# Darwin Plus Main & Strategic: Annual Report

To be completed with reference to the "Project Reporting Information Note"
(https://darwinplus.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 2025**

**Submit to: BCF-Reports@niras.com including your project ref in the subject line**

## Darwin Plus Project Information

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| Scheme (Main or Strategic) | Main |
| Project reference | DPLUS211 |
| Project title | Big Trouble for Small Populations: safeguarding Anguilla's Critically Endangered iguanas |
| Territory(ies) | Anguilla |
| Lead Organisation | Anguilla National Trust |
| Project partner(s) | Durrell Wildlife Conservation Trust, Fauna & Flora, Université de les Antilles |
| Darwin Plus grant value | £438,790 |
| Start/end dates of project | 1 Apr 2024-31 Mar 2027 |
| Reporting period (e.g. Apr 2024-Mar 2025) and number (e.g. Annual Report 1, 2) | 1 Apr 2024-31 Mar 2025 |
| Project Leader name | Farah Mukhida |
| Project website/blog/social media | |
| Report author(s) and date | Farah Mukhida, Louise Soanes; 30 Apr 2025 |

## 1. Project summary

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. *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*. 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).

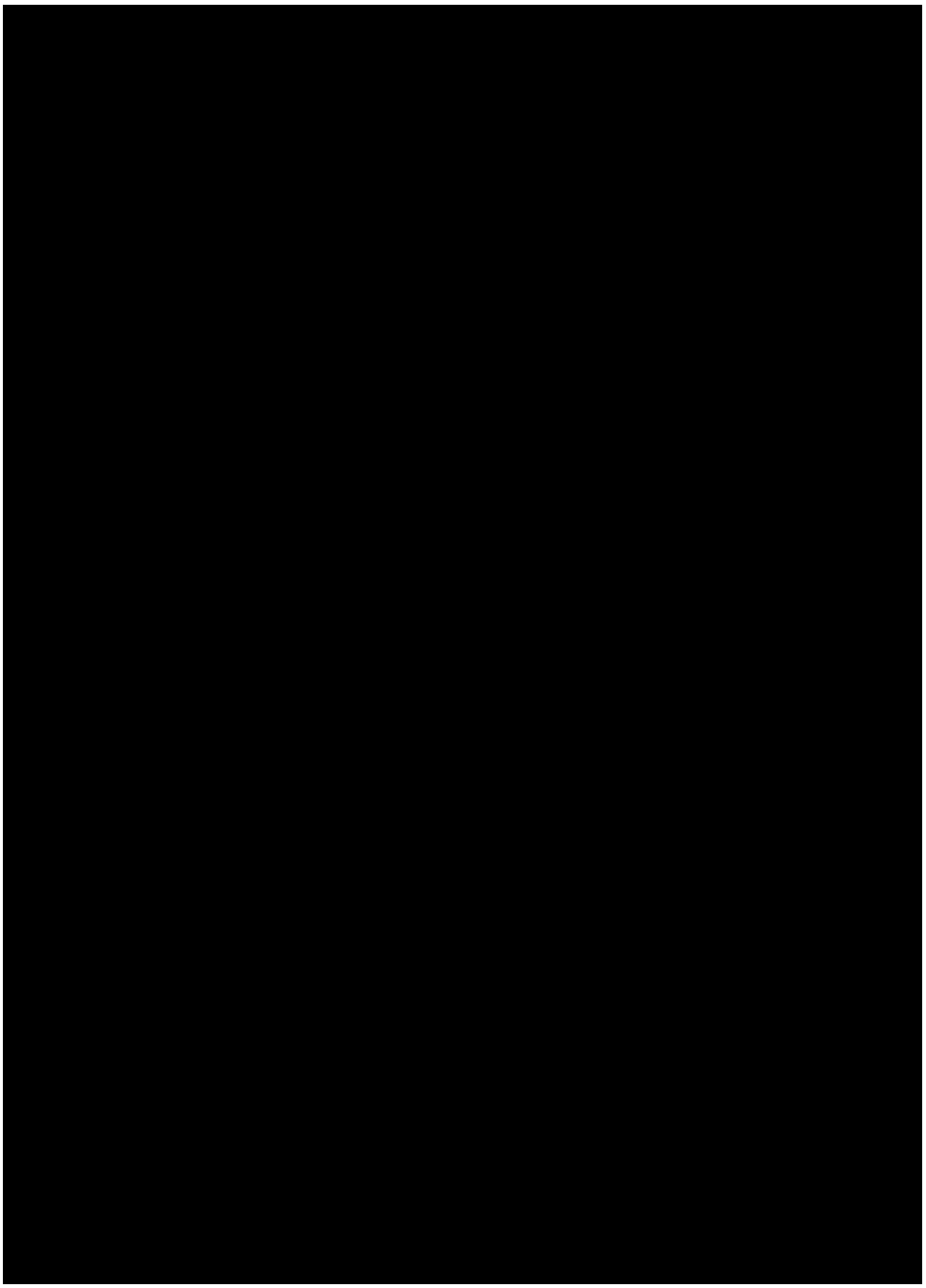


Figure 1. Distribution of *Iguana delicatissima* and *Iguana iguana*, including *Iguana delicatissma* x *Iguana iguana* hybrids, in the Lesser Antilles.

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, 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. 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.

Figure 2. Distribution of *Iguana delicatissima* and *Iguana iguana*, including *Iguana delicatissma* x *Iguana iguana* hybrids, in Anguilla.

While this is an Anguilla-focused project, the implications are wide-ranging because species recovery will require active collaboration across this species 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**, establishing 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 supporting 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.

## 2. Project stakeholders/partners

While the primary goal of this project is the recovery of Lesser Antillean iguanas in Anguilla, regional collaboration is crucial. In its first year, the project prioritized engaging stakeholders to develop and strengthen a **regional Lesser Antillean iguana working group**. This group unites representatives from key agencies across the iguana's range: Anguilla (Anguilla National Trust - ANT), St. Barthélemy (Agence Territoriale de l'Environnement - ATE), St. Eustatius (St. Eustatius National Parks - STENAPA), Martinique (Aquasearch), Dominica (Wild Dominica), and Guadeloupe (Office National des Fôrets - OFB, Ardops Environnement). Recognizing St. Martin's proximity and historical iguana presence, representatives from the Réserve Naturelle Nationale de St. Martin (RNSM) also joined. Furthermore, external experts in iguana and herpetological conservation, along with DPLUS211 project partners – including Durrell Wildlife Conservation Trust (Durrell), Fauna & Flora International, Re:wild, the Université des Antilles

(UA), the Royal Society for the Protection of Birds (RSBP), and members of the IUCN Iguana Specialist Group (ISG) – form an integral part of the working group.

Although a smaller working group with less comprehensive representation existed following a 2022 regional conservation planning meeting in Dominica, it lacked focused and cohesive discussions beyond national updates. Securing funding through the Biodiversity Challenge Funds provided a clear framework for collaboration and action, enabling the working group to become a focused and effective Project Steering Committee (PSC). In this capacity, it provides high-level project coordination and monitors progress. The working group also functions as a supportive network where members share challenges and seek advice. This collaborative spirit has fostered mutual assistance, with the St. Martin representatives serving as a crucial link for the northern Lesser Antillean members (Anguilla, St. Barthélemy, St. Eustatius, St. Martin). Furthermore, our French West Indies partners (Guadeloupe, Martinique, St. Barthélemy, St. Martin) actively support their French counterparts with iguana population monitoring, genetic sampling, while also facilitating administrative processes such as CITES import permits. To date, the working group has met on nine occasions (Evidence 1).

## 3. Project progress

### 3.1 Progress in carrying out project Activities

Activities being conducted through this DPLUS211 project fall within four main Outputs: 1. Impacts of inbreeding depression, gene flow and hybridisation in smaller Lesser Antillean iguana populations assessed and integrated into species conservation action planning; 2. Safeguarded Lesser Antillean iguana population (re)established on the Anguilla mainland; 3. Biosecurity systems strengthened to prevent the impacts and spread of invasive alien species and pathogens; and 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 1. Impacts of inbreeding depression, gene flow and hybridisation in smaller Lesser Antillean iguana populations assessed and integrated into species conservation action planning.**

Activities under Output 1 for the first year of the project included collecting morphological data from all *I. delicatissima* individuals captured on Prickly Pear East as well as invasive common green iguanas *I. iguana* captured on the Anguilla mainland, collecting genetic (blood/tissue) samples from all captured *I. delicatissima* from Prickly Pear East according to best practice methodologies, and working with regional partners to collect genetic samples from iguanas from across their range (9 populations).

To lay a strong foundation for population assessments, we worked closely with project partners and regional colleagues during the first year of the project to establish standardized protocols for iguana morphological data collection (covering what to measure, measurement techniques, and recording procedures) and genetic sampling (Evidence 2). Thanks to this collaborative effort, all islands and project partners are now employing these consistent methods to gather iguana morphological data. This standardised approach significantly improves our ability to compare individual iguanas across the species' current range.

Genetic sampling was also conducted by the ANT and our regional partners. The aim of this work is to enhance our understanding of *I.* delicatissima across its range. As there has also been interbreeding of *I. delicatissima* with invasive common green iguanas and, depending on how far back in their lineage interbreeding may have occurred, hybrids may not be detected by morphological differences alone. Our working group therefore highlighted the need to also sample *I. iguanas* and *I. delicatissima* x *I. iguana* hybrids (when captured and detected), enabling for genetic comparisons. Although our initial target number of sampled *I. delicatissima* individuals was 20 per population (with 10 existing Lesser Antillean populations across the region, for a total of 200 across the region), this number is not set in stone as we also wanted to allow for genetic sampling of common green iguanas. In Anguilla, we captured and sampled 17 Lesser Antillean iguanas on Prickly Pear East and five common green iguanas at two sites

on the Anguilla mainland (Evidence 3). Samples have been shipped to UA for further processing and analysis. Samples from St. Eustatius have also been shared (Evidence 3) while samples have been collected from iguanas (no. Lesser Antillean iguana samples = 20) from Dominica but the necessary CITES permit is pending. Sampling is still underway on Guadeloupe and Martinique (almost complete, with just one population on each of the islands left to sample). Sampling on St. Barthelemy was delayed due to sea conditions making it difficult to land on the single offshore cay where Lesser Antillean iguanas are found, but sampling is underway. Although there are no Lesser Antillean iguanas on St. Martin, having been extirpated following the invasion of common green iguanas, the working group agreed that it would be helpful to collect green iguana samples from the island, especially considering it is a pathway for invasion to Anguilla, St. Barthelemy, and St. Eustatius with cargo and passenger boats frequently moving between these islands. Sampling is scheduled to be conducted in early May.

In Anguilla, collecting genetic samples was prioritised over conducting the population assessment. While the results of the 2022 Prickly Pear East Lesser Antillean iguana population assessment suggested an approximate two-fold increase in population (from 33 individuals to an estimated 60 individuals), the population is still small. Compounded by Prickly Pear's unusually lush vegetation and the skittishness of the iguanas, we knew that finding and capturing iguanas would be difficult and take some time but we were able to complete the sampling work by early December. Since then, sea conditions have not been conducive to safely and consistently landing on the offshore island. We therefore decided to postpone the population assessment to the summer of 2025 when sea conditions are far more predictable (and safer). Vegetation should also be drier at that time of year, making iguana detection easier (Lesser Antillean iguanas spend most of their time in tree canopy/on branches). This delay does not impact the project outcome and does not have any repercussions on any other aspect of project work.

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

The only activity under Output 2 for the first year of the project involved confirming the sensitivity of the *Devrisea agamarum* pathogen test on asymptomatic individuals. In order to do this, we first needed to establish standardised and best practice protocols for collecting pathogen samples from symptomatic and asymptomatic iguanas (both native and Lesser Antillean iguanas and invasive common green iguanas) (Evidence 3). Pathogen samples have been (and are being) collected at the same time as genetic sampling and all pathogen samples from Anguilla and St. Eustatius have been forwarded to UA in Guadeloupe. Once samples from all of the populations across the region have been collected, they will be shipped together to a lab in Germany for analysis as well as to confirm and strengthen the pathogen testing.

**Output 3. Biosecurity systems strengthened and applied to prevent the impacts and spread of invasive alien species and pathogens.**

Activities under Output 3 for the first year of the project included creating an *I. iguana* reporting mechanism/hotline for Fountain National Park mainland island area and the Prickly Pear cays, implementing and continuing with biosecurity surveillance and *I. iguana* control programme to prevent incursions of green iguanas into Fountain National Park and Prickly Pear East (and West) as well as at main ports of entry, and conducting rapid iguana population monitoring, using AI methodologies, whenever biosecurity monitoring is taking place at Fountain National Park and Prickly Pear East.

During the first year of the project, we continued with our biosecurity surveillance programme at Fountain National Park and the Prickly Pear Cays. Using protocols developed by Wildlife Management International Ltd. following the successful eradication of rodents from Prickly Pear East and West in 2018 and the removal of rodents and other target species (including common green iguanas and livestock) from Fountain National Park in 2024 (Evidence 4), we have been conducting biosecurity checks (no. biosecurity checks = 28). We are pleased to report that both sites have since remained common green iguana- (and rodent)-free.

To complement our on-the-ground biosecurity monitoring programme, we are currently developing a webpage and an on-line form that residents and visitors will be able to use to

submit any reports of green iguana sightings at either of these sites. We have also designed and printed a large sign which will be installed on the landing beach at Prickly Pear with our contact (hotline) number in case any green iguanas are sighted by visitors to the island. We have also installed a sign on the fence at the entrance to Fountain National Park mainland island, requesting visitors to be vigilant and to report any green iguanas on site.

We also have a close relationship with the owners of and workers at the two restaurants that operate on Prickly Pear East. They report when they see iguanas and, so far, they have only reported Lesser Antillean iguanas. In addition, while we have received some calls regarding common green iguanas on the mainland, almost all reports have been related to the invasive species disturbing agricultural lands and being a nuisance in people's backyards. We have received two reports of green iguanas outside of Fountain National Park's mainland island fence; we were unable to capture either individual as one escaped our capture attempts and the other was not in the area when we arrived after receiving the report. For the latter, the individual indicated that the fence was a deterrent with the iguana unable to climb over it.

**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.**

Activities under Output 4 for the first year of the project included developing a communications and outreach campaign, conducting a public survey to evaluate knowledge, attitudes, and performance (KAP) towards Critically Endangered Lesser Antillean iguanas, undertaking trainings and on-the-job mentoring of ANT staff and partners/stakeholders in biosecurity and biodiversity monitoring, publicising and reporting on project progress and results, and holding monthly meetings with our regional Lesser Antillean iguana working group.

To put our public awareness and outreach strategy (Evidence 5) into context, we disseminated a public survey using Google Forms to evaluate knowledge, attitudes, and performance towards our Lesser Antillean iguanas as well as the invasive common green iguana. Forty-four individuals responded and we have analysed the results of these surveys (Evidence 6).

As part of our efforts to enhance national capacity, one new ANT staff member and 11 volunteers were trained in biosecurity monitoring protocols (Evidence 7) while six ANT staff and two volunteers were trained by colleagues from STENAPA and Durrell in how to safely (and humanely) take blood samples from iguanas, and one new ANT staff member and two volunteers were trained in how to collect iguana morphometric data, with a total of 18 individuals receiving training in at least one area (6 ANT staff and 12 volunteers).

We have shared news about the project on Facebook (reach = 1045 accounts) as well as on our ANT listserv which includes ANT members, supporters, as well as Government of Anguilla Ministers and elected officials (reach = 173 individuals). We presented on the project at our Annual General Meeting (December 2024) (reach = 67 people) and at our budget briefing meeting with the Government of Anguilla Executive Council (February 2025) (reach = 11 people). In addition, we recently partnered with a small luxury cruise ship. As part of this partnership, we presented on the work of the ANT, highlighting our nature conservation projects and programmes, including our native iguana conservation efforts and biosecurity programme, and guiding natural history walking tours of Prickly Pear East and/or Fountain National Park mainland island (reach = 183 individuals) (Evidence 5).

As previously mentioned, to ensure effective project coordination and to support Lesser Antillean iguana conservation across its distribution range, our regional Lesser Antillean iguana working group, consisting of government and non-government agencies conducting iguana conservation in Anguilla, St. Eustatius, St. Barthélemy, Dominica, Guadeloupe, Martinique, and St. Martin, along with project partners Durrell, Fauna & Flora, Re:wild, the ISG, and UA have met a total of nine times, including a project inception meeting (Evidence 1). This group also serves as our Project Steering Committee.

## 3.2 Progress towards project Outputs

**Output 1. Impacts of inbreeding depression, gene flow and hybridisation in smaller Lesser Antillean iguana populations assessed and integrated into species conservation action planning.**

Since 2015, the ANT has been working with project partners based in Dominica (the Forestry Division and Wild Dominique), with Re:wild Fauna & Flora, and Durrell to conserve Anguilla's critically at-risk Lesser Antillean iguana population, leading to the successful translocation of 33 individuals to Prickly Pear East between 2016 and 2021 (supported by DPLUS086), including ten individuals from Dominica. We conducted microsatellite analysis of iguanas in Anguilla and elsewhere in the region and found that our island populations are genetically depauperate. Furthermore, while our 2022 census of iguanas on Prickly Pear East showed that the population is growing with numbers estimated to be 60 individuals, we recognise that there is a risk of inbreeding. During our regional *I. delicatissima* conservation action planning meeting in Dominica in November 2022, understanding the population genetics of each remaining population was identified as a high priority. While microsatellite genetic studies have been useful, Restriction site-Associated DNA sequencing (RAD-seq) is able to generate high-resolution, genome-wide data, offering a significant advantage over microsatellite-based approaches as it enables fine-scale analysis of population structure, hybridisation events with *I. iguana*, and patterns of genetic diversity which is vital for translocation planning and adaptive management. Having just completed the first year of the project, we are at the very beginning of this process: collecting the genetic material that will be analysed through RAD-sequencing. During year two, samples will be analysed, with results informing translocation/s.

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

As part of our 2021 translocation initiative which involved translocating ten Lesser Antillean iguanas from Dominica to Prickly Pear East and was generously facilitated by the Government of Dominica Forestry, Wildlife & Parks Division, health checks of the iguanas were conducted in Dominica and the animals were kept in quarantine for at least ten days prior to translocation. None of the individuals presented signs of disease or infection. Since then, however, we have become more aware of the debilitating bacteria *Devrisea agamarum* which, more often than not, leads to the death of the infected individual. As this project focuses on establishing a plan to support regional translocations to maximise genetic diversity and, more specifically, to enhance resilience of small populations, ensuring that source populations are free of pathogens is critical and creating a test that can detect carriers of the pathogen, regardless of whether they show symptoms or not, will be important as we move into the later stages of this project. In the first year of the project and through the buccal swabs we have been collecting, we will be able to help confirm the sensitivity of the *D. agamarum* pathogen test: the more samples analysed, the greater the efficacy of the test as there are more samples available for comparison. In year two, with all samples collected and analysed and with the results of the genetic analysis, we will be able to identify potential source populations. At the same time, if the disease is found to be present in any of the populations in the region, our working group will discuss potential options for treatment (if available).

**Output 3. Biosecurity systems strengthened and applied to prevent the impacts and spread of invasive alien species and pathogens.**

The ongoing success of this project relies significantly on proactive management to keep restored areas free of invasive species. Our biosecurity surveillance program, spearheaded by Anguilla National Trust (ANT) staff and bolstered by a dedicated team of volunteers, employs on-the-ground monitoring. This includes visual inspections for evidence of invasive species incursions, such as footprints, scat, and bait take. Recognizing the resource demands of this approach, we are collaborating with Re:wild on another Darwin Plus-funded initiative (DPLUS210) to deploy AI-trained cameras capable of detecting invasive species and immediately transmitting images to our mobile devices, enabling rapid response. Together, this combined approach to biosecurity monitoring will amplify our capacity while maximising value for effort during the remainder of the project period as well as post-project.

**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.**

During the first year of the project, we have made important strides in increasing local capacity and public awareness. Twelve local staff and volunteers have been trained in biosecurity and biodiversity monitoring, eight ANT staff and two volunteers received hands-on training in genetic and pathogen sampling from project partners, three ANT staff and volunteers received training in the collection of iguana morphometrics, and we have reached almost 1500 people through our social media posts, presentations, and guided experiences.

## 3.3 Progress towards the project Outcome

The Outcome of this project is that Anguilla's Lesser Antillean iguana population is bigger, more resilient, and safeguarded through evidence-based conservation planning and action.

The first year of the project established the groundwork for national and regional recovery of the Lesser Antillean iguana population. Key activities included collecting genetic samples and testing captured individuals for bacteria. Moving into year 2, our focus will shift to analyzing these results and finalizing the regional species action plan. We will also begin drafting a translocation action plan to support the reintroduction of Lesser Antillean iguanas into Fountain National Park.

With support from Re:wild, we are also addressing the mainland island fence. Currently designed to exclude animals, we are collaborating with partners to explore options for securing a reintroduced iguana population without compromising the fence's integrity. Our research indicates that a solar-powered electric wire system offers a viable solution. This system is lightweight, easily repairable after hurricane damage with readily available parts, and proven effective at deterring wildlife by delivering a mild jolt, thus preventing climbing of the fence mesh.

Based on the progress achieved in the first twelve months and considering the planned activities for year 2, we are confident that we are on track to achieve the project outcome by the project's end. The indicators outlined in our logframe remain relevant and adequate for measuring the intended Outcome.

## 3.4 Monitoring of assumptions

The identified risks and assumptions in the project proposal at the Outcome and Output level still hold true.

**Assumption 1. All project activities completed within the timeframe of the project.**

**Comments:** Recognising the diverse stakeholders and partners involved, alongside the inherent uncertainties of fieldwork and working with iguanas, we proactively built ample time into the project concept for each stage – from data and sample collection through analysis to on-the-ground conservation interventions. As we move into the second year of the project, we are pleased to report that the analysis of all genetic and buccal swab samples is scheduled to commence in May 2025. PhD students at UA are ready to assist with this, and the ANT team is set to undertake population assessments this July. Through our Project Steering Committee, we will continue to monitor and assess project progress.

**Assumption 2. Lesser Antillean iguana populations on Prickly Pear East and Fountain National Park remain safeguarded from common green iguanas.**

**Comments:** A key element of this project is robust biosecurity monitoring, essential for safeguarding our Lesser Antillean iguana population from the threat of invasive common green iguanas. Our established protocols and best practices guide our monitoring efforts within Fountain National Park and on the Prickly Pear cays. While a single common green iguana was noted in Fountain National Park in March 2024, at the start of our rodent eradication campaign, subsequent intensive searches and trail camera surveillance have revealed no further

presence. The exclusionary design of the fence, with its fine mesh, metal bottom flashing, and outward-extending peaked hood, gives us confidence that the iguana likely climbed out. To ensure continued protection, we will maintain vigilant monitoring, enhanced by the deployment of new AI-trained trail cameras along with stations baited with food options attractive to iguanas (fruit, flowers, etc.).

**Assumption 3. Regional iguana conservation network remains active, engaged, and committed.**

**Comments:** The journey of regional collaboration for iguana conservation has seen significant evolution. It began in 2018 with a sub-regional conservation action planning workshop involving Anguilla, St. Barthélemy, and St. Eustatius, with St. Martin and Dominica also participating, which led to the creation of an informal working group. A more formal structure emerged in November 2022 after a regional ISG Lesser Antillean conservation action planning meeting, giving rise to the current regional iguana conservation network, now enriched by members from Guadeloupe, Martinique, and international experts. Initially, despite the intention for monthly meetings and the ongoing work on individual islands, the network lacked a strong sense of collective purpose, functioning more as a loose association. The Darwin Plus-funded project has been instrumental in transforming this dynamic. By defining a specific and actionable conservation intervention – enhancing the resilience of small island populations through increased genetic diversity – it inherently fostered the need for collaboration. Since the project began, the network has met nine times, marked by strong engagement from all members through shared meeting minutes, clear leadership on conservation actions, consistent communication via various platforms, and shared opportunities for learning and capacity building. This Darwin Plus project has truly invigorated the network, propelling it forward with renewed energy.

**Assumption 4. Visitors to Fountain National Park and Prickly Pear East continue to abide by biosecurity protocols.**

**Comments:** While public access to Fountain National Park is managed through pre-booked, ANT-guided tours with strict biosecurity measures – including a double-gate system and thorough checks for stowaways – the situation at Prickly Pear East presents a different challenge. This highly popular offshore island receives significant boat traffic from Anguilla, neighbouring islands, and beyond. To mitigate the increased risk of invasive species introductions, we have reached out to vessel management agents (both local and foreign) and implemented biosecurity signage at the main port of entry's Customs and Immigration. Our efforts continue with a planned new sign for Prickly Pear East and the Government of Anguilla's active participation in the RSPB-led Darwin Plus project, which strategically targets biosecurity enhancements at ports of entry. These combined actions demonstrate our commitment to minimizing invasive species incursions, and we are continuously seeking ways to strengthen our strategies.

**Assumption 5. Should *I. iguana* manage to by-pass biosecurity systems, incursions are addressed quickly and effectively.**

**Comments:** When biosecurity measures prove to not be enough, early detection is essential. In addition to ANT staff physically searching for signs of invasive common green iguanas, we are also using photography to differentiate native and invasive iguana species.

Complementing our biosecurity measures, and leveraging work from another Re:wild-led Darwin Plus project (DPLUS210), we are implementing AI-trained cameras for enhanced detection of target invasive species. Upon detecting an invasive species, the system will immediately send a photo to ANT staff phones, enabling rapid identification and response. While the AI may not differentiate between *I. delicatissima* and *I. iguana* species, our staff can readily distinguish them from the images, allowing for swift action if needed. Trained in the capture and removal of invasive common green iguanas, ANT staff are prepared to respond effectively to any detections.

**Assumption 6. Field activities can be rescheduled if extreme weather events affect Anguilla during the project period.**

**Comments:** As the Atlantic hurricane season approaches, the impact of a severe hurricane on project activities is always at the forefront of our minds. Fortunately, all major fieldwork will be completed before peak hurricane period (September-October). Biosecurity monitoring is on-going and will be conducted so long as sea conditions allow.

**Assumption 7. Fountain National Park mainland island constructed and in operation as planned by January 2024.**

**Comments:** This is no longer a risk: the mainland island has been constructed and all target IAS have been removed. We are implementing a biosecurity monitoring programme to ensure that the site remains IAS-free.

**Assumption 8. National stakeholders continue to be willing to cooperate on conservation initiatives, including following biosecurity protocols.**

**Comments:** The level of local support and interest in this project has been very positive. Residents widely view invasive common green iguanas as a nuisance, and we often receive requests for their removal from private land. Although immediate assistance is not always possible due to the timing of sightings, the public consistently identifies the ANT as the agency to reach out to when encountering these invasive species. This indicates a strong public awareness of our role and trust in our expertise.

**Assumption 9. Population and genotype assessment surveys can be rescheduled if extreme weather events affect fieldwork schedules.**

**Comments:** Genotype assessment surveys were not affected by extreme weather events within the Caribbean. Populations assessment surveys are scheduled for July 2025, outside of peak hurricane season.

**Assumption 10. Trained expertise remains in Anguilla.**

**Comments:** This project already involved and trained 10 ANT staff and volunteers and we expect this number to increase as we continue to implement our biodiversity and biosecurity monitoring programmes. We are confident that by the end of project, we will have increased local capacity and understanding.

**Assumption 11. Improved knowledge/ access to knowledge leads to improved habitat and species conservation.**
**Comments:** It is still early in the project to monitor this assumption although we believe the assumption still holds true and will continue to monitor it in years two and three of the project.

**Assumption 12. Residents willing to complete KAP surveys.**
**Comments:** We circulated the KAP survey in September 2024 using Facebook, our listserv, and WhatsApp status and shares. We received a total of 44 responses.

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

The primary purpose of this project is to enhance the resilience of our Lesser Antillean iguana population through national conservation interventions and regional collaboration. This project directly supports Anguilla's ability to achieve positive long-term outcomes for our at-risk species and the restored habitats on which they depend, including by delivering on commitments made by the Government of Anguilla under national strategies and plans as well as contributing to international agendas and conventions. So far this year, this project has contributed to:

- *Meeting the goals of the Convention on Biological* Diversity through our on-going biosecurity efforts which are helping to ensure (restored) Key Biodiversity Areas remain IAS-free (Article 8(h)), and through our research to better understand Lesser Antillean iguana genetic diversity which will directly inform future species conservation interventions (Article 12(b)).

- *Aligning with the 2030 Agenda for Sustainable Development* as the genetic and buccal samples that we collected will allow us to identify pathways for future species translocations/reintroductions, considering genetic diversity and species habitat requirements, and ultimately halting biodiversity loss and preventing species extirpations (Goal 15).
- *Implementing the National Biodiversity Strategy and Action Plan* by supporting evidence-based reintroductions of Lesser Antillean iguanas (Strategy 4(b).
- *Implementing the National Environmental Management Strategy* by considering genetic diversity within species-specific conservation interventions (Principle 13 Protect and Conserve Biological Diversity).
- *Implementing Lesser Antillean Iguana Conservation Strategy and Action Plan for the Northern Caribbean sub-region* by taking an evidence-based approach to conservation management decision-making (Objective 1 – Research and Monitoring), including planned translocations which will be informed by the results of our genetic diversity and pathogen analyses (Objective 4 – Genetic Diversity), as well as through robust biosecurity measures that we are implementing to reduce the risk of common green iguana incursions within Fountain National Park and the Prickly Pear cays (Objective 5 – Biosecurity).
- *Implementing the draft Regional Conservation Action Plan* through our biosecurity measures and collection of potential pathogen samples from symptomatic and asymptomatic individuals from across the species distribution range (Objective 3 Invasive Alien Species and Pathogens), and collaborating with our regional partners to share knowledge, skills and to take a coordinated approach to species conservation (Objective 6 Capacity).

This project fosters cross-agency partnerships across French (Guadeloupe, Martinique, St. Barthélemy, St. Martin), Dutch (St. Eustatius), and UK (Anguilla) Overseas Territories and Crown Dependencies as well as independent countries (Dominica), non-government (ANT, STENAPA, Wild Dominique) and government agencies (ATE, RNSM, OFB, Government of Dominica Forestry, Parks & Wildlife Division), academia (UA), and regional (Ardops Environnement, Nathalie Duporge, Julie Pauwels) and international experts (Jenny Daltry, Matt Goetz, Isabel Vique, Chuck Knapp), creating a powerful and diverse network for regional iguana conservation.

## 5. Gender Equality and Social Inclusion (GESI)

| GESI Scale | Description | Put X where you think your project is on the scale |
|---|---|---|
| **Not yet sensitive** | The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach | |
| **Sensitive** | The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities. | x |
| **Empowering** | The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups | |
| **Transformative** | The project has all the characteristics of an 'empowering' approach whilst also addressing | |

| | | |
|---|---|---|
| | unequal power relationships and seeking institutional and societal change | |

While the practical elements, impacts, and benefits of this project are species-specific and will not have a substantial direct effect on people, project actions related to capacity and awareness raising are important, and we will endeavour to be as inclusive as possible. In the first year, ten cisgender women and eight cisgender men received training in at least one aspect of iguana conservation (biosecurity monitoring, genetic and pathogen sampling, morphometric data collection). Volunteer and training opportunities are open to anyone interested; while most volunteers have been adults (>30 years of age), we anticipate more younger volunteers during the summer. Our outreach strategy also includes engaging people of all ages, genders, and abilities.

With our initial year focused on data collection, our second and third years will concentrate on sharing results and raising awareness about Anguilla's native iguanas (and other native and endangered biodiversity) and the importance and value of restored spaces. Aligning with our communications strategy, which we will implement in years two and three, we will use a multi-pronged approach involving web-based platforms (website, online forms), social media, presentations, themed events, and guided tours/experiences. We will track participation, disaggregated by gender and potentially age, and use this data to inform future engagement, adjusting our focus as needed to ensure we reach diverse groups and maximize inclusivity.

Day-to-day management of the project is handled by the ANT Executive Director and Administrative Manager (both cisgender women). The project implementation team is mixed gender, comprised of three cisgender women and three cisgender men, supported by volunteers. Our PSC is similar mixed gender, comprised of 6 women (40%) and 9 men (60%).

## 6. Monitoring and evaluation

All project partners, led by Farah Mukhida, have been assisting with project monitoring, ensuring that the project is meeting milestones and, more specifically, indicators outlined within the logframe.

The established PSC has formally meet almost monthly, with follow-up and additional conversations via email and WhatsApp with committee members as needed. We use our project logframe to guide monitoring and evaluation. It is still early in the project to assess whether Outputs and Activities are actually contributing to the project Outcome, but at this stage in the project, there is no reason to believe that they will not: with the diligent monitoring by project partners and the PSC, aligned with our logframe, the groundwork laid in this early stage gives us confidence that project Outputs and Activities will indeed contribute to the successful enhancement of native iguana populations.

## 7. Lessons learnt

The ambitious scope of this project, engaging a wide array of implementing partners across the Wider Caribbean, relies heavily on the dedication of each contributor. We are privileged to work within a highly effective and remarkably motivated network. This effectiveness and high level of motivation, however, are no accident; they are a direct result of six years of groundwork within the relatively small and interconnected Caribbean conservation community. Our shared history of working together has cultivated a deep sense of trust, camaraderie, and a genuine, mutual commitment to achieving our goals. This established network of support and shared knowledge is, in our view, indispensable for a project of this magnitude.

A significant administrative challenge has been navigating the diverse bureaucratic processes of our government, non-government, and academic partners, particularly concerning CITES permits. While ANT and STENAPA have well-established relationships with their CITES authorities, we are actively pursuing final approval from the Government of Dominica, including an upcoming in-person meeting. The complexities extend to the French West Indies, where, despite the lack of internal CITES requirements, import permits are necessary for external

samples, requiring careful coordination and potentially lengthy processing. The support from OFB in Guadeloupe was instrumental in mitigating potential delays. Recognizing the often-underestimated time required for such administrative tasks, future projects involving CITES permits will prioritize a thorough upfront analysis of application processing times across all partner agencies and countries to ensure adequate planning.

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

Clarification was requested on our project proposal, with comments/responses submitted in April 2024. As this is our first Annual Report for this project, no other issues have been raised.

## 9. Risk Management

Please refer to our updated project risk register which has been submitted with this Annual Report.

## 10. Scalability and durability

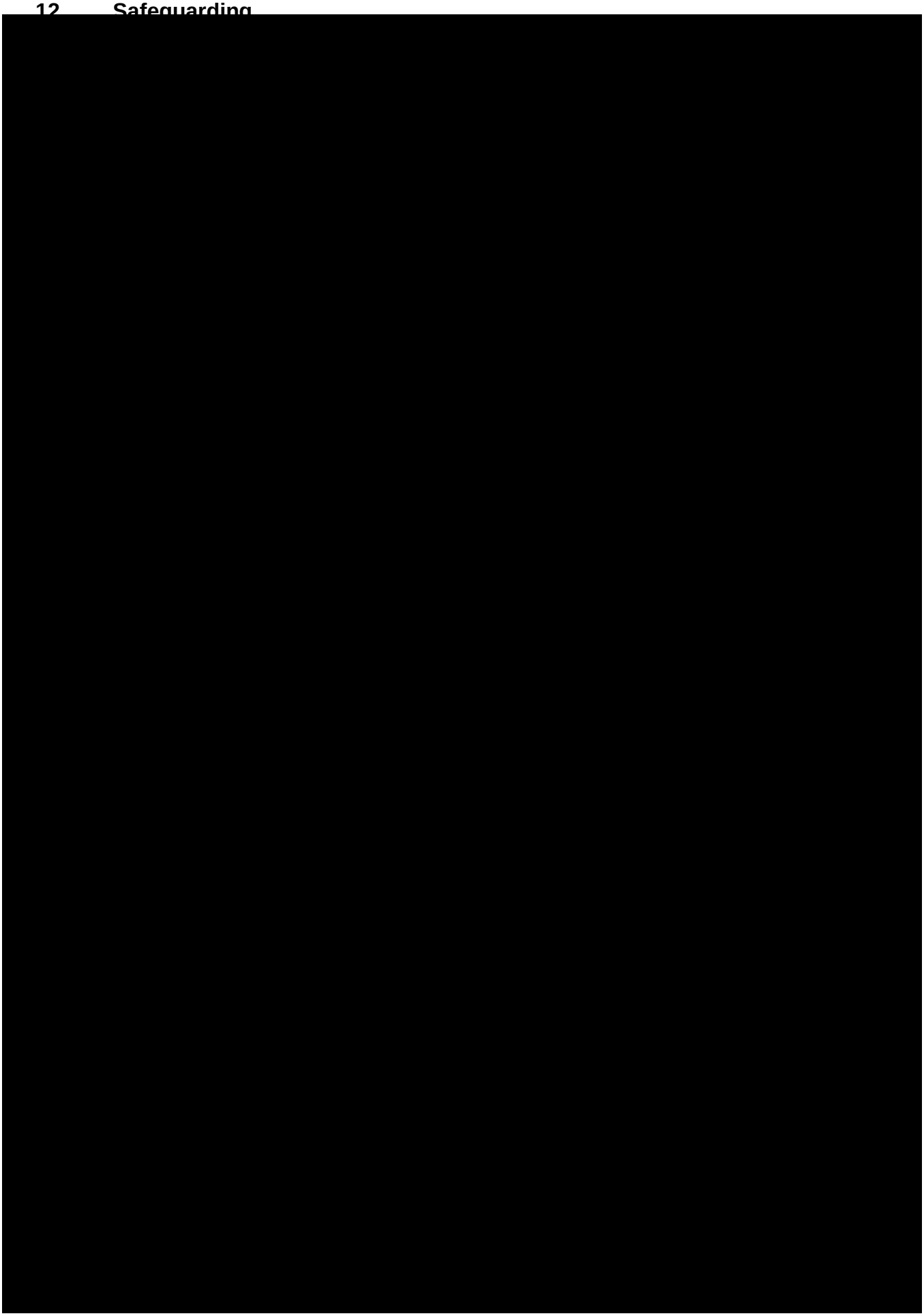
Despite being a year into this project, we remain in the crucial early stages of collecting and analysing vital data, including genetic diversity and pathogen presence. This foundational work will inform transformative short- and long-term conservation interventions for iguanas both in Anguilla and across the wider Caribbean, including the inter- and intra-island/territory translocations.

The project's impetus stems from two key conservation action plans: a 2018 sub-regional plan for Lesser Antillean iguanas in Anguilla, St. Barthélemy, and St. Eustatius, and a broader draft regional plan which will be finalised by all project partners before project end and which will then be used to decide next priority actions to support *I. delicatissima* population recovery across its distribution range. Ultimately, the success of this collaborative effort will demonstrate the significant value of such approaches, even for non-migratory species conservation, like the Lesser Antillean iguana.

## 11. Darwin Plus identity

Darwin Plus (and the Biodiversity Challenge Funds) have been recognised on all outreach materials produced through this project, with logos on presentations and social media posts (Facebook, Instagram) including the #darwinplus tag and @biodiversitychallengefunds handle.

## 12 Safeguarding



## 13. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)**

| Project spend (indicative) in this financial year | 2024/25 D+ Grant (£) | 202/25 Total actual D+ Costs (£) | Variance % | Comments (please explain significant variances) |
|---|---|---|---|---|
| Staff costs | [redacted] | | | |
| Consultancy costs | | | | |
| Overhead Costs | | | | |
| Travel and subsistence | | | | |
| Operating Costs | | | | |
| Capital items | | | | |
| Others (Please specify)<br>• Biosecurity signage<br>• Webpage design and on-line IAS reporting form (with QR code)<br>• Iguana monitoring and capture equipment (extendable poles, plastic line) | | | | |
| **TOTAL** | **205,076.00** | **205,076.00** | | |

**Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)**

| | Secured to date | Expected by end of project | Sources |
|---|---|---|---|
| Matched funding leveraged by the partners to deliver the project (£) | [redacted] | | Anguilla National Trust, Durrell Wildlife Conservation Trust, Université des Antilles, Office National des Fôrets |
| Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£) | | | |

## 14. Other comments on progress not covered elsewhere

No other comments.

## 15. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

| File Type (Image / Video / Graphic) | File Name or File Location | Caption including description, country and credit | Social media accounts and websites to be tagged (leave blank if none) | Consent of subjects received (delete as necessary) |
|---|---|---|---|---|
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |
| | | | | Yes / No |

## Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

| Project summary | Progress and Achievements April 2024 - March 2025 | Actions required/planned for next period |
|---|---|---|
| ***Impact***<br><br>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. | The *I. delicatissima* population on Prickly Pear East has at least doubled since their reintroduction (beginning) in 2016, based on the results of a population census conducted in 2022.<br><br>Invasive alien species from within Fountain National Park mainland island have been removed and the site has been maintained as IAS-free since May 2024. This restored site is the ideal location to establish a second secure population of Lesser Antillean iguanas (and other native and endangered biodiversity) on Anguilla.<br><br>Regional collaboration has been strengthened through the establishment of an active and engaged Lesser Antillean iguana working group, comprised of representatives from seven (island countries), academia, and international nongovernmental organisations. This working group also serves as our Project Steering Committee, and is currently implementing key components of the draft 2022 Regional Lesser Antillean Iguana Conservation Action Plan, including identifying and studying population dynamics and genetic diversity across the species' range, enhancing biosecurity protocols especially at sites that are free of invasive common green iguanas, implementing national communications plans, and building capacity through cross-territory knowledge sharing and training. | [redacted] |
| ***Outcome*** Anguilla's Lesser Antillean iguana population is bigger, more resilient, and safeguarded through evidence-based conservation planning and action | | |
| Outcome indicator 0.1 Population dynamics and genetics integrated into Lesser Antillean iguana conservation actions and plans by end of project | Assessing population dynamics and genetic diversity of Anguilla's only remaining Lesser Antillean iguana population on Prickly Pear East is central to ensuring the population's long-term survival and to determining whether our Prickly Pear East population can serve as a source for other reintroductions. Understanding genetic diversity across the species' range is also important, especially if we want to | Collect genetic samples from the remaining five countries and eight Lesser Antillean iguana populations and send to the US for analysis. |

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| | ensure the species' long-term resilience to changing environments and external stressors.<br><br>Over the last year, protocols have been established for the standardised collection and recording of genetic samples, with ANT and colleagues from across the species' range applying those protocols and collecting genetic samples from *I. delicatissima* and *I. iguana*. which will be analysed (in year two) to determine genetic diversity. All necessary samples were collected in Anguilla and St. Eustatius, with samples sent to the Université des Antilles for further processing and analysis.<br><br>A standardised approach to measuring morphological features of iguanas was also established to support cross-population comparisons.<br><br>Additional details are provided in Section 3.1 and 3.2 and within Evidence 2 and Evidence 3. | Conduct population survey of Prickly Pear East's Lesser Antillean iguanas in July 2025. |
| Outcome indicator 0.2 A protected population of Lesser Antillean iguanas established within Fountain National Park by end of project | As part of the DPLUS158 project and with additional funds secured from the John Ellerman Foundation, the US Fish and Wildlife Service, Re:wild, Fauna & Flora, and ANÌ Private Resorts, Fountain National Park has been established as a mainland island: the national park is surrounded by a pest-proof, storm-resistant fence from within which target IAS (rodents, livestock, cats, dogs, green iguanas) have been removed and/or been excluded. A stakeholder-informed management plan has been drafted and outlines priority biodiversity conservation and recovery interventions, including the reintroduction of Lesser Antillean iguanas to mainland Anguilla.<br><br>Additional details are provided in Section 3.1 and 3.2 and within Evidence 4 and Evidence 9. | Retrofit Fountain National Park mainland island fence with solar-powered electric wire to further strengthen the security of the fence, and especially to ensure that native reintroduced species remain within the enclosure. |
| Outcome indicator 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 training in applied conservation in by end of project | We have already reached this minimum target with six ANT staff trained in applied conservation practices (genetic and pathogen sampling). Beyond training ANT staff, we also want to support the building of broader capacity, especially amongst other government department staff and our volunteer base. To date, we have trained an additional 12 | Continue to enhance and build local capacity through training of staff and volunteers in population assessment methodologies. |

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| | people in biosecurity monitoring, two of whom have also been trained in genetic and pathogen sampling.<br><br>Additional details are provided in Section 3.1 and 3.2 and within Evidence 7. | Employ at least one PhD student (Caribbean national) at UA to analyse the genetic samples.<br><br>Review results of genetic analyses (by all project partners and the Lesser Antillean iguana working group) and use results to determine next steps. |
| **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 indicator 1.1 *I. delicatissima* population assessment conducted by end of Q2Y1, with results available by end of Q3Y1 **[DPLUS-C02]** | To be completed.<br><br>Initially planned for Year 1, but postponed to Year 2, as genetically sampling was prioritised. | Conduct *I. delicatissima* population assessment on Prickly Pear East in July 2025. |
| Output indicator 1.2 Genetic diversity and population viability across the species' range assessed by end of Q4Y2 | In progress, on-going.<br><br>Sampling of genetic diversity has been completed on Anguilla (Prickly Pear East), St. Eustatius, and Dominica, with samples from Anguilla and St. Eustatius already sent to Guadeloupe for further analysis. Samples from Dominica will be sent as soon as the CITES paperwork has been signed off.<br><br>Most samples have been collected on Martinique and Guadeloupe, with only one population on each of the islands requiring sampling.<br><br>Sampling of *I. delicatissma* on St. Barthélemy experienced a setback due to poor sea conditions which has prevented landing on Forchue Island, where most *I. delicatissima* can be found. Some samples from the mainland, however, have been collected.<br><br>*Iguana delicatissima* have been extirpated on St. Martin.<br><br>See Section 3.1, Evidence 3. | Secure CITES export permit from the Dominica CITES authority and send samples to UA.<br><br>Collect remaining samples from populations in Guadeloupe and Martinique by mid-May 2025.<br><br>Attempt collection of genetic samples from Forchue Island (St. Barthélemy) by mid-May 2025 and send all collected samples to UA.<br><br>Sample *I. iguana* on St. Martin by mid-May 2025.<br><br>Conduct genetic analyses of all collected samples, beginning in Year 2. |
| Output indicator 1.3 Regional *I. delicatissima* conservation translocation plan that considers the genetics of remaining populations developed by end of Q1Y3 | Scheduled for Year 3. | |

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| **Output 2.** Safeguarded *I. delicatissima* population (re)established on the Anguilla mainland | | |
| Output indicator 2.1. Fountain National Park mainland island *I. delicatissima* translocation feasibility study/operational plan developed by end of Q2Y3 **[DPLUS-C01]** | Scheduled for Year 3. | |
| Output indicator 2.2. 2 Reintroduction of healthy *I. delicatissima* individuals to Fountain National Park mainland island (based on the results and recommendations of the genetic management plan and feasibility/operational study) by end of Q3Y3 | Scheduled for Year 3. | |
| **Output 3.** Biosecurity systems strengthened to prevent the impacts and spread of invasive alien species and pathogens | | |
| Output indicator 3.1 Public reporting mechanism for *I. iguana* established for Prickly Pear cays and Fountain National Park mainland island by end of Q1Y1 | In progress, on-going.<br>The ANT mobile number is being used as a hotline for *I. iguana* sighting reports, with the telephone number listed on signage. A webpage and online form (accessible through a QR code) is currently in development.<br>See Section 3.1. | Install biosecurity sign on Prickly Pear East.<br>Finalise webpage and on-line form and publicly launch. |
| Output indicator 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 | In progress, on-going.<br>Biosecurity protocols for the Prickly Pear cays and Fountain National Park (previously developed) were reviewed with no amendments made. The protocols are being applied within restored sites, with 28 biosecurity checks conducted over the last year (including during the IAS removal programme that was on-going in April and May).<br>Biosecurity protocols for ports of entry are to be developed under the RSPB-led cross-territory Darwin Plus strategic project. Once finalised, these will also be operationalised at Anguilla's airport, cargo port, and ferry terminal.<br>See Section 3.1, Evidence 4. | Continue to undertake biosecurity checks at Prickly Pear cays and Fountain National Park.<br>Deploy AI-trained biosecurity cameras at Prickly Pear cays and Fountain National Park (under DPLUS210).<br>Liaise with the Department of Natural Resources regarding the operationalising of port of entry biosecurity protocols/plans. |
| Output indicator 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 | In progress, on-going.<br>See Output indicator 1.2. | Conduct comprehensive population assessment on Prickly Pear East in July 2025, followed by rapid surveys (recording number of iguanas |

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| | No iguanas were captured during biosecurity checks at Prickly Pear East or Fountain National Park during the first year of the project. | heard/seen; photos of head profiles to upload to AI-supported database) monthly thereafter. |
| **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 indicator 4.1 Communications and public outreach plan developed by and implemented beginning of Q1Y1 | In progress, on-going.<br>A communications and outreach plan was drafted and is now being implemented. The plan was informed by the results of a Knowledge, Attitudes, and Performance survey (completed by 44 individuals).<br>See Section 3.1, Evidence 5. | Continue with the implementation of the communication and outreach plan. |
| Output indicator 4.2 At least 70% of nationals (c.8,500 people) know about the project and show improved understanding of why *I. delicatissima* merits conservation and the importance of biosecurity by end of project | In progress, on-going.<br>Just under 1500 individuals have been reached through our communications and outreach initiatives (see Output indicator 4.7).<br>See Section 3.1, Evidence 5. | Continue with the implementation of the communication and outreach plan. |
| Output indicator 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 | In progress, on-going.<br>Twelve ANT staff and volunteers were trained in biosecurity monitoring protocols.<br>See Section 3.1, Evidence 7. | Continue to train ANT volunteers and engage relevant Government of Anguilla Department staff. |
| Output indicator 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]** | Completed.<br>Eight ANT staff and volunteers trained in genetic sampling protocols, with staff and volunteers collecting blood and tissue samples from *I. delicatissima* captured on Prickly Pear East and *I. iguana* captured on the Anguilla mainland.<br>See Section 3.1, Evidence 3. | No further action required. |
| Output indicator 4.5 At least 20 volunteers assisting project partners with biosecurity surveillance and iguana population assessments by end of project **[DPLUS-BO5]** | In progress, on-going.<br>12 volunteers have so far assisted with the ANT's biosecurity monitoring programme on all of our restored sites.<br>See Section 3.1, Evidence 7. | Train additional volunteers in biosecurity and biodiversity monitoring protocols and engage as necessary. |

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| Output indicator 4.6 At least three national organisations with improved capability and capacity in biodiversity and/or biosecurity monitoring by end of project **[DPLUS-A03]** | In progress, on-going.<br>The ANT has built biosecurity capacity through the training of new staff (no. = 1) and volunteers (no = 12).<br>See Section 3.1, Evidence 7. | Train additional ANT volunteers in *I. delicatissima* population survey methods and engage relevant Government of Anguilla Department staff as well as nongovernmental organisations in training exercises. |
| Output indicator 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 | In progress, on-going.<br>Communications and outreach initiatives included: 1 press release and social media post and 9 presentations, 19 field trips.<br>See Section 3.1, Evidence 5. | Continue with the implementation of the communication and outreach plan, including presenting the project at the June 2025 Caribea Initiative Conference (Martinique). |

## Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

| 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:**<br>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<br><br>0.2 A protected population of Lesser Antillean iguanas established within Fountain National Park by end of project<br><br>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 training in applied conservation in by end of project | 0.1 Publicly-available species action plan<br><br>0.2 Species translocation and monitoring reports<br><br>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<br><br>Lesser Antillean iguana populations on Prickly Pear East and Fountain National Park remain safeguarded from common green iguanas<br><br>Regional iguana conservation network remains active, engaged, and committed<br><br>Visitors to Fountain National Park and Prickly Pear East continue to abide by biosecurity protocols |
| **Outputs:**<br>**1**. Impacts of inbreeding depression, gene flow and hybridisation in small | 1.1 *I. delicatissima* population assessment conducted by end of Q2Y1, | 1.1 Population and morphological assessment report | |

| | | | |
|---|---|---|---|
| Lesser Antillean iguana populations assessed and integrated into species conservation action planning | with results available by end of Q3Y1 **[DPLUS-C02]**<br><br>1.2 Genetic diversity and population viability across the species' range assessed by end of Q4Y2<br><br>1.3 Regional *I. delicatissima* conservation translocation plan that considers the genetics of remaining populations developed by end of Q1Y3 | <br><br>1.2 RAD-Sequencing and microsatellite analysis results (N=240); genetic diversity and population viability manuscript<br><br>1.3 Regional translocation plan; preliminary stud book | Field activities can be rescheduled if extreme weather events affect Anguilla during the project period<br><br>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]**<br><br>2.2 Reintroduction of healthy *I. delicatissima* individuals to Fountain National Park mainland island (based on the results and recommendations of the genetic management plan and feasibility/operational study) by end of Q3Y3 | 2.1 Fountain National Park mainland island *I. delicatissima* translocation feasibility study/operational plan<br><br>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<br><br>Regional colleagues continue to be engaged and willing to cooperate on conservation initiatives |
| **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<br><br>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 | 3.1 *I. iguana* hotline (mobile phone and/or social media platform); iNaturalist page<br><br>3.2 Biosecurity training reports (including attendance sheets, training materials); biosecurity plan and protocols; biosecurity monitoring reports | National stakeholders continue to be willing to cooperate on conservation initiatives, including following biosecurity protocols<br><br>Fountain National Park mainland island constructed and in operation as planned by January 2023<br><br>Population and genotype assessment surveys can be rescheduled if extreme |

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|---|---|---|---|
| | 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 | 3.3 Population and morphological assessment reports; Artificial Intelligence facial recognition database record; genetic samples; genetic analysis report/records | weather events affect fieldwork schedules<br><br>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<br><br>4.2 At least 70% of nationals (c.8,500 people) know about the project and show improved understanding of why *I. delicatissima* merits conservation and the importance of biosecurity by end of project<br><br>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<br><br>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]** | 4.1 Communications and public outreach plan<br><br>4.2 Knowledge-Attitudes-Performance (KAP) surveys at the start and end of project; Press releases; social media analytics; radio recordings; poster; PowerPoint presentations<br><br>4.2 Identification guide; training sign-in sheets; *I. iguana* control protocols; *I. iguana* control database; genetic sampling protocols; genetic sampling records and database<br><br>4.3 Training sign-in sheets; genetic sampling protocols; genetic sampling records and database | Trained expertise remains in Anguilla<br><br>Improved knowledge/ access to knowledge leads to improved habitat and species conservation<br><br>Residents willing to complete KAP surveys |

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| | 4.5 At least 20 volunteers assisting project partners with biosecurity surveillance and iguana population assessments by end of project **[DPLUS-BO5]**<br><br>4.6 At least three national organisations with improved capability and capacity in biodiversity and/or biosecurity monitoring by end of project **[DPLUS-A03]**<br><br>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 | 4.4 ANT volunteer logbook; biosecurity monitoring records and database; population assessment records and database<br><br>4.5 Competencies report<br><br>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.

## Annex 3: Standard Indicators

### Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

| DPLUS Indicator number | Name of indicator | If this links directly to a project indicator(s), please note the indicator number here | Units | Disaggregation | Year 1 Total | Year 2 Total | Year 3 Total | Total to date | Total planned during the project |
|---|---|---|---|---|---|---|---|---|---|
| DPLUS-C02 | Number of population assessments completed | 1.1 | Number | New | 0 | | | 0 | 1 |
| DPLUS-C01 | Number of new or improved feasibility studies | 2.1 | Number | New | 0 | | | 0 | 1 |
| DPLUS-A01 | Number of individuals trained in and applying genetic sampling protocols | 4.4 | Number | Gender | 8 | | | 8 | 10 |
| DPLUS-B05 | Number of volunteers engaged in biosecurity monitoring | 4.5 | Number | Gender | 12 | | | 12 | 20 |
| DPLUS-A03 | Number of agencies with improved capacity | 4.6 | Number | Agency | 1 | | | 1 | 3 |

### Table 2 Publications

| Title | Type (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs) | Detail (authors, year) | Gender of Lead Author | Nationality of Lead Author | Publishers (name, city) | Available from (e.g. weblink or publisher if not available online) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

## 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, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission? | x |
| **Is the report less than 10MB?** If so, please email to BCF-Reports@niras.com putting the project number in the Subject line. | x |
| **Is your report more than 10MB?** If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line. | |
| **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. | x |
| **Have you provided an updated risk register?** If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encourage to develop a risk register. | x |
| If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)? | |
| Have you involved your partners in preparation of the report and named the main contributors | x |
| Have you completed the Project Expenditure table fully? | x |
| Do not include claim forms or other communications with this report. | |