Applicant: **Mukhida, Farah**
Organisation: **Anguilla National Trust**
Funding Sought: **£438,790.00**

DPR12S2\1017

Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

Over the past approximately 30 years, Critically Endangered Lesser Antillean iguanas (Iguana delicatissima) have disappeared from over 80% of their range. Only about 100 remain in Anguilla, most of them on a small offshore island. To enable species recovery in Anguilla, this project adopts an evidence-based approach to species conservation, identifying how individuals should be translocated to increase genetic viability and resilience and, through regional collaboration, reintroducing this ecological keystone species to the main island of Anguilla.

PRIMARY APPLICANT DETAILS

Name	Farah
Surname	Mukhida
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DPR12S2\1017

Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Name	Farah
Surname	Mukhida
Tel (Work)	[redacted]
Email (Work)	[redacted]
Address	[redacted]

GMS ORGANISATION

Type	**Organisation**
Name	Anguilla National Trust
Phone (Work)	[redacted]
Email (Work)	[redacted]
Website (Work)	[redacted]
Address	[redacted]

Section 2 - Title & Summary

Q3. Title:

Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

What was your Stage 1 reference number? e.g. DPR12S1\1123

DPR12S1\1039

Please attach a cover letter as a PDF document.

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Q4. Summary of project

Please provide a brief non-technical summary of your project: the problem/need it is trying to address, its aims, and the key activities you plan on undertaking.

Successful Darwin Plus Main projects must demonstrate substantial measurable outcomes in <u>at least one</u> of the themes of Darwin Plus either by the end of the project's implementation or via evidenced mechanisms for post-project delivery.

<u>Preference will be given to discrete projects implementing existing identified environmental solutions on the ground.</u>

The broad themes of Darwin Plus Main are:

- **Biodiversity:** improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;
- **Climate change:** responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
- **Environmental quality:** improving the condition and protection of the natural environment;
- **Capability and capacity building:** enhancing the capacity within UKOTs to support the environment in the short- and long-term.

Over the past approximately 30 years, Critically Endangered Lesser Antillean iguanas (Iguana delicatissima) have disappeared from over 80% of their range. Only about 100 remain in Anguilla, most of them on a small offshore island. To enable species recovery in Anguilla, this project adopts an evidence-based approach to species conservation, identifying how individuals should be translocated to increase genetic viability and resilience and, through regional collaboration, reintroducing this ecological keystone species to the main island of Anguilla.

Section 3 - UKOT(s), Dates & Budget Summary

Q5. UKOT(s)

Which UK Overseas Territory(ies) will your project be working in?

☑ Anguilla

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

No Response

In addition to the UKOTs you have indicated, will your project directly benefit any other Territories or country(ies)?

⦿ No

Q6. Project dates

Start date:	End date:	Duration (e.g. 2 years, 3 months):
01 April 2024	31 March 2027	3 years

Q7. Budget summary

Year:	2024/25	2025/26	2026/27	Total request
Amount:	[redacted]	[redacted]	[redacted]	£ [redacted]

Q8. Do you have matched funding arrangements?

⦿ Yes

Please ensure you clearly outline your matched funding arrangement in the budget.

Q9. If you have a significant amount of unconfirmed matched funding, please clarify how you will fund the project if you don't manage to secure this?

All match funding is confirmed and includes:
Anguilla National Trust (staff, overheads, travel and subsistence, public awareness): [redacted]
Durrell Wildlife Conservation Trust (staff): [redacted]
Université des Antilles (staff): [redacted]
Office National des Fôrets (genetic sample collection): [redacted]

Total confirmed match funding [redacted] (15% of total project budget)

Q10. Have you received, applied for or plan to apply for any other UK Government funding for the proposed project or similar?

⦿ No

Section 4 - Problem statement

Q11. Problem the project is trying to address

Please describe the problem your project is trying to address in the UKOTs, relating to at least one of the themes of Darwin Plus:

For example, what are the specific threats to the environment that the project will attempt to address? Why are they relevant, for whom? How did you identify the need for your project? Please cite the evidence you are using to support your assessment of the problem.

Listed as Critically Endangered by the IUCN, Lesser Antillean iguanas (Iguana delicatissima) have been extirpated from over 80% of their original distribution range, now restricted to just six islands in the Lesser Antilles, including Anguilla [01]. Iguana delicatissima is under threat from habitat loss, predation, poaching, disease from invasive species, and most importantly, displacement by and hybridization with invasive green iguanas (I. iguana) [02] [03]. Experiences from elsewhere in the region show that following invasion by the green iguana, I. delicatissima populations usually become extirpated within a few decades. Within the six remaining island nations that support populations of I. delicatissima, only five uninhabited offshore islands are home to I. delicatissima in the absence of the invasive green iguana (Figure 1).

From 2015 to 2022, to prevent local extirpation of this culturally important, ecological keystone species, ANT led the translocation of the 23 last known Lesser Antillean iguanas from mainland Anguilla to the offshore island Prickly Pear East, now a sanctuary for this species (Figure 2). Recognising that such a small founder population would have genetic risks [04], in 2021, the Government of Dominica donated ten individuals to supplement the population (DPLUS086). Despite this, the population remains small. Evidence from neighbouring islands has also highlighted the risks of inbreeding depression with iguanas from Saint Eustatius exhibiting severe physical deformities due to an historic population bottleneck [05]. As well as the need to increase genetic resilience of Anguilla's population, its long-term survival relies on expanding their range. However, before this can be done, we need to better understand the species genetics across its remaining range, as this directly informs both national and regional population management and potential conservation translocations.

While this is an Anguilla-focused project, the implications are wide-ranging because species recovery will require active collaboration across its range. As such, we have the support of regional scientists, natural resource managers, and research institutes.

This project is directly related to the overarching theme of biodiversity. The project establishes the foundation for I. delicatissima conservation throughout its range by assessing the species' genetic diversity, establishing a framework for translocation of individuals between islands and territories, and supports the evidence-based translocation of individuals to Fountain National Park mainland island (FNP) (DPLUS158). It will directly enhance and improve the long-term conservation status and resilience of one of Anguilla's (and the region's) most endangered species by increasing population size and genetic diversity. By raising awareness about Anguilla's native biodiversity and the impact of invasive alien species while increasing capacity of natural resources managers in endangered species conservation, Anguilla will be in an excellent position to not only safeguard our iguanas but to help bring this species back from the brink of extinction across its distribution range.

Section 5 - Environmental Conventions, Treaties and Agreements

Q12. Environmental Conventions, Treaties and Agreements

Please detail how your project will contribute to the aims of the national and/or international agreement(s) your project is targeting. What key UKOT Government priorities and themes will it address and how? You should also consider local, territory specific agreements and action plans here. Letters of support from UKOT Government partners/stakeholders should also make clear reference to the agreements/action plans your project is contributing towards.

This project supports the Convention on Biological Diversity by promoting protection of ecosystems, habitats and maintenance of viable populations of species (Article 8(d)), recovery of threatened species by implementing plans and management strategies (Article 8(f)), prevention, control, or eradication of species that threaten ecosystems, habitats, or species (Article 8(h)), and research that contributes to biodiversity conservation (Article 12(b)). This project also aligns with the 2030 Agenda for Sustainable Development as it seeks to halt biodiversity loss and prevent species extinction (Goal 15).

This project also addresses Government of Anguilla priorities outlined within the National Biodiversity Strategy and Action Plan by supporting multiplication and reintroduction of threatened species (Strategy 4(b)) and the National Environmental Management Strategy which prioritises protection and restoration of species and genetic diversity (Principle 13 Protect and Conserve Biological Diversity).

This project supports the implementation of the Lesser Antillean Iguana Conservation Strategy and Action Plan for the Northern Caribbean Sub-region (Objective 1 – Research and Monitoring: conservation management decisions are informed and evaluated through scientific research and monitoring, with research expertise and

findings shared across the sub-region; Objective 4 – Genetic Diversity: inbreeding depression in small I. delicatissima populations is prevented and even reversed by enhancing gene flow between isolated populations; Objective 5 – Biosecurity: biosecurity systems are strengthened to prevent the impacts and spread of invasive alien species, including pathogens, that may harm I. delicatissima and its habitat).

Although in draft, the project also addresses priority actions within the Regional Conservation Action Plan (especially, Objective 2 – Population Management: Viable populations of Iguana delicatissima are maintained or re-established in most of the range states to gain increased resilience to climate change and other pressures, including preserving the genetic diversity of I. delicatissima throughout its range; Objective 3 – Invasive Alien Species and Pathogens: Harmful invasive aliens are eradicated from key sites and biosecurity systems are strengthened in and between all islands to prevent the impacts and spread of invasive alien species and pathogens; and Objective 6 – Capacity: Collaborating national and regional agencies have and share sufficient technical capacity, funding and resources to implement the action plan effectively).

Section 6 - Method, Project Stakeholders, Gender, Change Expected, Pathway to Change & Exit Strategy

Q13. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- **how you reflected on and incorporated evidence and lessons learnt from past and present similar activities and projects in the design of this project.**
- **the specific approach you are using, supported by evidence that it will be effective, and justifying why you expect it will be successful in this context.**
- **how you will undertake the work (activities, materials and methods).**
- **how the main activities will be and where these will take place.**
- **how you will manage the work (governance, roles and responsibilities, project management tools, risks etc.).**

Since 2015, project partners have been working together to conserve Anguilla's Iguana delicatissima population, leading the successful translocation of 33 individuals to Prickly Pear East [01] between 2016 and 2021 (DPLUS086). The 2022 population census estimated the population to be 60 individuals [02]. While the population is growing, we are conscious that a founder population of 33 individuals is small, and microsatellite analysis of iguanas in Anguilla and elsewhere in the region has revealed island populations to be genetically depauperate [01, 03-04]. During regional I. delicatissima conservation planning meetings [e.g., 05], the need to better understand the population genetics of each remaining population has been identified as a high priority. This project draws and builds upon the knowledge and work already conducted by others working in the field of population genetics and evolutionary biology [01, 03]. The genetic management of endangered species is common practice in captive populations to prevent inbreeding. We will draw on the wide expertise of project partners Durrell Wildlife Conservation Trust (Durrell), Fauna & Flora, and Université des Antilles to help develop long-term conservation management strategies.

This project will specifically enable and involve:
(1) Increased understanding of the population. Existing microsatellite genetic studies of I. delicatissima [01] have proved useful for detecting hybridization and identifying genetic paucity within populations. However, microsatellite analysis is limited in the genetic information it can analyse (4 base pairs of the entire genome). With an increasing urgency to better understand our remaining populations, we will conduct RAD-sequencing on at least 20 samples from within each of the I. delicatissima populations (Anguilla, Saint Barthelemy, Saint Eustatius, Dominica, Guadeloupe – 4 populations, Martinique – 2 populations). Samples already exist for four of

the ten populations; additional samples are required from the remaining populations, and will be collected by trained individuals according to standard principles. In contrast to microsatellite analysis, RAD-sequencing allows for identification of genetic variation between individuals at tens of thousands of locations across the genome thereby allowing for a more precise understanding of genetic variability within and between individuals and species and hybrids. Samples will be analysed by Université des Antilles (Guadeloupe). This more detailed genetic analysis will support implementation of the (draft) regional I. delicatissima conservation action plan and, more directly, development of a range-wide I. delicatissima genetic management plan.

(2) Range-expansion of I. delicatissima in Anguilla. A feasibility/operational study will be devised for establishing a population of I. delicatissima within the pest-free Fountain National Park (FNP) mainland island (DPLUS158), along with recommendations on the source stock for establishing new populations. This study builds on an existing review which assessed the feasibility of I. delicatissima translocation options [05], including to FNP. One of the main constraints to translocating I. delicatissma to FNP when the study was conducted (2017) was that FNP was not a biosecure space. With work now being undertaken to establish the FNP mainland island, this option now becomes viable. The FNP-specific translocation feasibility study will consider IUCN guidelines for conservation translocations [06] and will include a thorough risk assessment, The feasibility study, along with the genetic management plan, will inform the reintroduction of I. delicatissima to FNP in Year 3.

(3) Improved biosecurity. As this project involves the translocation of I. delicatissima to a newly-established biosecure location (FNP), ensuring long-term biosecurity monitoring programmes and partnerships in key areas (FNP and a buffer area of at least 50m around FNP) is especially important. A biosecurity surveillance and I. iguana control programme to prevent incursions of green iguanas to FNP will be developed and implemented by trained staff and volunteers. Additional iguana population and biosecurity monitoring, adopting previously applied methodologies (including AI software (DPL00021) and potentially AI technology (DPR12S2\1016)) and surveillance for disease, will be conducted as part of on-going biosecurity monitoring protocols at both Prickly Pear East and FNP.

(4) Increased national capacity and understanding through the creation and implementation of a communication action plan, including a series of events targeted to a range of stakeholders and aimed at increasing understanding of Anguilla's important biodiversity. National capacity will be increased through cross-territory and in-territory trainings on biosecurity and endangered species monitoring, and data analysis.

This project is locally-led by ANT who will draw on project partners' expertise (Durrell, Fauna & Flora, Université des Antilles). Project partners, along with other invited advisors (including representatives from islands that form I. delicatissima's range, IUCN Iguana Specialist Group, Re:wild, GOA) will form a project steering group and technical committee, meeting at least bi-annually to discuss and oversee project implementation, including risk evaluation.

Q14. Project Stakeholders

Who are the stakeholders for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them

The Department of Natural Resources-Environment Unit (DNaR-EU) has been involved in discussions to develop this proposal and is entirely supportive of this applied research approach to endangered species conservation. They will review the genetic management plan and FNP reintroduction feasibility study and will facilitate CITES paperwork to export I. delicatissima genetic material for sequencing. DNaR-EU staff will be invited to all trainings related to biosecurity, endangered species monitoring, and data analysis.

During a DNaR-EU facilitated, DPLUS175-funded invasive species workshop, Customs Department officials indicated their interest in learning more about IAS and ways that biosecurity can be improved at ports of entry.

Through this project, we will provide training opportunities and materials to Customs Department staff on I. iguana identification and work with them to make ports of entry more biosecure.

We will engage the public through presentations, site visits, and other public awareness activities. We will also specifically engage young people through our environmental after school programmes, summer camps, field surveys, internship programmes, and class presentations. ANT members and volunteers will be engaged through training in and application of biosecurity protocols and through our monthly activity programme.

Regional natural resources managers involved in I. delicatissima conservation assisted with the development of this proposal. They have committed to collecting and sharing genetic samples from their iguana populations with results feeding into the regional genetic management plan. These regional collaborators are also supportive of regional translocations (as evidenced in the existing sub-regional conservation action plan and draft species action plan).

Q15. Gender equality and social inclusion

All applicants must consider whether and how their project will contribute to promoting equality between persons of different gender and social characteristics. Explain your understanding of how individuals may be excluded from equal participation within the context of your project, and how you seek to address this. You should consider how your project will proactively contribute to ensuring individuals achieve equitable outcomes and how you will engage participants in a meaningful way.

Practical aspects, impacts, and benefits of this project are species-focused and will not significantly impact on people directly. However, education and outreach will be important components. As start of project, we will develop a communications plan, considering stakeholders of all genders, ages, and professions, from young children through high-level government officials. Through our recent partnership with Gender Affairs Anguilla (DPLUS131), we have increased our understanding of how outreach activities can be targeted to appropriately engage a balanced range of stakeholders, for example through women in science events, father-child activities and family fun days. We will be intentional and adaptive in our monitoring of how inclusive we are, noting gender involvement as well as how we communicate with and encourage individuals of all genders and abilities to engage, including as volunteers, however they feel most comfortable.

This project will not employ new staff but will take advantage of ANT's highly-experienced, knowledgeable staff (4 cisgender females, 3 cisgender males). The project will be led by a cisgender woman while project partners and advisors (Durrell, Fauna & Flora, Université des Antilles, regional colleagues) have been selected for their knowledge, expertise, and positions to ensure project success.

Q16. Change expected

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for the environment and, where relevant, for people in the OTs, and how they are linked.

When talking about how people will benefit, please remember to give details of who will benefit, differences in benefits by gender or other layers of diversity within stakeholders, and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used.

In 2018, following the IUCN Iguana Specialist Group's I. delicatissima assessment, the Red List status of I. delicatissima was up-listed to Critically Endangered, signifying the species is at extremely high risk of extinction. This is certainly the case on Anguilla where there is only one breeding population on Prickly Pear East, making it

especially vulnerable to extirpation from not only habitat loss and conversion, predation, and hybridization but also from the impacts of genetic dynamics within small populations, including inbreeding depression.

To alleviate this risk, in the short-term, we will assess the genetics of our Prickly Pear East iguana population (to inform its management and determine whether it can serve as a source population), and establish a second population by reintroducing I. delicatissima to Fountain National Park mainland island. Following comprehensive genetic analyses, individuals will be sourced from within the species' range, thereby ensuring high levels of heterozygosity and increasing the newly-established population's resilience and robustness.

This project will increase national and regional capacity to implement the sub-regional I. delicatissima action plan (2018-2028) and the Iguana Specialist Groups Lesser Antillean iguana species conservation action plan (in draft). National biosecurity capacity will be increased through targeted training of natural resources managers, customs officials, and volunteers while increased awareness amongst decision-makers, influencers, and the public will increase support for on-the-ground conservation actions and biosecurity compliance.

In the long-term, this project will support a regional, collaborative approach to I. delicatissima conservation which is critical to its survival. By increasing shared knowledge of population dynamics, we can make informed decisions about how to maximise genetic diversity to ensure that small island populations are resilient to changing environments and external stressors. This project will lead to stronger national and regional partnerships, ultimately helping establish ecologically-functioning I. delicatissima populations throughout its range.

Q17. Pathway to change

Please outline your project's expected pathway to change. This should be an overview of the overall project logic and outline why and how you expect your Outputs to contribute towards your overall Outcome and, in the longer term, your expected Impact.

This project adopts a science-based, logical approach to the recovery of one of Anguilla's most at-risk reptile species by directly increasing I. delicatissima numbers, genetic diversity, and protected range.

Recognising that small populations are especially prone to inbreeding depression, by conducting surveys of our existing native iguana population and understanding our regional I. delicatissima populations at a genetic level, we can properly assess the genetic viability of existing island-territory I. delicatissima populations and develop a regional genetic management plan aimed at bolstering most at-risk populations, including within Anguilla. By implementing the plan and testing individuals for disease prior to moving them, we will re-establish a viable breeding population of native iguanas on the Anguilla mainland. By preventing hybridization with I. iguana through comprehensive and stringently-applied biosecurity protocols, we will create protected spaces within which our native iguanas can thrive. Through pre- and post-translocation monitoring, using distance sampling methods and artificial intelligence, project impacts will be quantitatively measured. Through public outreach and regional partnership, this project will raise awareness of the importance of native biodiversity, the precarious position of our most critically endangered species, and how, with concerted, intentional, long-term and collaborative conservation action, our native iguanas can be saved.

Q18. Sustainable benefits

How will the project reach a sustainable point and continue to deliver benefits post-funding? Will the activities require funding and support from other sources, or will they be mainstreamed in to "business as usual"? How will the required knowledge and skills remain available to sustain the benefits? If relevant, how will your approach be scaled? How will you ensure your data and evidence will be accessible to others?

This project takes an evidence-based, long-game approach to species conservation. Long-term species recovery within safeguarded spaces in Anguilla and across the region depends on the genetic viability of island-territory populations. By collaboratively developing a genetic management plan (Output 1), we recognise that movement between individual populations may be required; the plan enables the implementation of that framework (Output 2). As samples will be collected from I. delicatissima individuals from across their existing range, genetic analysis will be a one-time expense that will provide long-term benefits, used by conservation practitioners in Anguilla and across the region indefinitely. While I. delicatissima translocations between countries/territories post-project will come at a cost, there are smaller funding mechanisms that can support that work (IUCN small grants, FFI species fund). For Anguilla, should translocations between FNP and Prickly Pear East be required post-project, associated costs will be mainstreamed into operational budgets.

Data-driven monitoring systems (DPL00021) will evaluate species recovery while biosecurity systems (including potentially DPR12S1\1016) will maintain both FNP and Prickly Pear East as spaces free of invasive I. iguana (Output 3).

This project addresses our capacity needs by filling data gaps, creating practical, evidence-based species recovery plans and creating an effective team of local individuals through training in biosecurity and biodiversity monitoring and information sharing, thereby limiting the risk of losing local and institutional knowledge (Output 4).

The results of this project are widely applicable: the genetic management plan is critical to I. delicatissima population recovery across its existing and historic range. Results are meant to be shared with and used by our colleagues across the region. Lessons learned will be shared so that successes can replicated and constraints can be more easily overcome. Results will be shared through a peer-reviewed publication as well as through on-going Lesser Antillean Iguana Regional Meetings, and international forums/platforms.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

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Section 7 - Risk Management

Q19. Risk Management

Please outline the 6 key risks to achievement of your Project Outcome and how these risks will be managed and mitigated, referring to the Risk Guidance. This should include at least one Fiduciary, one Safeguarding, and one Delivery Chain Risk.

Risk Description	Impact	Prob.	Inherent Risk	Mitigation	Residual Risk

Fiduciary (Financial) Funds not used for intended purposes or not accounted for (fraud, corruption, mishandling, misappropriated)	High	Rare	High	Established, transparent accounting systems are in place that include requiring two signatures for every expenditure, quarterly financial reports to the Government of Anguilla, and annual audits of all financial accounts.	Low
Safeguarding Harm (intended or unintended) to beneficiaries, the public, implementing partners, staff	High	Rare	High	ANT's Safeguarding Policy and Employee Handbook includes zero-tolerance for harassment, bullying, and abuse. This forms part of contracts with third-party contractors and sub-grantees. A comprehensive system is in place to address any complaints (from within or outside of the organisation).	Low
Delivery Chain Currency fluctuations may weaken the pound sterling	Medium	Likely	Medium	All DPLUS funds are held as USD. ANT has legislated procurement processes in place to enable best value for goods and services. Equipment and the majority of consumables will be purchased during Year 1 of the project. The project budget has applied the average GBP value over the last year.	Medium
Risk 4 Failure to capture sufficient I. delicatissima on Anguilla (Prickly Pear East) and within its distribution range for genetic sampling and analysis	Medium	Rare	Medium	Only 20 individuals from each country-territory are required from each country-territory (except Anguilla where we will aim to capture more). ANT and regional organisations have extensive experience in capturing iguanas. Year 1 includes an extended field season to allow for capture should it prove to be more difficult than expected.	Low
Risk 5 Weather and/or logistical difficulties prevent field work and offshore island access	Medium	Possible	Medium	Project's duration will allow for work to be conducted over a period of numerous months, including those that coincide with the dry season. The amount of time allocated to fieldwork allows for flexibility and potential disruptions.	Low

Risk 6 Iguana iguana incursion	Medium	Unlikely	High	To enable I. iguana incursion rapid response, we will conduct: weekly FNP mainland fence integrity monitoring; bi-weekly in-person FNP biosecurity monitoring; monthly in-person Prickly Pear East biosecurity monitoring; AI technology (funding-dependent (DPR12S2\1016)). Prickly Pear restaurant staff already report iguana sightings. Public awareness campaign will target stakeholders/visitors about necessary biosecurity measures.	Low

Q20. Project sensitivities

Please indicate whether there are sensitivities associated with this project that need to be considered if details are published (detailed species location data that would increase threats, political sensitivities, prosecutions for illegal activities, security of staff etc.). Please note your response to this question won't influence the outcome of your application.

⦿ No

Section 8 - Workplan

Q21. Workplan

Provide a project workplan that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project.

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Section 9 - Monitoring and Evaluation (M&E)

Q21. Monitoring and evaluation (M&E) plan

Describe how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.

Darwin Plus projects will need to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see Finance Guidance).

ANT (Farah Mukhida, Project Leader, supported by Clarissa Lloyd, Programmes and Project Manager, will be responsible for ensuring the project is on schedule and monitored.

The project will be overseen by Project Steering Committee (PSC), comprised of principals from each project partner and invited external members. The PSC will meet at project start and at least biannually thereafter. M&E of project performance will focus on management and oversight of project activities to ensure and enhance project implementation efficiency and effectiveness. Project activity implementation will be compared to those scheduled within the work plan and logframe to address any issues related to project output delivery, including identification of any problems, constraints, lessons learned, and recommendations for improvement. Progress reports and implementation reviews will be compiled every six months, in line with PSC meetings and DPLUS reporting requirements.

A Technical Committee (TC), comprised of PSC members and advisors from Université de les Antilles, IUCN Iguana Specialist Group, and representatives from the current I. delicatissima distribution range (Government of Dominica Department of Forestry, Office National des Forêts (Guadeloupe, Martinique), Agence Territoriale de l'Environnement (St. Barthelemy), St. Eustatius National Parks) will also be established. The TC, which will also include representatives from DNaR, RSPB, and Re:wild, will act as a scientific advisory and review committee and will peer review the genetic management plan (Output 1), translocation feasibility plan (Output 2), and other key project tools including biosecurity protocols (Output 3). Scientific manuscripts, reports and case studies (Output 4) will be rigorously assessed through peer review before publication.

To measure impacts of this work on iguana populations on Prickly Pear East and FNP, we will apply standardised monitoring protocols beginning in Year 1, including the application of population monitoring methods and artificial intelligence software. Comprehensive population assessments will be conducted at project start (Output 1) and at least every three years post-project to measure and provide evidence of strengthened biosecurity systems (Output 3) and the impact of translocation efforts (Output 2).

Biosecurity monitoring at Prickly Pear East and FNP will be required to ensure that translocated iguana populations are safeguarded. Careful monitoring (and repair) of the mainland island fencing and biosecurity monitoring of Prickly Pear East will be conducted following peer-reviewed biosecurity protocols throughout the project as well as post-project (Output 3).

The success and usefulness of training exercises and exchange of knowledge (Output 4) will be assessed through questionnaires of individuals taking part in training exercises. The effectiveness of public awareness initiatives (Output 4) will be measured using KAP surveys and data analytic tools readily available on social media platforms.

The M&E plan will allow for adaptive and iterative project management. We recognise not everything always goes according to plan and that steps may need to be taken to ensure success both within the context of the project and long-term. DPLUS will be consulted regarding options and appropriate actions that can be taken should M&E exercises indicate that means of implementation or indicators of any component of the project require reconsideration.

Total project budget for M&E (£) **(this may include Staff and Travel and Subsistence Costs)**	[redacted]
Total project budget for M&E (%)	7

Number of days planned for M&E	50

Section 10 - Logical Framework

Q23. Logical Framework (logframe)

Darwin Plus projects will be required to monitor and report against their progress towards their Outputs and Outcome. This section sets out the expected Outputs and Outcome of your project, how you will measure progress against these and how we can verify this.

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Impact:

Healthy, ecologically-functioning populations of Lesser Antillean iguanas Iguana delicatissima are established and maintained on Anguilla, ensuring this species long-term survival, while supported by collaborative conservation action across the species' range.

Outcome:

Anguilla's Lesser Antillean iguana population is bigger, more resilient, and safeguarded through evidence-based conservation planning and action

Project Outputs
Output 1:
Impacts of inbreeding depression, gene flow and hybridisation in small Lesser Antillean iguana populations assessed and integrated into species conservation action planning
Output 2:
Safeguarded I. delicatissima population (re)established on the Anguilla mainland
Output 3:
Biosecurity systems strengthened to prevent the impacts and spread of invasive alien species and pathogens
Output 4:
National capacity to plan, manage, implement and monitor conservation management actions is raised, supported by enhanced technical skills and greater public awareness and cooperation
Output 5:
No Response

Do you require more Output fields?

It is advised to have fewer than 6 Outputs since this level of detail can be provided at the Activity level.

⦿ No

Activities

Each activity is numbered according to the Output that it will contribute towards, for example, 1.1, 1.2, 1.3 are contributing to Output 1.

1.1 Conduct population assessment on Prickly Pear East, using a combination of distance sampling and capture-mark-recapture and Artificial Intelligence methodologies.
1.2 Collect morphological data from all I. delicatissima individuals captured on Prickly Pear East as well as from randomly captured I. iguana on the Anguilla mainland to help establish phenotypic patterns between the two species.
1.3 Collect genetic (blood) samples from all captured I. delicatissima from Prickly Pear East according to best practice methodologies.
1.4 Working with regional partners, collect genetic (blood) samples from at least 200 iguanas from St. Barthélemy, St. Eustatius, Martinique (mainland and Chancel islands), Guadeloupe (specifically from the islands of Petite Terre, La Desirade and Basse-Terre islands), and Dominica.
1.5 Conduct genetic analyses, using a combination of Restriction Site-Associated DNA Sequencing (RAD-Seq) and microsatellite analysis.
1.6 Using genetic analyses results, assess I. delicatissima genetic structure across its range and identify the best potential sources to establish new and to strengthen existing populations on Anguilla (and elsewhere).

2.1 Confirm sensitivity of Devrisea agamarum pathogen test on asymptomatic individuals.
2.2 Draft I. delicatissima translocation feasibility study/operational plan for mainland Anguilla and the species' historical range.
2.3 Apply pathogen test on individuals captured for translocation.
2.4 Translocate I. delicatissima to Fountain National Park mainland island (source population to be confirmed and based on results of Output 1).
2.5 Monitor movement and health status of translocated iguanas through regular surveys and the use of already established AI facial recognition software (DPL00021).

3.1 Create I. iguana reporting mechanism/hotline for Fountain National Park mainland island area and Prickly Pear cays.
3.2 Implement and continue with biosecurity surveillance and I. iguana control programme to prevent incursions of green iguanas within Fountain National Park and Prickly Pear East (and West) as well as at main ports of entry.
3.3. Conduct rapid iguana population monitoring, using Artificial Intelligence methodologies, whenever biosecurity monitoring is undertaken at Fountain National Park and Prickly Pear East.
3.4 Collect genetic samples of all captured sub-adult and hatchling iguanas encounted during 3.3 and conduct microsatellite analysis to confirm genotype (and rule out hybridization).

4.1 Develop communications and outreach campaign.
4.2 Conduct public survey to evaluate knowledge, attitudes, and performance (KAP) towards Critically Endangered I. delicatissima (repeated at end of project to evaluate project impact).
4.3 Undertake trainings and on-the-job mentoring of ANT staff and biosecurity partners/stakeholders in biodiversity monitoring.
4.4.Undertake trainings and on-the-job mentoring of ANT staff and project partners/stakeholders in in situ conservation management including distance sampling techniques and data analysis.
4.5 Publicise and report on project progress and results through national and international media and directly to national groups, cross-territory stakeholders, international scientific community and Government of Anguilla

Cabinet, as outlined within the communications and outreach plan.
4.6 Hold monthly meetings with already-established regional Lesser Antillean iguana conservation group.

Other project management activities:
X.1 Establish Project Steering Committee and meet biannually (remote members to participate by Zoom).
X.2 Project inception meeting.
X.3 Project biannual reports/donor technical and financial reports.
X.4 Monthly financial accounts.
X..5 End of project audit.

Section 11 - Budget and Funding

Q24. Budget

Please complete the appropriate Excel spreadsheet which provides the Budget for this application and ensure the Summary page is fully completed. Some of the questions earlier and below refer to the information in this spreadsheet.

BCF-St2-Budget-DPR12S2_1017-iguanas
30/09/2023
14:41:38
xlsx 99.5 KB

Q25. Alignment with other funding and activities

This question aims to help us understand how familiar you are with other work in the geographic/thematic area, and how this proposed project will build on or align with this to avoid any risks of duplicating or conflicting activities.

Q25a. Is this new work or does it build on existing/past activities (delivered by anyone and funded through any source)?

⦿ Development of existing work

Please provide details:

This project builds on work undertaken in Anguilla and Caribbean region, using lessons learned and technology that has become more refined and accessible.

Between 2015 and 2021, the ANT translocated 33 I. delicatissima to Prickly Pear East, supported by Darwin Plus (DPLUS086). As we sought to safeguard our remaining I. delicatissima, our primary consideration was ensuring that all translocated individuals were pure I. delicatissima, and not hybrids.

Following the development of a sub-regional action plan [02], a regional Lesser Antillean action plan [03], and a population assessment on Prickly Pear East which confirmed population growth, the importance of addressing potential genetic erosion and inbreeding depression within our small and isolated population has become not only our priority, but that of all other countries/territories on which I. delicatissima are found. Genetic samples have previously been collected within almost all of these countries/territories and microsatellite genetic markers have been used to identify basic genetic variation amongst populations [04]. RAD sequencing, however, provides high-resolution genetic data at relatively low cost [05]. Results provide much better insight into potential

hybridization further along the ancestral line, population heterozygosity, and how we can expand and secure our populations safely without amplifying the potential for inbreeding depression.

Q25b. Are you aware of any current or future plans for work in the geographic/thematic area to the proposed project?

⦿ Yes

If yes, please give details explaining similarities and differences, and explaining how your work will be additional, avoiding duplicating and conflicting activities and what attempts have been/will be made to co-operate with and share lessons learnt for mutual benefit.

DPLUS158 established the FNP mainland island beginning with the construction of pest-proof, hurricane-resistant fence (just completed). Invasive species, including I. iguana, are scheduled to be removed from within the fenced area by the end of 2023. The restored FNP mainland island will create a safe space for I. delicatissima that will be translocated through this project.

DPLUS175 focuses on developing inventories of invasive non-native species (INNS) to inform prevention and management. We will collaborate with customs officials, providing in-person training in species identification and animal handling and provide practical recommendations to support biosecurity enhancement at ports of entry.

DPR12S2\1016 (under review) focuses on enhancing biosecurity protocols through cutting-edge but trialed and tested AI technology within restored areas, including Prickly Pear and FNP. It will support a rapid response to I. iguana incursions.

DPR12ST\1009 (under review) seeks to improve Caribbean UKOT at-border biosecurity through inspection training, improved infrastructure, front-line rapid response plans, pathway analyses and risk assessment, and biosecurity legislation. Our project will benefit from this proposed project through more rigorous and legislated biosecurity at ports of entry, further safeguarding our translocated I. delicatissima populations. We will also share our findings and results to further enhance established at-border biosecurity systems.

Q26. Balance of budget spend

Defra are keen to see as much Darwin Plus funding as possible directly benefiting UKOT communities and economies. While it is appreciated that this is not always possible every effort should be made for funds to remain in-Territory.

Explain the thinking behind your budget in terms of where Darwin Plus funds will be spent. What benefits will the Territory/ies see from your budget? What level of the award do you expect will be spent locally? Please explain the decisions behind any Darwin Plus funding that will not be spent locally and how those costs are important for the project.

The majority (c.72%) of project funds will be spent in-territory, supporting on-ground project implementation, with c.16% of the total budget allocated to consultancy-related expenditure and 13% allocated to RAD sequencing of genetic samples over the three-year project period. Staff expenditure outside of the ANT supports the involvement of international experts who will either train and build long-term capacity of local partners and stakeholders (especially in population management and recovery, collection of genetic samples, disease testing) (Durrell) or assist with I. delicatissima genetic analysis (Université des Antilles) – this knowledge and level of technical expertise is not available within Anguilla. One percent of the budget is allocated to regional partners to support the collection of in-country/territory I. delicatissima genetic samples in Year 1 of the project.

Forty-five percent of the total budget will be spent employing local staff to conduct biodiversity and biosecurity monitoring, collect genetic samples, draft, finalise and implement recovery plans, and facilitate volunteer

training initiatives (biodiversity and biosecurity monitoring) and community engagement through educational and outreach activities. Direct involvement in all aspects of project implementation by five local staff members and at least 24 stakeholders and volunteers will build national capacity and ensure sustainability of the project.

Q27. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

This project represents excellent value for money. Project partners provide significant in-kind contributions (time, overhead) (c.15% total project cost, [redacted]) while the project brings together government and nongovernment stakeholders from across the Caribbean and Europe, working towards the conservation and recovery of one of the region's most at-risk species.

This project will require upfront investment (c.12% Darwin Plus funding, [redacted]) to support I. delicatissima genetic and disease testing, with sample testing/analysis being conducted in the US and Guadeloupe. Results of analyses will transform the way we plan, design, and execute I. delicatissima recovery programmes across the region, allowing for informed decision making while recognising that the health and survival of native iguana populations will likely depend on collaborative actions and sharing knowledge, expertise, and genetic resources.

With ANT implementing on-the-ground project activities, methods along with genetic and translocation plans will continue to be applied post-project, especially to monitor and support species recovery.

The project budget has been developed based on ANT's and project partners' experiences in undertaking biodiversity and biosecurity monitoring, translocating iguanas from mainland Anguilla and Dominica to Prickly Pear East, and public awareness activities in Anguilla.

Genetic and disease testing costs are based on direct discussions with specialised labs.

Knowledge sharing and training costs have been calculated based on our experience in organising similar initiatives while staffing salaries are based on national accepted averages.

This project builds on work already being conducted (DPLUS158) and will benefit from other projects in the pipeline should they be funded (DPR12S2\1016, DPR12ST\1009).

Q28. Capital items

If you plan to purchase capital items with Darwin Plus funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

Capital items account for only c.1% of Darwin Plus funding. Equipment that will be purchased include GPS units and smart devices for inputting data directly into biodiversity and biosecurity databases while in the field (through the on-line app developed through DPL00021). A project laptop will also be purchased for use by the Project Lead who will be responsible for developing recovery plans, overseeing project development and implementation, and project reporting. All equipment will remain with the ANT after the project and will support our legacy work.

Section 12 - Safeguarding and Ethics

Q29. Safeguarding

All projects funded under the Biodiversity Challenge Funds must ensure proactive action is taken to promote the welfare and protect all individuals involved in the project (staff, implementing partners, the public and beneficiaries) involved in the project from harm. In order to provide assurance of this, projects are required to have specific procedures and policies in place.

Please upload the following required policies:

- **Safeguarding Policy:** including a statement of commitment to safeguarding and a zero tolerance statement on bullying, harassment and sexual exploitation and abuse.
- **Whistleblowing Policy:** which details a clear process for dealing with concerns raised and protects whistle blowers from reprisals.
- **Code of Conduct:** which sets out clear expectations of behaviours – inside and outside the workplace – for all involved in the project and makes clear what will happen in the event of non-compliance or breach of these standards.

If any of these policies are integrated into a broader policy document or handbook, please upload just the relevant or equivalent sub-sections to the above policies, with (unofficial) English translations where needed.

Please outline how (a) beneficiaries, the public, implementing partners, and staff are made aware of your safeguarding commitment and how to confidentially raise a concern, (b) safeguarding issues are investigated, recorded and what disciplinary procedures are in place when allegations and complaints are upheld, (c) you will ensure project partners uphold these policies.

If your approach is currently limited or in the early stages of development, please clearly set out your plans address this.

ANT has several policies and guidelines in place to fully protect vulnerable people, beneficiaries, and staff, including ANT's Employee Handbook, ANT Code of Conduct, and Child and Vulnerable Adult Protection Policy. ANT is subject to GOA's policies related to safeguarding children and vulnerable persons and the Criminal Code and Child Protection Act. All ANT staff are provided with copies of all policies, guidelines, and Acts, receiving training upon hiring and annually thereafter to ensure they are understood and implemented. Safeguarding policies are shared with ANT programme beneficiaries.

ANT adopts a zero-tolerance approach to infractions. This extends to agencies we work with and forms part of our third party and sub-grantee contracts and agreements.

As outlined within our policies and procedures, we will maintain a detailed register of all safeguarding and code of conduct issues raised and how they were addressed. ANT policies and procedures indicate that ANT work directly with GOA Ministry of Social Development and Royal Anguilla Police Force to identify appropriate actions to be taken in response to allegations of abuse and to address the needs of abuse survivors. Confidentiality of parties involved (including whistle-blowers) is protected to the greatest extent possible, consistent with a thorough investigation.

Q30. Ethics

Outline your approach to meeting the key principles of good ethical practice, as outlined in the guidance.

As legal and ethical obligations are not legislated in Anguilla (there are no regulations), we apply best practice to access and benefit sharing as established under the Nagoya Protocol (written consent from all government and nongovernment partners/contributors to access the genetic resource and assent to mutually agreed terms for undertaking research, outlining of monetary and non-monetary benefit sharing). Individuals assisting with data

analysis will also be required to sign a research permit/agreement, outlining how results may be used and shared, data ownership and authorship, and acknowledgement requirements for all papers, reports, and manuscripts produced.

Raw data collected/generated through this project will be shared with all partners and contributors, recognising that all contributors have a right to use that data. Any existing data used to support project implementation belong solely to the contributor of that data and may only be used with expressed and explicit consent of the owner.

A health and safety policy for ANT staff will be enforced and, for those partners/agencies that do not have such a policy, will be shared with adoption required.

All plans, reports, and manuscripts developed through this project will be subject to rigorous peer review to ensure credibility of findings and recommendations.

Section 13 - Project Staff

Q31. Project staff

Please identify the core staff (identified in the budget), their role and what % of their time they will be working on the project.

Name (First name, Surname)	Role	% time on project	1 page CV or job description attached?
Farah Mukhida	**Project Leader**	25	Checked
Clarissa Lloyd	Project coordinator	50	Checked
Devon Carter	Information manager	50	Checked
Giovanni Hughes	Project field staff	100	Checked

Do you require more fields?

⊙ Yes

Name (First name, Surname)	Role	% time on project	1 page CV or job description attached?
Kimberly Gumbs	Financial adminstrator and adminstrative support	10	Checked
Matthias Goetz	Herpetologist advisor	8	Checked
Etienne Bezault	Geneticist	20	Checked
Fauna & Flora Caribbean Lead	Species reintroduction advisor	3	Checked

No Response	*No Response*	0	Unchecked
No Response	*No Response*	0	Unchecked
No Response	*No Response*	0	Unchecked
No Response	*No Response*	0	Unchecked

Please provide 1 page CVs (or job description if yet to be recruited) for the project staff listed above as a combined PDF.

BCF-St2-CVs-DPR12S2_1017-iguanas
29/09/2023
11:10:33
pdf 796.5 KB

Have you attached all project staff CVs and job descriptions?

⦿ Yes

Section 14 - Project Partners

Q32. Project partners

Please list all the Project Partners (including the Lead Partner who will administer the grant and coordinate delivery of the project), clearly setting out their roles and responsibilities in the project including the extent of their engagement so far.

This section should demonstrate the capability and capacity of the Project Partners to successfully deliver the project. Please provide Letters of Support for all project partners or explain why this has not been included.

Lead partner name:	Anguilla National Trust
Is the Lead Partner based in a UKOT where the project is working?	⦿ Yes

Why is this organisation the Lead Partner, and what value to they bring to the project? (including roles, responsibilities and capabilities and capacity):	As Anguilla's leading environmental NGO, ANT has >30 years' experience in conserving and protecting species and their habitats, species reintroductions, restoring offshore cays, raising public environmental awareness, and creating opportunities for direct stakeholder engagement in conservation intervention implementation. Since 2015, ANT has been leading Anguilla's I. delicatissima recovery programme, including mainland island population assessments, drafting of a Prickly Pear East feasibility study, reintroduction of a founder population to Prickly Pear East, and collaborating with partners in Dominica to translocate additional iguanas to Prickly Pear East. ANT conducted the first post-reintroduction/translocation population survey on the offshore cay last year, drawing on knowledge and expertise from the Cayman Islands' Department of Environment. ANT also has established, long-standing relationships will all project partners and collaborators and sits on the IUCN Iguana Specialist Group. ANT will have overall responsibility for project management, monitoring, and evaluation, and will work with project partners to strengthen local capacity to conserve I. delicatissima populations. ANT will also undertake I. delicatissima population monitoring and genetic sampling, biosecurity monitoring, IAS control (as necessary), species reintroduction to FNP, and outreach. ANT will contribute to the development of the I. delicatissima genetic management plan and lead on the FNP reintroduction feasibility study.
Allocated budget (proportion or value):	[redacted]
Representation on the Project Board (or other management structure)	⦿ Yes
Have you included a Letter of Support from the Lead Partner?	⦿ Yes

Do you have partners involved in the Project?

⦿ Yes

1. Partner Name:	Durrell Wildlife Conservation Trust (Durrell)
Website address:	www.durrell.org

What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	Durrell is a leading international wildlife conservation NGO in the UKOTs. Durrell has three central components to its work: a focus on pursuing conservation efforts that are based on sound science, with results published to demonstrate impact; an ability to respond rapidly, especially to protect species close to extinction, combining a suite of in situ with ex situ conservation actions; and a commitment to developing capacity within local communities and partner organisations to build a long-term future for conservation. Durrell brings >30 years' experience in in and ex situ endangered species conservation in the Eastern Caribbean, including c.20 years in Anguilla, in partnership with ANT and Government of Anguilla. Durrell was an important project partner in ANT's efforts to reintroduce I. delicatissima to Prickly Pear East, providing invaluable technical advice and support on iguana capture, handling, husbandry, and reintroduction. Durrell will be a key member of the Project Steering Committee, leading on genetic sampling training of local counterparts, assisting with data analysis, facilitating pathogen testing, and contributing to translocation planning and implementation. Head of the Herpetology Department, Matthias Goetz, is an expert on reptile conservation and husbandry, including experience with I. delicatissima, and will also sit on the Technical Committee.
UKOT-based/other Partner	⊙ Other
Allocated budget (proportion or value):	[redacted]
Representation on the Project Board (or other management structure)	⊙ Yes
Have you included a Letter of Support from this organisation?	⊙ Yes

2. Partner Name:	Université de les Antilles
Website address:	www.univ-ag.fr/

What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	The Université des Antilles is a leading Caribbean university with campuses in Guadeloupe and Martinique. The University has extensive expertise in scientific and technological research, with a mandate to ensure that research results are accessible and shared widely. The Université des Antilles, represented by geneticist and professor Dr Etienne Bezault, will lead on the interpretation of Lesser Antillean genetic sample analysis and publication of results. Dr Etienne Bezault has extensive knowledge and experience in (amongst other things) population genetics, genotyping, and DNA and RNA extraction and is supported by a team of graduate students to assist with data analysis and reporting. Dr Etienne Bezault will sit on the Project Steering Committee and Technical Committee and will lead on genetic data analysis and manuscript writing and advise on species management reintroduction planning.
UKOT-based/other Partner	⦿ Other
Allocated budget (proportion or value):	[redacted]
Representation on the Project Board (or other management structure)	⦿ Yes
Have you included a Letter of Support from this organisation?	⦿ Yes

3. Partner Name:	Fauna & Flora
Website address:	www.fauna-flora.org
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	Established in the UK in 1903, Fauna & Flora has worked in the Caribbean since 1994 where the organisation has become renowned for restoring island ecosystems, building conservation capacity, and reversing the decline of critically threated island native and endemic species. Fauna & Flora played a critical role, supporting the reintroduction of I. delicatissima to Prickly Pear East, leading on the successful DPLUS158 project that focused on the protection and recovery of seven of Anguilla's most at-risk species. Most recently, they are leading (with the ANT) on the creation of the FNP mainland island. Fauna & Flora staff will assist genetic management and reintroduction planning and implementation as well as report and manuscript review. Fauna & Flora communications staff will assist in disseminating updates through the organisation's website, social media, and wide network of media contacts. Fauna & Flora will be an integral member of the Project Steering Committee and Technical Committee.

UKOT-based/other Partner	[redacted]
Allocated budget (proportion or value):	⊙ Other
Representation on the Project Board (or other management structure)	⊙ Yes
Have you included a Letter of Support from this organisation?	⊙ Yes

4. Partner Name:	n/a
Website address:	n/a
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	n/a
UKOT-based/other Partner	⊙ Other
Allocated budget (proportion or value):	£0.00
Representation on the Project Board (or other management structure)	⊙ No
Have you included a Letter of Support from this organisation?	⊙ No
If no, please provide details	n/a

5. Partner Name:	n/a
Website address:	n/a
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	n/a
UKOT-based/other Partner	⊙ Other
Allocated budget (proportion or value):	£0.00
Representation on the Project Board (or other management structure)	⊙ No

Have you included a Letter of Support from this organisation?	⦿ No
If no, please provide details	n/a

6. Partner Name:	n/a
Website address:	n/a
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	n/a
UKOT-based/other Partner	⦿ Other
Allocated budget (proportion or value):	£0.00
Representation on the Project Board (or other management structure)	⦿ No
Have you included a Letter of Support from this organisation?	⦿ No
If no, please provide details	n/a

Please provide a combined PDF of all letters of support.

BCF-St2-LettersOfSupport-DPR12S2_1017-iguanas
30/09/2023
15:06:47
pdf 2.74 MB

Section 15 - Lead Partner Capability and Capacity

Q33. Lead Partner Capability and Capacity

Has your organisation been awarded Biodiversity Challenge Funds (Darwin Plus, Darwin Initiative or Illegal Wildlife Trade Challenge Fund) funding before?

⦿ Yes

If yes, please provide details of the most recent awards (up to 6 examples).

Reference No	Project Leader	Title
DPL00021	Farah Mukhida	Establishing digital conservation tools for enhanced conservation management and policy-making

DPLUS158	Farah Mukhida (Co-Leader)	Piloting a new solution for invasive species in UKOTs
DPLUS137	Farah Mukhida (Co-Leader)	Transforming Anguilla's Marine Parks: institutionalising sustainable and collaborative management solutions
DPLUS131	Farah Mukhida	A "B-Line" to Re:wilding: Anguilla's Pollinators Project
DPLUS086	Farah Mukhida (Co-Leader)	Future-proofing endangered species conservation in Anguilla
DPLUS013	Farah Mukhida	Promoting the creation and appropriate management of protected areas

Have you provided the requested signed audited/independently examined accounts?

◉ Yes

Section 16 - Certification

Certification

On behalf of the

Trustees

of

Anguilla National Trust

I apply for a grant of

£438,790.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- **I enclose CVs for key project personnel, a cover letter, letters of support, a budget, logframe, Safeguarding and associated policies, and project workplan.**
- **Our last two sets of signed audited/independently verified accounts and annual report (covering three years) are also enclosed.**

Checked

Name	Farah Mukhida
Position in the organisation	Executive Director

Signature (please upload e-signature)	FMukhida signature 27/09/2023 18:41:34 jpg 59.28 KB
Date	30 September 2023

Please attach the requested signed audited/independently examined accounts.

ANT Annual Reports-2019-2022
28/09/2023
18:00:17
pdf 4.07 MB

Please upload the Lead Partner's Safeguarding Policy as a PDF

BCF-St2-SafeguardingPolicies-DPR12S2_1017-iguanas
27/09/2023
18:42:37
pdf 745.55 KB

Section 17 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance**, including the "Guidance Notes for Applicants", "Monitoring Evaluation and Learning Guidance", "Standard Indicator Guidance", "Risk Guidance", and "Finance Guidance".**	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 budget based on UK government financial years **i.e. 1 April – 31 March and in GBP.**	Checked
I have checked that our budget is complete, **correctly adds up and I have included the correct final total at the start of the application.**	Checked
The application been signed by a suitably authorised individual **(clear electronic or scanned signatures are acceptable).**	Checked
I have attached the below documents to my application: • **a** cover letter from the Lead Partner**, outlining how any feedback received at Stage 1 has been addressed where relevant and referencing any potential conflicts of interest, as a single PDF.**	Checked
• **my** completed logframe **as a PDF using the template provided and using "Monitoring Evaluation and Learning Guidance" and "Standard Indicator Guidance".**	Checked
• **my budget (which meets the requirements above) using the template provided.**	Checked

• **a signed copy of the last 2 annual report and accounts for the Lead Partner, or provided an explanation if not.**	Checked
• **my completed workplan as a PDF using the template provided**	Checked
• **a copy of the Lead Partner's Safeguarding Policy, Whistleblowing Policy and Code of Conduct (Question 28).**	Checked
• **1 page CV or job description for each of the Project Staff identified at Question 30, including the Project Leader, or provided an explanation of why not, combined into a single PDF.**	Checked
• **a letter of support from the Lead Partner and partner(s) identified at Question 31 and relevant OT Governments, or an explanation of why not, combined into a single PDF.**	Checked
My additional supporting evidence is in line with the requested evidence, amounts to a maximum of 5 sides of A4, and is combined as a single PDF.	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
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 the Darwin Initiative and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Checked

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 the Darwin Initiative including project details (usually title, lead partner, project leader, location, and total grant value).

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

Guidance – please delete before submitting

Provide a **Workplan** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Quarters are based on UK FYs (**1 April – 31 March** - Q1 therefore starts April 2024).

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 quarters in which an activity will be carried out. The activity numbers should correspond to the activities in your logical framework (logframe). The workplan can span multiple pages if necessary.

This template covers multiple Biodiversity Challenge Funds schemes, so ensure you check the eligible dates/project length for the scheme you are applying to and feel free to delete later years if not applicable for your project.

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Impacts of inbreeding depression in small Lesser Antillean iguana populations assessed and integrated into species conservation action planning													
1.1	Conduct population assessment on Prickly Pear East, using a combination of distance sampling and capture-mark-recapture and Artificial Intelligence methodologies	2.5	x	x	x									
1.2	Collect morphological data from all *I. delicatissima* individuals captured on Prickly Pear East as well as from randomly captured *I. iguana* on the Anguilla mainland to help establish phenotypic patterns between the two species	1.5	x	x	x									

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.3	Collect genetic (blood) samples from all captured *I. delicatissima* from Prickly Pear East according to best practice methodologies	2	x	x	x									
1.4	Working with regional partners, collect genetic (blood) samples from at least 200 iguanas from St. Barthélemy, St. Eustatius, Martinique, Guadeloupe, and Dominica	2	x	x	x									
1.5	Conduct genetic analyses, using a combination of Restriction Site-Associated DNA Sequencing (RAD-Seq) and microsatellite analysis	6				x	x	x	x	x				
1.6	Using genetic analyses results, assess *I. delicatissima* genetic structure across its range and identify the best potential sources to establish new and to strengthen existing populations on Anguilla (and elsewhere)	1								x	x			
Output 2	**Safeguarded *I. delicatissima* population (re)established on the Anguilla mainland**													
2.1	Confirm sensitivity of *Devrisea agamarum* pathogen test on asymptomatic individuals	2.5				x	x	x	x					

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.2	Draft *I. delicatissima* translocation feasibility study/operational plan for mainland Anguilla and the species' historical range	0.5									x	x		
2.3	Apply pathogen test on individuals captured for translocation	0.5											x	
2.4	Translocate *I. delicatissima* to Fountain National Park mainland island (source population to be confirmed and based on results of Output 1)	0.75											x	
2.5	Monitor movement and health status of translocated iguanas through regular surveys and the use of already established AI facial recognition software (DPL00021)	0.5											x	x
Output 3	**Biosecurity systems strengthened and applied to prevent the impacts and spread of invasive alien species and pathogens**													
3.1	Create *I. iguana* reporting mechanism/hotline for Fountain National Park mainland island area and Prickly Pear cays	0.25	x											

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.2	Implement and continue with biosecurity surveillance and *I. iguana* control programme to prevent incursions of green iguanas within Fountain National Park and Prickly Pear East (and West) as well as at main ports of entry	2	x	x	x	x	x	x	x	x	x	x	x	x
3.3	Conduct rapid iguana population monitoring, using Artificial Intelligence methodologies, whenever biosecurity monitoring is undertaken at Fountain National Park and Prickly Pear East	2	x	x	x	x	x	x	x	x	x	x	x	x
3.4	Collect genetic samples of all captured sub-adult and hatchling iguanas encounted during 3.3 and conduct microsatellite analysis to confirm genotype (and rule out hybridization)	2	x	x	x	x	x	x	x	x	x	x	x	x
Output 4	**National capacity to plan, manage, implement and monitor conservation management actions is raised, supported by enhanced technical skills and greater public awareness and cooperation**													
4.1	Develop communications and outreach campaign	0.25	x											

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.2	Conduct public survey to evaluate knowledge, attitudes, and performance (KAP) towards Critically Endangered *I. delicatissima* (repeated at end of project to evaluate project impact)	2	x	x	x							x	x	x
4.3	Undertake trainings and on-the-job mentoring of ANT staff and biosecurity partners/stakeholders in biodiversity monitoring	0.5	x	x							x	x		
4.4	Undertake trainings and on-the-job mentoring of ANT staff and project partners/stakeholders in *in situ* conservation management including distance sampling techniques and data analysis	0.5	x	x							x	x		
4.5	Publicise and report on project progress and results through national and international media and directly to national groups, cross-territory stakeholders, international scientific community and Government of Anguilla Cabinet, as outlined within the communications and outreach plan	2	x	x	x	x	x	x	x	x	x	x	x	x
4.6	Hold monthly meetings with already-established regional Lesser Antillean iguana conservation group	1.5	x	x	x	x	x	x	x	x	x	x	x	x

Project Title: Big trouble for small populations: saving Anguilla's Critically Endangered iguanas

	Activity	No. of months	Year 1 (24/25)				Year 2 (25/26)				Year 3 (26/27)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Other														
X.1	Establish Project Steering Committee and meet biannually (remote members to participate by Zoom)	0.25	x		x			x			x			x
X.2	Project inception meeting	0.25	X											
X.3	Project biannual reports/donor technical and financial reports	1			x			x			x			x
X.4	Monthly financial accounts	0.75	x	x	x	x	x	x	x	x	x	x	x	X
X.5	End of project audit	1												x

Project Title: Big Trouble for Small Populations: safeguarding Anguilla's Critically Endangered iguanas

Project Summary	**SMART Indicators**	**Means of Verification**	**Important Assumptions**
Impact: Healthy, ecologically-functioning populations of Lesser Antillean iguanas *Iguana delicatissima* are established and maintained on Anguilla, ensuring this species long-term survival, while supported by collaborative conservation action across the species' range.			
Outcome: Anguilla's Lesser Antillean iguana population is bigger, more resilient, and safeguarded through evidence-based conservation planning and action	0.1 Population dynamics and genetics integrated into Lesser Antillean iguana conservation actions and plans by end of project 0.2 A protected population of Lesser Antillean iguanas established within Fountain National Park by end of project 0.3 Capacity of at least 6 natural resources managers to understand and respond to Lesser Antillean iguana conservation needs increased through enhanced understanding of population ecology, practical frameworks to guide conservation interventions, and	0.1 Publicly-available species action plan 0.2 Species translocation and monitoring reports 0.3 *I. delicatissima* genetic management plan; updated regional Lesser Antillean conservation action plan; genetic sampling protocols; iguana population and biosecurity monitoring database; ANT annual reports; training records	All project activities completed within the timeframe of the project Lesser Antillean iguana populations on Prickly Pear East and Fountain National Park remain safeguarded from common green iguanas Regional iguana conservation network remains active, engaged, and committed Visitors to Fountain National Park and Prickly Pear East continue to abide by biosecurity protocols

	training in applied conservation in by end of project		
Outputs: **1**. Impacts of inbreeding depression, gene flow and hybridisation in small Lesser Antillean iguana populations assessed and integrated into species conservation action planning	1.1 *I. delicatissima* population assessment conducted by end of Q2Y1, with results available by end of Q3Y1 **[DPLUS-C02]** 1.2 Genetic diversity and population viability across the species' range assessed by end of Q4Y2 1.3 Regional *I. delicatissima* conservation translocation plan that considers the genetics of remaining populations developed by end of Q1Y3	1.1 Population and morphological assessment report 1.2 RAD-Sequencing and microsatellite analysis results (N=240); genetic diversity and population viability manuscript 1.3 Regional translocation plan; preliminary stud book	Field activities can be rescheduled if extreme weather events affect Anguilla during the project period Colleagues and agencies from within *I. delicatissima* range continue to be engaged and willing to cooperate on conservation initiatives
2. Safeguarded *I. delicatissima* population (re)established on the Anguilla mainland	2.1 Fountain National Park mainland island *I. delicatissima* translocation feasibility study/operational plan developed by end of Q2Y3 **[DPLUS-C01]** 2.2 Reintroduction of healthy *I. delicatissima* individuals to Fountain National Park mainland island (based on the results and recommendations of the genetic	2.1 Fountain National Park mainland island *I. delicatissima* translocation feasibility study/operational plan 2.2 Reintroduction reports; pathogen risk assessment; pathogen reports; (re)introduction monitoring data records and database	Fountain National Park mainland island constructed and in operation as planned by January 2024 Regional colleagues continue to be engaged and willing to cooperate on conservation initiatives

	management plan and feasibility/operational study) by end of Q3Y3		
3. Biosecurity systems strengthened to prevent the impacts and spread of invasive alien species and pathogens	3.1 Public reporting mechanism for *I. iguana* established for Prickly Pear cays and Fountain National Park mainland island by end of Q1Y1 3.2 Long-term biosecurity protocols and plans reviewed and piloted to prevent *I. iguana* incursions on Prickly Pear cays, Fountain National Park mainland island and ports of entry by end of Q1Y1 3.3. Rapid *I. delicatissima* and *I. iguana* surveys conducted and genetic samples of all captured individuals collected during each biosecurity assessment at Prickly Pear Pear East (c.36 assessments) and Fountain National Park mainland island (c.72) throughout project period	3.1 *I. iguana* hotline (mobile phone and/or social media platform); iNaturalist page 3.2 Biosecurity training reports (including attendance sheets, training materials); biosecurity plan and protocols; biosecurity monitoring reports 3.3 Population and morphological assessment reports; Artificial Intelligence facial recognition database record; genetic samples; genetic analysis report/records	National stakeholders continue to be willing to cooperate on conservation initiatives, including following biosecurity protocols Fountain National Park mainland island constructed and in operation as planned by January 2023 Population and genotype assessment surveys can be rescheduled if extreme weather events affect fieldwork schedules Should *I. iguana* manage to by-pass biosecurity systems, incursions are addressed quickly and effectively
4. National capacity to plan, manage, implement and monitor conservation management actions is raised, supported by enhanced technical skills and greater public awareness and cooperation	4.1 Communications and public outreach plan developed by and implemented beginning of Q1Y1 4.2 At least 70% of nationals (c.8,500 people) know about the project and show improved	4.1 Communications and public outreach plan 4.2 Knowledge-Attitudes-Performance (KAP) surveys at the start and end of project;	Trained expertise remains in Anguilla Improved knowledge/ access to knowledge leads to improved habitat and species conservation

	understanding of why *I. delicatissima* merits conservation and the importance of biosecurity by end of project	Press releases; social media analytics; radio recordings; poster; PowerPoint presentations	Residents willing to complete KAP surveys
	4.3 At least ten individuals from the Government of Anguilla Customs Department, Agriculture Unit-Department of Natural Resources and Anguilla National Trust trained in and are able to apply biosecurity monitoring protocols beginning in Q2Y1	4.2 Identification guide; training sign-in sheets; *I. iguana* control protocols; *I. iguana* control database; genetic sampling protocols; genetic sampling records and database	
	4.4 At least ten individuals from the Government of Anguilla and Anguilla National Trust trained in genetic sampling protocols as an applied conservation technique by end of Q2Y1, with trained individuals proficiently collecting samples as part of the genotype assessment in Q2Y3 **[DPLUS-A01]**	4.3 Training sign-in sheets; genetic sampling protocols; genetic sampling records and database	
	4.5 At least 20 volunteers assisting project partners with biosecurity surveillance and iguana population assessments by end of project **[DPLUS-BO5]**	4.4 ANT volunteer logbook; biosecurity monitoring records and database; population assessment records and database	
	4.6 At least three national organisations with improved capability and capacity in biodiversity and/or biosecurity	4.5 Competencies report	

	monitoring by end of project **[DPLUS-A03]** 4.7 Project reported/presented in/through at least three press releases, bi-annual updates on social media, at least two radio programmes, poster in public space, public presentations, International Biodiversity Day festivities, regional/international iguana specialist group conferences and meetings, and at least one peer-reviewed manuscript	4.6 Press releases; social media analytics; radio recordings; poster; PowerPoint presentations; photographs; minutes of meetings; draft manuscript	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1. Each activity should start on a new line and be no more than approximately 25 words.)

1. Impacts of inbreeding depression in small Lesser Antillean iguana populations assessed and integrated into species conservation action planning

1.1 Conduct population assessment on Prickly Pear East, using a combination of distance sampling and capture-mark-recapture and Artificial Intelligence methodologies.
1.2 Collect morphological data from all *I. delicatissima* individuals captured on Prickly Pear East as well as from randomly captured *I. iguana* on the Anguilla mainland to help establish phenotypic patterns between the two species.
1.3 Collect genetic (blood) samples from all captured *I. delicatissima* from Prickly Pear East according to best practice methodologies.
1.4 Working with regional partners, collect genetic (blood) samples from at least 200 iguanas from St. Barthélemy, St. Eustatius, Martinique (mainland and Chancel islands), Guadeloupe (specifically from the islands of Petite Terre, La Desirade and Basse-Terre islands), and Dominica.
1.5 Conduct genetic analyses, using a combination of Restriction Site-Associated DNA Sequencing (RAD-Seq) and microsatellite analysis.
1.6 Using genetic analyses results, assess *I. delicatissima* genetic structure across its range and identify the best potential sources to establish new and to strengthen existing populations on Anguilla (and elsewhere).

2. Safeguarded *I. delicatissima* population (re)established on the Anguilla mainland

2.1 Confirm sensitivity of *Devrisea agamarum* pathogen test on asymptomatic individuals.
2.2 Draft *I. delicatissima* translocation feasibility study/operational plan for mainland Anguilla and the species' historical range.

2.3 Apply pathogen test on individuals captured for translocation.
2.4 Translocate *I. delicatissima* to Fountain National Park mainland island (source population to be confirmed and based on results of Output 1).
2.5 Monitor movement and health status of translocated iguanas through regular surveys and the use of already established AI facial recognition software (DPL00021).

3. Biosecurity systems strengthened and applied to prevent the impacts and spread of invasive alien species and pathogens
3.1 Create *I. iguana* reporting mechanism/hotline for Fountain National Park mainland island area and Prickly Pear cays.
3.2 Implement and continue with biosecurity surveillance and *I. iguana* control programme to prevent incursions of green iguanas within Fountain National Park and Prickly Pear East (and West) as well as at main ports of entry.
3.3. Conduct rapid iguana population monitoring, using Artificial Intelligence methodologies, whenever biosecurity monitoring is undertaken at Fountain National Park and Prickly Pear East.
3.4 Collect genetic samples of all captured sub-adult and hatchling iguanas encounted during 3.3 and conduct microsatellite analysis to confirm genotype (and rule out hybridization).

4. National capacity to plan, manage, implement and monitor conservation management actions is raised, supported by enhanced technical skills and greater public awareness and cooperation
4.1 Develop communications and outreach campaign.
4.2 Conduct public survey to evaluate knowledge, attitudes, and performance (KAP) towards Critically Endangered *I. delicatissima* (repeated at end of project to evaluate project impact).
4.3 Undertake trainings and on-the-job mentoring of ANT staff and biosecurity partners/stakeholders in biodiversity monitoring.
4.4.Undertake trainings and on-the-job mentoring of ANT staff and project partners/stakeholders in *in situ* conservation management including distance sampling techniques and data analysis.
4.5 Publicise and report on project progress and results through national and international media and directly to national groups, cross-territory stakeholders, international scientific community and Government of Anguilla Cabinet, as outlined within the communications and outreach plan.
4.6 Hold monthly meetings with already-established regional Lesser Antillean iguana conservation group.

Other project management activities:
X.1 Establish Project Steering Committee and meet biannually (remote members to participate by Zoom).
X.2 Project inception meeting.
X.3 Project biannual reports/donor technical and financial reports.
X.4 Monthly financial accounts.
X..5 End of project audit.