

## 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: 31<sup>st</sup> October 2022**

<b>Project reference</b>	<i>DPLUS134</i>
<b>Project title</b>	Repelling the invader: turning the tide on Ascension's Mexican thorn
<b>Country(ies)/territory(ies)</b>	Ascension Island
<b>Lead partner</b>	Ascension Island Government
<b>Partner(s)</b>	CABI
<b>Project leader</b>	<i>Diane Baum</i>
<b>Report date and number (e.g. HYR1)</b>	<i>HYR2</i>
<b>Project website/blog/social media</b>	<i>N/A</i>

**1. 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).**

### **Output delivery**

#### **a) Output 1**

##### **1.1 Use drone imagery to map Mexican thorn distribution**

The AIG drone is back from repairs and imagery for the Nature Reserves and indicator areas for Mexican thorn distribution are being collected. Youth trainees were trained and are helping with ground truthing across the island.

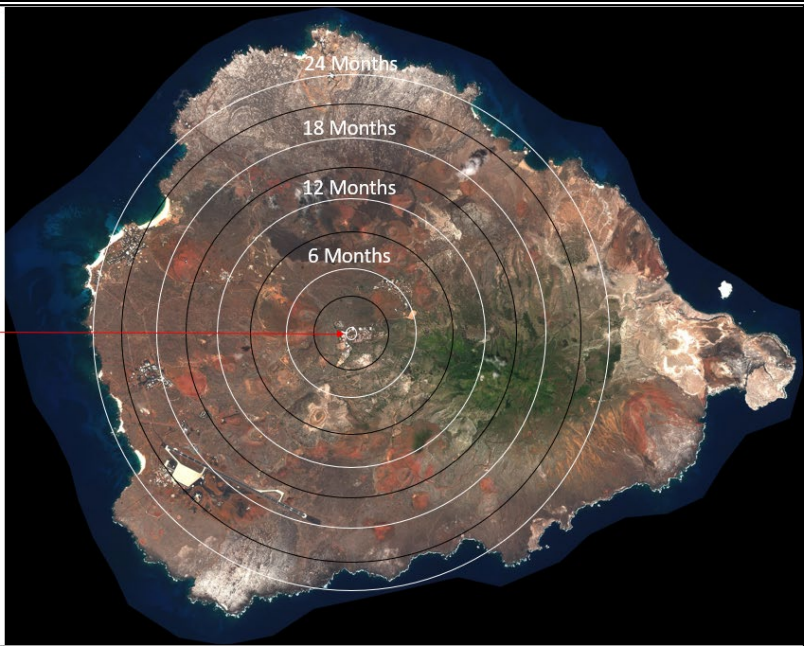
With the assistance of JNCC, we are now planning to use satellite imagery to get an accurate map of the distribution of Mexican thorn across the island. The digital mapping should be completed by JNCC in May 2023.

##### **1.2 Create maps showing the potential impact of *Evippe* on Ascension**

A map has been generated predicting how the moth will spread from its point of release across the island in three-monthly intervals. These figures were based on monitoring and experience of *Evippe* releases in Australia (van Klinken et al., 2003R. van Klinken, unpublished observations). The widespread distribution of Mexican thorn and lack of significant topographical barriers on Ascension means the moth is likely to spread unhindered and colonise most of the island within two years.

Prediction of how fast *Evippe* sp. will spread across Ascension after its release.

Area of release



Map predicting the spread of the *Evippe* moth after its release on Ascension Island.

**1.3 Transport plants to the UK for biocontrol host range testing**

Seeds from seven endemic or valued plant species and *Prosopis* from Ascension were sent to CABI. The plants were cultivated in the CABI quarantine facility in the UK. The moth was imported from South Africa and arrived on 10 August 2022. The plants are now large enough to support a culture of the *Evippe* moth, so host range testing has begun.

List of species sent to CABI to include for host range testing.

Envelope	Species	Common name	Number of Seeds/Spore
1	<u>Prosopis juliflora</u>	Mexican Thorn	100
2	<u>Prosopis juliflora</u>	Mexican Thorn	25
3	<u>Tecoma stans</u>	<u>Yellowboy</u>	~450
4	<u>Tecoma stans</u>	<u>Yellowboy</u>	~150
5	<u>Leucaena glauca</u>	Horse Tamarind	~400
6	<u>Delonix regia</u>	Flame Tree	40
7	<u>Euphorbia organoides</u>	Ascension Spurge	50
8	<u>Sporobolus caespitosus</u>	Hedgehog grass	100
9	<u>Pteris adscensionis</u>	Feather fern	~5000
10	<u>Nephrolepis sp.</u>	Sword fern	~1000



Pictures of *Prosopis* and *Delonix* species (left) and *Pteris adscensionis* (right).

#### **1.4 Conduct full risk assessment of *Evippe* as a biocontrol agent on Ascension**

The Project Officer has undertaken a scoping exercise to identify the data requirements for the Risk Assessment with CABI. A draft Risk Assessment containing information on Ascension was sent to CABI in August 2022. The results of the host range testing will be incorporated into this once it is completed.

#### **b) Output 2**

##### **2.1 Desk-based review of potential chemical and mechanical methods**

The desk-based review on potential new methods to trial on Ascension has been completed. Research from Australia and South Africa was considered before deciding which methods to include in the trials. Ring barking, bark stripping, chemical frilling, and foliar application were identified as methods that had shown promising results elsewhere and should translate well to Ascension's conditions. Cut stump application has previously been used on Ascension and the success of this method was assessed in the review. It will also be included in the trials for comparison.

##### **2.2 Deliver training courses on Ascension for employees from AIGCFD and other organisations and volunteers**

13 August 2022

Worked together with MITIE (private contractor to the MOD on Ascension) to remove a large tree from their work site near the airfield. The use of cut stump application as a treatment method was discussed and it was an opportunity to show the representatives from MITIE how to apply the registered herbicide, Garlon@Ultra, to cut surfaces.





*Tree removal near the airfield.*

### 21 August 2022

The first volunteer Sunday took place at North East Bay, which is approximately 46.66 ha in size. Volunteers were shown how to use tools such as loppers and silky saws during Mexican thorn tree removal. The importance of applying herbicides during Mexican thorn tree removal was discussed and volunteers had the opportunity to see how it is applied.



*Mexican thorn removal on one of our important green turtle nesting beaches.*

### 24 August 2022

Conducting a site visit at Two Boats School with the AIG Operations Department and the Garden team. Cut stump application as a treatment method, and the use of heavy machineries such as bulldozers and trucks were discussed. The opportunity was used to show them how low to cut trees down, and how and where to apply herbicide to the cut surface. The Garden team was encouraged to do follow-up sessions once the heavy machinery has moved out of the work site to see if all trees were properly uprooted or removed. Any exposed or broken roots need to be treated with an appropriate, registered herbicide to prevent the regrowth of Mexican thorn.

### **2.3 Design and conduct trials of recommended treatment methods**

A site of approximately 60.70 ha near Long Beach Nature Reserve was identified where ring barking, bark stripping, and chemical frilling applications are currently being trialled. Sixty trees (20 trees per method) are included in the trials. Sendero® herbicide was applied to each tree using paint brushes after the method was applied.

Cut stump application is being trialled at Long Beach and Waterside Nature Reserve. Garlon®Ultra and Sendero® herbicide are included in the trials to determine which will work more effectively for the treatment of Mexican thorn.

Foliar application is being tested in Waterside Nature Reserve on 95 trees. The area is approximately 181.29 ha in size. Sendero® herbicide was applied by pressurized knapsack sprayers. Three different nozzles (jet, fan, and cone) were included in the trials to determine which will work best for the treatment of Mexican thorn.



*Results Foliar application with Sendero® herbicide*

Basal bark treatment is being trialled at Long Beach Nature Reserve. The herbicide, Turbudor® 29 mpa, is a ready-to-use (RTU) herbicide which is sprayed on the bark of the tree trunk from knee height down to soil level.

The trials have been conducted by the Project Officer with the assistance of volunteers and Youth trainees.

All sites are being monitored for regrowth every three months.

### **c) Output 3**

#### **3.1 Organise four public meetings**

A public presentation introducing the project took place on 20 April 2022 at Two Boats Club. It explained the treatment trials that will be undertaken and provided an opportunity for members of the public to discuss the possible introduction of the biological control agent, the *Evippe* moth. 29 members of the public attended the meeting.

The same presentation was presented to the AIG Operations Department on 03 May 2022.



Public meeting to introduce the Mexican thorn Control Project.

### 3.2 Create articles and social media

Three articles have been written for the local newspaper, the Islander. One article was used to advertise the Mexican thorn public presentation, while the other gave an overview of what was discussed during the presentation. The third article was used to advertise volunteer opportunities on the third Sunday of every month. This article was accompanied by a poster. These articles were accompanied by three social media posts published on the AIG Conservation Facebook page. All articles and posters were distributed by email to all stakeholders on the island.



Advertising volunteer opportunities on our Facebook page.

## d) Output 4

### 4.1 Produce Integrated Mexican thorn Control Plan

The integrated control strategy is scheduled to be completed by Year 3; Q4, but is already underway. The draft framework for the plan has been prepared with the help of the Mexican thorn consultant in South Africa.

**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.**

South African suppliers do not have Sendero herbicide in stock at the moment. The next shipment from the US is expected in August 2022 (not in time for the September 2022 MV Helena). Arrangements were made with the supplier to reserve stock for the project which will be shipped from Cape Town via St Helena with the MV Helena and arrive on the island during December 2022.

The project will not be affected by this as there is still enough herbicide to support operations until December 2022. The budget is also not affected as the project planned to spend the budget before the end of the financial year in March 2023, so this line item will be achieved by December 2022 / January 2023.

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

Discussed with NIRAS-LTS: No

Formal Change Request submitted: No

Received confirmation of change acceptance No

Change request reference if known: N/A

**4a. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this year?**

Yes  No  Estimated underspend: £

**4b. 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.**

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

**If you are a new project and you received feedback comments that requested a response (including the submission of your risk register), 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.**

**Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with NIRAS-LTS International 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](mailto: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**