



Darwin Initiative Main/Post/D+ Project Half Year Report (due 31st October 2018)

Project reference	23-003
Project title	Eradicating invasive species from the highest priority Caribbean island
Country(ies)/territory(ies)	Antigua and Barbuda (with Montserrat)
Lead organisation	Fauna & Flora International
Partner(s)	Department of Environment (Government of Antigua and Barbuda), Environmental Awareness Group, British Mountaineering Council, Wildlife Management International Ltd.
Project leader	Dr Jenny Daltry
Report date and number (e.g., HYR3)	HYR3
Project website/blog/social media etc.	https://www.facebook.com/RedondaRestoration/ https://www.fauna-flora.org/projects/redonda-restoration-programme

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 to end September).

The project is on track and continued to make good progress against the planned outputs in Year 3. Below is an update on progress against the agreed timetable, focusing on activities scheduled to take place in Q1 and Q2:

Output 1 Alien invasive vertebrates (rats and goats) successfully removed from Redonda, with systems in place to prevent (re)invasions

1.1 Complete Operational Plan and SOPs to remove goats and eradicate rats (COMPLETED). See Year 1 Annual Report.

1.2 Capture and transfer goats from Redonda to enclosed government farmland on Antigua (COMPLETED). See Year 2 Annual Report.

1.3 Establish baiting grid on Redonda and eradicate rats (COMPLETED). See Year 1 Annual Report. The last known rats on Redonda were dispatched in the second week of March 2017. No more signs have been seen since, despite intensive island-wide surveys using a suite of detection tools (e.g. camera traps, tracking plates and flavoured wax blocks) and ongoing biosecurity checks (Activity 1.4). In July 2018 — 15 months after the rat eradication operation was conducted — five project personnel spent three full weeks on Redonda to conduct intensive searches for rat sign, under the direction of the rat eradication specialist Elizabeth Bell. By this time, had any rats survived the operation, they would have had time to multiply. Based on the absence of any detectable signs, we can therefore state with full confidence that the rat eradication operation in Year 1 was completely successful and Redonda is rat-free.

1.4 Establish biosecurity surveillance system to prevent incursions, and monitor Redonda every 2 months to verify no invasive vertebrates remain (ONGOING). The project has established a biosecurity system for Redonda that encompasses all three key

elements of biosecurity: prevention, detection and response, as described in a detailed plan by Elizabeth Bell and Shanna Challenger (completed in Q1). As reported previously, 39 permanent bait stations were installed on Redonda at the end of Year 1 to detect and kill rodents. These comprise a rugged plastic bait box raised 15 cm above the ground with a pedestal, following a design first developed by the Project Leader on other Caribbean islands (the pedestal is necessary to prevent access by land crabs that would otherwise consume the bait). The boxes contain at least 80 g of Klerat bait and chocolate-scented rubber cubes that have continued to be checked and when necessary replenished at least once a quarter (and whenever the project team travels to Redonda for any other purpose). Other aspects of the biosecurity system, devised during a stakeholder workshop in Year 2, continue to be implemented, including working with Caribbean Helicopters Ltd to quarantine equipment and screen their helicopters and passengers to help prevent possible non-native seeds, insects and other organisms from reaching Redonda. Fortunately, because the island is remote and difficult to access, there are only a few—and mostly very controllable—pathways by which invasive species could arrive.

1.5 Publish technical report(s) detailing the methods, results and any lessons learned from Output 1 (UNDERWAY). The final technical report on the rat eradication, goat removal operation and biosecurity plan have been produced and shared among the project partners, but are still pending copy-editing before being more widely disseminated.

Output 2 Monitoring system established to measure the responses of fauna, flora and ecological processes to the removal of alien invasive vertebrates

2.1 Project scientists design and agree standardised methods to monitor birds, reptiles, bats, invertebrates, plants, soil and microclimate (COMPLETED). See previous reports. As noted previously, we expanded the scope of the monitoring programme to include the surrounding marine life.

2.2 Conduct monitoring as per 2.1 during the grant period (before and after removing the goats and rats) (ONGOING). The project team — including FFI, EAG and Government personnel — conducted several trips in 2018 to monitor birds (transects for seabirds and point counts for land birds), reptiles (point counts), invertebrates (pitfall traps, malaise traps) and plants (fixed point photos and permanent quadrats). Our findings point to a raft of major changes that can almost certainly be attributed to removing the rats and goats, including a conspicuous rise in insect abundance, more than double the density of lizards, the appearance of more than a dozen species of land birds that have not been recorded on Redonda for decades (inferred to have naturally immigrated from neighbouring islands), and a striking increase in vegetation, including hundreds of young trees as well as various grasses and other herbaceous species that had not been observed previously (likely because they were too heavily cropped by goats and rats).

2.4 Publish technical reports detailing the results and lessons learned from Output 2 (UNDERWAY). The project team and collaborating scientists are working on additional publications from the biodiversity surveys.

Output 3 Redonda becomes a protected area in accordance with the Sustainable Island Resource Management Zoning Plan for Antigua & Barbuda, with an effective structure to manage its ongoing ecological recovery and sustainable use

3.1 Complete stakeholder consultations in Antigua and Montserrat (COMPLETED/ONGOING). Stakeholder consultations continued in both countries during the reporting period. (Even though the workplan in the original proposal indicated these consultations would cease after Year 1, we decided that active engagement with stakeholders should continue, especially in light of the need for regional cooperation to safeguard the island and its biodiversity under Output 3).

3.2 Prepare and submit technical proposal to Cabinet to designate the Redonda Environmental Protected Area (EPA) (UNDERWAY). In Q2, Michael Appleton (Protected Areas Director of Global Wildlife Conservation and Vice-Chair for Capacity, World Commission on Protected Areas) spent two weeks on Antigua and Redonda to assist the project team to develop the proposal for protecting the island and to draft key elements of the protected area management plan. Mr Appleton is scheduled to return in Q4 to facilitate a stakeholder

workshop to complete these documents prior to submission to Cabinet. Importantly, now that the proposed protected area will include the sea around Redonda, the project assembled a 13-person marine team to conduct six days of intensive surveys in Q1 and Q2 to gather more marine data to help support the technical proposal and help identify its management needs. The marine surveys were funded using a complementary new grant from the Waitt Foundation, and confirmed the outstanding significance of this area for foraging sea turtles, corals, pelagic fish and seagrass beds. The notion of protecting Redonda was also discussed further with the Minister of Agriculture, Fisheries and Barbuda Affairs, Dean Jonas, and Minister of Health, Wellness and the Environment, Morwyn Joseph, who expressed their support in light of the island's outstanding historical and ecological significance.

Output 4 National capability to plan, manage and implement and monitor invasive species projects is raised, supported by enhanced technical skills and greater public awareness and cooperation

4.1 Plan multi-media campaign to communicate project to the public on Antigua and Barbuda and neighbouring states (COMPLETED in Year 1). See Year 1 Annual Report.

4.2 Implement campaign, including media releases, signage on Redonda and phone-in radio shows, and evaluate impact on public (ONGOING). The project received further coverage from a wide range of media groups, mostly centred on the rapid improvements observed on Redonda since the rats and feral goats were removed (e.g. <https://antiguaobserver.com/editorial-magical-transformation/> and <https://www.globalwildlife.org/2018/08/15/rare-reptiles-rebound-with-radical-restoration-of-caribbean-island/>) after a media release was issued by FFI and our partners in July (<https://api.fauna-flora.org/wp-content/uploads/2018/07/Redonda-recovery-press-release-international-version.pdf>). The Caribbean Endemic Bird Festival month of celebrations in Antigua in 2018 was led by the project's outreach officer Natalya Lawrence and especially highlighted the globally important seabird colonies on Redonda. The Project Coordinator also made numerous appearances on national radio and television to discuss the removal of invasive species and raise awareness of the island's biodiversity. The project team also began working on a new primary school curriculum for Antigua, with Redonda used as a vivid example of the impacts invasive species can have. The efficacy and impact of Activity 4.2 is to be more formally assessed in Q3/Q4 by repeating the questionnaire survey from Year 1, but the feedback received to date has been very positive and supportive.

4.3 Analyse training needs of field personnel (COMPLETED in Year 1). See Year 1 Annual Report.

4.4 Conduct training classes and on-the-job mentoring for local personnel participating in eradication and biosecurity activities (UNDERWAY). Further meetings and workshops led by the project team in Q1 and Q2 enhanced the biosecurity knowledge and skills of around 20 Antiguan government and NGO technical staff, including hands-on work to monitor and maintain the permanent bait stations installed on Redonda to prevent and detect rodent incursions (Activity 1.4). This knowledge has proved invaluable for the Antiguan focal points involved in developing a new regional proposal to GEF for invasive alien species control, which is expected to be launched by the end of Q3.

4.5 Conduct training classes and on-the-job mentoring for local personnel participating in biodiversity monitoring (UNDERWAY). More than a dozen nationals participated in biodiversity surveys during the reporting period, including government staff, NGO staff and students (Activity 2.2), and more have signed up to participate during the remainder of Year 3. These include more than a dozen persons (predominantly from the Fisheries Department and Ondeck Sailing School) who participated in marine surveys under the direction of Sophia Steele (FFI's Eastern Caribbean Project Coordinator and an experienced marine biologist) and Ruleo Carmacho (marine biologist with the Department of Environment).

4.6 Local technicians participate in project meetings and key field activities with FFI training and mentoring where needed (UNDERWAY). From the start of this project, FFI staff have worked alongside more than 30 Antiguan government agencies, NGOs and the private sector. Sixteen are members of the Project Steering Committee and most are colleagues from government agencies and NGOs. During Q1 and Q2, more than 20 Antiguan participants participated in key technical workshops and fieldwork. Particular emphasis in Q2 was on

protected area planning, under the tutelage of protected area adviser Michael Appleton.

Output X Project Management

X.1 Project inception meeting (COMPLETED Year 1). See Year 1 Annual Report.

X.2 Project Steering Committee meetings (UNDERWAY). The Project Steering Committee, formed at the Inception Meeting in Year 1, met again during this reporting period, in both April and August 2018. As reported earlier, committee members have developed smaller sub-units or working groups to help plan and review areas of the project relevant to their skills and interests, including protected area planning, biosecurity and marine surveys.

X.3 Project biannual reports/ donor technical and financial reports (ONGOING). Reports produced by FFI during this reporting period include a final report to National Fish & Wildlife Foundation, quarterly reports to the Taurus Foundation, a final report to the Boltini Trust, and illustrated updates to private sponsors.

X.4 Monthly financial accounts (ONGOING). FFI maintains detailed accounts of spending each month, which are available for inspection at any time. Expenditures through the EAG (local partner NGO) are easily monitored thanks to the EAG having a separate bank account for this project. The Project Coordinator oversees spending through this account and reports to the Project Leader regularly. Expenditures to date have been as anticipated, and the project is therefore well on track to spend the remaining Darwin funds by the end of Year 3.

2a. Give details of any notable problems or unexpected developments/lessons learnt 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.

No notable problems to report, and the project is still on track with respect to the agreed budget and timetable.

Really the biggest surprise has been the incredible speed at which native wildlife populations, and overall ecosystem quality, have improved since the successful removal of invasive alien mammals from Redonda. These ecological changes are being studied and documented as rigorously as our resources allow (see Activity 2.2 above). Drawing on the data collected by this project, and the high level of national interest and pride in this project, our team is now making rapid strides to develop the justification and management plan to bring Redonda and adjoining marine areas under effective protection as the country's first Environmental Protected Area (Output 3). This highly participatory process has been very successful so far in building the skills and confidence of FFI's national colleagues in protected area planning.

Lessons learned from this project are already being applied to other protected areas in Antigua and to other biodiversity conservation programmes in this region. For example, during the reporting period, the Project Leader assisted the UK Overseas Territory of Anguilla to complete the successful eradication of rats from the Prickly Pear Cays (under Darwin Plus project DPLUS060) and to research and develop technical plans for eradicating invasive alien species from Sombrero. We also provided technical advice to similar initiatives to restore islands in the Turks & Caicos, Barbados and the Bahamas. More details of these will be provided in the annual report.

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/No
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Formal change request submitted:	Yes/No
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Received confirmation of change acceptance	Yes/No
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3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

3b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.

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

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. Additionally, if you were funded under R24 and asked to provide further information by your first half year report, please attach your response as a separate document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with LTS International through a Change Request.**

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 22-035 Darwin Half Year Report**