Applicant: **Baum, Diane**
Organisation: **Ascension Island Government Conservation and Fisheries Directorate**
Funding Sought: **£19,964.00**

DPLR1\1024

Can biocontrol halt the tsunami of non-native species on Ascension?

Overall objective
Identify and develop all opportunities for the use of biocontrol to tackle Ascension's most damaging non-native species. This will provide the first step to achieving sustainable control, significantly reducing their impacts on Ascension's native biodiversity.

Current situation/problem trying to address

Non-native species are the main threat to terrestrial biodiversity on Ascension. Non-natives account for 82% of all species on the island, vastly outnumbering natives and endemics. Some of these non-native plants and invertebrates are extremely invasive and outcompete or attack native species. Of the 13 species action plans prepared for Ascension's priority species, all list non-native species as a major threat. Non-natives are contributing to the population declines of endemic plants and invertebrates and threatening the habitats of nesting turtles and seabirds.

The scale of the problem is daunting and despite considerable efforts using mechanical and chemical control, invasive plants and invertebrates continue to spread and threaten Ascension's biodiversity. Only the most sensitive protected areas can be kept free of non-native plants and the pressure on these sites is increasing through growing seed banks. No systematic efforts have been made to control non-native invertebrates and their expansion continues unchecked.

Biocontrol agents have been released on Ascension in the past and the current DPLUS134 is assessing the feasibility of a new agent targeted for Mexican thorn. However, there remains significant scope for extending these efforts in a more strategic manner. In 2012 Ascension was included in a SAUKOT-wide assessment of biocontrol potential led by CABI (Maczey et al, 2012). This suggested existing available biocontrol agents could be beneficial for Ascension, but there was no more detailed follow.

How project will address it – specific and quantified

This project will combine the local knowledge of AIGCFD with the expertise of CABI to identify the full potential of biocontrol to tackle Ascension's most damaging non-natives. It will go beyond previous work to progress the most promising to where decision-makers on Ascension can evaluate adoption.

Specific actions undertaken through this project will include:

1. AIGCFD create a list of the 25 most damaging plant and invertebrate species based on local knowledge of biodiversity impacts and difficulty of control by conventional means.
2. CABI screen the list to identify where there are existing biocontrol agents that have been developed and tested in other parts of the world.
3. CABI identify any highly damaging non-native species where no effective biocontrol agents currently exist but impact across the OTs may justify a future project to develop a new biocontrol agent.

4. Create a short list of 10 non-native species to investigate in more depth considering the success of the agents in other countries, climate and habitat suitability on Ascension and potential for non-target impacts.
5. CABI conduct detailed risk assessments for two most promising potential biocontrol agents considering likely effectiveness and likely benefit.
6. AIGCFD collect samples on Lantana and Opuntia to record presence and impact of past biocontrol releases. CABI to assess success.
7. AIGCFD to undertake stakeholder engagement on Ascension using risk assessments to gauge support for biocontrol releases.

Recognising and measuring success

Success for this project would be the strategic identification of the most promising opportunities for the use of biocontrol on Ascension and progress of these recommendations to the point of informed public consultation. Achievement of the following specific outputs will be used to measure success:

- Identify ten species on the priority list for which biocontrol agents have already been developed and would be feasible on Ascension by September 2023.
- Produce risk assessments for the two most promising agents by December 2023
- Undertake stakeholder engagement by March 2024.

CONTACT DETAILS

Title	Dr
Name	Diane
Surname	Baum
Website	[redacted]
Tel (Work)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

DPLR1\1024

Can biocontrol halt the tsunami of non-native species on Ascension?

Section 1 - Project Title & Contact Details

Q1. Project Title

Can biocontrol halt the tsunami of non-native species on Ascension?

Q2. Please select whether you are applying as an organisation or as an individual **(Guidance section 3 and Guidance Glossary)**

⦿ Organisation

CONTACT DETAILS

Title	Dr
Name	Diane
Surname	Baum
Website	[redacted]
Tel (Work)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

GMS ORGANISATION

Type	**Organisation**
Name	Ascension Island Government Conservation and Fisheries Directorate
Phone (Work)	[redacted]
Email (Work)	[redacted]
Website	[redacted]
Address	[redacted]

Section 2 - Overseas Territory(ies)

Q3. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in? Please note that in case of a non-permanent resident population you need to demonstrate a clear, meaningful, long-term link to the territory.

☑ St Helena, Ascension and Tristan da Cunha*

*** if you have indicated a territory group with an asterisk, please give detail on which territories you are working on here:**

Ascension Island

In addition to the UKOT(s) you have indicated, will your project directly benefit any other UK OT(s) or country(ies)?

⊙ No

Section 3 - Project Partners

Q4. Project partners (Guidance section 3.2)

In this section, please give details of all the partners involved (including the Lead Partner) and provide a summary of their roles.

Project Leader name (Guidance section 3.1):	Diane Baum
Lead Partner name (if applying as an organisation; Guidance section 3.1):	Ascension Island Government Conservation and Fisheries Directorate (AIGCFD)
Lead Partner Website (if applicable):	www.ascension.gov.ac
Is the Lead Partner based in a UKOT where the project is working (Guidance section 3.1)?	⊙ Yes
List other partners involved and where are they based (Guidance section 3.2):	Centre for Agriculture and Biosciences International (CABI), UK

Summary of roles and responsibilities of each partner in the project:	AIGCFD Overall project management including partner and stakeholder consultation, budget and reporting Compile list of high priority invasive species to screen for biocontrol agents Determine short list of species for more detailed assessment and two species to take forward for full risk assessment Conduct surveys on Ascension to determine the presence, abundance and impact of previously released biocontrol agents CABI Expert screening of long list of non-native species for potential biocontrol agents Conduct more detailed risks assessments for the most promising biocontrol options Analyse data on past biocontrol attempts
I confirm that all listed partners are aware of this application and have indicated support:	Checked

Attach a Cover Letter for your application (Guidance section 4.2).

Darwin local - biocontrol - Cover Letter
12/02/2023
14:11:41
pdf 162.69 KB

Section 4 - Project Summary & Description

Q5. Project Summary (Guidance section 3.8)

Please provide a brief summary of your project. This may be used in communication activities and/or published online, if your application is successful.

Non-native species are the most serious threat to Ascension's terrestrial biodiversity. The scale of the problem means current control efforts are limited to reducing impacts on the most sensitive protected areas and species. Even this stretches resources and more sustainable ways of tackling non-natives need to be found. Biocontrol agents have been used on Ascension before, and this project will consider the full potential of this technique by identifying and assessing agents that could be developed against Ascension's priority invaders.

Q6. Description (Guidance section 2.1)

Please provide a description of your project, including:

- **the overall objective**

- **the current situation and the problem the project is trying to address**
- **what success will look like and how you will measure it**

Please be as specific as possible when describing the project, using quantified data and evidence where available. You may wish to consider: what are the specific threats to the environment that the project will attempt to address, and what should we know about these threats? What does your successful project look like? And how will you demonstrate whether and how your project has been successful?

Overall objective
Identify and develop all opportunities for the use of biocontrol to tackle Ascension's most damaging non-native species. This will provide the first step to achieving sustainable control, significantly reducing their impacts on Ascension's native biodiversity.

Current situation/problem trying to address

Non-native species are the main threat to terrestrial biodiversity on Ascension. Non-natives account for 82% of all species on the island, vastly outnumbering natives and endemics. Some of these non-native plants and invertebrates are extremely invasive and outcompete or attack native species. Of the 13 species action plans prepared for Ascension's priority species, all list non-native species as a major threat. Non-natives are contributing to the population declines of endemic plants and invertebrates and threatening the habitats of nesting turtles and seabirds.

The scale of the problem is daunting and despite considerable efforts using mechanical and chemical control, invasive plants and invertebrates continue to spread and threaten Ascension's biodiversity. Only the most sensitive protected areas can be kept free of non-native plants and the pressure on these sites is increasing through growing seed banks. No systematic efforts have been made to control non-native invertebrates and their expansion continues unchecked.

Biocontrol agents have been released on Ascension in the past and the current DPLUS134 is assessing the feasibility of a new agent targeted for Mexican thorn. However, there remains significant scope for extending these efforts in a more strategic manner. In 2012 Ascension was included in a SAUKOT-wide assessment of biocontrol potential led by CABI (Maczey et al, 2012). This suggested existing available biocontrol agents could be beneficial for Ascension, but there was no more detailed follow.

How project will address it – specific and quantified

This project will combine the local knowledge of AIGCFD with the expertise of CABI to identify the full potential of biocontrol to tackle Ascension's most damaging non-natives. It will go beyond previous work to progress the most promising to where decision-makers on Ascension can evaluate adoption.

Specific actions undertaken through this project will include:

1. AIGCFD create a list of the 25 most damaging plant and invertebrate species based on local knowledge of biodiversity impacts and difficulty of control by conventional means.
2. CABI screen the list to identify where there are existing biocontrol agents that have been developed and tested in other parts of the world.
3. CABI identify any highly damaging non-native species where no effective biocontrol agents currently exist but impact across the OTs may justify a future project to develop a new biocontrol agent.
4. Create a short list of 10 non-native species to investigate in more depth considering the success of the agents in other countries, climate and habitat suitability on Ascension and potential for non-target impacts.

5. CABI conduct detailed risk assessments for two most promising potential biocontrol agents considering likely effectiveness and likely benefit.
6. AIGCFD collect samples on Lantana and Opuntia to record presence and impact of past biocontrol releases. CABI to assess success.
7. AIGCFD to undertake stakeholder engagement on Ascension using risk assessments to gauge support for biocontrol releases.

Recognising and measuring success
Success for this project would be the strategic identification of the most promising opportunities for the use of biocontrol on Ascension and progress of these recommendations to the point of informed public consultation.
Achievement of the following specific outputs will be used to measure success:
• Identify ten species on the priority list for which biocontrol agents have already been developed and would be feasible on Ascension by September 2023.
• Produce risk assessments for the two most promising agents by December 2023
• Undertake stakeholder engagement by March 2024.

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 pages:

Darwin local - biocontrol - References
12/02/2023
15:04:33
pdf 96 KB

Section 5 - Project Outcome(s)

Q7. Project Outcome(s) (Guidance section 1.2)

Successful Darwin Plus Local projects must demonstrate measurable outcomes in at least one of the themes of Darwin Plus, either by the end of the project or soon after through a credible plan.

Please tick which theme(s) of Darwin Plus your project underpins:

Checked	**Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;**
Unchecked	**Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;**
Checked	**Environmental quality: improving the condition and protection of the natural environment**
Checked	**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.**

Please justify your selection.

This project will slow Biodiversity loss by enabling the sustainable control of non-native species that pose the greatest threat to Ascension's endemic terrestrial plant and invertebrate species.

Non-native species are having a profound effect on habitat quality, landscape, soil conditions and even climate on Ascension. Their control will improve overall Environmental quality on Ascension.

AIGCFD currently don't have the resources to prevent non-native species impacting biodiversity. This project will build Capability and capacity by identifying new tools that can bring about sustained and effective control.

Section 6 - Project Timeline

Q8. Project timeline (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Implementation Timetable Template (which can be downloaded below) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project will need to be completed by 31 March 2024.

Start date:	End date:	Duration (e.g. 3 months):
03 April 2023	31 March 2024	1 year

Please upload the completed Darwin Plus Local Project Implementation Timetable template with your proposed project activities below.

R1-DPlus-Local-Implementation-Timetable- Biocontrol
12/02/2023
15:07:30
pdf 160.69 KB

Section 7 - Costs

Q9. Costs (Guidance section 2.2 and please read the Finance Guidance)

Please provide a breakdown of costs to be funded through Darwin Plus Local (in GBP).

Are you seeking any matched funding for this project? (Please note that this is optional and there is no requirement to seek matched funding for Darwin Plus Local projects).

◉ Yes

How much matched funding are you seeking and where from?

AIGCFD are providing a total in-kind contribution of [redacted] made up of:
Staff time - [redacted]
Overheads - [redacted]
Field work travel - [redacted]

This contribution is confirmed for 2023/24

Budget line	Explanation	Cost in GBP
Staff costs:	CABI staff costs	[redacted]
Overhead costs:	CABI staff overheads	[redacted]
Travel & subsistence costs:	NA	[redacted]
Operating costs:	Printing and office consumables	[redacted]
Capital equipment:	NA	[redacted]
Consultancy costs:	NA	[redacted]
Total:		[redacted]

This section provides more information on the budget to help evaluators understand how you will use the funds you are requesting. You do not need to list all costs, but please list and detail costs of more than £1,000 per item below, under the appropriate budget line.

Details of staff costs over £1,000 (if relevant)

CABI staff costs – 60 days @ [redacted] per day

Details of overhead costs over £1,000 (if relevant):

CABI overhead cost charged at [redacted] of staff costs

Details of travel and subsistence costs over £1,000 (if relevant):

No Response

Details of operating costs over £1,000 (if relevant):

No Response

Details of capital equipment costs over £1,000 (if relevant):

No Response

Details of consultancy costs over £1,000 (if relevant):

No Response

Details of other costs over £1,000 (if relevant)

No Response

If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
No Response	*No Response*	*No Response*	*No Response*

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory.

What % of the total will be spent in the OTs? [redacted]

If less than 80% of the total project spend is to be spent within the OT(s), please explain why.

The purpose of this project is for AIGCFD to benefit from expertise not available on Ascension. This project cannot be delivered through spend on the island but all of the knowledge and capacity created will be retained within AIGCFD.

Section 8 - Local and National Priorities

Q10. Local and national priorities

Please explain how this project aligns with local and national priorities? You may wish to consider the project in the context of national environmental laws, objectives, strategies, territory specific agreements, action plans or policies.

Non-native species are identified as a major threat to biodiversity in the Ascension Biodiversity Strategy and Action Plan (BSAP), which states a strategic objective to reduce the impact of non-native species on the island.

Development of new and innovative control methods to reduce the impact of non-natives is listed as a core action in the Ascension Biosecurity Strategy, and the development of biocontrol agents identified as a high priority action in the Ascension Endemic Plant Restoration Plan that is currently in preparation.

Will the project take place on Government owned land or water?

⊙ Yes

Please attach evidence that you have Government support i.e. Letter of Support.

AIG Letter of support - Darwin Local R1 - Biocontrol
12/02/2023
15:20:37
pdf 143.43 KB

Section 9 - Project Risks

Q11. Project Risks

Please demonstrate your consideration of any risks involved in this project and how you intend to manage them. Depending on your project, you may wish to consider:

- **Biosecurity risks – particularly for projects involving external equipment.**
- **Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.**

Risk	Mitigation
No existing biocontrol agents are found to exist for high priority invasives.	Many of the most damaging non-native species on Ascension are common pests throughout the world leading to international efforts to seek biocontrol options. The 2012 assessment indicates some potential agents do exist.
Public support cannot be secured for the release of biocontrol agents.	Full risk assessments will be carried out for at least two species to ensure the public consultation is well-informed and the risks of inaction are conveyed.
Future releases of biocontrol agents fail to establish or have unintended negative impacts on biodiversity.	Experience form other releases will be used to make recommendations that maximise the likelihood of successful establishment. Risk assessments will anticipate any non-target impacts or negative consequences of releasing the biocontrol agent.

Do you require more fields?

⦿ No

Section 10 - Terms & Conditions

Q12. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: https://dplus.darwininitiative.org.uk/apply **and as referenced in the Guidance at section**

3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):

- **Uphold a zero tolerance for inaction approach to tackling sexual exploitation, abuse, and harassment.**
- **Where appropriate, make all reasonable and adequate efforts to address gender inequality and other power imbalances.**
- **Notify all cases of fraud and theft (whether proven or suspected) relating to the project to the Grant Administrator as soon as they identified.**

Please indicate you have read, and understood, and will adhere to the Terms and Conditions.

Checked

If your application is successful: If your project application is successful, the Fund Administrator (NIRAS) will ask you to provide some financial evidence for due diligence checks before you receive your project grant. (Please see section 3.3 of the Darwin Plus Local Finance Guidance). Please be ready to provide this evidence promptly.
Financial evidence for organisations: Year-end financial statements, the latest management accounts or audited accounts (if you have these).
Financial evidence for individuals: Proof of identity such as a passport, ID card or driving licence and solvency (such as bank statements) and a police check.

Section 11 - Certification

Certification

I certify that, to the best of my knowledge and belief, the statements made in this application are true and the information provided is correct.

Checked

I have the authority to submit an application on behalf of my organisation.

Checked

Name:	Diane Baum
Position in the organisation: (if applicable)	Director of Conservation and Fisheries
Signature (please upload e-signature)	Dee signature 12/02/2023 15:23:25 jpg 7.12 KB

Date:	12 February 2023

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance **documents, including the "**Darwin Plus Local Guidance**" and the "**Darwin Plus Local Finance Guidance**".**	Checked
If my proposed project takes place on public lands or water, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions **for this fund.**	Checked
I have provided actual start and end dates **for the project.**	Checked
I have provided my summary budget based on UK government financial years **i.e. 1 April – 31 March and in GBP in the application form.**	Checked
I have uploaded my project implementation timetable using the specific template **provided.**	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
The application has been signed by a suitably authorised individual **(clear electronic or scanned signatures are acceptable).**	Checked
I have checked the Darwin Plus website **immediately prior to submission to ensure there are no late updates.**	Checked
I have read and understood the Privacy Notice on the Darwin Plus website**.**	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Unchecked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the Forms and Guidance Portal.

This **Privacy Notice must be provided to all individuals** whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).

Darwin Plus Local

Provide a **Project Implementation Timetable** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Projects are based on UK Financial Years (**1 April – 31 March** - therefore starts April 2023).

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity #	Description (max 25 words)	No. of months	UK Financial Year 2023/24											
			Calendar Year 2023									Calendar Year 2024		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	AIGCFD create a list of the 25 most damaging plant and invertebrate species.	1												
2	CABI screen the list to identify existing biocontrol agents	2												
3	CABI identify where no effective biocontrol agents currently exist but damage justifies development of a new biocontrol agent.	1												
4	Create a short list of 10 non-native species to investigate in more depth.	1												

Project Title: Can biocontrol halt the tsunami of non-native species on Ascension?

Activity #	Description (max 25 words)	No. of months	UK Financial Year 2023/24											
			Calendar Year 2023									Calendar Year 2024		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
5	CABI conduct detailed risk assessments for two potential biocontrol agents.	5												
6	AIGCFD collect samples on *Lantana* and *Opuntia* to record presence and impact of past biocontrol releases.	4												
7	CABI assess success of past biocontrol agents.	2												
8	AIGCFD undertake stakeholder engagement on Ascension	2												