

DPLR1\1063

Darwin Plus Local - Final Report (1)

Officer: Jessica Magnus

Section 1 - Darwin Plus Local Project Information (Essential)

Project Reference Number

DPL0022

Q1. Project Title

No Response

Overseas Territory(ies)

St Helena, Ascension, and Tristan de Cunha

Lead Organisation or Individual

Ascension Island Government

Partner Organisation(s)

N/A

Value of Darwin Plus Local Grant Award

£10,000.00

Project Start Date

01 April 2023

Project End Date

31 March 2024

Project Leader Name

Jolene Sim

Project Website/Twitter/Blog etc.

No Response

Report Author(s)

Emily Wagdin, Jolene Sim

Report Date

26 April 2024

Project Summary

No Response

Project Outcomes

Checked **Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;**

Checked **Climate Change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;**

Unchecked **Environmental quality: improving the condition and protection of the natural environment;**

Unchecked **Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.**

Section 2 - Project Outcomes (Essential)

On a scale of 1 (high – outcome substantially exceeded) to 5 (low – outcome substantially did not meet expectation), how successful do you think your project has been?

⊙ 3 - Outcome met expectation

Project outcomes and justification for rating above

This project successfully achieved the overall objective to enhance protection and restoration of Critically Endangered and endemic Ascension spurge (*Euphorbia organoides*). Key outcomes were observed as a result of the proposed three-action point framework.

Island-wide protection of genetic diversity and seedbanks:

Since project commencement, complete preservation of genetic diversity has been achieved through fencing a collective area of approximately 1000m² across all 4 known sub-populations. In areas where exclosures were already present, site expansion ensured the safeguarding of their seedbanks.

Assisted migratory site expansion:

Materials procured during this project facilitated expansion and security of the assisted migratory site established during DPLUS113. This allowed for an additional 20 parent plants to be introduced to the founder population, with a further 100 plants cultivated ex-situ for future restoration efforts. Ongoing weekly monitoring is indicating early successes at this site: currently, a 0% mortality rate has been observed in the recently introduced plants.

Furthermore, recruitment is proving successful: seedling numbers have increased from 37 individuals in May 2023 to 83 in October 2023. The exclusion of non-native grazing pressures safeguarded these seedlings and allowed at least 70 to reach maturity unaided by irrigation and set further seed, securing the future of the seedbank. Whilst the initial stages of this expansion have proved a success, components of the objectives originally outlined are ongoing. This includes the construction and installation of a fog catcher as part of the passive irrigation system that will be used to support the parent plants currently in cultivation. This was hindered, primarily, by lengthy procurement duration in addition to unexpected staff shortages and recruitment.


Electric fence trial:


Prior to this project, population mortality was exacerbated by grazing pressures: a 96.8% decline was observed at Hummock Point between September 2022 and March 2023. By comparison, the implementation of fencing significantly reduced population declines in the following year (September 2023 to March 2024). The 36.6% decline observed in this period was primarily attributed to natural fluctuations in population between the cold and hot seasons. Furthermore, population mortality within fenced sites (16.8%) is less than outside the sites (25.5%). Establishing exclosures facilitated natural recruitment and allowed populations to replenish. From March 2023 to September 2023 (before and after fencing) there was an increase in individuals from 29 (25 caged) to 260 (168 fenced, 11 electrically fenced) respectively. Although recruitment in the electric fence site was less than the fenced site, camera trapping and observational surveys showed evidence of grazing directly outside the site, concluding that electric fencing has the potential to be effective, using less man-power than conventional fencing methods. Electric fencing appears to be highly cost-effective when constructed over large areas. However, this would have to be assessed in the future depending on site contexts (accessibility, terrain, environmental conditions etc.). The longevity of electric fencing is still being observed under the harsh conditions found on Ascension as comparable to conventional fencing methods.


Across the island fencing has effectively mitigated grazing pressures, ensuring longevity of populations through the preservation of seed banks.


Supporting Evidence - file(s) upload


 [NASA Assisted Migratory Site](#)


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 [Hummock Point Restoration Site](#)


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
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 [Electric Fence Trial](#)


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
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 [Comfortless Cove Restoration Site](#)


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
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 [Map of Sites](#)

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Supporting Evidence - links to published document/online materials

Project Update Facebook Posts:

https://www.facebook.com/AscensionIslandConservation/posts/745787547575015?ref=embed_post

Project Update Twitter/X Posts:

<https://twitter.com/AIGConservation/status/1743345649133789336>

<https://twitter.com/AIGConservation/status/1690054771271442447>

Project Challenges

The primary challenges faced during this project were procurement and shipment of materials. Being a remote island, this situation was anticipated and therefore purchase requests were made at the earliest possible date. However, shipment can take up to 6 months and, as discussed in consultations prior to round 1 of the Darwin Plus Locals, this will cause inevitable delays for 1 year or shorter projects.

Additionally, unexpected staff shortages and subsequent recruitment lengths reduced the man-power available to complete the large-scale elements of this project. To resolve this, the use of the wider Conservation and Fisheries Directorate, including interns and volunteers, contributed to the construction of restoration sites. Compensatory hours have been factored into the 2024-2025 work plan to ensure all objectives are met, as staff costs and time are already covered by Ascension Island Government in-kind.

Lessons Learned

Throughout this project, strengths were in management, monitoring, administration and preparation. Efficient administration ensured purchase requisitions were prepared during the application process, allowing orders to be placed at the earliest possible opportunity. Effective management guided inexperienced team members and allowed them to take leadership later in the project. Subsequently, propagation and monitoring processes could be carried out by multiple team members. This led to successful monitoring; allowing accurate and reliable data collection during the bi-annual plant census and camera trap imaging.

If this project was repeated, a different financial approach would be taken: securing funds in the first quarter and factoring in UK customs and delivery charges. Increased budget for transport, personal protective equipment and communications (eg. radios) would also be a priority.

Recommendations for other projects include planning, time management, training and clear communication. Preparing purchase requisitions alongside the application process is an effective use of time and allows orders to be placed immediately if the grant is awarded. Subsequent tracking of orders to ensure delivery by the end financial year is also important. Early training across the team is essential to project completion as knowledge and skills will be maintained regardless of staff changes. Finally, public engagement through volunteers, social media, news articles and adequate site signage raises awareness of the importance of conservation within the community.

Section 3 - Project Finance (Essential)

Project Expenditure

Project Spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total actual Darwin Plus Costs (£)	Variance %	Comments (please explain significant variances)
Staff Costs				
Consultancy Costs				
Overhead Costs				
Travel and Subsistence				
Operating Costs				
Capital Items				
Others				
Total	10,000.00	9,902.73	-0.97%	

Please provide a short narrative summary on project finances.

i) Total project finances should not exceed the overall budget as, where some budget lines were overspent, others were underspent. For example, the capital items went over budget due to the original quotes provided by the procurement team not reflecting customs or overseas delivery charges. However, this was offset by freight charges being less than expected. Although there are outstanding freight charges, it is understood that the small size of these items will not exceed the overall budget.

ii) Salaries, transport and operating costs were provided by AIG in-kind.

Section 4 - Contribution of Project to Darwin Plus Programme Objectives

Please select up to **one** indicator that applies within **each group/indicator list (A, B, C, D)** and report your results for that indicator in the text box underneath. If you do not have relevant results to report for any of the indicators in a particular group, you can leave them blank.

Please also submit some form of evidence (above) to demonstrate any results you list below, where possible.

Group A: Capability and Capacity - Core Darwin Plus Standard Indicators (select one)

- | | |
|-----------|--|
| Unchecked | DPLUS-A01: Number of people from key national and local stakeholder groups completing structured and relevant training. |
| Unchecked | DPLUS-A02: Number of secondments or placements completed by individuals of key local and national stakeholders. |
| Unchecked | DPLUS-A03: Number of local/national organisations with improved capability and capacity as a result of project. |
| Checked | DPLUS-A04: Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training. |
| Unchecked | DPLUS-A05: Number of trainers trained reporting to have delivered further training by the end of the project. |
-

Group A Indicator Results

6 AIG Conservation and Fisheries Directorate staff members gained capabilities which are being used in individual projects across the department, including training interns and volunteers. 6 Conservation Interns and 2 Volunteers completed structured and relevant training in the safe use of tools, manual handling, fence construction and endemic plant translocation.

Group B: Policies, Practices and Management- Core Darwin Plus Standard Indicators (select one)

- | | |
|-----------|---|
| Unchecked | DPLUS-B01: Number of new/improved habitat management plans available and endorsed. |
| Unchecked | DPLUS-B02: Number of new/improved species management plans available and endorsed. |
| Unchecked | DPLUS-B03: Number of new/improved community management plans available and endorsed. |
| Unchecked | DPLUS-B04: Number of new/improved sustainable enterprises/ community benefits management plans available and endorsed. |
| Checked | DPLUS-B05: Number of people with increased participation in local communities / local management organisations (i.e., participation in Governance/citizen engagement). |
| Unchecked | DPLUS-B06: Number of Local Stakeholders and Local Communities (people) with strengthened (recognised/clarified) tenure and/or rights. |
-

Group B Indicator Results

2 new volunteers worked on this project and have since continued to volunteer with the department.

Group C: Evidence and Best Practices - Core Darwin Plus Standard Indicators (select one)

- | | |
|-----------|---|
| Unchecked | DPLUS-C01: Number of best practice guides and knowledge products published and endorsed. |
| Unchecked | DPLUS-C02: Number of new conservation or species stock assessments published. |
| Unchecked | DPLUS-C03: New assessments of habitat conservation action needs published. |
| Unchecked | DPLUS-C04: New assessments of community use of biodiversity resources published. |
| Unchecked | DPLUS-C05: Number of projects contributing data, insights, and case studies to national Multilateral Environmental Agreements (MEAs) related reporting processes and calls for evidence. |
-

Group C Indicator Results

Not applicable.

Group D: Sustainable Benefits to People, Biodiversity and Climate - Core Darwin Plus Standard Indicators (select one)

Unchecked **DPLUS-D01 Hectares of habitat under sustainable management practices.**

Unchecked **DPLUS-D02: Number of people whose disaster/climate resilience has been improved.**

Unchecked **DPLUS-D03: Number of policies with biodiversity provisions that have been enacted or amended.**

Group D Indicator Results

Not applicable.

Section 5 - Project Partnerships, Wider Impacts and Contributions

Project Partnerships

- i) There were no formal partners involved in the planning and decision making of this project.
- ii) This project was run by the Ascension Island Government Conservation and Fisheries Directorate.
- iii) Due to there being no formal partners, there was no challenges to be addressed. However, it was important to the project staff to keep the public engaged as key stakeholders.
- iv) As the local community is a key stakeholder in this project they were kept informed of the project progress via public notices and social media. This raised awareness of the intrinsic value of Ascension's endemic flora and inspired people to get involved and volunteer in both these conservation efforts and others across the department.

Wider Impacts and Decision Making

The use of both in-situ and ex-situ methods in this project has outlined a framework for conserving the next generation of Ascension's endemic flora. As a result, the endemic plant conservation team will use this project as a template when aiming to conserve seedbanks for Ascension's threatened plants moving forward.

Sustainability and Legacy

As a result of the restoration sites established and expanded during this project, immediate survival of Ascension spurge has been secured across important genetic sub-populations. Long-term, individuals that reach maturity will remain protected and set seed, maintaining a wild seedbank. The success of these sites will be used as a template for future restoration efforts. This will include planting out further individuals grown ex-situ with the equipment secured during this project. This will allow the AIGCFD to transition to a management strategy requiring less resources focused on non-native grazing pressure. Therefore, core staff - who dedicated time to the project, and resources can now focus on addressing other issues facing Ascension spurge, such as climate change, disease and pests.

Section 6 - Communications & Publicity

Exceptional Outcomes and Achievements

Found only on Ascension Island, Ascension spurge (*Euphorbia origanoides*) is a critically endangered plant. Its primary threats are climate change and invasive alien species, particularly grazers. With four genetically distinct sub-populations found across the island, sub-population loss is a critical threat to the species. Preserving the remaining genetic diversity is vital to resilience and survival in the face of droughts and disease outbreaks enhanced by climate change.

In January 2023, the north-east sub-population was brought to the brink of extinction by grazing sheep and rabbits. The sudden high levels of mortality prompted the 'safeguarding seedbanks' project. As genetic information stores in the wild and ex-situ, seedbanks are imperative to the longevity of plant species. Through the use of exclosures, assisted migratory sites and cultivation, this project aimed to implement island-wide protection of genetic diversity.

Establishing exclosure sites protecting each known sub-population was a priority. Fencing was used to promote self-sustaining populations in their native range without grazing pressures. Across locations, such as the north-east sub-population, fencing allowed population recovery and replenished the wild seedbank through an increased number of mature individuals dispersing seeds.

Whilst seeds can lay dormant for prolonged periods until germination (approximately 5 years for Ascension spurge), ex-situ seedbanks formed from

collected material act as a conservation fail-safe. Both on Ascension Island and in the Millennium Seedbank storage via cryopreservation or freezing ensures seed is available for future restoration work or scientific endeavours as new technologies and techniques in conservation science develop.

Drawing from successes of assisted migratory site trials conducted during the 'CRACAB' project (DPLUS113), this project utilised ex-situ seedbanks. Translocating cultivars strengthened species capacity against predicted climate change impacts by placing them in an environment highly compatible with their requirements (e.g. increased rainfall).





Grown from wild-collected seed, cultivated plants act as a living seedbank, facilitating consistent seed collection. This is a vital component of safeguarding as it maintains seed stocks and replenishes populations in the event of rapid declines.





Employing a variety of methods, this project promoted the recovery of threatened Ascension spurge across all four genetic sub-populations. Constructing exclosures proved to be cost effective and resource efficient. Requiring minimal management, they can be used across UKOTs where similar threats are faced but the capacity to eradicate problem species is not currently available.





This project has generated the blueprint for a comprehensive approach to safeguarding seedbanks for Ascension's threatened plants moving forward.

Photo, video or graphic to be used for publicity and communications.

Please upload at least one relevant and engaging image, video or graphic that you consent to be used alongside the above text in Defra, JNCC or NIRAS communications material.

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 [IMG_002](#)
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 [IMG_001](#)
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Photo, video, and/or graphic captions and credits.

FilenameIMG_001 – Ascension spurge (*Euphorbia origanoides*) flowers and seeds on a cultivated plant ready for planting out in the restoration site – Two Boats Shade House (Ascension Island) – Emily Wagdin (AIGCFD).

FilenameIMG_002 – Wild Ascension spurge (*Euphorbia origanoides*) in flower after the restoration site exclosure was established around the population – Hummock Point (Ascension Island) – Jolene Sim (AIGCFD).

FilenameIMG_0159 - AIGCFD Staff Team Day with Volunteers: Taking materials to remote restoration locations - Hummock Point (Ascension Island) - Sunitha Amos (AIGCFD).

I agree for the Biodiversity Challenge Funds Secretariat, Administrator, and/or JNCC to publish the content of this section.

Yes, I agree for the BCFs Secretariat and/or JNCC to publish the content of this section.

Please list any accounts that you would like tagged in online posts here. This can include project pages, partners' pages or individuals' accounts for any of the following platforms: LinkedIn, Facebook, Twitter, or Instagram.

AIG Conservation Facebook Page (<https://www.facebook.com/AscensionIslandConservation/>)

Section 7 - Darwin Plus Contacts

Please tick here to confirm that you have read and acknowledge the BCF's Privacy Notice on how contact details will be used and stored and that you have sought agreement from anyone that you are sharing personal details with us on their behalf.

I confirm I have read the Privacy Notice and have consent to share the following contact details

Project Contact Details

Project Contact Name	Dr Tiffany Simpson
Role within Darwin Plus Project	Project Applicant
Email	[REDACTED]

Phone 

Do you need further sections to provide additional contact details? Yes

Additional Project Contact Details

Project Contact Name Jolene Sim

Role within Darwin Project Project Lead

Email 

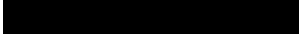
Phone 

Do you need further sections to provide additional contact details? Yes

Additional Project Contact Details

Project Contact Name Emily Wagdin

Role within Darwin Project Project Officer

Email 

Phone 

Do you need further sections to provide additional contact details? No
