as possible after September 2016, which is the earliest a successful rat eradication on a tropical island can be deemed as scientifically valid (please see the next section for more details related to this). LTS International have confirmed that the project end date should remain as September 2015. The remaining outputs (3.1 – 3.3) will be reported to LTS International thoroughly, even though this will be after the official project end date.

2.4 Progress towards the project outcome

This project aims to restore the ecosystems of Ile Vache Marine by eradicating the invasive black rat (*Rattus rattus*). This will: improve the breeding conditions for Critically Endangered Hawksbill and Endangered Green sea-turtles; allow for the re-colonisation of seabirds from the surrounding six Important Bird Areas; and promote native plant regeneration.

The eradication exercise was completed in August 2014. As reported in the October 2014 Half Year Report, the latest guidance dictates that for a successful rat eradication on a tropical island to be deemed as scientifically valid, two rat-free years must have passed after the eradication exercise. Thus, the eradication attempt on Ile Vache Marine cannot officially be said to have been successful until September 2016. However, all opportunities to visit the island on scientific expeditions will be taken until that date to confirm whether or not there is any evidence of live rats. Such an opportunity arose in March 2015 when the Project Leader, Peter Carr, spent three days trapping and observing on Ile Vache Marine, including an overnight stay (when the presence of rats is more obvious). There was no evidence of any rats having survived the eradication. Whilst this is too early to be confirmed as success, it is a positive monitoring result.

The breeding conditions for seabirds and Critically Endangered Hawksbill and Endangered Green sea-turtles have already improved because of the lack of rats on the island. It is expected to take some years for the re-colonisation of seabirds from the surrounding six Important Bird Areas and the regeneration of native plants.

2.5 Monitoring of risks

In the original grant application for this project nine risks were identified, and all of these hold true. The first of these is an unsuccessful eradication, which is not expected. Post-eradication monitoring will confirm success or not from September 2016 as described in the section above. A linked risk is that of rat re-infestation from another island, which is still deemed to be a low risk.

Five of the risks were related to the eradication exercise itself and are thus now irrelevant. These were: lack of availability of key staff; sickness or injury of project team members; stakeholder conflict with the BIOT Patrol Vessel; weather and sea conditions; and conservation impact.

The remaining two risks still have a low likelihood of occurring and a low impact on the project if they did happen: public interest; and visitors to the island.

3. Project Stakeholders

As Ile Vache Marine is uninhabited there can be no host country partners. The key stakeholders of this project are: the UK Foreign and Commonwealth Office; the RSPB; Royal Botanic Gardens, Kew; and the University of Warwick. Liaison between these project partners has continued as appropriate with regular dialogue. RBG Kew provided botanical advice relevant to the level of vegetation management required to disperse the bait; the RSPB provided expertise based upon their considerable experience in this field; the FCO have provided considerable logistical support and Peter Carr of Warwick University has coordinated and led all activities.

4. Monitoring and evaluation

Most of this straightforward project is centred around the rat eradication exercise which happened in August 2014. With the exception of the remaining three monitoring and reporting outputs (3.1 – 3.3), all of the outputs and activities have been directly linked to that eradication exercise. This clearly contributes to the project outcome of restoring the ecosystems of Ile Vache Marine by eradicating the invasive black rat. The indicators of achievement are: that the eradication exercise went to plan; and evidence of rats will be looked for in post-eradication monitoring at every opportunity on scientific expeditions until final confirmation is possible from September 2016.

5. Lessons learnt

Lessons learnt from this tropical island rat eradication project will be promulgated extensively via the 2016 scientific report of the project. The key lessons learnt are as follows:

- The Project Leader or technical expert should have been present to supervise and direct the vegetation management conducted by military volunteers stationed in BIOT.

In the Operational Plan the Project Leader was to have been present when this phase was conducted. However, due to unforeseen circumstances previously reported this did not happen. The budget did not cater for sending either the Project Leader or Grant Harper out to BIOT, thus this phase was directed by Peter Carr remotely. Whilst their absence did not prove catastrophic, it did mean an exhausting first three days for those that undertook the eradication phase. There was a requirement to re-clear lines due to rampant growth of lush tropical vegetation, straightening lines where they had lacked linear discipline and, in one case, cutting in an entirely new line. Enough time was allocated to the eradication phase to conduct this activity as it was anticipated.

- It would have been prudent to have a contingency fund built in to the budget.

It is difficult to budget for the unforeseen but it usually happens. Access to an emergency sum of money, particularly on a larger project should be factored in.

- Regular, non-complicated dialogue between stakeholders, especially with HQ BF BIOT and the BIOT Patrol Vessel, is essential.

This has been achieved and has been a major contributor to the success of the project to date.

The lessons learnt above, where possible and practical, will be written in to the Operational Plans of future eradication attempts in BIOT.

6. Actions taken in response to previous reviews (if applicable)

N/A

7. Other comments on progress not covered elsewhere

N/A

8. Sustainability

The project has been regularly reported on to the governing organisations of the Territory (UK FCO and HQ BF BIOT), who have also participated in it. These reports have been verbal, written and latterly updated on published blogs. The effect of this is that this project (and its' apparent success) has had a profound and positive impact in BIOT, particularly at the environmental decision making (Government) level.

The appetite for invasive mammal eradication efforts in the Territory were dampened after the failure in 2006 to eradicate rats from Eagle Island, the second largest island in the central Indian Ocean. The lessons learnt from the Eagle Island failure were heeded and incorporated

in to the Operational Plan for Vache Marine and, have contributed substantially to the success of the operation to date.

The “start small and work up” approach adopted by the Project Leader for invasive control in BIOT has been a common-sense and logical method following the problems encountered in 2006 when tackling a large island in such a remote area. The result of this cautious approach has been that the Project Leader has been approached by a conglomeration of BIOT stakeholders to lead another eradication attempt on a larger island using essentially the same approach.

After the eradication of rats is complete, the project on this uninhabited island becomes self-sustaining. The project requires monitoring circa 24 months after eradication, to ensure all rats were eradicated, and will happen on a scientific expedition as soon as possible after September 2016. An academic paper will be produced and disseminated confirming the eradication outcome and to share the project lessons.

9. Darwin Identity

This project is distinct with a clear identity, it is not part of a larger programme. The support of the Darwin Initiative for this project has been acknowledged, including using the Darwin Initiative logo, in the following ways:

- A film about the project reconnaissance expedition on the Chagos Conservation Trust website (<http://chagos-trust.org/media-gallery/detail/2/1021>);
- A blog about the project on the Chagos Conservation Trust (<http://chagos-trust.org/2014-ile-vache-marine-bird-habitat-restoration-project>);
- A presentation at the Chagos Conservation Trust’s annual science conference on Friday December 5th 2014 at London Zoo.

10. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2014 – 31 March 2015)

Project spend (indicative) in this financial year	2014/15 Grant (£)	2014/15 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs	0	0	0	
Consultancy costs	0	0	0	
Overhead Costs	0	0	0	
Travel and subsistence	0	0	0	
Operating Costs	0	0	0	
Capital items	0	0	0	
Others (Please specify)	0	0	0	
TOTAL	0	0		

As previously described, the final three outstanding outputs for this project (3.1 - 3.3, monitoring and the writing and dissemination of an academic paper) will not be possible until after September 2016. However, there are no costs related to these outputs. Post-eradication monitoring will happen as part of a scientific expedition with costs already covered. The Project

Leader, Peter Carr, will produce the academic paper for no charge. This will be disseminated by the project partners for no charge. Thus, spending for this project finished in 2014/15.

11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section

After completing the eradication exercise on Ile Vache Marine, there was still some bait left. All of the bait had been donated by two companies (Bell Labs in the USA and Animal Control Products of New Zealand). The Project Leader and the rat eradication expert had to remain on the Pacific Marlin (the BIOT Patrol Vessel) until it was scheduled to return to Diego Garcia some days later. Thus, they requested permission from the Foreign and Commonwealth Office in London to use the remaining bait to try and eradicate the rats on two further islands and this request was granted. The bait was hand broadcast by the Project Leader, rat eradication expert and British Forces volunteers on two tiny (2 ha.) islands, (Sel and Jacobin Islands in the Salomon Atoll) on 16th August 2014. These islands were chosen as they are surrounded by rat infested islands. If they are reinvaded it will provide conclusive proof that a single operation would be needed to eradicate rats from the Salomons (and western Peros Banhos) islands. This is essential operational planning information.

In between eradications, the Project Leader and the internationally recognised rat eradication expert had time to inspect two islands (Grand Coquillage and Mapou) and confirm that contrary to the published literature (from 1996), these islands are rat free. This is great news for the terrestrial conservation in BIOT and important information for conservation management. The Project Leader, Peter Carr's calculation is that 19 islands out of 55 are now rat-free.

In addition, the Project Leader and the rat eradication expert took the opportunity to discuss and scope out further operations of terrestrial conservation management in BIOT. These discussions may be superseded by the request by a group of BIOT stakeholders for the Vache Marine team to undertake another eradication operation on a larger island in BIOT.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	No
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	