

## **Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report**

To be completed with reference to the "Project Reporting Information Note"  
(<https://darwinplus.org.uk/resources/information-notes>)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2023**

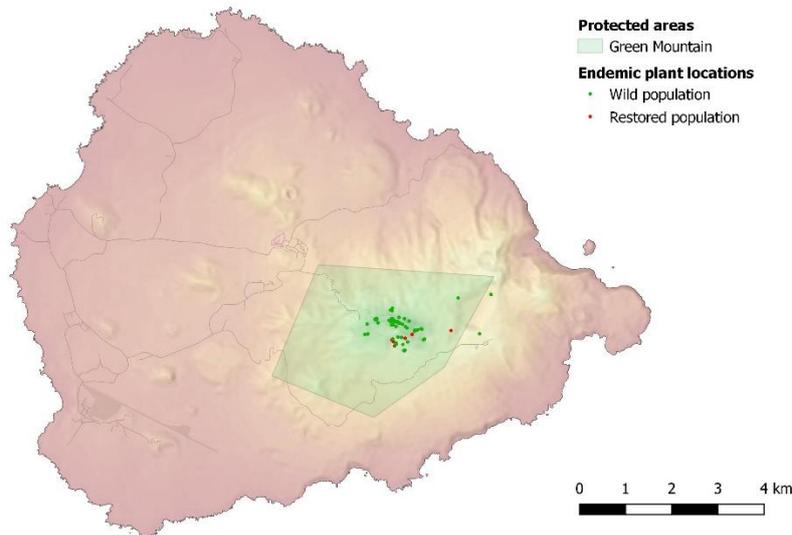
**Submit to: [BCF-Reports@niras.com](mailto:BCF-Reports@niras.com) including your project ref in the subject line**

### **Darwin Plus Project Information**

Project reference	DPLUS159
Project title	Growing hope – a blueprint for saving Ascension’s endemic plants
Territory(ies)	Ascension Island
Lead Partner	Ascension Island Government Conservation and Fisheries Directorate (AIGCFD)
Project partner(s)	
Darwin Plus grant value	£77,850.00
Start/end dates of project	01/01/2023 – 31/12/2024
Reporting period (e.g. Apr 2022-Mar 2023) and number (e.g. Annual Report 1, 2)	Jan 2023 – Mar 2023: Annual Report 1
Project Leader name	Diane Baum
Project website/blog/social media	
Report author(s) and date	Phil Lambdon 20/04/2023

### **1. Project summary**

Ascension’s five critically endangered upland endemic plants face the dual threats of climate change and non-native species. Populations are in decline with some at serious risk of extinction. This project will undertake a review of the successes and failures of past work. It will address knowledge gaps about the preferred growing conditions of plants and trial the best means to create suitable conditions and control non-native competitors. This will provide the evidence base for a new Endemic Plant Restoration Plan.



## 2. Project stakeholders/partners

The project originally had no formal partners other than AIGCFD, although it was intended to establish a steering group via which external experts could be consulted and encouraged to shape the direction of progress. This steering group is yet to be developed. The two main reasons are (1) The project is still only four months old, (2) The key external partner is the Royal Botanic Gardens, Kew, where there has been some recent upheaval. The head of the UK Overseas Territories Group, Colin Clubbe, formally retired at the end of March. Since the group is now in a state of transition, with the new lead yet to be appointed, it has not been an appropriate moment to develop a commitment to ongoing support. However, the project officer, Phil Lambdon, made several trips to London in late 2022 when informal discussions with Colin and other members of the team were held. There is already an ongoing working relationship which we hope will be maintained as the Kew team move towards a future structure.

## 3. Project progress

### 3.1 Progress in carrying out project Activities

With the project only four months into the programme, relatively few of the activities are due to have started yet:-

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

The process of analysis has started. The data set stretches back to 2012, during which time it has been compiled by a number of changing staff and has yet to be interrogated in detail. The initial task has been to address numerous inconsistencies which have arisen through different interpretations, changes to methodology and typing mistakes over several years. Such problems are to be expected from a data set of this type – usually the problems only become apparent when uncovered by formal statistical analyses. Many issues can be corrected, whilst others require a work-around. Only provisional patterns are apparent at this stage but, despite the minor difficulties, a broad trend is clear: there have been strong declines in most endemic vascular plant species since the early years of the census, which seem to affect most sites. Only *Ptisana purpurascens* seems to differ from the general pattern – in this case it is more difficult to ascribe any changes, although as a long-lived species the natural population cycle is likely to be much more than the decade for which counts have been made. Furthermore, even this last species does not escape the downward trend, as a landslip destroyed a significant proportion of the population just before submission of this report.

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

A review of the performance of restoration efforts was started by Jolene Sim before the official commencement of the project. A draft has already been completed, but further revisions will be necessary before it is finalised. Relatively good progress has been made in improving the early stages of restoration programmes: for example, excellent lab facilities have been developed

and Jolene's team have perfected the ability to grow several species in cultivation with a high success rate. However, reintroducing species to the wild is more challenging. Only some of the previous restoration sites still contain living specimens. Ultimately, the ability of these populations to reproduce and spread unaided is the key measure of a viable 'restoration', and the evidence for this is still limited.

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

The necessary data loggers for this action were ordered in January 2023, shortly after the project commenced. Due to the long lag times required for shipping materials to Ascension, they have yet to arrive (expected on the next two dockings, in May and June 2023). However, six loggers that we had available from previous projects have already been deployed. As Green Mountain has experienced very wet, misty conditions this year it is not clear whether the data collected so far will reveal key trends – it is expected that dry periods present the biggest challenge to survival, and therefore areas suffering most in periods of stress are likely to reveal much more about suitability.

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

The term "restoration" is probably a little misleading here. Ten individuals is likely to be too small for a restoration effort to succeed, but the results of these trials will provide data on survival, growth rates and perhaps even reproduction and recruitment (if performance is very good) under different conditions. The information can then inform the selection and design of future full restoration efforts. As with Action 2.1, there are various forms of preparation necessary before any planting can be conducted. Materials for fencing, growing and monitoring the sites are needed, and these must be shipped-in. The plants must also be grown from seed or spores in the Conservation shade house, pest-quarantined and appropriately hardened to wild conditions. The necessary equipment has been ordered and the Plant Team have been working at multiplying existing nursery stock. Some cohorts of plants are well advanced but others will necessarily take some time to mature to the stage when they are ready for transplanting.

## **3.2 Progress towards project Outputs**

### **Output 1: Analysis of census data and evaluation of past restoration efforts**

#### **1.1 By Y1Q3 analysis of biannual plant census data completed. Temporal and spatial patterns in population status for five critically endangered species reported.**

At the start of the project, 12 years of plant census data had never been fully evaluated before, although graphs of net species population changes have been created on occasions. Once the plant census data have been re-formatted (a task now largely complete), a more comprehensive, statistically rigorous data analysis is a relatively straight-forward task. There is no reason why this should not be completed well within the time-frame, and it can thus be reported in the final restoration plan as proposed. However, we cannot provide further direct evidence of progress in the interim, as the task is still in the relatively early stages.

#### **1.2 By Y1Q3 evaluation of past endemic plant restoration activities completed. This will identify stages at which problems were most likely to occur and the factors with the greatest predictive power of success.**

All of Green Mountain's threatened endemic plant species have been subject to restoration attempts in the past, but these have been conducted by different people over the years, and often not followed-up once staff changed. By nature, the overall effort can become rather ad hoc in such situations. No concerted review has been conducted previously. The current review is on-schedule (a first draft has been compiled) and should fill the gap, to be reported in the final restoration plan as planned. Whilst useful, the lessons learned seem mainly to be broad ones. It seems that virtually all attempts have been successful in the early stages, but of very limited success in the phase of reintroducing plants to the wild, after which zero or very little wild recruitment has taken place in the longer-term. Establishing plants in the wild requires large numbers (to create a sufficient seed source to compete with the much larger pool of surrounding invasives) and persistent effort over a number of years. It is also

necessary to have a good understanding of the species biology, habitat requirements and responses to climate in order to develop a potentially viable reintroduction plan.

**Output 2: Results of monitoring to establish the ecological requirements of the five endemic plant species and the suitability of potential habitats on Green Mountain**

**2.1 By Y1Q2 temperature, humidity and light monitoring established at 24 sites, including selected wild target populations and potential reintroduction areas.**

At present, we have almost no data to describe the niche envelopes of Green Mountain's endemic plant species. This is a considerable barrier to understanding how to develop a suitable restoration attempt. The current project will address this data gap. A set of data loggers has been ordered and is expected to arrive on Ascension in either May or June 2023. Six existing loggers have been deployed in the field, to test a specific hypothesis: three have been located on endemic-rich banks (all examples face into the prevailing wind), and three are located on sheltered banks dominated by invasive species. The aim is to determine whether the differences in endemic success are related to measurable differences in temperature and humidity. If so, when are the differences most pronounced, and for how long? The first results are due to be downloaded in six weeks.

**Output 3: Results of trial endemic plant reintroductions and methods to increase moisture levels and control non-native invasive plants.**

**3.1 By Y2Q1 at least 10 individuals of each target species planted at 5 selected and prepared transplant sites subject to a range of environmental conditions. Sites maintained, with survival and seedling/sporeling recruitment monitored until Y2Q4.**

Preparation for the trials is well underway. Where we had no pre-existing material in cultivation for this trial, the necessary spores have been sown and seeds planted. However, it will take several months for these to reach a suitable size for transferring to the wild. For some species, limited material is already available in the shade houses which may be used more quickly. About half of the candidate sites for the trial have been identified. Equipment for fencing the areas, monitoring progress (e.g., the loggers from 2.1, light and wind meters, rules for estimating plant size etc.) have been ordered and should arrive on Ascension by June.

### **3.3 Progress towards the project Outcome**

**Indicator 0.1: By Y1Q3 Evaluation of existing data and restoration attempts to consolidate learning.**

Progress has been described in Section 3.2, Output 1. The evaluation report is not due to be completed yet, but no issues have arisen with the suitability of the indicator.

**Indicator 0.2: By Y2Q4 Completion of monitoring and trials to identify optimum restoration methods.**

Progress has been described in Section 3.2, Output 2. The report of monitoring results and trials is not due to be completed yet, but no issues have arisen with the suitability of the indicator.

**Indicator 0.3: Publication of final Endemic Plant Restoration Plan following public consultation.**

As the baseline, a Habitat Action Plan and Species Action Plans for the endemic flora were produced in 2013, but are considered to require updating. Other than the actions for the above two indicators, no further actions are due to have been started yet. However, the indicator seems to be suitable.

### **3.4 Monitoring of assumptions**

Only the first three assumptions listed on the original project document are currently relevant to work that has commenced:

**Assumption 1: Past data evaluation, new monitoring results and trial outcomes indicate sustainable restoration options exist.**

This cannot yet be evaluated, as the trials have not been started and the data analysis has not been completed.

**Assumption 2: There is sufficient census and monitoring data available to draw robust conclusions.**

There is certainly sufficient data from the ongoing and quite comprehensive plant census to give a clear picture of trends. It seems fairly clear that there has been a general and ongoing decline in most of the endemic species since 2012. However, the data set has been complicated by changes in methodology over the years which make it difficult to make clean comparisons, and the level of stochastic variation in wild populations, due to a variety of factors, is high enough to make statistical differences difficult to detect at a site level.

**Assumption 3: Success depends on conditions being typical: if the project runs during an extreme drought, the results will not indicate conditions that are suitable for survival.**

Thus far, Ascension is not in a severe drought, and is in fact suffering an unusually wet period which may present some similar issues in terms of obtaining representative results – very wet conditions make all sites relatively good for growth, without revealing where stresses occur. Nevertheless, there is still plenty of time left on the project and most of the loggers have yet to arrive. Conditions over the coming months could change considerably.

#### **4. Project support to environmental and/or climate outcomes in the UKOTs**

As the project has only been running for four months, it is difficult to claim that progress has had much impact at this stage. However, it is hoped that the analysis of the plant census data will ultimately provide recommendations to make a solid fieldwork methodology even more robust, i.e., designed with a specific purpose of allowing changes to be more statistically-resolvable. The interpretation of the results will hopefully shape our future approaches.

The work on the plant census data set described above addresses three targets of the Global Strategy for Plant Conservation, which have largely been translated to Ascension's Biodiversity Strategy and Action Plan and Species Action Plans for the endemic flora:

**Target 2:** *An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action.*

Monitoring of endemic plant populations is essential to detect population changes, which is key to determining the level and nature of ongoing threats. Ultimately, we hope to be able to update the IUCN red list accounts for the relevant species.

**Target 3:** *Information, research and associated outputs, and methods necessary to implement the Strategy developed and shared.*

Reports will be made publicly available on the Ascension Island Government website, and a scientific paper may be produced (if conclusions merit it).

**Target 7:** *At least 75 per cent of known threatened plant species conserved in situ.*

Whilst the census data analysis alone will not inform better conservation actions, it will be used along with other data collected in this project to develop plans for better conservation outcomes.

## 5. Gender equality and social inclusion

Please quantify the proportion of women on the Project Board <sup>1</sup> .	The project officer is male, but the project is supported by and works closely with the AIGCFD 'Plant Team', who comprise a female leader and one other female and one male member of staff. The current AIGCFD director is female.
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women <sup>2</sup> .	There are no official project partners.

## 6. Monitoring and evaluation

With the project just 4 months old, there has been relatively little work to monitor thus far. Progress towards the Project Indicators has been described in Sections 3.2 and 3.3.

The only essential internal requirement was to complete the ordering process for equipment in time for the first available shipping deadline, which was duly achieved. Other activities (e.g. analysis of plant census data) are under way, but progress can only easily be measured by their completion, which are currently not yet due.

## 7. Lessons learnt

As for Question 6, the project duration has been so brief thus far that it is difficult to identify any lessons learned, especially because most of the activities are not yet scheduled to start.

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

This section is not applicable, as this is the first annual report.

## 9. Risk Management

As this is the start of the project, all risks are 'new', and a risk register has been completed. No adaptations to the project design have been made per se, because the risks are either largely unavoidable or mitigation was factored into the original project proposal.

## 10. Other comments on progress not covered elsewhere

The aims of a recently-completed previous Darwin Plus project, DPLUS113, overlapped to some extent with those of the current project: principally because methods for mitigating against losses of endemic habitat as a result of climate change were trialled. We have taken some of the lessons from this project and integrated them into the present one:

- 1) Long-term monitoring of climate will be continued (measurements of rain and fog capture on Green Mountain, together with photographic records of cloud base altitude), to ensure that the impacts on endemic flora can be quantified more precisely.
- 2) Fog catchers developed during DPLUS 113 have proved extremely useful in providing irrigation water to remote situations, which is adjudged to be critical for survival of restored plant populations during the early stages of establishment. Although the

---

<sup>1</sup> A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

<sup>2</sup> Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

systems worked well, a few improvements are needed. The fog catchers have been redesigned for more durability, and some minor rebuilding will therefore be conducted. Additional systems will be developed to supply some key needs of the current project.

- 3) The use of irrigation to rehabilitate dwarf plant communities on Green Mountain’s cinder banks will be continued. Monitoring of the rehabilitation process will be extended, and trials of growing bryophytes for revegetating banks are being developed. This work is justified because restoring a healthy, inter-connected network of dwarf plant communities is undoubtedly key to the final restoration plan: a major output of the current project.

## 11. Sustainability and legacy

At the current stage, it is difficult to point to achievements relating to capacity-building as it is still very early in the project. The main progress thus far is in starting to develop more robust approaches to plant census data collection, as described under Question 4.

## 12. Darwin Plus identity

The Darwin Initiative has been the principal external funder of conservation work on Ascension Island over the past decade and its identity and brand are already well known in the Territory.

Since the project is still in the early stages, we have had few results to publicise yet.

AIGCFD has a Twitter account with regular postings. As the project develops, these will be linked back to Darwin Plus. Thus far, one post specifically related to DPLUS159 has been issued.

## 13. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes Jolene Sim [REDACTED]
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 40% [2 people] Planned: 40%
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.	
No challenges have occurred since the start of the project.	
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify.	
Jolene is attending mental health first aid training in May 2023.	



#### 14. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)**

Project spend (indicative) in this financial year	2022/23 D+ Grant (£)	2022/23 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others (Please specify)				
<b>TOTAL</b>	<b>20600</b>	<b>20730</b>	<b>-0.63</b>	

**Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)**

	Matched funding secured to date	Total matched funding expected by end of project
Matched funding leveraged by the partners to deliver the project.		
Total additional finance mobilised by new activities building on evidence, best practices and project (£)		

**15. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes**

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

At this stage of the project, we have nothing to add to this section.

<b>File Type (Image / Video / Graphic)</b>	<b>File Name or File Location</b>	<b>Caption, country and credit</b>	<b>Online accounts to be tagged (leave blank if none)</b>	<b>Consent of subjects received (delete as necessary)</b>
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

**Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023 – if applicable**

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p><b>Impact</b></p> <p>Ascension can assure itself and others that every possible measure has been taken to avoid the extinction of its endemic plant species.</p>		<p>Too early in the project to see impacts on biodiversity</p>	
<p><b>Outcome</b></p> <p>Conservation of Ascension’s five critically-endangered plants is based on a strategic, evidence-based plan that provides the blueprint and impetus for future action needed to save these species from extinction</p>	<p>0.1 By Y1Q3 Evaluation of existing data and restoration attempts to consolidate learning.</p> <p>0.2 By Y2Q4 Completion of monitoring and trials to identify optimum restoration methods.</p>	<p>0.1 Analysis of Plant Census data commenced. Review of previous restoration attempts commenced.</p> <p>0.2 Data loggers purchased. Six existing loggers deployed.</p>	<p>0.1 Continuation of plant census data set analysis. Continuation of Review of restoration attempts.</p> <p>0.2 Obtain and deploy remaining 18 data loggers. Download data at suitable intervals and assess results. Continue to produce cultivated plants to be introduced to wild situations. Complete selection of suitable target sites.</p>
<p><b>Output 1.</b></p> <p>Analysis of census data and evaluation of past restoration efforts.</p>	<p>1.1 By Y1Q3 analysis of biannual plant census data completed. Temporal and spatial patterns in population status for five critically endangered species reported.</p> <p>1.2 By Y1Q3 evaluation of past endemic plant restoration activities completed. This will identify stages at which problems were most likely to occur and the factors with the greatest predictive power of success</p>	<p>1.1 Analysis of Plant Census data commenced. Evidence provided in Section 3.2.</p> <p>1.2 Review of previous restoration attempts commenced. Evidence provided in Section 3.2.</p>	
<p>Activity 1.1 Analyse endemic plant census data collected by AIGCFD between 2012 and 2022</p>		<p>In progress. Evidence provided in Section 3.2.</p>	<p>Continuation of plant census data set analysis.</p>

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 1.2 Evaluate the success of endemic plant restoration efforts undertaken by AIGCFD since 2008.		In progress. Evidence provided in Section 3.2.	Continuation of review.
<b>Output 2.</b> Results of monitoring to establish the ecological requirements of the five endemic plant species and the suitability of potential habitats on Green Mountain.	2.1 By Y1Q2 temperature, humidity and light monitoring established at 24 sites, including selected wild target populations and potential reintroduction areas.  2.2 Download and collate 14 months of temperature, humidity and light data from the 24 locations.	2.1 Data loggers purchased. Six existing loggers deployed. Evidence provided in Section 3.2.  2.2 Not yet started.	
Activity 2.1 Establish temperature, humidity and light monitoring devices at 24 locations.		Data loggers purchased. Six existing loggers deployed. Evidence provided in Section 3.2.	Deploy remaining data loggers when they arrive on Ascension.
Activity 2.1 Download and collate 14 months of temperature, humidity and light data from the 24 locations.		Not yet started.	Download data from loggers as necessary.
<b>Output 3.</b> Results of trial endemic plant reintroductions and methods to increase moisture levels and control non-native invasive plants	3.1 By Y2Q1 at least 10 individuals of each target species planted at 5 selected and prepared transplant sites subject to a range of environmental conditions. Sites maintained, with survival and seedling/sporeling recruitment monitored until Y2Q4.  3.5 Trial and evaluate different methods to control eight priority non-native species including mechanical removal and herbicide application.	3.1 Plants in development in cultivation. Evidence provided in Section 3.2.  3.5 Not yet started	
<b>Activity 3.1</b> Conduct restoration trials by planting a minimum of ten individuals of each target species at five sites varying in environmental conditions.		Plants in development in cultivation. Evidence provided in Section 3.2.	Continue to produce cultivated plants to be introduced to wild situations. Complete selection of suitable target sites.
<b>Activity 3.5</b> Trial and evaluate different methods to control eight priority non-native species including mechanical removal and herbicide application.		Not yet started. Equipment and herbicides on order.	Start weed control trials.

**Annex 2: Project’s full current logframe as presented in the application form (unless changes have been agreed)**

Project summary	SMART Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b> Ascension can assure itself and others that every possible measure has been taken to avoid the extinction of its endemic plant species.</p>			
<p><b>Outcome:</b> Conservation of Ascension’s five critically-endangered plants is based on a strategic, evidence-based plan that provides the blueprint and impetus for future action needed to save these species from extinction</p>	<p>0.1 By Y1Q3 Evaluation of existing data and restoration attempts to consolidate learning. 0.2 By Y2Q4 Completion of monitoring and trials to identify optimum restoration methods. 0.3 Publication of final Endemic Plant Restoration Plan following public consultation.</p>	<p>0.1 Evaluation report 0.2 Reports of monitoring results and trials 0.3 Published Restoration Plan</p>	<p>Past data evaluation, new monitoring results and trial outcomes indicate sustainable restoration options exist.  Mitigation: All possible restoration options will be considered. Early indications from DPLUS113 and AIGCFD non-native control efforts indicate habitat improvements are feasible.</p>
<p><b>Output 1</b> Analysis of census data and evaluation of past restoration efforts.</p>	<p>1.1 By Y1Q3 analysis of biannual plant census data completed. Temporal and spatial patterns in population status for five critically endangered species reported. 1.2 By Y1Q3 evaluation of past endemic plant restoration activities completed. This will identify stages at which problems were most likely to occur and the factors with the greatest predictive power of success.</p>	<p>1.1 Standalone analysis report for later incorporation into final restoration plan (Output 4.1) 1.2 Standalone evaluation report for later incorporation into final restoration plan (Output 4.1)</p>	<p>There is sufficient census and monitoring data available to draw robust conclusions.  Mitigation: Plant census data is available since 2012 and restoration work has been ongoing since 2008. These span a range of climatic conditions and exceed the generation time of the plant species. Even if robust conclusions cannot be drawn, potential factors affecting success can be identified from these analyses and explored further in outputs 2 and 3.</p>
<p><b>Output 2</b> Results of monitoring to establish the ecological requirements of the five endemic plant species and the suitability of potential habitats on Green Mountain.</p>	<p>2.1 By Y1Q2 temperature, humidity and light monitoring established at 24 sites, including selected wild target populations and potential reintroduction areas.</p>	<p>2.1 Maps and photographs of monitoring stations. 2.2 Spread sheets of monitoring data. 2.3 Standalone analysis report for later incorporation into final restoration plan (Output 4.1)</p>	<p>Success depends on conditions being typical: if the project runs during an extreme drought, the results will not indicate conditions that are suitable for survival.</p>

Project summary	SMART Indicators	Means of verification	Important Assumptions
	<p>2.2 By Y2Q3 Minimum of 14 months temperature, humidity and light data collected from 24 sites.</p> <p>2.3 By Y2Q4. Data analysed to describe suitable growing conditions for endemic plant species and select potential restoration sites.</p>		<p>Mitigation: using plant census data, we will compare 'succeeding' and 'failing' sites to give a better idea of the limits.</p>
<p><b>Output 3</b></p> <p>Results of trial endemic plant reintroductions and methods to increase moisture levels and control non-native invasive plants.</p>	<p>3.1 By Y2Q1 at least 10 individuals of each target species planted at 5 selected and prepared transplant sites subject to a range of environmental conditions. Sites maintained, with survival and seedling/sporeling recruitment monitored until Y2Q4.</p> <p>3.2 By Y2Q4 optimum methods for delivering required habitat conditions (e.g. humidity) to endemic plants with minimal ongoing resource requirement will be identified.</p> <p>3.3 By Y2Q4 optimum control methods identified for eight key invasive species, using a combination of literature searches and replicated field trials.</p>	<p>3.1 Restoration method report compiled as an appendix to the final restoration plan (Output 4.1) quantifying any increase in recruitment and survival of endemic plants in trials.</p> <p>3.2 Habitat manipulation report compiled as an appendix to the final restoration plan (Output 4.1) quantifying any increase in recruitment and survival of endemic plants in trials.</p> <p>3.3 Non-native species control report compiled as an appendix to the final restoration plan (Output 4.1).</p>	<p>Plants may be subject to accidental mortality regardless of site suitability.</p> <p>Mitigation: replacements will be grown in readiness if needed. The full effectiveness of restoration and control measures may not be apparent by the project end. Mitigation: the urgency of the situation means lessons from the trials will need to be acted on rapidly. However, AIGCFD staff will maintain the capacity for ongoing monitoring into the future to improve the accuracy of findings.</p> <p>Effective control methods for non-native plants can be found without posing unacceptable environmental risks (e.g. use of herbicides in sensitive habitats).</p> <p>Mitigation: Multiple control methods and means of applying them will be tested.</p>
<p><b>Output 4</b></p> <p>Detailed evidence-based restoration plan for five endemic plant species that has the support of stakeholders.</p>	<p>4.1 By Y2Q4, a draft restoration plan published. This will contain with detailed species requirements and methodologies for engineering and maintaining the appropriate conditions,</p>	<p>4.1 Published Restoration Plan.</p> <p>4.2 Photographs, attendance records and response submissions form consultation exercise.</p>	<p>Outputs 1-3 provide sufficient information to produce evidence-based recommendations for restoration action. Mitigation: There are reasonable time series data</p>

Project summary	SMART Indicators	Means of verification	Important Assumptions
	<p>based on minimal intervention. Outputs 1,2 and 3 will underpin recommendations in the plan and form appendices within it.</p> <p>4.2 By Y3Q1 Steering Group and public consultation exercise completed and final Restoration Plan produced incorporating stakeholder comments.</p>		<p>available to support Output 1. The monitoring and trials conducted to produce Outputs 2 and 3 will be designed specifically to address the most pressing data gaps. Stakeholders engage with the consultation.</p> <p>Mitigation: AIGCFD has good relations with major stakeholders on Ascension and the UK. Past consultation exercises conducted on the island have provided insight into the best engagement methods.</p>
<p><b>Activities</b> (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <p>1.1 Analyse endemic plant census data collected by AIGCFD between 2012 and 2022.</p> <p>1.2 Evaluate the success of endemic plant restoration efforts undertaken by AIGCFD since 2008.</p> <p>2.1 Establish temperature, humidity and light monitoring devices at 24 locations.</p> <p>2.2 Download and collate 14 months of temperature, humidity and light data from the 24 locations.</p> <p>2.3 Analyse temperature, humidity and light data to infer preferred growing conditions of endemic plants. 2.4 Identify suitable restoration sites based on the data analysis in activity 2.3</p> <p>3.1 Conduct restoration trials by planting a minimum of ten individuals of each target species at five sites varying in environmental conditions.</p> <p>3.2 Monitor survival, growth and recruitment of plants in the restoration trials</p> <p>3.3 Trial and evaluate different methods to alter temperature, light and humidity experienced by plants</p> <p>3.4 Recommend best methods to achieve preferred growth conditions identified in 2.3</p> <p>3.5 Trial and evaluate different methods to control eight priority non-native species including mechanical removal and herbicide application.</p> <p>3.6 Recommend best methods to control each of the eight priority non-native species.</p> <p>4.1 Produce draft Endemic Plant Restoration Plan incorporating results of the project analyses.</p> <p>4.2 Share and discuss draft Restoration Plan with Steering Group and incorporate their suggested changes.</p>			

## Annex 3: Standard Indicators

**Table 1 Project Standard Indicators**

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DPLUS-B02	Publication of final Endemic Plant Restoration Plan following public consultation.	Number of new/improved species management plans available and endorsed*.	Number	Recovery	0			0	5
PLUS-C02	Analysis of biannual plant census data completed. Temporal and spatial patterns in population status for five critically endangered species reported.	Number of new conservation or species stock assessments published	Number	Flora	0			0	5
PLUS -B01	Optimum control methods identified for eight key invasive species, using a combination of literature searches and replicated field trials.	Number of new/improved habitat management plans available and endorsed.	Number	Invasive species	0			0	1
Without double counting individual indicators, it is not possible to match any more standard indicators the to indicators submitted in the original project proposal.									

In addition to reporting any information on publications under relevant standard indicators, in Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Mark with an asterisk (\*) all publications and other material that you have included with this report.

**Table 2 Publications**

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

## Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?	Y
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> putting the project number in the Subject line.	Y
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> about the best way to deliver the report, putting the project number in the Subject line.	N
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	N
<b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)?	N/A
Have you involved your partners in preparation of the report and named the main contributors	N/A
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	