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

Scheme (Main or Strategic)	Main
Project reference	DPLUS203
Project title	Shining a light on Anguilla's moths using Artificial Intelligence
Territory(ies)	Anguilla
Lead Organisation	UK Centre for Ecology and Hydrology
Project partner(s)	Anguilla National Trust
Darwin Plus grant value	£154,682
Start/end dates of project	1 Apr 2024-31 Mar 2026
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	David Roy
Project website/blog/social media	
Report author(s) and date	David Roy, Farah Mukhida / 9th June 2025

1. Project summary

Evidence is mounting of widespread declines of insects, globally. This gives stark warning for the perilous state of biodiversity, yet the evidence-base remains biased to a few regions and insect groups it is feasible to monitor. Repeatable sampling methods are urgently needed, closing the knowledge gap for 'the little things that run the world.'

Insects are threatened by a complex suite of pressures, with potentially interacting factors acting in combination. There is a severe lack of evidence from most parts of the world due to the technical challenge of monitoring insects. Especially for biodiversity hotspots, such as island ecosystems that typically have high conservation, including endemic species, yet are subject to multiple pressures (particularly invasive non-native species and climate change).

At the same time, most animals on earth are insects. Insects provide a critical role in the functioning of ecosystems on which we all depend, both in supplying services such as pollination, pest control, cultural services and as prey, but also disservices such as crop damage and spread of diseases to livestock and humans. More standardised monitoring of insects is relevant to everyone.

The Royal Entomological Society engaged 1600 members to identify 'Grand Challenges in Entomology'. Understanding insect declines was noted as a major priority for entomology. Previous Foreign and Commonwealth Office research via the GB Non-Native Species Secretariat, including the lead applicant, identified the need to enhance baseline information for biodiversity across Anguilla. Development of automated monitoring was a priority from a workshop on Anguilla in May 2023 (DPLUS175). This project provides synergies with DPLUS175 by improving information on the occurrences of native and non-native species. The project is highly complementary to DPL00021 Establishing digital data tools for enhanced conservation management and policy-making.

2. Project stakeholders/partners

As a collaborative project between the **UK Centre for Ecology and Hydrology** (UKCEH) and the **Anguilla National Trust** (ANT), this first year of the project has focused on building capacity and collecting data. Automated monitoring systems for insects (AMI system) have been deployed across Europe and North America, however, this project tests the system for the first time in dry tropical environments. UKCEH spent the first part of the project reviewing and adapting the AMI system for Anguilla, ensuring that the system will be able to operate within extreme heat conditions while also refining the software system that will be used to process hundreds to thousands of gigabytes of data. In October 2024 and supporting the operations of the AMI system, UKCEH provided on-the-ground training to ANT staff AMI system deployment, data management, and data processing (Evidence 1) and, together, with the ANT, deployed systems on three priority sites that have benefitted from habitat restoration initiatives – Sombrero Island, Prickly Pear East, and Fountain National Park (Evidence 2). Since deployment, the ANT has been regularly checking the AMI systems to ensure that they are functioning as expected and required as well as managing data collection (replacing each unit's SSD, which hold the data).

Outreach efforts regarding the systems, how they can be used to inform land management and habitat conservation decisions, and how they can be used to measure impact of conservation interventions and monitor changes post-habitat restoration, has helped to raise the profile of Anguilla's moths, the benefits of automated monitoring systems, and the project as a whole. The general public has been engaged through presentations as well as site visits to where the deployment locations (Evidence 3).

3. Project progress

3.1 Progress in carrying out project Activities

Output 1. Automated camera (AMI) systems operating in four locations across Anguilla, at sites with active conservation management by the Anguilla National Trust

Activity 1.1 Deploy four camera systems, capturing metadata entries for each camera system location, including precise location, habitat descriptions, photos.

Deploying the AMI systems involved a multi-step process, beginning with assessing the existing system and determining whether the system would need to be retrofitted to Anguilla's environmental conditions. With minor adjustments made to system design, including updates to the AI data analysis software, all hardware was ordered directly from UK (main AMI system) and US (solar panels and batteries) supplier and once the materials were in Anguilla, we conducted a five-day in-person workshop in Anguilla in October. The workshop focused on providing practical training to ANT staff in AMI design and set-up, deployment, and data uploading (Evidence 1). Three of the four AMI systems were deployed during the workshop on Sombrero Island, Prickly Pear East, and Fountain National Park, providing local staff with hands-on experience in how to set up, install, and verify that the systems were operational while in the field (Evidence 2). We were forced to postpone deployment of the fourth system on Dog Island due to poor sea conditions which prevented us from safely landing on the island's main beach. Sea conditions continued to only progressively get worse over the remainder of the first year of the project, and we were unable to deploy the remaining system as planned. Given its weight and bulkiness, we decided not to deploy the system elsewhere as taking it apart can be cumbersome and time-consuming and local staff wanted to be ready to deploy at a moment's notice should sea conditions improve. We expect that the system will be deployed by the end of April 2025, when sea conditions traditionally begin improving* Locations of AMI system deployment focused on sites that the ANT, with national and international partners, have restored through the removal of invasive non-native species and, in the case of Sombrero Island, extensive re-wilding efforts. The location of each unit's deployment as well as brief habitat description, and photos were taken and stored.

*The system was deployed on Dog Island at the time of the writing of this report, although after the reporting period.

Activity 1.2 Image data regularly captured from four locations.

Three of the four AMI systems were consistently capturing data. The systems were set to take photographs every 10 seconds over a 12-hour period nightly, between 5pm and 5am. We have collected hundreds of thousands of images, with SSDs being replaced once at the AMI systems deployed on all three sites.

Activity 1.3 Biodiversity data from camera systems summaries within accessible visualisations.

Scheduled for Year 2.

Output 2. Image classification model for Anguilla moths published online

Activity 2.1 iNaturalist project created for capturing images (and location information) for moths occurring on Anguilla.

An iNaturalist project was created, collecting and collating over 500 observations from 50 observers to date. Observations will continue to be collected throughout Year 2 of the project with results being analysed and integrated into our end of project biodiversity report card.

Activity 2.2 Image training dataset available and tagged by citizen scientists and moth experts.

Scheduled for Year 2.

Activity 2.3 Image Classification Model built using information from iNaturalist and the image training dataset.

Schedule for Year 2.

Output 3. Knowledge exchange and engagement with a range of stakeholders interested in insect monitoring and new technologies

Activity 3.1 Co-develop an accessible and informative online guide to insects and their important roles to people and nature, how to monitor insects using novel technologies and how people can contribute (e.g. submitting observations of wildlife to iNaturalist or supporting wildlife-positive actions).

Scheduled for Year 2.

Activity 3.2 One biodiversity report card developed with data and analysis from automated camera systems.

Scheduled for Year 2.

Activity 3.3 End of project workshop for Anguilla stakeholders

Scheduled for Year 2.

3.2 Progress towards project Outputs

Output 1. Automated camera (AMI) systems operating in four locations across Anguilla, at sites with active conservation management by the Anguilla National Trust

This output was achieved in the first year of the project (Evidence 1).

Output 2. Image classification model for Anguilla moths published online

This output is scheduled for the second year of the project. Work has been initiated by identifying the moth species likely to occur in Anguilla – this element of work has benefited from work under project DPLUS216.

Output 3. Knowledge exchange and engagement with a range of stakeholders interested in insect monitoring and new technologies

Good progress to date. The project has engaged with government agencies (through a presentation at a workshop for projects DPLUS175 and DPLUS125) and through a public event (Evidence 3).

3.3 Progress towards the project Outcome

Overview:

We have successfully deployed four automated monitoring of insects (AMI) systems on key sites: the Fountain nature reserve on Anguilla mainland and three off-shore islands (Sombrero, Dog, Prickly Pear). These have been maintained by Anguilla National Trust (ANT) staff and data has been collected regularly. We trained ANT staff in how to setup and maintain the AMI systems, how to upload data, how to build a AI machine learning classifier for Anguilla's moths and how data can be processed. We presented the project to a workshop of government stakeholders, as part of a joint workshop for projects DPLUS175 and DPLUS125.

Yes, no changes required.

Yes, we expect to achieve the Outcome by the end of the project funding.

3.4 Monitoring of assumptions

Assumption 1: Monitoring equipment could be safely deployed and maintained on off-shore islands with dry tropical climates.

Comments: Three out of four systems were deployed during the first year of the project. Unfavourable sea conditions prevented the fourth system from being deployed until May 2025 (Evidence 3).

Assumption 2: Communities can be engaged in the value of monitoring insects.

Comments: An engagement event for the project demonstrated interest amongst the public. This will be built upon throughout the rest of the project. The iNaturalist project setup for the project has involved 50 contributors to date (Evidence 4).

Assumption 3: An AI species classifier could be developed for Anguilla with good performance to achieve the project Outcome

Comments: Provisional investigation has identified a checklist of moths for Anguilla and our assessment of existing labelled image collections suggest that a species classifier will perform well for moths occurring on Anguilla.

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

Through this project we are using innovative and emerging technologies coupled with citizen science to monitor some of Anguilla's most understudied species, with results helping to assess the impacts of on-the-ground habitat conservation interventions and to inform future conservation management decisions. This evidence-based approach to habitat management and species recovery monitoring supports the UK's and the Government of Anguilla's strategic long-term outcomes for the natural environment.

Over the last year, our project has informed the implementation of Anguilla's *National Biodiversity and Action Plan* by deploying and maintaining systems that gather and collect data on understudied but critically important insects. Data collected in the first year of the project will be used to create guidelines and frameworks for natural resources managers, researchers, and even citizen scientists to inform long-term and critically important biodiversity monitoring programmes and to help assess habitat restoration impact.

The project continues to support Anguilla's *National Environmental Management Strategy* and *the Anguilla Agricultural Policy* by providing training to local counterparts and to enhance local capacity through new AI-learning technology that especially helps to shift through and analyse a tremendous amount of data, freeing up local staff time to validate data, develop data-informed management recommendations and decisions, and to implement evidence-based conservation interventions.

On the international scale, the undertaking of methodological assessments on monitoring biodiversity and nature's contributions to people was approved under *the Intergovernmental Panel for Biodiversity and Ecosystem Services (IPBES) decision IPBES/10/1*. With data now comprehensively being collected on Anguilla's moth diversity and distribution, Anguilla is being positioned to contribute meaningfully to global biodiversity monitoring initiatives.

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	

This project champions accessibility in science and technology by actively dismantling barriers to gender equality and social inclusion. Recognizing the historical underrepresentation of women in AI and software development, our team proudly comprises over half women, directly fostering greater inclusivity within these traditionally male-dominated fields. Furthermore, our commitment extends beyond individual capacity building. We are intentionally designing this emerging AI technology and its applications to be readily accessible to nations that might otherwise be excluded. We have already been assessing the current system and exploring how we can make it even better by designing smaller, cheaper units that can be more easily deployed.

Simultaneously, we are constructing frameworks and utilizing platforms that prioritize open data and knowledge sharing. This approach empowers natural resource managers, local residents, and visitors alike to actively participate in crucial biodiversity monitoring initiatives. By democratizing access to information and participation, we aim to cultivate a collective understanding that can inform both policy decisions and individual actions for conservation. Our fundamental premise is that while individual knowledge of Anguilla's moth biodiversity may be limited, our collective intelligence, amplified by AI, offers a powerful pathway to unlocking significant insights into Anguilla's moth biodiversity and fostering a more equitable and inclusive approach to ecological understanding and conservation action.

6. Monitoring and evaluation

The Project Lead oversees this initiative, working closely with other project staff from UKCEH and the Anguilla National Trust (ANT). Our monitoring and evaluation framework involves a dual approach: assessing progress against the project's logframe and workplan, complemented by regular check-ins with ANT (at least quarterly). These meetings serve to proactively identify any needs or challenges, facilitate discussions on ongoing activities, and collaboratively track project advancement. We have not made any changes to the monitoring & evaluation plan during the first year of project implementation.

The initial year of the project has been heavily focused on establishing a foundational understanding of moth diversity and distribution in Anguilla. Based on the substantial progress achieved, we are currently on track to realize our project Outcome: the deployment of a network of Autonomous Moth Identification (AMI) systems in key restored areas. These are locations currently lacking sufficient biodiversity data, requiring enhanced monitoring, and where insect population-related indicators will significantly empower local partners to more effectively assess habitat recovery.

7. Lessons learnt

The UKCEH has previously deployed similar AMI systems in numerous countries, and their research and development staff possess considerable familiarity with both the hardware and software. However, this project marks the inaugural use of this technology in the Caribbean, a region characterized by more limited biodiversity data and a consequently steeper learning curve for the AI software to accurately identify detected species. To mitigate this, we have engaged Mr. Karl Questel, a leading naturalist in the sub-region affiliated with the St. Barthélemy Agence Territoriale de l'Environnement. Given St. Barthélemy's geographical proximity as part of the Anguilla Bank, the shared moth species between the islands offer a valuable opportunity to enhance the AI's initial training and species recognition. Mr. Questel's prior involvement with the ANT's DPLUS131 project, which catalogued 89 moth (and butterfly) species in Anguilla's pollinator study, also provides a crucial baseline and resource for our current work.

As this project heavily relies on Artificial Intelligence, robust internet bandwidth is also critical. The substantial volume of data collected (hundreds of thousands of gigabytes) and stored on each AMI system's SSDs requires efficient uploading for processing by the AI software. We have encountered internet connectivity challenges, including slow upload speeds and intermittent disruptions to the data transfer process. To address these issues, we are exploring several solutions, including transferring data physically to the UK. One of the ANT's staff members will spend a month at UKCEH for advanced training in AMI system operation, data processing, and analysis, and will transport the SSDs for upload using UKCEH's servers. Concurrently, we are collaborating with ANT partners to identify local solutions, such as processing data in smaller batches and investigating direct laptop-to-modem connections.

Regarding system deployment and maintenance, while Anguilla thankfully avoided hurricanes last year, anticipated seasonal ground swells restricted access to offshore islands, particularly Sombrero Island, located 40 miles north of the mainland. Poor sea conditions not only prevented the establishment of a monitoring system on Dog Island during the project's first year but also limited the ANT's ability to conduct checks on the Sombrero system as frequently as desired. Nevertheless, with data now collected from all three deployed systems and initial image reviews completed, it is evident that all three systems have been functioning as intended.

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

This is not applicable for this Year 1 Annual Report.

9. Risk Management

No new risks were identified and no significant adaptations to the project design have been needed.

10. Scalability and durability

Promoting the use of AI technology for biodiversity monitoring and conservation has been an important objective of this project, aligning with our efforts to make AI more accessible. This approach simultaneously aims to build local capacity and enhance the efficiency of the ANT as an agency responsible for natural resource management and biodiversity conservation. By leveraging AI to streamline monitoring programmes, the UKCEH and the ANT envision staff dedicating more time to using analysed/processed data to inform conservation management recommendations and implement identified interventions.

These AMI systems provide for this increased level of effectiveness and efficiency. Instead of spending hours of staff time sifting through thousands of images and identifying species, AI trained software can and is doing this for us. The inherent nature of the software can also be adapted for any number of species, so long as it is trained, allowing for future upscaling.

Recognising that this is only a two-year project, deployment of units will need to be extended post-project in order to truly assess how well restored sites are actually recovering, especially given that insects are a new monitoring indicator and baselines need to be properly established. Although just one-year into this project, the ANT has indicated a commitment to continuing to use the systems and as all of the equipment is remaining with the ANT team on Anguilla, this will be possible.

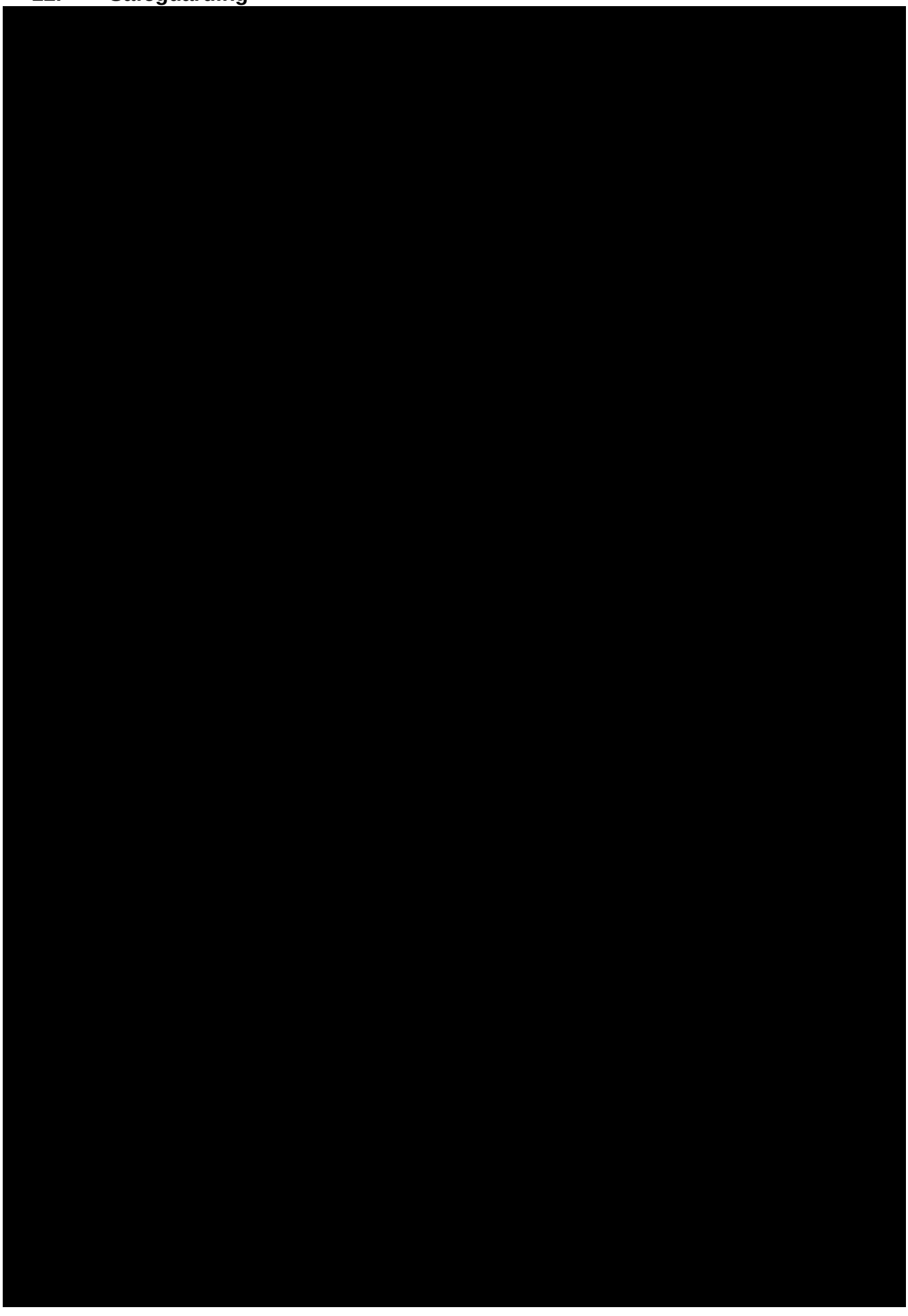
We are also in the process of exploring other AMI system designs to make the system less bulky and the deployment less arduous. With the system now requiring a large solar panel as well as two heavy batteries, once the system is in place, it is usually left there until end of project or for an extended period of time. This is of course worthwhile, especially as both UKCEH and the ANT want to be able to assess change over time and monitor habitat recovery which can take years, we also note ANT's (and others) interest in being able to either move the unit to other locations (even within the same restored area) to allow for comparison between restored and unrestored areas and to establish baselines prior to any substantial conservation action being implemented. In addition to the bulk and weight of the unit, there are also cost considerations which may make the deployment of many different AMI systems prohibitive. The designs that we are developing are smaller and are meant for shorter deployment periods, although redeployment would always be possible.

Interest in how AMI systems can support nature conservation is growing in Anguilla (Evidence 2). During the project's first year, we introduced this work during a well-attended public presentation (no. attendees = 16 (as well as during the ANT's Annual General Meeting (no. attendees = 67). The systems have also been showcased during field trips, site visits, and tours to Fountain National Park and Prickly Pear East (no. individuals = 291). We have also trained five ANT staff and volunteers in system installation and deployment – all of which builds interest, support, and capacity beyond end of project.

11. Darwin Plus identity

We will develop greater media presence in Year 2 of the project. Darwin Plus (and the Biodiversity Challenge Funds) have been recognised on all outreach materials produced through this project, including logos on presentations and being verbally acknowledged during all site visits.

12. Safeguarding



[redacted]

13. Project expenditure

[redacted]

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)				
TOTAL	**85,735.4**	**85,654.0**		

[redacted]

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 (£)	None	None	
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best	none	None	

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: Demonstrable benefit of automated technology for more effective monitoring of insects as indicator species, to evaluate the outcomes from conservation action for Anguilla's island ecosystems which support globally important species	We have built capacity in ANT in the use of automated technology for more effective monitoring of insects to evaluate conservation outcomes. We have deployed 4 systems across key sites on Anguilla mainland and three off-shore islands that have undergone restoration management.	[redacted]
Outcome Automated, camera-based monitoring of insects on Anguilla island ecosystems established and used to assess insect populations as indicators of habitat recovery in sites being managed for globally important species. Systems operating from Q3 2024 to end of project.		
Outcome indicator 0.1 Indicators of habitat recovery based on insects (e.g. post restoration/rewilding on offshore cays and Anguilla Fountain National Park) used to inform conservation management of globally important vertebrate species.	Preparatory work for this was achieved in this reporting period – e.g. deployment of equipment and collection of data. Indicators will be developed in the second year of the project.	Development of an AI species classifier and processing of data to deliver indicators of the outcomes from restoration.
Outcome indicator 0.2 Insect diversity data derived from automated monitoring systems in four Anguilla sampling locations	As above	As above
Outcome indicator 0.3 Image classifiers for Anguilla's moths developed by Year 1 Quarter 4 with 100 species reporting more than 80% accuracy of classification by AI models	A list of moths known from Anguilla has been brought together – this will form the basis of building an AI species classification model for processing the AMI data collected through this project. To support the collection of labelled training data for building the species classifier, we have setup an iNaturalist project.	We will build an AI classification model for Anguilla's moths. We will promote the iNaturalist project to collect more images. We will work with expert entomolgists to label images from the AMI system.
Outcome indicator 0.4. Raised awareness amongst Anguilla government stakeholders of the value of insects as indicators of habitat quality	We have promoted the project to a public event and the ANT annual meeting.	We will develop promotional material for the project and engage with a range of stakeholders (governmental to the wider public)

Output 1 Automated camera (AMI) systems operating in four locations across Anguilla, at sites with active conservation management by the Anguilla National Trust. Systems installed by Q3 2024.		
Output indicator 1.1 Metadata entries for each camera system location, including precise location, habitat descriptions, photos	(Report progress against indicators, and reference where evidence is provided e.g. Evidence provided in section 3.2 of report and Annex Y). This should be a **condensed summary** of your reporting in section 3.2 of the report) Sites registered on the Antenna platform. Stations | Anguilla Labelling Project | Antenna Data Platform	System on Dog Island to be registered.
Output indicator 1.2 Image data regularly captured from four locations	Data collected regularly by ANT as part of their visits to sites.	Regular data collection planned
Output indicator 1.3 Biodiversity data from camera systems summarised within accessible visualisations	Work not yet started	
Output 2. Image classification model for Anguilla moths published online		
Output indicator 2.1. iNaturalist project created for capturing images (and location information) for moths occurring on Anguilla, by end of 2nd Quarter year 1.	Project setup an iNaturalist project.	
Output indicator 2.2. Image training dataset available and tagged by citizen scientists and moth experts, by end of 4th Quarter year 1.	Image dataset collated	
Output indicator 2.3 Image Classification Model built using information from iNaturalist and the image training dataset, by end of 1st Quarter year 1	Preliminary classification model built	
Output 3. Knowledge exchange and engagement with a range of stakeholders interested in insect monitoring and new technologies		
Output indicator 3.1. Co-develop an accessible and informative online guide to insects and their important roles to people and nature, how to monitor insects using novel	Draft guide produced	

technologies and how people can contribute (e.g. submitting observations of wildlife to iNaturalist or supporting wildlife-positive actions), by end of 3rd Quarter year 1.		
Output indicator 3.2. One biodiversity report card developed with data and analysis from automated camera systems, by end of 2nd Quarter year 2.	No activity	
Output indicator 3.3. End of project workshop for Anguilla stakeholders, by end of 4th Quarter year 2.	No activity	

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: Demonstrable benefit of automated technology for more effective monitoring of insects as indicator species, to evaluate the outcomes from conservation action for Anguilla's island ecosystems which support globally important species			
Outcome: Automated, camera-based monitoring of insects on Anguilla island ecosystems established and used to assess insect populations as indicators of habitat recovery in sites being managed for globally important species. Systems operating from Q3 2024 to end of project.	0.1 Indicators of habitat recovery based on insects (e.g. post restoration/rewilding on offshore cays and Anguilla Fountain National Park) used to inform conservation management of globally important vertebrate species. 0.2 Insect diversity data derived from automated monitoring systems in four Anguilla sampling locations 0.3 Image classifiers for Anguilla's moths developed by Year 1 Quarter 4 with 100 species reporting more than 80% accuracy of classification by AI models Map to Biodiversity Challenge Funds Standard Indicators: DPLUS A03	0.1 Indicators of habitat quality based on insects, are used by ANT and Anguilla government and within their biodiversity reporting 0.2 Data captured in Year 1 Quarter 3 through to Year 2 Quarter 3. Processed through machine learning data pipelines to derived insect diversity metrics. 0.3 Image classifier for Anguilla moths published through open repository, including model evaluation metrics 0.4 A biodiversity report card and insect guide distributed to 20 government stakeholders, with evaluation to capture their feedback.	Working with the Anguilla National Trust and with government support to access land, with permission, to deploy camera traps. Inclusive engagement of diverse group (recognising the importance of gender balance) of stakeholders with breadth of expertise will maximise availability and relevance of information on insects to inform predictive conservation evaluation Information on insects site undergoing active management will increase understanding of conservation success The project team includes the necessary skills to deploy automated monitoring systems, deliver data, build AI models and engage the governmental and NGO

	0.4. Raised awareness amongst Anguilla government stakeholders of the value of insects as indicators of habitat quality Map to Biodiversity Challenge Funds Standard Indicators: DPLUS C14. Number of decision-makers attending briefing events.		communities of Anguilla. This will ensure access to inclusive resources and capacity to underpin the outcome and outputs
Outputs: **1. Automated camera (AMI) systems operating in four locations across Anguilla, at sites with active conservation management by the Anguilla National Trust. Systems installed by Q3 2024.** Delivered through WP1	1.1 Metadata entries for each camera system location, including precise location, habitat descriptions, photos 1.2 Image data regularly captured from four locations 1.3 Biodiversity data from camera systems summarised within accessible visualisations	1.1 Project website page to show location information for four traps deployed. 1.2 Data regularly collected from four camera system hard drives and uploaded on shared project data store. 1.3 Summaries of information collated provided on project website, e.g. number of images captured, number of sampling nights	Working with the Anguilla National Trust and with government support to access land, with permission, to deploy camera traps.
2. Image classification model for Anguilla moths published online Delivered through WP2	2.1 iNaturalist project created for capturing images (and location information) for moths occurring on Anguilla, by end of 2nd Quarter year 1. 2.2 Image training dataset available and tagged by citizen scientists and moth experts, by end of 4th Quarter year 1. 2.3 Image Classification Model built using information from iNaturalist	2.1 Project active on iNaturalist for citizen science involvement. Engage 20 contributors 2.2. Number of images available in total, summarised by individual moth species. Engage 5 experts to confirm species identification (e.g. tag images for training datasets) 2.3 Image classification model published and openly available via a dedicated code repository (e.g. GitHub)	

	and the image training dataset, by end of 1st Quarter year 1.		
3. Knowledge exchange and engagement with a range of stakeholders interested in insect monitoring and new technologies Delivered through WP3	3.1 Co-develop an accessible and informative online guide to insects and their important roles to people and nature, how to monitor insects using novel technologies and how people can contribute (e.g. submitting observations of wildlife to iNaturalist or supporting wildlife-positive actions), by end of 3rd Quarter year 1. 3.2 One biodiversity report card developed with data and analysis from automated camera systems, by end of 2nd Quarter year 2. 3.3 End of project workshop for Anguilla stakeholders, by end of 4th Quarter year 2.	3.1 Online guide available on the project website 3.2 Publish biodiversity report card online 3.3 Number of attendees and range of organisations represented. Evaluation of project success and future potential	Workshops are not cancelled due to COVID-19 restrictions and virtual approaches are available if in-person meetings are restricted Co-development of guide and biodiversity report card with project team and other Anguilla stakeholders will ensure appropriate timing and format to maximise impact
4.			

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.)
Note to ensure value for money the field deployment and regular collection of data from camera systems will be combined with other ANT fieldwork on offshore islands (Sobrero and Dog island, Prickly Pear Cays) and Fountain National Park reserve on Anguilla main island. Inclusive communication best practice will be implemented throughout the development of all resources.

1.1 Deploy four camera systems, capturing metadata entries for each camera system location, including precise location, habitat descriptions, photos

1.2 Image data regularly captured from four locations

1.3 Biodiversity data from camera systems summarised within accessible visualisations

2.1 iNaturalist project created for capturing images (and location information) for moths occurring on Anguilla

2.2 Image training dataset available and tagged by citizen scientists and moth experts

2.3 Image Classification Model built using information from iNaturalist and the image training dataset

3.1 Co-develop an accessible and informative online guide to insects and their important roles to people and nature, how to monitor insects using novel technologies and how people can contribute (e.g. submitting observations of wildlife to iNaturalist or supporting wildlife-positive actions).

3.2 One biodiversity report card developed with data and analysis from automated camera systems

3.3 End of project workshop for Anguilla stakeholders

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
E.g. DPLUS-A01	E.g. Number of people in eligible countries who have completed structured and relevant training	1.2	People	Men	20	10		30	60
E.g. DPLUS-A01	E.g. Number of people in eligible countries who have completed structured and relevant training	1.2	People	Women	30	5		35	60
E.g. DPLUS-B01	E.g. Number of new or improved habitat management plans available and endorsed	0.3	Number	New	1	0		1	2
E.g. DPLUS-B01	E.g. Number of new or improved habitat management plans available and endorsed	0.3	Number	Improved	1	1		2	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?	Y
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Y
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.	na
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.	Y
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.	Y
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)?	na
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	