Darwin Plus:
Overseas Territories Environment and Climate Fund
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 2023

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

Darwin Plus Project Information

Project reference	DPR10S2\1007
Project title	Preserving endemic threatened wildlife populations through effective protected area management.
Territory(ies)	Grand Cayman
Lead Partner	National Trust of the Cayman Islands
Project partner(s)	Royal Society for the Protection of Birds (RSPB)
Darwin Plus grant value	GBP £439,897.00
Start/end dates of project	1 April 2022 – 31 March 2025
Reporting period (e.g. Apr 2022-Mar 2023) and number (e.g. Annual Report 1, 2)	May 2022 – March 2023 Annual Report #1
Project Leader name	Luke Harding
Project website/blog/social media	https://nationaltrust.org.ky/our-work/conservation/ Facebook/Instagram: @blueiguanaconservation
Report author(s) and date	Luke Harding and Annette Gunn 30 h April 2023

1. Project summary

The Cayman Islands are located in the western Caribbean, south of Cuba and northwest of Jamaica (*Figure 1*). The country is made up of three islands - Grand Cayman, Cayman Brac, and Little Cayman.

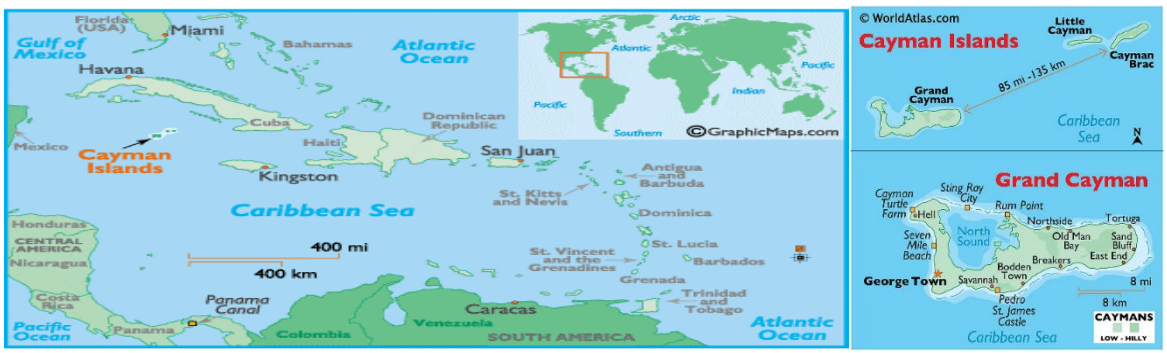


Figure 1. Maps showing the location of the Cayman Islands, the three Cayman Islands and Grand Cayman (Graphic Maps and World Atlas)

Grand Cayman is the largest of the three islands and is home to most of the Islands' human population. It is approximately 35 km in length and 6 km wide. The majority of the population is based around George Town and the western side of the island, whilst rural populations are found towards the East End.

Pressures on Grand Cayman's natural environment remain high and populations of endemic wildlife are largely restricted to within Protected Areas (PAs). The work carried out during this project will seek to strengthen on-island capacity to support effective management of PAs through staff development, community engagement and a trained volunteer network. Conducting essential research and monitoring will fill knowledge gaps regarding endemic wildlife population sizes, threats, habitat use and establish sustainable Invasive Alien Vertebrate management, to target actions and outcomes that effectively safeguard these important wildlife areas.

Due to the many pressures on wildlife species across the Cayman Islands, PAs are key to preserving Cayman's unique biodiversity and protecting natural habitat for climate resilience. Combined NTCI and Government (National Conservation Council) PAs currently make up approximately 12% of the total land area of the Cayman Islands. Threats to biodiversity, such as habitat loss, emerging diseases and IAVs, have already caused extinctions in the Cayman Islands and driven other species close to the brink, such as the iconic Grand Cayman blue iguana and Cayman Islands dwarf boa. The last remaining populations of wild blue iguanas and other endemic species reside within two key PAs, Salina Reserve (646 acres) and Colliers Wilderness Reserve (190 acres), therefore the effective management of these sites is now more critical than ever.

Through the conservation planning process, key gaps have been highlighted in our knowledge of how species, such as Grand Cayman blue iguanas (*Cyclura lewisi*) use these PAs, what qualifies as important habitat and other key issues, including survivability and dispersal within different age categories. A more detailed understanding of the current blue iguana population will be key to more robust and targeted planning to ensure the future of this species on Grand Cayman. Annual monitoring in PAs by NTCI/DoE staff has shown a decline in the blue iguana population over recent years, likely caused by increasing pressure from IAVs, particularly feral cats and green iguanas, which have been recorded by the survey teams and captured on remote camera traps. Currently, NTCI only has a very limited number of camera traps, and a greater area of cover is needed to fully analyse the impact of IAV predation and measure the effectiveness of implemented management strategies. Green iguanas (*Iguana iguana*) are already well established on Grand Cayman and have been proven to be carriers of a lethal Helicobacter bacterium that is fatal for blue iguanas, so removing them from PAs is key to preventing *Iguana* population expansion and reducing the risk of hybridisation and disease transmission. Regular monitoring, data collection, data analysis and technical reporting is required to build a comprehensive picture of the extent of threats to endemic species within the PAs to elicit effective change through the implementation of robust PA management plans and IAV management strategies.

Technical and resource constraints prevent essential work being carried out and a shortage of human resource limits data gathering and analysis capability. Furthermore, community collaboration is required to enable long-term PA management and expansion, and the introduction of a comprehensive public education and outreach programme is key. The future success of any management strategies relies upon increased on-island capacity, including a trained volunteer network and experienced NTCI staff that have the skills and knowledge to manage, monitor and respond effectively to threats and their impacts. To address these issues, this project will: establish effective IAV management within the PAs; monitor key wildlife populations to better target action and outcomes; enhance on-island capability through training and development of both NTCI staff and volunteers; utilise technology for research and community engagement and produce management plans for both PAs that will be implemented and monitored effectively.

The work of this project is to more effectively manage the NTCI's PAs, which is relevant to all the people in the Cayman Islands. All properties owned by the NTCI, in fact, belong to the people of Cayman as the NTCI is simply a steward of the lands for the people. The native species living on those lands are the natural heritage of the Caymanian people and many of them hold a special place in Caymanian culture. By protecting these species more effectively, the NTCI is helping to ensure that future generations of Caymanians are able to maintain this cultural connection to the species that their ancestors depended on.

The Cayman Islands are also highly dependent on economic gain from tourism. Before the Covid-19 pandemic, it was nearly on par with the financial services industry as one of the main pillars of the territorial economy. The main draw of the eastern districts of Grand Cayman are the natural tourism offerings. The PA system benefits the community of the East End by creating lasting, sustainable tourism products to attract economic growth to the traditionally undeserved area. This will also create greater value for natural areas in the minds of the local community, which can be used to gain greater support for their effective management.

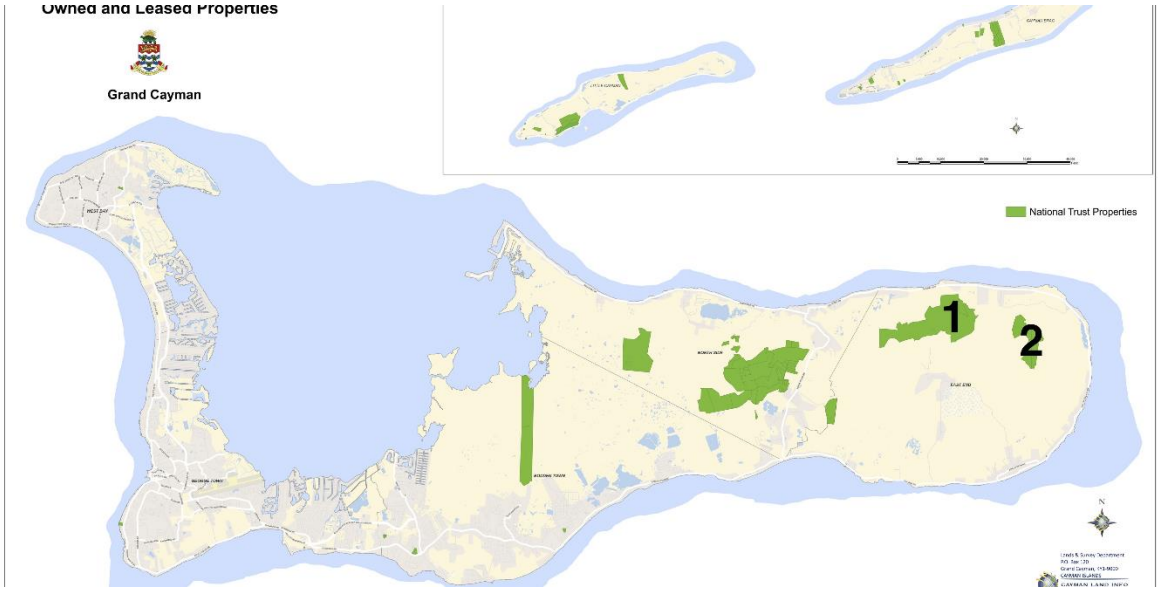


Figure 2. National Trust for the Cayman Islands Owned and Leased Properties (*green area*): 1: Salina Reserve; 2: Colliers Wilderness Reserve.

2. Project stakeholders/partners

The National Trust for the Cayman Islands (NTCI) is a non-governmental, non-profit, membership-based organisation led by an elected Council to provide scientific guidance, education and conservation to protect the environmental and historical heritage of the Cayman Islands.

The NTCI manages PAs to preserve endemic flora and fauna, including a focused species conservation programme, Blue Iguana Conservation (BIC), which has received population recovery efforts of Grand Cayman blue iguana for over 20 years.

Throughout Year 1 of this grant, the NTCI has worked hard to support the project with input from the Project Lead and relevant expert committees, to help with all aspects of planning and decision making. Local and international partners were brought in to assist with the annual field surveys in March 2023 and partners and stakeholders are informed of all of the developments pertaining to NTCI and BIC.

Royal Society for the Protection of Birds (RSPB) is a UK-based membership-based organisation and it is the largest conservation NGO in the UK. The RSPB has supported long-term conservation initiatives in the Caribbean and NTCI is no exception. Discussions have

started with the RSPB Head of Conservation Programmes to consult on filling capacity building training gaps, which includes consultations regarding management practices and advice on monitoring PAs/ IBAs and technical expertise. The RSPB Finance Manager is expected to travel to the Cayman Islands in 2023 to do financial budget training with the NTCI staff and other partners.

The Cayman Islands Government Department of Environment (DoE) supports the NTCI with technical advice, policy and legislation, monitoring and management of Invasive Alien Invertebrates (IAVs), analysis of project data and results, and dissemination of the results into documents, publications, policies or laws to help establishing future conservation actions and management of PAs. The DoE will also assist with local capacity building regarding training, development and teaching skills. Two DoE members sit on the BIC Steering Committee so offer input into relevant aspects, including land sales, habitat developments, data analysis and camera trapping work. IAV management techniques have been shared between NTCI and DoE to identify best and effective practice to make significant and positive declines in the IAV populations. The citizen science mobile application has been used and promoted by DoE staff across all three Cayman Islands.

Wildlife Conservation Society (WCS) at Bronx Zoo has been an official off-island veterinary partner of the NTCI since 2001. WCS travels to Grand Cayman annually to carry out health screening and analysis of veterinary results for various species, in particular the blue iguana population within and outside the PAs. During Year 1 WCS supported the project with help collecting and analysing the disease screening activities.

San Diego Zoo Wildlife Alliance (SDZWA) has been an official NTCI partner since the inception of the blue iguana conservation breeding facility in 2002. The Species Survival Plan breeding programme for Grand Cayman blue iguanas is managed by SDZWA, which also includes the off-island captive population held within accredited Association of Zoos and Aquariums (AZA) institutions being maintained for long-term genetic diversity. SDZWA uses genetic data provided by MSU to manage diversification of the blue iguana population and which informs conservation breeding at the BIC facility and release recommendations within the PAs. SDZWA will support this project by continuing the genetic and demographic analysis of the populations from data collected through this project.

St. Matthew's University (SMU) is a private offshore medical and veterinary school based on Grand Cayman. SMU became an official partner of NTCI in 2021 and is represented on the Blue Iguana Conservation Steering Committee. SMU provides the NTCI with on-island veterinary technical support and advice, and assists with health checks, sample collection for disease screening and crisis interventions, such as animals with injuries and post-mortem work. SMU will also build local, regional and international capacity through training NTCI staff, volunteers and their student base.

Mississippi State University (MU) has been a partner with NTCI since 2014. MU provides NTCI with support by carrying out applied genetic analysis and monitoring of populations for target species including the blue iguana. MU will support this project by providing analysis on samples collected and checking for the potential risk of a hybridisation event or inbreeding. They will also provide technical advice and participate in the development of training materials for the training course expected to take place in YR2.

Multi-level collaboration via this project, from grassroots to government, partners and stakeholders, will benefit the Cayman Islands through improved expertise, knowledge, economic opportunities and scientific research. Cayman's biodiversity will benefit from increased monitoring and data collection to guide future management plans for priority species and PAs.

The Cayman Islands will benefit from climate data that can be captured and monitored efficiently to determine emerging climate threats. The community, wildlife and economy will also benefit, both directly and indirectly, through preservation of Grand Cayman's last

remaining key terrestrial habitats and some of its key endemic species and IBA trigger species. Local capacity is paramount to project success and students and volunteers will be recruited from within Cayman. Inclusion of Cayman nationals will increase local knowledge, empowerment and responsibility. With emphasis on understanding of opinions from Grand Cayman's community, appropriate training will be pivotal to the success of the project and its future planning, providing opportunities for both personal and professional development. The training course, mobile app, IAV methods and other technologies can be adapted for other regional species, enabling wider knowledge-sharing through relevant platforms with work presented at conferences, events and through the publication of project data.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: Enhanced in-Territory capability to restore, monitor and manage Pas

1.1 After delays due to a changing NTCI Executive Director, successful recruitment for the Field Officer and Assistant Field Officer positions occurred in September 2022. Unfortunately, due to work permit delays and an unexpected medical issue, the Field Officer candidate was delayed. During this delay, they worked remotely on the analysis of data from this project, but due to further health complications, meaning more delays, the decision was made that they would resign from this position to focus on health and allow the project to find a new candidate to take up the role on island. Shortfalls in workload due to the position not being filled were covered by the Project Lead (Annex 4.14) and visiting expert assistance for field work and surveys. This intervention by the Project Lead has been essential in providing the on-island skills, knowledge and expertise necessary to carry out the tasks necessary to keep the project on-track during YR1. Key tasks were identified which needed to be completed during YR1 and additional tasks identified which needed to be started during YR1: data gathering and analysis, where the absence of such would have had a deleterious effect on the successful outcomes of the entire project.

1.2 Work has commenced on the development of training course materials in discussion with project partners about training needs and requirements.

1.3 More than seven suitable in-territory staff and volunteers have already been highlighted to attend the training course, so far. We are confident that there will be further demand for this course closer to the time.

1.4 Samples have been collected from reptile species this year, in particular blue iguanas, regarding the known and existing threat of the pathogen Helicobacter spp. from both PAs. The focus for the next two years will be other target species in consultation with partners and other veterinary advisors.

1.5 All collected disease samples have been sent off island for detailed analysis and results have been shared with all project partners (Annex 4.1) and a peer-reviewed paper will be published in 2023 on testing for Helicobacter in reptile species due to the work funded through this grant.

1.6 As planned, quarterly patrols have commenced in each PA, both on foot and using technology. Boundaries have been monitored for encroachment or illegal activity (Annex 4.2).

1.7 Suitable fixed plots have been selected and cleared for installation of weather stations in both PAs (Annex 4.3)

1.8 Weather stations have been installed in both Salina and Colliers Wilderness Reserves and climate data is being recorded and shared with interested stakeholders (Annex 4.3, 4.4).

1.9 As per the schedule outlined in the logframe, trails have been established in each of the PAs and ongoing maintenance carried out regularly (Annex 4.5). All trails have been marked with permanent signage to enable ease of trail preservation beyond this project.

1.10 Boundaries have been clearly marked and are now accessible for monitoring. Further marking and maintenance will continue to make boundary work more efficient (Annex 4.5).

Output 2: PA management plans for Salina and Colliers Wilderness Reserves better protect natural habitat and guide targeted conservation actions for focal species the Grand Cayman blue iguana.

2.1 Initial meetings have begun to discuss development of a management plan for Colliers Wilderness Reserve.

2.2 Initial meetings have begun to discuss development of a management plan for Salina Reserve.

2.3 Distance sampling survey on target to still be carried out in Colliers Wilderness Reserve to monitor blue iguana population in Q4 YR2. Trained staff and volunteers have been identified to conduct the survey.

2.4 The decision was made to move the distance sampling survey forward by two years in Salina Reserve monitor blue iguana population in March 2023, in order to have a direct comparison between distance sampling and camera grid techniques. This comparison will provide clarity on the best methodology moving forward (Annex 4.6)

2.5 Camera trap grid design and methodology agreed upon and grids deployed to monitor population abundance of blue iguanas within and outside of the PAs. Salina Reserve results currently being analysed (Annex 4.6, 4.7).

2.6 Work has started on methodology and design for the study to capture and tag hatchling iguanas for radio tracking for age and sex survivability and dispersal emigration.

2.7 Work has started on the methodology and design for the study to capture and tag subadults iguanas for radio tracking for age and sex survivability and dispersal emigration.

2.8 Data collected from future studies will be used to identify preferred habitat type for hatchling iguanas.

2.9 Data collected from future studies will be used to identify preferred habitat type for subadult iguanas.

2.10 Data collected will be used to look at preferred habitat differences between wild born vs released iguanas by the end of the project.

2.11 A GIS database will be created by Q3 YR3.

2.12 Data will be analysed and results used to quantify and identify land and suitable habitat options to expand, restore and establish PAs by the end of the project.

2.13 Data to be collected to identify important wildlife corridors for blue iguana movement by Q2 YR3.

2.14 The Red List assessment for the blue iguana will be updated by the end of the project.

2.15 The National Conservation Action Plan for the blue iguana will be updated by the end of the project.

Output 3: PA management improved to support blue iguana and other priority wildlife conservation through effective community engagement and capacity building.

3.1 Through trials and working with the partners, we have determined and implemented an appropriate trapping schedule for IAVs within Salina Reserve (Annex 4.8)

3.2 An appropriate trapping schedule has been determined and implemented for IAVs within Colliers Wilderness Reserve.(Annex 4.8)

3.3 Surveying for presence and absence for targeted biodiversity for endemic fauna and flora and IBA trigger species within both PAs annually has started. Data being used to compile lists of species for both PAs (Annex 4.9).

3.4 Frequent meetings have occurred to begin the design and implementation of a targeted education and outreach campaign to support the conservation of key endemic wildlife and better practices in the management of PAs. These meetings involved project partners and other key stakeholders.

3.5 The volunteer (Guardians) programme has exceeded the target of at least 10 new volunteers annually for Y1 with over 100 registered individuals (Annex 4.10).

3.6 Discussions have started around the design of the updated signage and are on target to be ready for installation within both PAs and at other key NTCI sites within YRs 2 and 3.

3.7 Mobile application has been launched and has received good publicity. The app has been used on all three islands. Project staff are providing training to individuals and interested parties, such as schools and tour operators. (Annex 4.11, 4.13, 4.12).

3.8 Mobile application has been downloaded by more than 1,000 users by end of YR1 and is on target for at least 5,000 people by end of YR3.

3.2 Progress towards project Outputs

Output 1: Enhanced in-territory capability to restore, monitor and manage protected areas (PAs).

There has been positive progress towards the completion of Output 1. Local capacity has been increased by the employment of a Caymanian Assistant Field Officer (Output 1.1). The Field Officer position was successfully recruited and had been accepted (UK). Due to a complication that arose during health screening for the work permit, there was a delay in the arrival on island of this recruited position. During this period, the candidate completed remote work on the analysis of collected camera data, research into best R statistic models and trailing their effectiveness, E-guana data and other tasks, such as research design for the radio tracking study, whilst medical tests were being carried out for permit. Unfortunately, the issue was not able to be resolved and the Field Officer resigned from position to focus on health and now a new Field Officer will be recruited as a priority at the beginning of YR2.

The training course is on target to be held in YR2 and potential attendees have been identified, including students, staff and volunteers from the Cayman Islands and surrounding countries. Training materials have been identified and work has begun to create these resources (Output 1.2) in consultation with project partners particular RPSB. The first planned aspect of training to be delivered will be financial management which will be conducted by RSPB staff in 2023.

During the startup meetings and planning stage for this work, the decision was made in consultation with project partners, Environmental Advisory Committee and veterinary advisors to start the disease screening with a focus on the most immediate and major known threat, *Helicobacter*, affecting reptiles. Screening for diseases in reptiles (racer snakes, blue iguanas, green iguanas, anoles, hicatees) has been carried out on island with the assistance of project partners WCS. Data has likely confirmed that blue iguanas are not asymptomatic carriers for *Helicobacter* pathogen, nor is there a trace of it in any other reptiles except green iguanas, where screening has confirmed this pathogen is present (Annex 4.1). A publication on disease screening in iguanas is expected to be produced in YR2 alongside our veterinary partners. Avian disease screening (chickens and IBA species) will commence in YR2 (Output 1.3).

Meetings have taken place between the NTCI and RSPB to establish key factors about the suitable methodology for patrolling and monitoring the PAs, and technology available for this (Output 1.4). Camera traps, on foot monitoring and drone technology have been discussed, along with the frequency of monitoring, which has been increased to quarterly in place of twice annually - a decision made through partner meetings and feedback from the Darwin Advisory Committee. These patrols have been effective and even highlighted some key issues and illegal activity (Annex 4.2).

Weather stations have been acquired and installed (Annex 4,3) in both PAs (Output 1.5) at fixed plots. Information is recorded daily, and regular reports are made available to partners as needed. Data is used to look at patterns and suitability for work conditions and over time can be used by students for other research (Annex 4.4).

The field team (covered by the Project Lead) has created clear boundaries around the PAs and monitoring patrols have occurred to check for signs of encroachment and illegal activity (Output 1.6). The PA boundaries have been mapped and permanent signage has been erected to identify boundaries and trails for over the long term. As well as boundaries, trail systems have been cleared in both PAs and maintained routinely, particularly prior to biodiversity surveys (Output 1.7). Trail maintenance will continue throughout project duration to ensure efficiency of access and management of both sites and the trail systems can be expanded as required. (Annex 4.5).

Output 2: PA management plans for Salina and Colliers Wilderness Reserves better protect natural habitat and guide targeted conservation actions for focal species the Grand Cayman blue iguana.

Template management plans for both PAs have been developed and work continues to build upon these for implementation in YR3 (Output 2.1). Multiple meetings have been carried out with project partners and staff to utilise their expertise and project partners RSPB were on island in March for key in person meetings, where management of these sites was a key topic and both sites were visited.

During YR1, we have worked with the Harrisburg University and the DoE to establish the most effective methodology for population monitoring using remote cameras. Two sets of data have now been collected and data from this has started to be analysed, we are hopeful of publishing the methodology by 2024.

In February 2023, the Project Lead visited Harrisburg University to start the analysis on the first set of data and also received intensive training on the R packages required for this work (Annex 4.6)

The annual distance sampling survey was conducted in March 2023. Whilst normally the surveys are on rotation between the PAs, the decision was made this year to sample in the Salina Reserve to make a direct comparison between the effectiveness of the distance sampling methodology and the use of remote wildlife cameras. Survey went well and provisional results match previous years. Analysis is currently being done on survey results.

The rest of this output is focused on research work to be conducted in YRs 2&3 of this grant. The focus throughout YR1 has been doing research into methodology for these studies. Research into the telemetry equipment has been key and trails have started on the design of these units and the attachment to the iguanas, working with experts in the use of these units in Australia working with monitor lizards in a similar challenging environment.

Output 3: PA management improved to support blue iguana and other priority wildlife conservation through effective community engagement and capacity building.

Over the last 12 months, extensive efforts have gone into the development of an IAV trapping schedule for the PAs. This year the work has focused on refining best practises and methodology to come up with a sustainable system that can be used to have an effective impact but also be manageable beyond the timeframe of the programme. We have trailed multiple baits, timings and trapping systems and set ups to try and establish the most effective methods. During this development phase we remain in frequent discussion with on-island partners DoE and project partners RSPB who are conducting similar work in the Sister Islands under Darwin Plus-funded project. In October 2022, a visiting team of eradication experts were brought in to conduct a feasibility analysis as part of DoE/RSPB project on Little Cayman. During their visit they had multiple meetings with our team to discuss our work, goals and challenges and share ideas and methodology.

So far, in the first year of the project over 50 green iguanas and over 100 feral cats have been trapped and removed from PAs (Annex 4.8).

Surveys have been conducted in both PAs by project staff and the NTCI Environmental Programme Manager and assisted by volunteers. These surveys have focused on the presence and absence of key target species of fauna and flora (Annex 4.9). Camera trap data has also been used to feed into this data set.

Work has started on the design and development of an effective educational campaign designed and to be launched in year 2/3 of the project. We have started on developing video content and social media content to launch campaigns introducing our PAs, their importance and value, threats and challenges and effective management. This will be a main focus for year 2 of the grant, along with effective communication of these messages into schools. Meetings have been held to start developing a signage plan being for the NTCI PAs sites and highlighting key issues and messaging. Meetings have also been scheduled with experts in this field from project partners RSPB.

The Blue Iguana Guardian volunteer programme has been an outstanding success story within the first year of the grant. The continued investments and interest in this programme have been overwhelming and has helped raise the profile of the project work. In the first year, over 100 Guardians were registered and now assist the programme with their huge range of activities and expertise. There is a 96% retention rate of Guardians after the minimal 3 month requirement, to date. Facilitating Guardians training has been successful and has helped to promote the initiative. Gratitude has been shown by giving back with training and network opportunities but also the launch of the Blue Iguana Guardian Awards to help recognise those that have gone above and beyond for the programme and to encourage others to get involved (Annex 4.10). Several Guardians who were trained through the programme have gone on to successfully obtain jobs in their fields of interest due to the experience and networking gained throughout their efforts on this programme.

October 2022 saw the successful soft launch of the citizen science mobile application ‘E-guana’. The soft launch was mainly word of mouth and social media so that the uptake would be steady enough to allow the team to monitor app use, and fix any snags and issues. Any issues were highlighted and have been addressed in multiple updates over the last two months, now resulting in an effective app that works for everyone.

We have had an excellent start to the use of the app, as even with minimal advertising and marketing we have had over 1000 downloads and 200 submissions from across all three islands and for all three species of iguanas.
Over the last few months, we have now started to push the use of the app with the development of a How to Use guide (Annex 4.13). Promotional material has been displayed across all the islands and in the airports, including by programme partners at a major hotel ecotourism organisation (Annex 4.12). As well as promotion and marketing, we have focused on training volunteers, visitors, students and interested stakeholder groups in the use of the app and the importance of the data collected.

3.3 Progress towards the project Outcome

Project outcome: Improved condition of PAs harbouring key endemic wildlife populations through effective management plans and additional capacity to implement them.

The progress towards the Project Outcome involves several main aspects and monitoring will be carried out via the indicators shown in the log frame.

0.1 Work has been progressing steadily throughout YR1 of the project to start filling essential data gaps via field work, population presence/absence surveys and camera trap data is all being analysed to help build this data set, is all on target at this stage of the project. Camera traps are being regularly used to collect data within the PAs and this focus will continue throughout YRs 2 and 3. Data collection and analysis will be a major focus of the work carried out in the remainder of the project in order to be able to ascertain solid data for population numbers and inform the development of the NCAP and IUCN Red List Assessment. The Field Officers, Project Lead and trained volunteers will assist with the data gathering and Field Officers will be heavily involved in the analysis of this data, regularly sharing progress and outcomes with partners and key stakeholders. The appointment of Field Officer took a setback but will be filled shortly to achieve the field-based activities throughout the remaining duration of the grant.

0.2 Fieldwork commenced immediately at the start of YR1. Despite the delays in appointing the Field Officers, this essential work has been undertaken by the Project Lead (Annex 4.14) and volunteers to ensure that there has been no shortfall in this aspect of the work. The field work this year has focused on population presence/absence surveys and camera trap data gathering and analysis to help build this data set. Work is all on target at this stage of the project and with the imminent appointment of a new Field Officer we are certain that work will continue as planned throughout the remainder of the duration of the project.

0.3 Field studies have been progressing well throughout YR1 and data is being collected focusing on habitat suitability and wildlife corridors. We remain positive that by the end of the project we will have gathered sufficient quality data to contribute to an effective PA management strategy.

0.4 The two existing PAs, Salinas and Colliers Wilderness Reserves, have formed the focus of the project through YR1 with the successful annual survey completed in March 2023, the data from which is being analysed and will form part of the overall scope of the study. This type of data is essential in helping to inform effective PA management so that work can continue after the duration of this grant-funded project.

0.5 Local capacity has been increased through the employment of two Field Officers (due to ill health, one Field Officer has had to withdraw and a replacement is being sought). The training and support from the RSPB is ongoing, and the work and involvement of the Guardians has exceeded expectations. Community-based efforts in this project include the development of a training course, building the Blue Iguana Guardians programme and the mobile application for citizen science data. The training course is planned for YR2 but the first year of the Guardians programme has more than tripled the expected number of volunteers in YR1. The mobile application has also been a huge success as it has received much engagement and useful iguana population data. Many Guardians have shown an interest in supporting the fieldwork

aspect of the project and training courses to support this and build on-island capacity will continue when the new Field Officer is in post in YR2.
IAV management has been another major focus of the work carried out in YR1 and this has been going very well with some pleasing results with the feral cat trapping and green iguana culling. The strategies and methodologies being currently employed to good effect will offer a sound basis for YRs 2/3 and give us confidence that we will be able to continue with this vital aspect of the project and maintain an effective network of trained staff and volunteers after the project.

3.4 Monitoring of assumptions

Assumption 1: Work is not rendered impossible due to Covid-19 restrictions or weather, e.g., hurricanes. If we believe this to be the case, we will use careful scheduling of activities and make use of technology available. We are confident that weather stations will function in the harsh environment and be able to send data electronically and we have prior experience with these systems.

Comments: There were no Covid-19 restriction related delays to the work on the project. The Cayman Islands government has removed nearly all restrictions, allowing the team the freedom to move and work on the project. Cayman has been mostly spared from dangerous weather in the past year and has not been the cause of any delays due to adverse weather conditions. The new weather stations are installed and working well, providing regular real time data.

Assumption 2: Assumption that there will be sufficient interested applicants with the required skills and knowledge to successfully recruit and that staff will remain in post throughout the 3-year contract. There will be no delays, such as problems with visas, to interrupt commencement of employment. We believe that given the experience of the local government partners and NTCI experience of recruitment and visa applications process there will be no delays.

Comments: There were qualified applicants for the Field Officer positions. The Field Officer was recruited from abroad as there were no suitable on-island applicants. The Assistant Field Officer was an internal appointment from within the Blue Iguana Conservation team. While the work permit process for the Field Officer went as planned, the medical which is a key requirement of the visa process flagged a serious medical condition for this person. This has, unfortunately, delayed their arrival to Grand Cayman as they require treatment in the UK. The Field Officer has been able to complete some of the project work remotely. The Project Lead has worked additional hours to help alleviate some of the shortfall in work caused by this delay and to keep up with the field component of the project to this point.

Assumption 3: That there is available expertise and knowledge within the key partners, to design, implement and deliver training course for capacity building and that Covid-19 restrictions or other issues, such as hurricanes, will halt training. We are confident that the extensive experience within the partnership will enable us to ensure high quality training is delivered. Due to the availability of online platforms (e.g., Zoom) and on-island expertise, the training course will be successfully delivered without delays.

Comments: The NTCI has had the continued support of its partners through the project thus far. We expect this to continue due to our longstanding relationship with all of the different local and international partners.

Assumption 4: Work is not rendered impossible due to Covid-19 restrictions or weather, e.g., hurricanes. If we believe this to be the case, we will use careful scheduling of activities and make use of technology available. We are confident that weather stations will function in the harsh environment and be able to send data electronically and we have prior experience with these systems.

Comments: The weather stations have successfully installed and are working well providing data that strengthens our understanding of climate activity and allows us to better predict and schedule activities.

Assumption 5: Trails and boundaries will be maintained and cleared regularly along with regular patrols conducted by trained volunteers and staff. We are confident this will happen as currently does within other PAs and we have experience with the maintenance of local trails.

Comments: The NTCI team have maintained the trails and boundaries as required for the project activities. Moving forward, as the Field Officers are able to increase the time in the reserves, we are confident that the clearance work will continue, and we will continue to be fully compliant with this component of the project.

Assumption 6: Volunteers, staff, and partners have sufficient expertise and knowledge to use technology to help with PA monitoring. We are confident of this assumption as there is a lot of existing expertise and knowledge within current staff and partners.

Comments: NTCI volunteers have been instrumental in helping with the monitoring of the PAs, most importantly through their assistance with the camera trap monitoring project. As the volunteers receive more training throughout the duration of the project it is hoped that the increase in experience and skills will enable them to do even more monitoring.

Assumption 7: Staff retention and expertise allows them to achieve and implement outputs. We are confident this will hold true as we have required support and expertise in partners to ensure work is supported. Thorough screening during the interview process from experienced partnership will select suitable candidates to live/work on Cayman.

Comments: The NTCI has added an Environmental Policy and Development Officer with funding from the John Ellerman Foundation. Their work overlaps with this project as they are tasked with management plan updates as well as creating an NTCI IAV Strategy. The project lead has been able to work additional hours and their expertise has allowed the outputs to be met despite staffing delays.

Assumption 8: Necessary skills and knowledge are available for field techniques and technology use to conduct field work and analysis results. We believe this will hold true as recruited staff will be support by current NTCI staff and experienced partners, with expertise with methodology and working on Cayman.

Comments: Between the project lead, NTCI staff and our on- and off-island partners, the field work and analysis has proceeded as planned.

Assumption 9: Field work is not rendered impossible due to Covid-19 restrictions or weather, e.g., hurricanes. We believe this will be the case and will use careful scheduling of activities and make use of technology available to minimise any impact or delays.

Comments: Cayman has had minimal disruptions in the past year from Covid-19, associated restrictions, and foul weather. This has allowed the staff to complete field work as necessary.

Assumption 10: IAV monitoring and controls are properly implemented and evaluated. We believe this will happen given the experience of the NTCI and partners.

Comments: IAV monitoring and controls have been implemented by the Project Lead. The programme has successfully indicated where control efforts should be concentrated. As the Field Officers are able to work in the reserves more, the control efforts will be easier to maintain.

Assumption 11: Trained volunteers continue to commit time and efforts to support IAV management and PA monitoring for the long term. We are confident this will happen as the NTCI has good history of long-term volunteers and a numerous interested and committed individuals keen to be trained.

Comments: The highly committed volunteers have supported the program and are eager for even more training. With added capacity, they will become even more valuable to the efforts of the project. Based on the NTCI's past volunteer rates we believe this is sustainable in the long term.

Assumption 12: Field work and surveys are not stopped due to weather conditions or other unforeseen issues e.g., Covid-19 restrictions. We will use effective scheduling, planning and monitoring of changes in weather and other situations to mitigate this. Flexibility in the work schedule and by using camera will help mitigate this.

Comments: Cayman has had minimal disruptions in the past year from Covid-19, associated restrictions, and foul weather. This has allowed the staff to complete field work as necessary.

Assumption 13: Citizen science app will be well received and have positive uptake and engagement. We believe this will be the case as we already have good level of participation through social media channels and email. We will advertise the app and provide training on its use to ensure that we meet targets outlined.

Comments: The E-guana app has seen early uptake with minimal advertising and allowed the technology team to make fixes to the app. In the next phase there will be even more advertising of the app including at events, such as International Blue Iguana Day (8th May). Key local partners including ecotourism operations have also been marketing the app to their customers, allowing for outreach to be done without cost to the NTCI. We believe that the app is going to be a successful management tool and has the potential to be built upon for more monitoring of varied species.

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

The NTCI is one of the major forces for environmental conservation in the Cayman Islands alongside the DoE and the National Conservation Council.

One of the most immediate threats to the Cayman Islands natural environment are invasive species, especially invasive alien vertebrates. The species of the Cayman Islands evolved without any terrestrial mammalian predators until at least 1503, their introduction has been one of the major drivers leading several species to endangered status, extirpation, and extinction. Efforts to control the most pressing invasive predator, feral cats, have been slow to get off the ground and even now, the government of the Cayman Islands is focusing more on the Sister Islands in this respect. This leaves the NTCI to develop a program for the extensive protected areas managed by the organisation on Grand Cayman.

The Colliers and Salina Reserves, being home to the entire wild blue iguana populations are the areas most in need of enhanced protection. This project has allowed the NTCI to begin assessing how a campaign to eradicate invasive predators from our protected areas would proceed. The expanded monitoring of feral cats via the camera trap system has allowed the NTCI team to get a truer sense of the population of feral cats in the reserves, as they are highly cryptic and have never been observed directly by staff in the reserves. The camera trap analysis completed by project partner, Harrisburg University even allowed the NTCI to see spatial changes in their behaviour during the iguana hatching season, with the cats moving into areas where nesting occurs; this is the type of data that can allow for the creation of a plan of targeted trapping (spatially and temporally) to make the most of the limited resources the NTCI has. The trapping efforts undertaken in this project have been instrumental to begin removing these predators from the most sensitive blue iguana habitat as well as building the capacity for further removal from other protected areas by NTCI staff. The monitoring efforts and added time in the protected areas provided by this project have also allowed the NTCI to monitor for other IAV including observations of feral dogs and green iguanas, two of the most serious threats to the blue iguana, confirmation of their presence in these remote areas is essential to mobilizing the resources to deal with the threat they pose.

The lessons learned in the past year are allowing our team to refine our methodology to be more efficient with our human resources and use the best technology to allow for the greatest impact in the coming years. Since receiving this grant, the NTCI has added an Environmental Policy and Development Officer (EPDO) via funding from a John Ellerman Foundation Grant. One of the key outputs of this staff member is a long term and organisation with IAV strategy for the NTCI. The work being done on this project is feeding into the strategy being developed by the EPDO. The lessons learned monitoring and controlling the IAV in the Salina and Colliers Reserves are being used to develop plans for the other protected areas the NTCI manages.

In concert with the work on the ground combating the impacts of IAV, the NTCI has been able to focus on outreach and education regarding IAV in the Cayman Islands. This rollout has already begun on Grand Cayman with visits to schools and presentations to the youth of Cayman. The focus of this program will be building pride in Cayman's native species, this allows the NTCI to tie in the cultural and historical relevance of the native species and natural environment to Caymanians.

The long-term success of IAV management in the Cayman Islands will require more public contributions. The development of the E-guana app is a major step in this direction. Citizen reporting of invasive species has been seen in places like Australia with the FeralScan app, Florida with the IveGot1 app, Hawaii with the 643Pest programme and elsewhere, with great effect. While the E-guana app is currently only allowing for the reporting of invasive green iguanas, the team has already had discussions in expanding its capabilities to allow reporting of other invasive species and is being used across all three of the Cayman Islands.

This project is working to ensure that the PAs are managed effectively to protect our native flora and fauna for future generations. The EPDO is also tasked with updating existing management plans and creating new ones for the NTCI PAs. The Salina and Colliers Reserve management plans are considered to be amongst the most important plans and are amongst the first round the EPDO and NTCI team at large are working on.

This project has also provided for the ordering of new weather monitoring stations for the reserves. As a small tropical island nation, Cayman is expected to deal with severe impacts from climate change in the future. Having a better monitoring system will allow the NTCI team to better understand the impacts in our protected areas and be able to adapt our management to mitigate these impacts the best we can. Without this project the level of climate monitoring in the NTCI PAs would be severely limited and adverse effects might occur before any issues were noticed.

The future success of PA management in the Cayman Islands will depend on more public engagement. The growth of the Blue Iguana Guardians volunteer programme into a more comprehensive conservation volunteer organisation is a major component of this project. The volunteers are being trained in other aspects of environmental monitoring and management, including bird and other species identification as well as planned trainings in invasive species monitoring and management.

The Cayman Islands Government passed the National Conservation Law (NCL) in 2013 - the most significant piece of legislation dealing with environmental conservation in the territory's history. Part 3 of the legislation deals with effective management of protected areas via high quality management plans. This project is helping the NTCI to reach the goals of this legislation by the creation of the management plans for the Salina and Colliers Reserves. The NCL also calls for effective species management in Part 4 of the law. As a schedule 1 species the blue iguana is in the highest category or protection under Cayman Islands law and is mandated to have a National Conservation Action Plan. The work completed under this project to monitor the wild blue iguana population fits the current SSAP more effectively for this species. (Harding, L., et al 2021. Strategic Species Action Plan for the Grand Cayman Blue Iguana (*Cyclura lewisi*) 2021–2026). This improved monitoring of the species and the protected areas they depend on will allow for the creation of the NCAP.

The UKOTs represent most of the biodiversity of the United Kingdom and are a key part of its commitment to the Convention on Biological Diversity (CBD) and other multilateral agreements regarding the environment.

The Cayman Islands Government asked the UK to extend CBD to include the Cayman Islands in 1992. The Cayman Islands Government passed the Environment Charter in 2001, coming to an agreement with the UK on how the territory could implement the CBD. The Cayman Islands, being a tropical archipelago nation host a wide range of biodiversity with high rates of endemism on all three islands. Article 8 of the CBD is an agreement by the ratifying nations to create a system of protected areas, at the time of ratification the NTCI was the sole entity responsible for the terrestrial protection of habitat in Cayman and was so included as a key driver for reaching the protected areas goals. The NTCI still protects half of all protected land in the territory. The steps taken on the two PAs in this project are building the capacity of the NTCI environmental programme to create and implement more effective management plans on our other protected areas. These sites include the Cayman Islands only RAMSAR site: Booby Pond Nature Reserve – a site that is scheduled for a management plan review and update led by the EPDO in the coming years. The project supports Article 12 promotes research and training through the appointment of Field Officers and PA management, and Article 13, aligns with the creation of public education and awareness opportunities within this project to encourage understanding of measures required to conserve biological diversity on island.

The work done in the past year has been a major step towards truly making our protected areas a place where native species can thrive. The removal of the invasive feral cats is lessening the most immediate pressure on the species ability to recover in the wild.

This project is helping the Cayman Islands towards meeting the Sustainable Development Goals laid out by the United Nations; specifically, SDGs 4, 8, 13, 15, &17. Goal 4: Quality Education and Goal 8 – Decent Work and Economic Growth – training courses and volunteering opportunities to engage all the community and build skills and support future employment opportunities. Goal 13: Climate Action – the project will develop and promote mechanisms such as long-term climate data collection to raise capacity for effective climate change-related planning and management. Goal 15: Life on Land – a key project objective is to take action to reduce the degradation of natural habitats in PAs and thereby halt the loss of biodiversity and significantly reduce the impact of IAVs by the control or eradication of priority

species so to protect and prevent the extinction of threatened species. Goal 17: Partnerships for the Goals – the project partners have worked to increase on-island capacity, creating sustainable development through sharing knowledge, expertise, technology and financial resources. The DOE has provided new technology to make the trapping more efficient. Our international partners have helped with data analysis, especially of our camera traps, allowing for an understanding of the invasive species behaviour that would not be possible with the resources of just the NTCI.

5. Gender equality and social inclusion

The Cayman Islands Government is committed to Gender Equality across all three of its islands, and in 2011 it further embedded its commitment to Gender Equality by introducing the Gender Equality Act (2011). The act seeks to eliminate discrimination in employment, training and recruitment on the basis of sex, marital status, pregnancy. Furthermore, it aims to promote the payment of equal renumeration to male and female employees who perform work of equal value; this is adhered to at all times by NTCI.

In line with the government guidelines and the 2011 legislation, the NTCI and other on-island partners have implemented new guidelines for the recruitment and training of staff, volunteers, students and interns. The aim is to create opportunities for an even gender split where possible and to ensure flexible schedules, languages and facilitation styles as well as group composition appropriate for gender-representative participation.

All training materials produced are now adapted and made accessible to those with learning, visual or hearing impairments. We choose training venues carefully to make them as easily accessible to everyone as possible.

We promote a strict adherence to 50:50 gender-balanced sampling within our project questionnaires and polls and ensure that all resources developed from the project are accessible to everyone regardless of gender.

Throughout YR1 of the project, we have endeavoured to ensure that issues, such as the recruitment of the Field Officers have been as inclusive as possible with careful attention to the wording of the job descriptions and personnel attributes so that no-one feels excluded from applying for these posts. The initial recruitment resulted in a 50:50 gender split with the Field Officer position going to a woman and the assistant position being offered to a man. The same applies to the advertisement and recruitment for our Blue Iguana Guardians programme where we have encouraged inclusivity from all parts of the community, with no discrimination for age, gender, disability, etc.

Ongoing support is offered to all staff and volunteers to help them engage with their roles as fully as possible, including access to the facility and PAs, training materials and equipment adapted for use by all.

Please quantify the proportion of women on the Project Board[1].	The current NTCI Council were elected in September 2022 for a 2-year tenure and around 70% of this council are women including the NTCI Chairperson.
Please quantify the proportion of project partners that are led by women, or which	We work in close partnership with many key organisations, both on- and off-island.

have a senior leadership team consisting of at least 50% women[2].	The current Director of the DoE is Ms Gina Ebanks. The advisor for the breeding programme at San Diego Zoo is Ms Tandora Grant. The NTCI Chairperson is a woman and over 70% of the current NTCI office team are women. Our primary veterinary contact at SMU is the Dean is Mrs Sam Shields. Another partner, Harrisburg University, has a team led by Mrs Christine Proctor. Project partners RPSB include Ms Sarah Harvey, Ms Vivienne Booth and Ms Wendy Cain.

6. Monitoring and evaluation

NTCI recognises the importance of monitoring and evaluation as an essential part of this project. It is a key tool in the assessment of the progress and success of the Outputs and Activities to reach the overall Project Outcome. Achievements are measured through data analysis, development of activities and referenced against the log frame on a regular basis. Meetings are carried out frequently to ensure all NTCI staff, the BIC Steering Committee, Environmental Advisory Committee and project partners are kept abreast of the project's developments and targets are continually evaluated to ensure the best and most appropriate methods are practised. (Annex 4.16).

7. Lessons learnt

Planning is key to success and facilitating regular meetings so that all partners can contribute to the project. So far, this grant has been a great example of the benefits of long-term partnerships and collaborations, with most of the partners having been involved with the Blue Iguana Conservation programme for over 21 years. The benefits of creating such stable partnerships have been seen in both the collaborative work throughout the duration of year one of this grant and in the commitment to continue the work after the grant duration passes.
The use of camera traps has worked well this year, and the data have been used to inform the movement and activity patterns of IAVs, which enables more targeted action. The continued and enhanced work on this element of the project over the remaining time of the project will help us target our resources, time and support much more effectively.

YR1 of the grant has seen extensive collaboration with conservation efforts on Little Cayman by our partners DoE and RSPB and the outcomes shared are helping to inform and streamline efforts/ process.

The lack of an international team for the 2021 surveys reiterated the importance of ensuring that there are enough on-island skills that, should travel borders need to be closed in future at this time of year, there are still enough trained candidates for survey participation. New volunteer initiatives, such as Blue Iguana Guardians, include training opportunities which will build on-island skills and experience. This allows volunteers to work along aside BIC staff and assist them when carrying out vital field and survey work. When the Field Officers are both in post, a key part of their role will be to recruit and train further on-island capacity. There were no such problems for the annual surveys in 2023 as the borders are now open again for international visitors.

During YR1, there were several changes in key personnel within the NTCI. Unfortunately, these changes did create major delays to the overall project progress, particularly with the length of the recruitment process for the Field Officer.

Whilst no assumptions were made regarding the impact of a global pandemic for this grant, we are still feeling the residual effects of the enormous challenges faced during 2020-2022. The closed travel borders between March 2020 – November 2021, uncertainties and limitations of shipping and sending products in and out of the country proved to be difficult. The prolonged lack of tourism affected tour revenue, delays with veterinary assistance, shipping samples, sourcing equipment and other essential project supplies. Although the borders are now open and supplies are available, there are still some resources/goods which are in short supply with lengthy delivery times and the cost of materials have risen far more than could have been reasonably projected. These shortages and higher costs are global issue and not isolated to the Cayman Islands, but as we don't manufacture or produce much on the island, many items have to be imported and so long delays have resulted when ordering equipment.

If the NTCI were doing this project again, we would prepare more for unexpected staff turnover at all levels, making handovers more seamless and robust to allow for greater continuity and build in succession planning for Project Lead, with a second person trained at all times which would help to mitigate loss of knowledge when key staff leave posts.

The finance department of the NTCI has faced some challenges this year, with changes in personnel and also issues with its banking system. Whilst this has been out of their control, future planning should include solutions to improve the current banking systems and sign-off for spending within the NTCI which would make it more efficient and lessen the disruption seen at times similar to this year.

A necessary part of the visa application process is that the candidate undergoes a medical. This has raised an issue with the recent Field Officer candidate, where a medical issue was discovered and has prevented this person taking up the post. It has raised a number of contractual issues as a contract was offered, the visa application process and medical were actioned. It may be more prudent to look at medical checks/ health screening being completed before contracts are offered and signed.

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

N/A

9. Risk Management

Staff not able to come out to commence employment on island**.** The risk management put in place to mitigate delays in progress for YR1 have been covered through the Project Lead carrying out as much of the work as possible with some assistance from the Blue Iguana Guardians community.

Changes in key members of NTCI staff, including the Executive Director and Finance Manager, has resulted in delays in orders being able to be placed, and restrictions on spending funds allocated for YR1 of the grant. These systems have been scrutinised and new systems have been implemented to try and mitigate any such problems in the future.

Although the Cayman Islands Government are aware of many of the pressures on the environment and the Islands' flora and fauna, current legislation was limiting IAV control. New legislation has now been passed, widening the remit for control of more predatory/ invasive species and working relationships with key stakeholders are being developed, including government bodies such as the DoE and the on-island veterinary teams and the Cayman Islands Humane Society.

10. Other comments on progress not covered elsewhere

N/A

11. Sustainability and legacy

The objectives outlined at the commencement of this project will be sustained after the project is finished, through: (a) continuation of the volunteer (Blue Iguana Guardians) programme; (b) the establishing of new partnerships; (c) the new revenue streams generated to help support the work of the programme.

Other projects in progress include improving sustainable funding via the acclaimed Blue Iguana Conservation facility tour by adding new tour packages, VIP events, educational tours, special events, such as the continuation of our annual International Blue Iguana Day.

It is recognised that funding for future wild population surveys will need to be obtained, but the development of new survey methods should mean that there are less requirements for off-island assistance, which will help to minimise future costs for carrying out these surveys and build on-island capacity and skills.

The E-guana mobile application has been well received since its launch last year and there has been good uptake from the local community through soft launch process; we have plans to further advertise the app and increase its usage. It is hoped that it will serve as a model to be used to include other endangered flora and fauna across the islands and we are sharing news of the app and the impact of its usage with our partners both on- and off- island. There is regional interest to expand the app where it will be used by other countries for other species. The app is being sponsored as a result of a long-term partners with the development company Netclues, who remain committed to supporting this initiative both with funding and technical support.

The Blue Iguana Guardians (volunteer) programme became a rapid success story last year, with over 100 Guardians already registered. We have seen an extremely high retention rate following the initial training and with most volunteers remaining actively involved past the minimal 3-month requirement. The programme is still being advertised and recruitment training is ongoing and expanding continually. The Guardians initiative has been met with real enthusiasm and this has contributed to a growth in its reputation and interest from members of the public and visitors. It has become an excellent initiative for helping to establish new links and opportunities for funding and we have been able to gain some valuable funding and new important partnerships as a result of the growing reputation and enthusiasm for this programme.

Management plan development will give guidance for the future requirements and work to be carried out to enable the development and success of this initiative. The Guardians are highly motivated within the project and come with a wide breadth of skills and expertise which enriches all aspects of the Darwin project and also the wider work of the NTCI and our partners. Their ideas and input must be used to inform future evolution of the Guardians training and opportunities available, but this will need to be carefully monitored, planned and resourced, and funding secured.

IAV trapping procedures and equipment, along with the newly published Alien Species Regulations, give hope for continued efforts. Data gathered from this work and camera trapping is informing knowledge gaps and allowing more focused efforts.

The data gathered and analysed for the blue iguana will help inform future conservation actions and funding required for this flagship species, the necessary work to maintain and develop habitat protection and successfully monitor and manage the wild population of blue iguanas on Grand Cayman.

YR1 of the grant has seen several new income streams, with new partnerships developed with some of our existing Guardians who are keen to widen their commitment to the project. A local gin distillery has developed a new Blue Iguana Gin and uses an image of a blue iguana as part of its product identity on each bottle, along with some information about the species. They have offered to donate a small percentage to BIC from each bottle sold for the continuance of its conservation work. In addition, a hat company is offering sponsorship as it is also using a blue iguana image on one of its new caps.

The BIC facility is located within the QEIIBP and a new combined ticket with QEIIBP will help bring essential revenue streams to ensure work can continue past the duration of the grant.

12. Darwin Plus identity

Every effort is being made to publicise the Darwin Initiative, both for its support for the NTCI and the valuable work it carries out on a global scale. The Darwin logo is used alongside the NTCI logo and the BIC logo in many documents publicising the work relating to this grant, such as the NTCI Annual Reports, newsletters and presentations at conferences. Online publications are available from the NTCI website, the Darwin Initiative website and social media platforms (Annex 4.15). The Darwin Initiative is discussed during the Blue Iguana Conservation facility tours, where visitors are informed of the need to explore streams of funding and revenue to support the continuance of the project. NTCI staff have informed visitors about this Darwin Plus grant and how it has been utilised by NTCI.

Darwin Plus funding has been recognised as a distinct project, in order to keep identity of the outputs and outcome to which it relates. The Darwin Initiative is globally renowned and we are able to reference other Darwin projects which relate to the origin countries of our tourist visitors. The Darwin Initiative has a high public profile and so many of the residents and visitors to the island have a prior understanding and awareness of some of the Darwin projects and work. There is certainly knowledge of the Darwin Initiative/ Plus within key on-island partners, e.g., partnership staff at the DoE and the QEIIBP.

Both the NTCI and BIC, have active Facebook and Instagram accounts. Posts have mentioned the Darwin Initiative grant and the work we have been able to carry out due to the support from Darwin funding (Annex 4.15). Our social media channels have been successful in attracting large number of followers and recently our Facebook social media platform reached almost 11,200 followers with these numbers continuing to rise. We seek to promote awareness of both the grant and also of the work of NTCI and BIC.

Our newly launched citizen science mobile application, E-guana, also highlights the Darwin Initiative and the funding received (Annex 4.12). All publicity for the app and related advertising and materials also promotes our partnership for this grant.

13. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes – NTCI Executive Director
Has the focal point attended any formal training in the last 12 months?	No

What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 100% [5] Planned: 0% [N/A]
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses. No	
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify. -Review of safeguarding policy. -Updated first aid training.	

14. Project expenditure

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2022 – 31 March 2023)

Project spend (indicative) in this financial year	2022/23 D+ Grant (£)	2022/23 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	**182.546**	**154,797.09**		

Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)

	Matched funding secured to date	Total matched funding expected by end of project
Matched funding leveraged by the partners to deliver the project.	[redacted]	
Total additional finance mobilised by new activities building on evidence, best practices and project (£)		

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 Secretariat to publish the content of this section (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, country and credit	Online accounts 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 2022-2023 – if applicable

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Impact Grand Cayman's flagship Protected Areas thrive, through effective management, safeguarding key populations of endemic wildlife		One of the most positive impacts Year 1 has been the collection of data on native and invasive species coming from our biodiversity surveys but also our remote cameras, this has given us clear data and a better understanding of what is happening in these key PA's and a platform to inform our education and outreach campaigns on these challenges and inform effective management practises. The IAV controls started in Year 1 are key to not just the protection of the project PAs, they are informing a NTCI organizational IAV Strategy.	Focus on managing habitats within the PAs in a manner which further supports positive impacts on biodiversity. Identify data gaps with species of Fauna and flora native/invasive in the preferred habitats as identified in the on-going surveys, and seek ways to select and manage these in other areas of the PAs.
Outcome Improved condition of Protected Areas (PAs) harboring key endemic wildlife populations through effective management plans and additional capacity to implement them.	0.1 Scientific knowledge gaps filled and data used to inform conservation actions for blue iguanas in two key PAs, to stabilise the current decline in population numbers and monitor impact of management changes. Data collected is used to develop the National Conservation Action Plan [NCAP] and an updated Red List Assessment by the end of the project. 0.2 Project efficacy is measured by data gathered from annual biodiversity surveys throughout the project duration to determine changes in abundance by habitat type for endemic fauna and	Data collection has started with the use of camera technology, distance sampling surveys and regular monitoring within the two key PAs (Annex 4.6). Data collection has begun and methodology defined for monitoring and determining changes (Annex 4.9).	Continue on-going research and start planned activities to fill in data gaps. Continue Biodiversity surveys using staff and trained guardian network.

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	flora within the Salina and Colliers Wilderness Reserves.		
	0.3 Habitat suitability and important wildlife corridors are assessed and identified through project research activities by the end of the project and results have been fed into PA management, restoration and the NTCI Natural Heritage Protection Strategy.	Analysis has started on collected data to help understand habitat suitability and any important wildlife corridors.	Use ansylsed data to start informing actions to be fed into key documents.
	0.4 By the end of the project protected Area Management Effectiveness is measured and evaluated, and management plans are developed for two PAs – Salina and Colliers Wilderness Reserves	Development of management plans has begun for both PAs and management/monitoring has begun with regular reviews to gage effectiveness.	Continue to work on the development of Management plans, ensuring to involve relevant partners and stakeholder in their development.
	0.5 Local capacity is increased through employment of two Field Officer positions (1 full, 1 assistant) and sustained by training and development from RSPB site managers, two NTCI staff and five volunteers who will implement PA management plans and long term IAV management, monitor IAV impacts and respond effectively by the end of the project.	Both Officer positions have been recruited and staff have been supported with training and development. A large network of trained volunteers have started to assist with the work of the programme.	Re-advertise for field officer position and ensure that all staff continue to receive training and development.
Output 1. Enhanced in-Territory capability to restore, monitor and manage PAs	1.1 Local capacity is increased in YR1 by recruitment of a Field Officer and an Assistant Field Officer with training and mentoring from RSPB Reserves and Ecology Network, for duration of the grant.	Recruitment of key officer positions were delayed but have now been recruited. Support and training is on-going in partnership with project partners in particular RSPB.	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	1.2 Training course developed for capacity building and skills development of current NTCI staff, students, and volunteers. At least 7 in-Territory staff, students or volunteers will complete the training course by the end of the project. Course to be led by Field Officer position.	Work has begun on highlighting gaps in skills and knowledge that focused training is required to build capacity. Course materials have started to be developed around these highlighted gaps. Key individuals have been highlighted that would be suitable candidates to receive the training.	
	1.3 Detailed screening is conducted on target species (racer snakes, green iguanas, anoles, chickens) to establish data on emerging disease risk within the PAs - confirming the presence or absence of Helicobacter.	The first year of disease screening within the PAs focused on major known risk relating to reptiles and results have been analysed and shared with all partners. Moving forward we will look at other threats in discussion with partners to focus on other key species to help build a better profile of risk within the PAs. (Annex 4.1).	
	1.4 By end of YR1 daily climate data is being recorded from fixed plots within each PA, as a way of early warning of habitat degradation from climate change or other threats.	Weather stations have been installed and fixed climate data is being collected from within both PAs (Annex 4.3, 4.4).	
	1.5 All PA boundaries are clearly marked and accessible for monitoring by end of Q4 YR1.	Boundaries have been marked and cleared for monitoring. (Annex 4.5).	
	1.6 Trail systems are established and maintained for routine monitoring and biodiversity surveys throughout both PAs by the end of Q3 YR1.	Trail systems have been established stabilised through both PAs and marked with signs to make monitoring easier for staff and volunteers.(Annex 4.5)	
Activity 1.1 Recruitment of Field Officer and Assistant Field Officer positions by end of Q1 YR1.		Completed but issue with Field Officer means position must be rehired.	Further development and training of staff. Field officer positions to be

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
			readvertised and new candidate selected.
Activity 1.2 Develop training course materials and content by Q2 YR2.		In progress	Training course to be developed and delivered.
Activity 1.3 Minimum of 7 in-Territory staff, students and volunteers attend training course.		Planned for Year 2	Selected candidates to attend training course.
Activity 1.4 Samples are collected from target species within both PAs for disease analysis.		Completed for YR1	New key testing priorities identified and conducted within PAs.
Activity 1.5 Disease samples are sent off island for detailed analysis and results reported and shared.		Completed for Yr1	Any further collected samples sent for analysis and results shared with partners.
Activity 1.6 Two patrols are conducted in each PA annually.		Completed	Continued quarterly patrols of PAs and regular reviews with partners.
Activity 1.7 Suitable fixed plots within each of the PAs are selected and cleared for installation of weather stations.		Completed	Completed
Activity 1.8 Weather stations installed in each PA and climate data is being recorded by end of YR1.		Completed	On-going service and maintenance of stations and site.
Activity 1.9 Trails established and maintained for each PA by Q3 YR1.		Completed	Maintenance of ongoing trail systems, expanding if required.
Activity 1.10 Boundaries clearly marked and accessible for monitoring in each PA by end of Q4 YR1.		Completed	Continued monitoring and maintenance of boundaries.
Output 2. PA management plans for Salina and Colliers Wilderness Reserves better protect natural habitat and guide targeted conservation actions for focal species the Grand Cayman blue iguana.	2.1 PA management plans are developed and implemented for both Salina and Colliers Wilderness Reserves by the end of the project.	As planned work has commenced on the development of management plans for both PAs. Established templates have been trailed in other NTCI PAs and can be used to inform the development of these key plans along with partners.	
	2.2 Study conducted by end of Q3 YR3 to estimate blue iguana abundance by habitat type within and outside of the PAs using camera traps alongside	Camera grid methodology and project design has been completed and first two rounds of data collection has started within the PAs and results are being analysed. The distance sampling survey for March 2023 successfully took place within the Salina Reserve.(Annex 4.6,4.7)	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	current distance sampling survey methods.		
	2.3 Age- and sex-specific survivability and dispersal/emigration of two vulnerable age groups (hatchlings and subadults) determined. Obstacles to survival identified in each group by end of Q2 YR3.	Meetings have been held with staff/volunteers and key partners to create and effective methodology and design for this study moving forward to Year 2/3 of the project.	
	2.4 Preferred habitat types for two vulnerable age groups, as well as wild-born versus released origins determined by end of Q2 YR3.	Work schedules and appropriate methodology are now in place to focus the work for this study in Year 2/3 of the project.	
	2.5 A GIS database is developed to assess suitability and document habitat range and distribution for blue iguanas by Q3 YR3.	The database is ready and all key staff who will be carrying out these tasks have been given appropriate training.	
	2.6 By the end of the project, all information is combined to quantify and identify land and 'good habitat' options sufficient to expand, restore or establish PAs.	PA surveys have commenced in Year 1 and the data gathered and analysed will form an integral part of the end of project report on 'good habitat' and future establishment of PAs.	
	2.7 Corridors identified for blue iguana movement continuity between PAs or on private land within the species' range by Q2 YR3.	Work has started on corridor identification but more work is needed and will continue throughout Yr2/3 as planned in the log frame	
		Data gathering and analysis on all aspects of the project have commenced and will help to inform the update at the end of the project.	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	2.8 Updated Red List Assessment completed and submitted to IUCN by the end of the project. 2.9 National Conservation Action Plan completed and approved by the end of the project.	Data gathering and analysis on all aspects of the project have started and will form part of the overall National Conservation Action Plan at the end of the project.	
Activity 2.1. Development and implementation of management plan for Colliers Wilderness Reserve by project end.		Started in Progress	Continue with the development of management plan.
Activity 2.2. Development and implementation of management plan for Salina Reserve by project end.		Starred in progress	Continue with the development of the management plan.
Activity 2.3. Distance sampling survey carried out in Colliers Wilderness Reserve to monitor blue iguana population - Q4 YR2.		Planning started for 2024 Survey	Survey to be completed in 2024.
Activity 2.4. Distance sampling survey carried out in Salina Reserve monitor blue iguana population - Q4 YR3.		Completed early.	Completed
Activity 2.5. Camera trap grid designed and set up to monitor population abundance of blue iguanas within and outside of the PAs by end of Q4 YR 1.		Completed and on-going.	Continue to run camera grids within PAs and analyse the data.
Activity 2.6. Capture and tag hatchling iguanas for radio tracking for age and sex survivability and dispersal emigration.		Preparations started and equipment ordered.	Waiting upon data to be collected and then start analyses
Activity 2.7. Capture and tag subadults iguanas for radio tracking for age and sex survivability and dispersal emigration.		Preparations started and equipment ordered.	Waiting upon data to be collected and then start analyses
Activity 2.8. Use data collected from studies to identify preferred habitat type for hatchling iguanas.		Not started till data collected	Waiting upon data to be collected and then start analyses
Activity 2.9. Use data collected from studies to identify preferred habitat type for subadult iguanas.		Not started till data collected	Waiting upon data to be collected and then start analyses
Activity 2.10. Look at preferred habitat differences between wild born vs released iguanas.		Not started till data collected	Waiting upon data to be collected and then start analyses

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 2.11. Develop GIS database by Q3 YR3.		Not started till data collected	Start to build database as data becomes available
Activity 2.12. Analyse data and use results to quantify and identify land and suitable habitat options to expand, restore and establish PAs by end of project.		Not started till data collected	Start study once data becomes available.
Activity 2.13. Use data collected to identify important wildlife corridors for blue iguana movement by Q2 YR3.		Not started till data collected	Use data as it come in to start to identify potential corridors.
Activity 2.14. Update the Red List assessment for the blue iguana by the end of the project.		Guidelines downloaded and red list training course completed.	Start compiling information and data to prepare for red list assessment.
Activity 2.15. Complete National Conservation Action Plan for the blue iguana by the end of the project.		Process started with existing data and will continue as more data becomes available.	Start compiling information and the data for completing action plan.
Output 3. PA management improved to support blue iguana and other priority wildlife conservation through effective community engagement and capacity building	3.1 Continuous Invasive Alien Vertebrates (IAV) monitoring, trapping and removal is conducted by staff and trained volunteers, and results analysed annually to look at impact within PAs and inform long term efforts required at the end of the project.	Methodology developed and protocols written for IAV Monitoring within both PAs. Regular reviews and adaptations to protocols and methods. Year 1 results being summarised and will be reviewed at the start of Year 2 to inform continued direction.(Annex 4.8)	
	3.2 Targeted biodiversity surveys are conducted annually for endemic species of fauna and flora and IBA trigger species within both PAs and results are analysed during and at the end of the project to explore PA management efficacy.	Surveys of Fauna and Flora have started in both Protected Areas with a comprehensive list starting to be developed of Presence and absence of key species. (Annex 4.9)	
	3.3 By Q4 YR2 a public education and outreach campaign to support conservation of key endemic wildlife and better practises in PA	Development of public education materials have begun and meetings held with different stakeholders to start develop a plan to have an effective education campaign.	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	management, highlighting key issues and shaping behaviour change. 3.4 Updated educational signage at PAs and other NTCI sites by Q1 YR3 to increase knowledge and awareness of issues, research and solutions. 3.5 Current volunteer programme is expanded to assist with more fieldwork, data collection and IAV management. At least 10 new volunteers will have signed up by the end of each project year, resulting with at least 30 trained volunteers by the end of the project. 3.6 - E-guana citizen science mobile application is being actively used by at least 5,000 people by the end of YR3, assisting with data collection, engagement and information sharing and informing rapid and effective response to issues such as IAV incursions.	Meetings have started with involved staff and partners to look at the development of signage for the key PAs. Volunteer programme continues to grow and has already exceeded project targets. Focus is on continue training and retention of volunteers and ensuring the programme continues to grow at a manageable pace (Annex 4.10). E-guana Mobile application successfully soft launched and multiple upgrades and improvements made as more people started feeding back about it use. Over 200+ submissions across all three islands and all species is a positive start and we are confident of an increase in use as we promote the app further through marketing, events and community training.(Annex 4.11,4.12, 4.13)	
Activity 3.1. Determine and implement an appropriate trapping schedule for Invasive Alien Vertebrates (IAVs) within Salina Reserve in YR1.		Completed	Continue trapping efforts, reviewing and updating as required.
Activity 3.2. Determine and implement an appropriate trapping schedule for Invasive Alien Vertebrates (IAVs) within Colliers Wilderness Reserve in YR1.		Completed	Continue trapping efforts, reviewing and updating as required.

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 3.3. Complete presence and absence targeted biodiversity survey for endemic fauna and flora and IBA trigger species within both PAs annually for the duration of the project.		Completed for Year 1	Continue to conduct surveys, compiling data as it is anyslised.
Activity 3.4. Design and implement a targeted education and outreach campaign to support the conservation of key endemic wildlife and better practises in the management of PAs by Q4 YR2.		In progress	Continue to work with project partners and key stakeholders to develop targeted outreach.
Activity 3.5. Current volunteer programme is expanded by at least 10 new volunteers annually for duration of the project.		Completed	Continue to train and recruit project volunteers to assist with the project work.
Activity 3.6. Updated signage to be designed and installed within both PAs and at other key NTCI sites to increase the knowledge of project and outcomes by the end of Q1 YR3.		In Progress	Work with project partners and staff members to design signage and install into selected locations.
Activity 3.7. Mobile application to be promoted and people encouraged and trained to use the app by the end of Q1 YR3.		Completed	Continue to promote and train people to use App and push its value through training and education.
Activity 3.8. Mobile application is used by at least 5,000 people by end of YR3.		In progress	Continue to monitor downloads data and push app use with key groups and stakeholders – including tourists to island.

Annex 2: Project's full current log frame.

Annex 3: Standard Indicators.

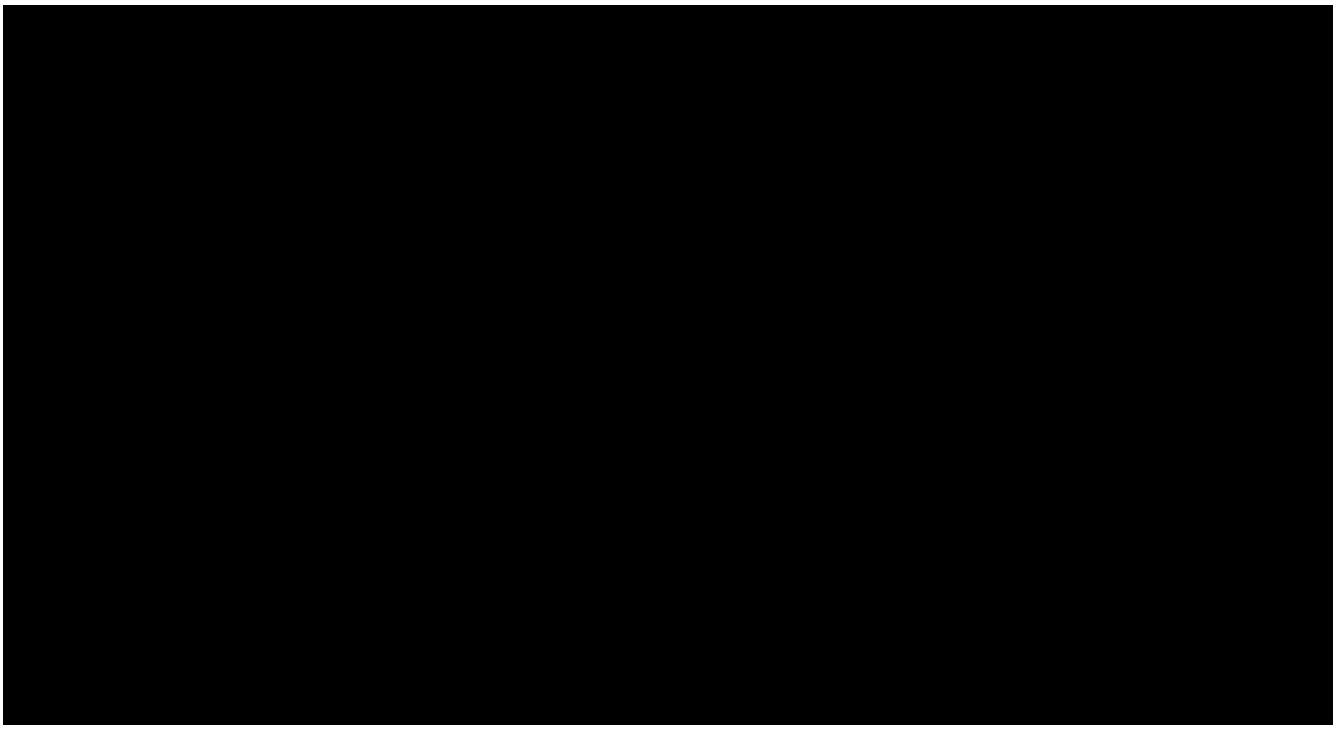
Table 1 Project Standard Indicators

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-E03	2.8 Updated Red List Assessment completed and submitted to IUCN by the end of the project.	Status of Threatened Species	1	Blue Iguana Threats reduced	0				1
DID03	2.9 National Conservation Action Plan completed and approved by the end of the project.	Number of policies with biodiversity provisions that have been enacted or amended.	1	National Policy	0				1
DIA04	3.5 Current volunteer programme is expanded to assist with more fieldwork, data collection and IAV management. At least 10 new volunteers will have signed up by the end of each project year, resulting with at least 30 trained volunteers by the end of the project.	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	People	Local Communities and Nationals and International volunteers	97				30

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DIC03	2.1 PA management plans are developed and implemented for both Salina and Colliers Wilderness Reserves by the end of the project.	New assessments of habitat conservation action needs published.	2	National assessment of 2 PAs on Grand Cayman including Blue Iguana management and IAV. New assessments of habitat conservation action needs published. Protected area reserves at Salinas and Colliers	0				2
DI-C12	3.6 - E-guana citizen science mobile application is being actively used by at least 5,000 people by the end of YR3, assisting with data collection, engagement and information sharing and informing rapid and effective response to issues such as IAV incursions.	Social Media presence	People /users	By year – uptake/downloads and usage	1000				5000

Table 2 Publications

Title	Type (e.g. journals, manual, 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, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	Yes
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)?	N/A
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	