

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

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

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

Submission Deadline: 30th April 2022

Darwin Plus Project Information

Project reference	DPlus125
Project title	Protecting Anguilla's biodiversity by building capacity in invasive plant management
Territory(ies)	Anguilla
Lead partner	Department of Natural Resources (DNR), Government of Anguilla
Project partner(s)	GB Non-native Species Secretariat; University of Durham, UK
Darwin Plus grant value	£ 284,755.00
Start/end dates of project	1 Oct 2021 to 30 Sep 2024
Reporting period (e.g. Apr 2021-Mar 2022) and number (e.g. Annual Report 1, 2)	1 Oct 2021 to 31 March 2022 (the project's first 6 months) Annual Report 1
Project Leader name	Rhon Connor
Project website/blog/social media	See links given below and in the Annex list.
Report author(s) and date	Rhon Connor, Wayne Dawson, Alan Tye, 31 May 2022

1. Project summary

The project will build capacity in Anguilla to reduce the impact and the risk of introduction and spread of invasive plant species. Invasive plants have widespread impacts throughout Anguilla, particularly on agricultural and natural areas, and newly introduced species continue to arrive and spread. Through a programme of "learning by doing", skill sharing and community involvement, several priority invasive plant species will be tackled, with the objective of eradicating at least three, a monitoring programme for early detection and rapid response will be established, and biosecurity will be strengthened. Lessons learned will be shared with other regional UKOT territories, and an Invasive Plant Strategy developed to guide future work. Most activities of the project will take place on Anguilla island itself, while working with stakeholders (especially the Anguilla National Trust, ANT) to tackle biosecurity and invasive plants on Anguilla's offshore and outer islets (see map below).



Anguilla and its islets. Sombrero Island (not shown) lies c. 38 km NNW of Dog Island.

2. Project stakeholders/partners

The project is led by the DNR’s Environment division and is advised and guided by a Technical Advisory Group (TAG: see list of members in Annex 3) which provides administrative, scientific and practical expertise.

Key project stakeholders will be represented on a local Steering Committee (SC), which is not yet fully constituted but will be formed as the project’s field activities commence. Key stakeholders include the Anguilla National Trust, which has responsibility for managing most of Anguilla’s offshore and outer islands, the DNR’s Agriculture division, local communities and environmental NGOs (particularly the environmental clubs), and the private sector (especially hoteliers, garden centres, landscaping companies).

The Anguilla National Trust (ANT) fully supports the project, forms part of its SC and TAG, and has been represented at several TAG meetings during the reporting period (see TAG sample minutes in Annex 4). ANT has engaged with the project partners by participating in planning discussions throughout the period of this report, as well as by providing information from plant surveys on Dog and Scrub islands and the Prickly Pear Cays, participating fully in a week-long plant survey training workshop (April 2022), and facilitating a scoping visit by project staff to Dog Island. ANT is committed to invasive plant management in Anguilla and expects to build a close working relationship with DNR and project staff to tackle some of its priorities in this field, including removal of incipient populations of selected invasive species from the islets, and establishing a simple biosecurity system based on early detection and rapid response, to maintain them free of invasive plant threats, assisting with mapping, monitoring and eradicating of any targeted species found both on the mainland and Anguilla’s offshore cays.

DNR Agriculture staff are particularly keen to see Anguilla establish a permanent programme to improve biosecurity and tackle some of the more widespread invasive plant problems on the island, which are expected to be included in the planned Invasive Plant Strategy. Agriculture staff participated in and contributed to the April training workshop and are expected to be involved in the eradication activities of the project.

The Albena Lake-Hodge Comprehensive School Environmental Club participated in the April workshop, which was the first opportunity for many of the project participants to meet face to face and provided great encouragement that the project is widely valued and supported in Anguilla. During the workshop it became clear that people working on or interested in environmental issues on this small island tend to know each other, having often worked together in several environmental organisations. The project is building on these personal connections to develop a consensus and support for its activities and future planning.

Private sector involvement is expected to increase as the project’s practical field activities (invasive plant survey and management) develop.

3. Project progress

The project has been severely delayed, largely owing to difficulties recruiting project staff. The Invasive Plant Specialist role (technical lead on the project) was advertised three times, each time a suitable candidate was selected, and each time that person withdrew. In consequence, a temporary project consultant was hired to carry out initial work planning, assist with staff recruitment and selecting and ordering equipment and, during a visit to Anguilla, assist with the scheduled training workshop and carry out a scoping exercise for the main project activities. Discussions are in progress for filling the Invasive Plant Specialist role by means of a secondment, while other options have not been discarded.

3.1 Progress in carrying out project Activities

Output 1. Baseline knowledge on existing priority invasive plant species improved through surveys and mapping, and Territory database created.

1.1. During and following a training workshop on plant survey techniques (April 2022: for programme see Annex 5) an initial set of maps and records was created of potential target species for eradication, using several software tools including iNaturalist, Google Forms and Google Maps. A map of potential sites for target species, including several identified during the workshop, can be found [here](#) (also see Annex 5). A map of sites surveyed during and after the workshop can be found [here](#) (also see Annex 5). To view survey details for a site, please click on the map pins. A link to the bespoke iNaturalist collection project for this DPlus project can be found [here](#) (also see Annex 5). The surveys were conducted using a Google Forms form, which can be found [here](#) (also in Annex 5: note, a gmail account is required for access to this).

1.2. A 4-day training workshop on plant survey techniques was carried out under the auspices of DNR in the facilities of Anguilla's Dept of Information Technology and E-Commerce Services (DITES) during the week of 18 April, led by W. Dawson (Durham University). Subjects covered included:

- the use of GPS for marking plant distributions and for survey tracking,
- uploading potential sites and actual records to Google Maps and Google Forms
- use of iNaturalist for contributing and identifying records, including photographs
- making maps in R
- systematic search for target plants, using a grid of uploaded equidistant waypoints

Daily field trips were used to practise, test and refine the techniques taught, and for training in target species identification. Please use the link [here](#) to access the Workshop Materials (also see Annex 5). The presentation slides for the workshop are a pdf file that can be accessed [here](#).

1.4 Materials (including publications on the flora of Anguilla and recent plant survey reports) were compiled as a basis for constructing an Introduced and Invasive Plants Database.

Output 2. Local capacity built through “learning by doing”, with the delivery of large-scale management interventions to eradicate invasive plant species.

Initial orders were made for IT, survey and plant management equipment, most of which has now arrived in Anguilla. These orders represent about half of the equipment needed for the project and for the continuation of its work beyond the project.

2.1 The first of a series of training events was held, covering plant identification and survey (described more fully above).

Other activities under this Output are scheduled for later in the project.

Output 3. Key stakeholders (community members, hoteliers, Government and land managers) are actively engaged in early detection and removal of invasive plants.

3.1 Community engagement was begun at the April training workshop, described above. The workshop also established the basic tools (software, maps, apps etc: links given above and in Annex 5) for citizen science contributions to invasive plant detection.

Output 4. Lessons learned are consolidated into a long-term invasive plant management strategy, which is shared with other UKOTs in the region.

Activities under this output are scheduled for later in the project, although preliminary discussions regarding biosecurity protocols (Indicator 4.2) have already begun among partners and stakeholders.

3.2 Progress towards project Outputs

In general the output indicators are considered appropriate as measures of progress, although we shall shortly submit a Change Request that will refine some of them.

Output 1. Baseline knowledge on existing priority invasive plant species improved through surveys and mapping, and Territory database created.

Output 1 covers the main initial activities of the project and is where most progress has been made.

A training workshop and detailed discussions held with members of stakeholder organisations leading to the establishment of mapping tools and their use by partners and stakeholders. Baseline condition: no maps, no skills in invasive plant recording and mapping. Change recorded: base maps established and participants trained in their production and use (links given above and in Annex 5).

The first steps were taken towards constructing an Introduced and Invasive Plants Database for Anguilla, by tracing and obtaining copies of previous plant lists. Baseline: no complete or definitive list of non-native plants exists for Anguilla. Change recorded: e-copies of relevant publications and grey literature obtained.

Output 2. Local capacity built through “learning by doing”, with the delivery of large-scale management interventions to eradicate invasive plant species.

Baseline condition: no organisation in Anguilla fully equipped to carry out priority invasive plant management tasks. Change recorded: DNR is in the process of acquiring equipment necessary for managing priority invasive plants, and has so far received computers, tablets, GPS units, cameras, protective clothing and plant control gear, some of which was used during the training workshop.

Output 3. Key stakeholders (community members, hoteliers, Government and land managers) are actively engaged in early detection and removal of invasive plants.

Baseline condition: no significant management of invasive plants in Anguilla, no organisations or community groups carrying it out and no initiative in place to change this situation. Change recorded: key stakeholders are already engaged in planning their participation in invasive plant management activities including eradications from the main island and islets, and biosecurity including early detection and rapid response. The early detection and removal of invasive plants by key stakeholders will continue to evolve and expand during the project.

Output 4. Lessons learned are consolidated into a long-term invasive plant management strategy, which is shared with other UKOTs in the region.

Baseline condition: no long-term strategy or plans for managing invasive plants in Anguilla. Change recorded: none so far, except that the concept of such a strategy has already been raised with stakeholders, who are fully supportive. Activities for this Output are scheduled for the later stages of the project, at which point evidence will be generated.

3.3 Progress towards the project Outcome

Outcome: Anguilla has an improved capacity to plan and implement invasive plant species management actions.

Indicator 1. At least three priority invasive plant species eradicated from Anguilla by June 2024.

Baseline condition: no significant action against invasive plants in Anguilla.

Progress to date: equipment ordered and stakeholders prepared (as discussed under Outputs above) to begin a programme of monitoring and eradication. In this case, the indicator as stated is unrealistic, since confirming a plant eradication takes longer than the project period (owing to technical considerations, such as longevity of the soil seedbank and a need to monitor management sites well beyond the recording of the last plant individual). This will be addressed by refining the wording of this indicator in a Change Request. However, the intention is still to

select suitable target species for eradication, make substantial progress towards their eradication by project end, and establish conditions for the continuation of this work post-project.

Indicator 2. Database on invasive plants established by June 2023. Baseline condition: no central repository of information or definitive list of invasive plants in Anguilla. Progress to date: basic information for the creation of a database of Introduced and Invasive Plants of Anguilla has been acquired. The present indicator is inadequate to describe Anguilla's needs, in that not only is a database of introduced plants required for planning and monitoring purposes, a second database relating to the project's management activities is also required. This will be addressed by refining this indicator in the forthcoming Change Request. To date, progress has been made towards the establishment of both the species database (information acquired) and the operational database (recording systems established).

Indicator 3. DNR and ANT routinely plan for, monitor and review territory-wide invasive plant management initiatives by June 2024. Baseline condition: although DNR and ANT coordinate their programmes as far as possible, no joint action against invasive plants had taken place. Progress to date: discussions held between DNR, ANT and DPlus project staff regarding invasive plant management priorities and possibilities for cooperation, although this has not yet evolved into a programme of regular consultation and joint planning, which is projected to begin during the course of the project. This Indicator seems adequate as a measure of progress.

Indicator 4. Key community stakeholders actively involved in monitoring and managing invasive plants by June 2023. Baseline condition: no such programme. Progress to date: stakeholders sensitised to the issue (especially during the training workshop) and expecting further involvement in plant survey and management and in planning, as the project progresses. This Indicator seems adequate as a measure of progress.

Despite the delays (especially to team recruitment), it still seems feasible to achieve the project's Outcome by the end of the funding period, with the caveat expressed above about plant eradication generally taking longer than the project period. This will be addressed by refining the indicator and planning for continuation of the project's programme of work beyond the DPlus funding period. Given that the purpose of the project is to establish a permanent programme of invasive plant management in Anguilla, this caveat is not inconsistent with the project purpose.

3.4 Monitoring of assumptions

Most of the stated assumptions still apply but none has caused significant changes to the project plan or risk to the project's success, with the following exceptions.

Assumption 1. Species selected for eradication are correctly identified as feasible and of high impact. Preliminary field work during April 2022 revealed that the initial selection of species considered potential eradication targets contained some errors of identification, while others are probably not feasible eradication targets (e.g. favoured ornamentals, species with efficient seed dispersal, or species already widely dispersed). This has resulted in some changes to detailed work planning (e.g. priority species, methods of management) but does not significantly affect the project plan.

Assumption 2. Cost-effective and acceptable control methods can be found for the target species which are suitable for Anguilla. For all target species, acceptable control methods either exist or probably do so (to be tested), but there have been difficulties importing some of the necessary supplies to Anguilla. These seem now to have largely overcome by identifying a suitable supply pathway, but delays acquiring supplies are still being experienced, largely because of delays receiving DPlus funding instalments after the end of each Quarter combined with a Govt of Anguilla requirement not to spend funds before they have actually been cleared into the relevant bank account in Anguilla.

Assumption 3. Expertise developed remains in Anguilla. Recruitment difficulties may result in project staff (Invasive Plant Specialist and Assistants) being brought in from outside Anguilla. A strong emphasis is to be placed on training of the local staff and members of partner and stakeholder organisations, in order to ensure programme sustainability.

Assumption 4. Landowners are cooperative and accept removal of plants from their land. This remains to be tested, but is unlikely to be fulfilled in the case of two of the original priority target species, both ornamentals. The likelihood of landowner cooperation remains to be tested in Anguilla, but this consideration has been partly dealt with by raising the priority of alternative target species.

Assumption 5. National institutions remain committed to long term invasive species management. DNR, ANT and others are likely to remain desirous of continuing work on invasive plants for the long term, but currently lack the resources to carry on such a programme beyond the project. All partners are aware of this limitation and committed to seeking ways to overcome it.

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

The project is designed to address invasive species, one of the major threats to the natural and human environment, as recognised in many international agreements, such as the Aichi targets. Progress in the past 6 months has included sensitising and encouraging local organisations to the issue and means to address it, by means of partner and stakeholder discussions, particularly during the April workshop.

The project contributes to helping Anguilla meet global objectives including Aichi Target 9 (invasive alien species and pathways identified and prioritized, priority species are controlled or eradicated and measures in place to manage pathways to prevent their introduction and establishment); UN 2030 Sustainable Development Goal Target 15.8 (by 2020 introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species); Recommendation 20 in the 2019 Environmental Audit Committee on Invasive Species (preventing species arriving); Invasive Non-Native Species Framework Strategy for Great Britain, Key Action 9.5 (strengthen support for the Overseas Territories and Crown Dependencies, for example by continuing Defra support for identification of invertebrate plant pests, sharing technical expertise, training, including biosecurity training); UK government's response to the IUCN Honolulu Challenge of 2016 (calling for greater action to tackle invasive species); UK Overseas Territories Biodiversity Strategy 2009, Strategic Objective ii (preventing the establishment of invasive alien species, and eradicating or controlling species that have already become established); the UK government's obligations to the OTs under the Global Britain Strategy; Environment Charter (ensure the protection and restoration of key habitats, species and landscape features through legislation and appropriate management, including the control and eradication of invasive species; Biodiversity Action Plan (facilitate Anguilla's obligations under the Convention on Biological Diversity and the Aichi targets); Invasive Species Strategy (ensure that Anguilla develop programmes to reduce the threat in alien invasive species and engage stakeholders for the management of such species; Biodiversity and Heritage Conservation Act: (provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity); Native Plant and Animal Habitat Conservation (Biodiversity) Policy; (take the necessary measures to control the intentional or accidental introduction or escape into or from the environment, of alien or modified organisms that are likely to impact adversely on other organisms or on the environment).

5. OPTIONAL: Consideration of gender equality issues

Gender balance in project partners and stakeholders is good (e.g. workshop participants c. 55 % female, 45 % male, and TAG members 50% male/female), with women occupying senior positions including the Director of ANT, the Chief of DNR and the Director of its Environment division. There is no a priori reason to suspect that the interactions of the project with the community, including landowners, would be gender-biased or subject to other aspects of social discrimination.

6. Monitoring and evaluation

The key responsibility for M&E lies with DNR, specifically in the post of Invasive Plant Specialist who will report progress to the TAG and SC. At the initiation of the project a work plan was developed (see Annex 6), which is updated periodically and checked against progress. The SC

will react and respond to the results of project activities and other relevant developments on the island, and feed back into planning for each phase of the project. The TAG is already functioning to provide higher-level oversight, as well as technical expertise as required. Iterative learning and adaptive management are achieved through close working of the project team with stakeholders, and a policy of open communication. All non-confidential project products and materials are placed on-line (see links in this document) where they are available for external verification as well as for sharing lessons learned as widely as possible. Techniques for plant management developed under Output 2 will be incorporated in training schedules, as well as summarised in the Weed Control Manual. This will include lessons in what works best, but also what is less effective, so that both positive and negative impacts are reported and taken into account in developing the Invasive Plant Strategy (Output 4). The invasive plant distribution surveys initiated in April 2022 will increasingly yield data that will inform and guide project progress. The Introduced and Invasive plant database will provide a basis for management decision making, with routine surveying of key species feeding into a “living map” post-project under the direction of DNR. Time and costs for M&E relate specifically to meetings of the TAG and SC (though much of this is covered by partner in-kind contributions), plus time for document preparation and review; TAG and SC meetings constitute the formal monitoring and evaluation mechanisms.

7. Lessons learnt

Staffing. There have been severe difficulties recruiting to the key position of Invasive Species Specialist, probably largely because of a combination of the high level of technical skills required, a small global pool of people with those skills (particularly plant eradication), challenges related to moving to Anguilla for 2–3 years and limitations on the terms and conditions of the post. A lesson might be to ensure that missing skills be supplied by expertise of TAG members, but in this case the existing TAG has not completely supplied the missing skills. A partial solution to this would be to ensure that the project TAG covers the full range of experience expected of the key position, so as to back up or replace any skills lacking in the selected candidate. However, a further lesson is that the skills development aspects of a project like this depend absolutely on finding a trainer with those skills, whereas in a developing field such as plant eradication such trainers are unavoidably in short supply. The project is currently exploring other options such as a secondment, and input from consultants.

Selection of plant species as eradication targets. The prioritisation process used in a pre-project workshop resulted in a list of potential target species, most of which do not seem to meet accepted criteria as feasible eradication targets, for various reasons such as use to the local community, seed dispersal mechanisms, wide distribution etc. This further emphasises the need for expertise in plant eradication when planning for such a project.

Matching DPlus and Govt of Anguilla (GoA) financial systems. There were various delays to equipment ordering and in paying project staff. Reasons include the purchasing flexibility demanded by a limited duration project being not readily compatible with GoA procedures, combined with DPlus disbursements not easily matching project payment schedules, and delays in identifying purchase and importation procedures acceptable to suppliers and to GoA. These difficulties may continue to affect project operations. They might to some extent have been overcome by discussions during project planning, but some of the mismatches might turn out to be inherent and unavoidable, given the understandable checks and limits built into government financial management systems. Fuller investigation of financial requirements during project planning might be recommended, in order to identify potential difficulties.

Training workshop. The workshop held in April 2022, primarily intended as training in plant survey techniques, succeeded perhaps beyond expectations in that it provided an opportunity for project participants from the UK and Anguilla to meet face to face in formal and informal settings, leading to the formation of personal friendships across organisations that can only benefit the project. Despite the availability of e-communications for meetings and planning, the value of an in-person event in being able to draw in unforeseen participants and allow everyone to get to know and understand each other’s background and points of view cannot be overstated. In the present case, the visit also provided the first opportunity for outside partners to review the situation of invasive plants in Anguilla and thereby make informed recommendations and contributions to the project’s plans.

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

Not applicable.

9. Other comments on progress not covered elsewhere

10. Sustainability and legacy

The project is now familiar to environmental organisations within Anguilla that naturally have a stake in it. Involvement of other sectors is planned for later stages of the project. The active involvement of partners and stakeholders in the SC, TAG and training workshop demonstrates increasing interest in its aims and increased capacity to participate.

The project's exit strategy relies on mainstreaming the work into the programmes of existing organisations in Anguilla, but it has become clear that this may be constrained by their limited staffing and wide responsibilities. The operational demands of the programme are beyond the current and projected local staffing capacities, which are unlikely to increase greatly during the lifetime of the project. The exit strategy must therefore consider ways to incorporate a lower-intensity programme into the work plans of existing organisations, or seek further support to enable their expansion. This limitation is clearly recognised by the partner organisations in Anguilla, including DNR and ANT, but means to overcome it have not yet been identified.

11. Darwin identity

The Darwin logo has been used on all project documents visible to stakeholders and others, such as materials for the training workshop (see <https://tinyurl.com/5wc243m6>). DPlus funding has been clearly identified as a project, although sustainability of the project's work will depend on the activities being continued as a longer term programme.

There is understanding of DPlus within the project participant and stakeholder organisations, which been informed of the DPplus funding. The preliminary surveys to find the target species involved local stakeholders from different villages in Anguilla, who were also informed of the funding source and the project goals.

12. Impact of COVID-19 on project delivery

Covid has not significantly impacted the work of the project. It may have influenced the decision of some potential staff candidates not to take up the advertised post, but we do not have any evidence that this was so. The easing of travel restrictions means that based on current trajectories any such impacts will not increase.

Project activities comply with local guidelines such as on mask-wearing etc. The project has so far managed without international travel with the exception of the workshop in April 2022, Most staff/planning meetings continue by electronic means, but project operations will require an increase in travel by key project personnel.

13. Safeguarding

Please tick this box if any safeguarding violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

The DNR is fully guided by the Government of Anguilla's safeguarding Code of Conduct policy known as General Orders. It ensures that all persons facilitating work in the public sector do it with high standards. Thus, all of the project activities thus far were done with this in mind. The participants were treated with respect and were given the opportunity to share any concerns with the facilitators. All opinions and suggestions were taken on board. Also recommendations from the TAG and from our key partners were incorporated into the project activities and

outputs. As we move forward with this project, it is our hope to continue to maintain and go above and beyond to ensure all voices are heard and that everyone is respected.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

Project spend (indicative) in this financial year	2021/22 D+ Grant (£)	2021/22 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs	██████	██████	██████	Invasive Species Specialist not recruited before end of funding period.
Consultancy costs	██████	██████	██████	Consultant as temporary substitute for Invasive Species Specialist
Overhead Costs	██████	██████	██████	
Travel and subsistence	██████	██████	██████	Visit to Anguilla, 2 people, for training workshop and work planning.
Operating Costs	██████	██████	██████	
Capital items	██████	██████	██████	
Others (Please specify)	██████	██████	██████	Herbicide could not be obtained in time for inclusion in this funding period owing to supply chain requirements
TOTAL	██████	██████	0	

The variances were approved following a Change Request in April 2022.

15. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

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

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 correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	Yes
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you need to submit with the report? 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.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	