

Biodiversity Challenge Funds Projects Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus Half Year Report

Note: If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.

Submission Deadline: 31st October 2023

Project reference	DPLUS159
Project title	Growing hope – a blueprint for saving Ascension’s endemic plants
Country(ies)/territory(ies)	Ascension Island
Lead partner	Ascension Island Government Conservation and Fisheries Directorate (AIGCFD)
Partner(s)	
Project leader	Tiffany Simpson
Report date and number (e.g. HYR1)	Half-year report, Year 2 (Note: As the project start date was deferred until Jan 2023, we are technically in Year 2, even though implementation has only been under way for 10 months)
Project website/blog/social media	

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

Although we are not looking for specific reporting against your indicators, please use this opportunity to consider the appropriateness of your M&E systems (are your indicators still relevant, can you report against any Standard Indicators, do your assumptions still hold true?). The guidance can be found on the resources page of the relevant fund website.

The following explanation is restricted to the project activities currently scheduled to have started:

1.1 Analyse endemic plant census data collected by AIGCFD between 2012 and 2022

Before the start of April, we had invested considerable effort in revising past census data, correcting errors and applying fixes to compensate for methodological inconsistencies. This prepared the data set for more rigorous statistical analysis. Since April, various general linear models have been tested, and the results interpreted. Limitations of the data set largely due to the very small available sample size (most endemic species have only one or two surviving populations) make it impossible to obtain more than simple trends from the results, but we can confirm widespread declines in all target species.

1.2 Evaluate the success of endemic plant restoration efforts undertaken by AIGCFD since 2008.

It has not yet been possible to compile the results into a report, as scheduled in the previous quarter as other deliverables have taken precedence. Recommendations for future changes in approach also need to be discussed within the department as a whole, and this has not been possible. The plant team is currently stretched due to staff shortages. It is planned to complete the report by April 2024, i.e. by the next Darwin update.

2.1 Establish temperature, humidity and light monitoring devices at 24 locations

The loggers arrived in May 2023, and implementing this action has been the main focus since. Waterproof housings and stands have been designed and built for the loggers. Based on the conclusions of a previous Darwin Plus project, DPLUS113, we also decided that fog precipitation was likely to be a key variable in habitat suitability, so small fog gauges have been constructed to monitor how fog exposure varies on different parts of Green Mountain. Monitoring arrays have been deployed at 17 locations (mainly along an altitudinal gradient, with paired stations in open situations and under canopy at each elevation). It is planned to run the trial for approximately six months, after which the loggers will be moved to new locations. The sites are monitored weekly, with wind speed and light recordings also made. Visiting all sites takes two days per week.

Initial results have demonstrated complex relationships between topography, elevation and exposure to rain/fog/wind, with vegetation shelter also having a strong modifying influence. Endemic rich areas certainly display much more constant conditions than average, with lower temperatures and higher humidity, but it seems likely that fog deposition is more important than humidity *per se*, and a further pilot trial has been devised to test this hypothesis.

We have also established a new long-term automated weather station on Green Mountain, which will fill a considerable knowledge gap and enable us to monitor climate change in the island's critical cloud zone into the future. This information is supplemented by fog camera recordings designed to assess changes to the height of the cloud base.

2.2 Download and collate 14 months of temperature, humidity and light data from the 24 locations

Thus far, three months of weekly measurements have been made and the first download of the data loggers achieved. Two loggers did not record properly, but there is sufficient redundancy in the project that we should be able to obtain adequate data over the coming months.

3.1 Conduct restoration trials by planting a minimum of ten individuals of each target species at five sites varying in environmental conditions.

The main activity conducted over the past 6 months was to build two new temperature- and humidity-controlled fern propagation units, specifically designed to grow the acutely threatened *Anogramma ascensionis*. At present, these units are being tested on less threatened ferns, as it is considered too much of a risk to experiment with the target species. If successful, *Anogramma* sporelings will be introduced in 1-2 months' time. The units should considerably increase our capacity to grow the species. Although other preparatory work for this activity was described in the last annual report, we have not yet started introducing any plants to wild sites. A careful review of the approach has identified some potential methodological changes that we wish to make, and feel that this could maximise the benefits of our efforts. These have been discussed with steering group partners at the Royal Botanic Gardens, Kew. However, a change request will be required in order to alter direction. This will be submitted shortly, and further activities are on-hold until the outcome is obtained.

3.5 Trial and evaluate different methods to control eight priority non-native species including mechanical removal and herbicide application.

The herbicides and other equipment necessary to conduct these trials were ordered in January but only arrived in August 2023. It is currently impractical to conduct much herbicide work on Green Mountain, as we are currently in mid-winter when the climate is very wet. Externally-applied herbicides are likely to be washed-off by the rain and could present a risk to the wider environment.

Nevertheless, some initial tests have been conducted during occasional dry days. The large number of potential treatments that could be trialled, and the large number of species to be tested, make it impractical to conduct a full-factorial test, so we need to identify a small set of promising options for more detailed consideration. Exploratory tests have been made on guava and strawberry guava (*Psidium guajava* and *P. cattleianum*), which notoriously survive most herbicide treatments as they regenerate prolifically from underground suckers. Cut-stump treatments with Turbidor seem to have some efficacy, but results are inconclusive as the plants can take up to a year to regrow. *Sageretia minutiflora*, a shrub which forms dense tangles and is difficult to access, has also been targeted. The latter seems to be susceptible to foliar application of Garlon, but still presents technical challenges of spraying safely in a windy environment.

2. 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.

The progress of some activities has been slower than expected. This is partly due to limited personnel power (especially for 1.2). As the project has only one dedicated member of staff, it is difficult to conduct too many activities simultaneously. Other delays are attributable to the slower than expected arrival of equipment, which is a regular and unavoidable problem on Ascension Island. However, even if elements of the log frame have slipped, there is unlikely to be an issue with completing the project within the overall time frame. We have filled gaps by bringing forward other activities.

Ongoing reviews of the project methodology have also highlighted lessons to be taken into consideration. The large number of project activities to be fitted into two years necessitate that the work conducted must be efficient. In order to meaningfully progress towards a revised Endemic Plant Restoration Plan (as in Outcome 4), it is also important that the activities effectively provide the most relevant and useful information possible in order to inform the goal. We have identified potential changes to Activities 3.1 and 3.3 that we feel would be more valuable for conservation on Ascension Island, and meet these criteria more effectively. The proposal will be submitted as a change request in the near future.

3. Have any of these issues been discussed with NIRAS and if so, have changes been made to the original agreement?

Discussed with NIRAS: No

Formal Change Request submitted: No (but a change request is imminent)

Received confirmation of change acceptance NA

Change request reference if known:

4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2023 – 30 September 2023)

Actual spend: ██████████

4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2024)?

Yes No Estimated underspend: £

4c. 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 re-budget Change Request as soon as possible. There is no guarantee that Defra will agree a re-budget so please ensure you have enough time to make appropriate changes if necessary. Please DO NOT send these in the same email as your report.

NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.

5. Are there any other issues you wish to raise relating to the project or to BCF management, monitoring, or financial procedures?

NA

If you are a new project and you received feedback comments that requested a response, or if your Annual Report Review asked you to provide a response with your next half year report, please attach your response to this document.

All new projects (excluding Darwin Plus Fellowships and IWT Challenge Fund Evidence projects) should submit their Risk Register with this report if they have not already done so.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with NIRAS through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to BCF-Reports@niras.com. The report should be between 2-3 pages maximum. **Please state your project reference number, followed by the specific fund in the header of your email message e.g. Subject: 29-001 Darwin Initiative Half Year Report**