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	DPLUS164
Project title	Conservation Actions for Seabirds on the Turks and Caicos Cays
Territory(ies)	Turks and Caicos Islands
Lead Partner	University of Liverpool, UK
Project partner(s)	Turks and Caicos National Trust (TCNT) RSPB Turks and Caicos Reef Fund (TCRF) BirdLife International SAERI Falklands Ltd (SFL) Collaborators – Turks and Caicos Islands Government (TCIG) Department of Coastal Resources (DECR)
Darwin Plus grant value	
Start/end dates of project	1ST MAY 2022 to 28th FEB 2025
Reporting period (e.g., Apr 2022-Mar 2023) and number (e.g. Annual Report 1, 2)	May 2022 – Mar 2023 (AR1)
Project Leader name	Dr Rhiannon Austin
Project website/blog/social media	www.caribbeanseabirds.weebly.com @tciseabirds Twitter: TCISeabirds
Report author(s) and date	Dr Rhiannon Austin

1. Project summary

Project background & key issues addressed

The Turks and Caicos Islands, where this project is based, is an archipelago of over 40 islands and small cays located in the Caribbean region of the Atlantic Ocean to the southeast of the Bahamas (Fig 1)

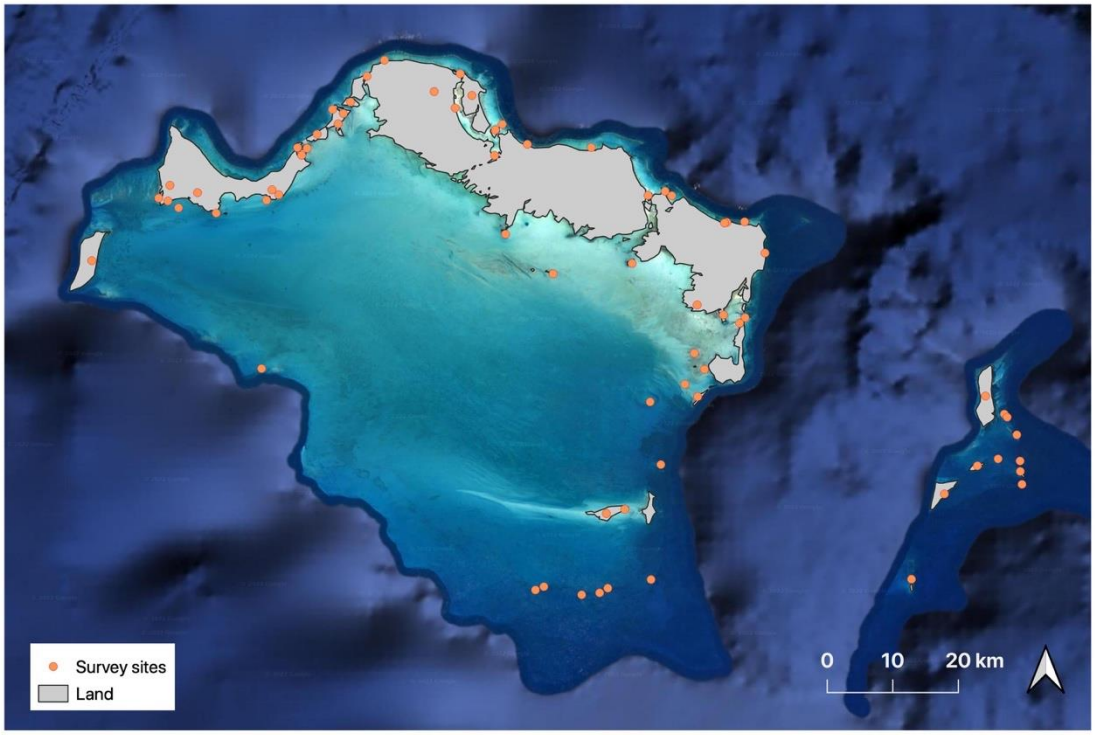

Fig 1. Map of the Turks and Caicos Islands and main study sites of DPLUS164.

Coastal development is taking place at an unprecedented rate in many of the Caribbean's UK Overseas Territories, and most notably within the Turks and Caicos Islands (TCIs), which has one of the fastest growing populations and economies in the region. This has become a major concern for the environment in this UKOT, with a growing number of pressing wildlife and resource use conflicts. Furthermore, local tourism and associated human activity in coastal areas is growing at an unprecedented rate (EDSA et al. 2005; TCIG 2021). There are a wide range of stakeholders working in the TCIs, and development and resource extraction are predicted to intensify, at a time when climate change impacts are a pressing concern (Pienkowski, 2009). Knowledge of key ecosystem components and conservation threats is therefore essential for effective management of this complex suite of environmental issues, yet many data gaps remain. This is the case for seabirds, which play important roles in marine and coastal ecosystems on which island communities and economies rely, and represent valuable indicators of ecosystem health. This is particularly true in tropical environments through their connective role between reef and terrestrial systems (Graham et al. 2018).

The Cays and Islands of Turks and Caicos are believed to be one of the most important breeding areas for seabirds in the Caribbean, with 15 species thought to regularly use this territory (Pienkowski et al 2005). The main breeding sites are remote cays of the Caicos and Turks Banks (>25 sites), where hundreds of thousands of seabirds are thought to nest (Pienkowski, 2008 & 2009). The last effort-based assessment, undertaken in 2002, suggested that these islands hosted internationally and regionally important populations of at least 8 species, including ~5% of the global population of brown noddies and ~33% of the regional population of bridled terns

(Pienkowski et al 2005). However, these estimates, which themselves were based on limited survey effort and relatively primitive methodologies, are severely outdated and likely highly inaccurate. As a result, information remains coarse and precautionary for most species, with formal confirmations of breeding in some species still not achieved.

Many known sites on which seabirds breed remain unprotected and are vulnerable to unregulated development, and there are no active routine monitoring activities. Threats from predation by invasive species, and harvesting pressure are completely unknown at most sites. Furthermore, knowledge of the current distribution of TCI's seabird populations is extremely poor, and any existing management is based on highly outdated information.

Project aims

This project aims to deliver locally driven population monitoring programmes to provide up-to-date seabird assessments that will enable threats to be identified and appropriate management strategies to be implemented. Furthermore, it will equip local stakeholders with tools to sustainably monitor and manage seabirds, while engaging communities.

Project objectives

1. *Determine the size, distribution, and health of breeding seabird populations on the cays and main islands of the TCI archipelago*
2. *Aid development of local NGOs, Government and community partners in skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes*
3. *Improve knowledge of the main threats to key seabird populations, to enable identification of appropriate conservation strategies*
4. *Identify and delineate IBAs for seabird breeding sites on the cays and islands of TCI*
5. *Develop a 'seabird cays policy' that will inform development of 'site management plans' for both Protected Areas within IBAs, and IBAs proposed for protection, and steps taken to initiate identified conservation actions*
6. *Increase understanding, support and engagement of local communities and stakeholders, and regional and global audiences, with avian conservation actions in the TCIs*

2. Project stakeholders/partners

This project is being conducted as a direct partnership between the University of Liverpool, Turks and Caicos National Trust (TCNT), Turks and Caicos Reef Fund (TCRF), Royal Society for the Protection of Birds (RSPB), and Birdlife International and SAERI Falklands International (SFL), with additional collaboration of the Department of Environment and Coastal Resources, Government of the Turks and Caicos Islands (DECR).

The project application stemmed from initial conversations between Dr Austin, DECR and TCNT, and developed with involvement from all project partners during the project application procedure. Therefore, all partners were involved in the project's early development and the application process. While the DECR were not able to sign up as official project partners, owing to existing project commitments, they were highly supportive of the project during its early stages (see supporting letters in the application), have actively participated in fieldwork and project-related discussions, and are keen to use the project findings in future development of policy and management actions.

Early in the project, an initial Steering Group Meeting between all project partners was held (3rd August 2022; Annex 4.1). This ensured that all partners were in agreement with the planned work, both in Y1 and over the remainder of the project, and further helped to build inter-partner relationships. A second Steering Group Meeting was planned for the end May 2023 to discuss project progress over the last 7 months and plans for Y2. Regular face-to-face meetings between TCI-based staff at TCNT, UoL and RSPB have taken place throughout Y1, and wider meetings

with involved RSPB staff took place in January 2023 during a TCI site visit allowing face-to-face discussions. Project partners have remained in touch remotely throughout Y1.

However, there have been some significant challenges to partner involvement owing to changes in levels of capacity and thus active involvement in the project. Most notably, the TCNT had a notable period of staff turnover, which resulted in limited capacity for active involvement in DPLUS164 for the first three quarters of Y1. This included the absence of staff to fill the 2.5 day/week project officer role. Attempts were made to address this issue in January 2023 through the hiring of a project assistant for 2 days per week. This individual would work across TCNT and RSPB. However, ongoing availability issues have continued to impact project progress, as well as resulting in a sustained strain on the Project Leader to ensure deliverables are met.

Some new collaborations have been forged of notable benefit to the project. Dr Austin cohosted a drone webinar with Serge Wich from Liverpool John Moores University in late 2022, which has led to a collaboration between these organizations to develop AI models for automated processing of drone imagery at nesting sites, further shaping some aspects of the project as we move into Y2 (see links to Evidence in section 3)

3. Project progress

3.1 Progress in carrying out project Activities

Despite some challenges, notable progress was made in Y1 to deliver project activities. The short timeframe to plan the field season in Y1 (May-July 2022) following award notification did result in rescheduling of some activities which are covered in detail below:

Output 1. Population surveys and estimates

1.1 *Boat-based, land-based, aerial, and acoustic surveys undertaken on the seabird cays and main TCI islands, and population estimates obtained for 15 resident species*

Significant progress was made towards implementing project activities under Output 1 in Y1. Ninety-one boat and/or land-based survey visits were undertaken between May 2022 and April 2023 over 42 islands and cays in the TCIs (Annex 4.2). In addition, 6x drone flight days were undertaken during these surveys in July 2022, and acoustic monitoring was undertaken on three cays for Audubon's shearwaters (see evidence in Annex 4.3 and 4.4). This was a massive task that took approximately 550 search hours across the Caicos Bank and Turks Bank in Y1, during which survey methods were developed and refined and initial surveys undertaken, for 15 resident seabird species (see Annex 4.2 for examples of population estimates on individual cays obtained to date). The time and manpower demand for planning and undertaking surveys were way beyond what was initially envisaged at the time of application. This is due in part to the greater extent and number of seabird populations than had been anticipated as well as numerous logistical challenges of working in a highly demanding environment. This was compounded by limited availability and skill base of partner staff in Y1, which led to considerable strain on the core project team, some of whom have had to work way beyond their committed project time to ensure the project continued to progress effectively. With limited resources available, for larger than anticipated tasks, the team prioritised surveying, but some processing and analysis of data has commenced. However, due to the number and extent of surveys, the time required for processing and analysing is also greater than anticipated at application. Some population estimates have been made for cays and species, but extrapolation analysis is still to take place for habitats and large colonies where subsampling methods had to be used, and many aerial and acoustic data from Y1 are not yet processed. Y2 survey data are expected to be numerous which will add to this notable task following the heavy survey period in summer 2023.

1.2 *Non-technical report produced summarising population estimates and data*

As considerable effort was given to developing methods in Y1, we believe it is more sensible to focus effort on this milestone of obtaining robust population estimates after the next round of data

collection in Q1 - Q2 of Y2. Thus, we plan to shift the production of a report to Y3, giving time for data processing and extrapolation of estimates up to site and country levels. Furthermore, we plan to replace this non-technical report with a technical report and non-technical summary section, thereby streamlining efforts and minimising the number of superfluous documents.

1.3 *Array of 12 time-lapse cameras deployed on priority seabird cays (5-6 sites), and image data collected to feed into the citizen science programme*

We had difficulties in acquiring trail cameras at short notice at the beginning of Y1 in time for the breeding season of summer-nesting seabirds. This meant that these devices had limited use once they could be obtained towards the end of the breeding season. We began using trail cameras to monitor Audubon's shearwater nest sites on both the Caicos and Turks banks in November 2022, and white-tailed tropicbirds in January 2023 (see evidence in Annex 4.4). However, they yielded limited to no images that contained birds, and did not prove a fruitful monitoring tool within the limestone bedrock that these seabirds nest in diffusely over extended areas. In early 2023, we began deploying these devices at sites with highly colonial species to test their use to monitor birds with these breeding strategies in tropical environments (Annex 4.4), and collect data on breeding phenology (i.e., the activity cycles of bird at colonies and the timings of key breeding events). We have been routinely servicing the devices and will continue to do so into Y2. Nevertheless, we have not generated the number of images that we hoped we would to be able to run a large citizen science project on Zooniverse and, so far, the data generated do not suggest that the species and sites in TCI lend themselves well to this monitoring tool. We therefore intend to refocus community engagement efforts in Y2 away from this citizen science aspect and towards more appropriate activities (see Outout 6 section below), and reroute associated funds towards the growing drone work that is providing highly fruitful (see section 2; formal change request to follow).

1.4 *Biosecurity monitoring undertaken on key seabird cays, and biosecurity risk assessment undertaken and presented in non-technical report*

A biosecurity risk assessment was carried out, which identified 7 sites as high priority for biosecurity monitoring (Annex 4.2). During the summer of 2022, biosecurity monitoring was only possible on French Cay owing to limited field staff capacity, costs, and timetabling constraints. However, 2x stations (cocoa flavoured wax blocks) and 5x tracking tunnels (baited with peanut butter) were deployed on in June 2022, and this work was followed up with a second round of deployments in April 2023 (Annex 4.2). No signs of rats were detected from the recovered traps and visual searches for footprints carried out during bird counts confirmed that there was no evidence of rat presence at this important seabird cay. Images collected with the 8 deployed trail cameras were also scanned (locations in Annex 4.4). No new signs of predators were found at sites where they were not already expected (i.e. rats at white-tailed tropicbird nest sites on Grand Turk were detected but already deemed likely, Annex 4.4). Additional biosecurity items (stations with cocoa wax) were deployed on the remote Seal Cays (White and Indian Cays) in April 2023 and will be recovered during survey work in June. We have further planned to deploy biosecurity materials on two high priority cays in the Turks Bank, and two high priority sites on the Caicos Bank during survey work in June 2023. We do not think that a separate biosecurity risk assessment report is warranted. However, biosecurity risks will be included within the wider threat assessment report that will be prepared at the end of Y2 and delivered at the beginning of Y3.

Output 2. Capacity building for population monitoring

2.1 *Population monitoring methods and data outputs assessed and compared, and best-practice guidelines written for ongoing monitoring of specific sites and species*

Considerable effort was made to assess and compare population monitoring methods ongoingly in Y1, as data and information at study sites were collected. For example, to deal with cases when logistical constraints prevented full colony searches, we compared bird counts within plots using three methods (vantage point counts, flush counts and detailed searches) to allow correction factors to be determined during extrapolation processes (Evidence in Annex 4.2). Instead of writing a stand-alone best-practice guideline document, details of suitable monitoring

protocols for each site and species are being incorporated into the population database and will be incorporated in the 'Seabird Population Monitoring' report. In addition, guidance documents, field recording sheets and seabird photo cards have been produced for field staff for Y2 surveys, that include information on parameters to collect while on survey and data collection protocols (Annex 4.6).

***2.2** Population database and associated guide for use created*

A population database, containing an associated key as a guide for use was also created, and is being ongoingly updated as surveys take place (Evidence in Annex 4.2)

***2.3** Local partner staff trained in seabird identification, monitoring methods and data handling during survey work and tailored training sessions*

During Y1, 5x TCNT staff, 3x DECR staff, 2x RSPB staff, 1x SFL staff, 2x TCRF volunteers, 4x ecotour volunteers, 3x students and 3x other volunteers were trained in seabird identification and monitoring methods in the field (23 people; Annex 4.2). Training of local partner staff took place largely through bespoke training of small groups and individuals during surveys. Additional training took place through BirdsCaribbean Seabird Working Group (SWG) Seabird Census Webinars that field staff were encouraged to participate in, and that Dr Austin was instrumental in hosting through her role as SWG co-chair (Annex 4.6). During initial boat and foot-based visits to the offshore cays, we undertook seabird Identification and counting exercises (see photos in Anne 4.2).

***2.4** Wider volunteer 'seabird steward' network formed and trained in seabird identification and monotiling at tailored training events, and during field periods*

While the project team are making effort to recruit and train local volunteers, access, safety, and cost constraints associated with remote field locations mean that forming a wider 'seabird steward' network in the community is unrealistic. We are instead focusing effort on thorough training of a smaller number of local partner staff and collaborators, as well as engaging boat crew of ecotour companies that are keen to be involved in future seabird work (via Output 6), thus retaining knowledge and skills for longer-term monitoring pending future funding.

***2.5** Seabird monitoring guide produced and distributed amongst local partners and stakeholders*

A seabird monitoring guide has been produced (Evidence in Annex 4.6) and is in editing stages prior to being printed. This will be disseminated to volunteers, staff of partner organisations, ecotour operators, and other relevant collaborating organisations and community groups in Y2.

Output 3. Seabird threat assessment

***3.1** Threat assessment report produced outlining a threat assessment to seabird populations undertaken following population surveys*

Activities in support of Output 3 are scheduled to take place in Y2 following collection, processing, and interpretation of Y2 survey data. As more emphasis is being placed on Y2 surveys following a rushed project start, and associated delays to survey activities in Y1, we now plan to move this Output and its activities into Y3.

***3.2** Seabird conservation strategy produced outlining threats and recommendations to address them*

Activities in support of Output 3 is scheduled to take place in Y2 following collection, processing, and interpretation of Y2 survey data.

Output 4. IBA network identification

4.1 Key breeding and roosting sites of seabird species identified, and maps and map layers produced

4.2 Review and update of TCI's IBAs undertaken, and the BirdLife International IBA list updated

Notable progress was made towards identifying key breeding and roosting sites of seabirds in TCI during Y1 (activity 4.1). We generated a wealth of new data and information on the distribution of nesting sites for 15 species through a massive, combined effort of project staff and volunteers. Some data have been processed and input into a population database and mapping software (evidence in Annex 4.2 and 4.3). These are being worked through site by site to gain preliminary population estimates were possible from these first year of data. Nevertheless, most of our Y1 site visits and surveys focused on gaining initial information on the species and habitats present over 42 key sites, as well as assessing survey requirements (i.e., manpower, time commitments, appropriate field methodologies). This will enable collection of more robust population data in Y2.

Staff at UoL and BirdLife International met in May 2023 to review plans for an update of the IBA network in TCI based on DPLUS164 project data. Following the first survey season in Y1, and our field constraints for surveying large areas in TCI, which took longer and were more extensive than expected (details under Output 1), the project team concluded that it was too ambitious a task to collect robust data for a formal IBA review in Y1. BirdLife International are beginning a review of existing IBAs and their trigger species (see Annex 4.5), to highlight the priority seabird species to target for population estimates. Once the population data phase has finished in Y2, data will be processed and analysed in Q3 and Q4 and fed to BIrdLife International staff to perform the formal IBA update before the end of February 2023 (Q4 Y2). BirdLife will then identify new surveyed sites that may need to be added to the IBA/KBA network.

Output 5. Species and site management planning

5.1 *Seabird Cays Policy (including a voluntary 'seabird code-of-conduct' and 'monitoring implementation plan') written in collaboration with the TCIG*

5.2 *Seabird code-of-conduct leaflets produced and disseminated amongst local ecotour operators and other stakeholders*

5.3 *Site management plans drafted for cays and protected areas in the main island chain*

5.4 *Draft management plans presented to local stakeholders in TCIG-led community meeting*

Activities in support of Output 5 are scheduled to take place in Y3 following collection, processing, and interpretation of Y2 survey data. However, it is clear that all other outputs are taking longer than expected as outlined above, so the project team are discussing modifications to this output which will be addressed in a formal change request.

Output 6. Community engagement and education

6.1 *Time-lapse camera images of breeding seabirds on TCI cays processed through the online Zooniverse platform, by at least 20 local volunteers and 20 global participants, and a non-technical report written on productivity data outputs*

This activity did not happen due to the reasons outlined above (Output 1.3). We do not deem this activity to be suitable for the project (to be addressed in a formal change request).

6.2 *Community meetings (minimum of 4) and school / youth group events (at least 6) run to engage local communities and young people (Y1 – Y3)*

We prioritised undertaking surveys, as well as trialling and developing population monitoring methods in Y1, which was an extensive task (see above). Therefore, community engagement and education activities have been somewhat slower to take off. Nevertheless, in Y1 our project team gave two presentations to students at the School of Field Studies on South Caicos during December 2022 and March 2023, as well as a school presentation on Providenciales during April 2023 (see Annex 4.6).

6.3 *A 'TCI Seabird Fest' event run during the Caribbean Endemic Bird Festival in Y2 Q1*

The 'TCI Seabird Fest' community event is scheduled in Q1 of Y2 on 1st July 2023, in honour of World Seabird Day, and will involve the TCNT, RSPB, UoL, TCRF and DECR. We are also planning school talks during World Seabird Day (3rd July). Planning for this event is underway and on schedule.

6.4 *Dedicated project webpages created and maintained on the www.caribbeanseabirds.weeblly.com website, and regular quarterly project updates given on this and other partner social media feeds*

Updates on project progress have been regularly made on the project website pages (www.caribbeanseabirds.weebly.com), as well as through a dedicated Instagram feed (@tciseabirds) and twitter feed (tciseabirds), and more widely on the social media accounts of team members. A media update on the project has also recently been prepared for release (Annex 4.6) and a 'Times of the Island' report is still to be written in early Y2 focused on our recent Audubon's shearwater surveys (see photos in Annex 4.2). Additionally, we spent notable time with the DECR on offshore cays recording video and drone footage of our shearwater surveys both during the day and night to prepare a short documentary on this enigmatic seabird, important in the TCIs (evidence in Annex 4.2 and section 15). We will shortly be working with the DECR to collate imagery and record voice overlay for the documentary.

3.2 Progress towards project Outputs

We believe that good progress has been made towards the project Outputs in Y1. Some changes are required to remove overly ambitious tasks following lessons learned over the last year. However, once the project has been adapted to realistically meet local and project capacity, we are confident that the project team will continue to deliver into Y2 to ensure that the majority of the project Outputs are met.

Output 1. Population surveys and estimates

Prior to the project, no effort-based monitoring had been undertaken on seabirds in the TCIs since survey work in 2002. Methods used in 2002 were relatively primitive and the entire survey conducted over only ~2 weeks. Some small-scale surveys were undertaken largely from boat-based platforms in 2011. However, these data were never processed nor made available for management. Therefore, during Y1, this project has already notably improved knowledge of the sizes, distribution, and status of seabird populations on the main cays and islands of the TCI archipelago for 15 species, against a baseline of extreme data deficiency. Preliminary population estimates are being gained from extensive visual, aerial, and acoustic sampling (see Evidence in Annex 4.2, 4.3 and 4.4), and additional information on the health of populations and their breeding behaviour has been gained through remote monitoring and biosecurity activities. Significant prior effort has been given to biosecurity activities on some cays of the TCIs under another DPLUS project led by the RSPB focused on iguanas (DPLUS121). However, few of the main seabird cays were visited during these efforts, and the project has begun biosecurity activities to check for signs of predators at data deficient high priority sites (Evidence in Annex 4.2). Whilst it would be impossible to survey every cay and seabird on the TCIs, the main populations and priority sites have already been targeted and will be revisited in Y2. We have no reason to think that this Output will not be achieved by the end of the project.

Output 2. Capacity building for population monitoring

Seabird monitoring activities were lacking in TCI prior to initiation of the project, as were skills and capacity for implementing appropriate monitoring techniques within partner organisations. This largely was owing to logistical constraints for assessing remote breeding populations, and an associated lack of seabird knowledge at most offshore sites. Considerable effort was given into comparing and developing appropriate monitoring methods tailored to local species and sites during Y1, including training of local staff in field and analytical skills (see Evidence in Annex 4.2 and 4.6). This, along with creation of a structured standardized recording framework in the form of field forms, count parameter guidelines, monitoring guides and a population database (see Evidence in Annex 4.2 and 4.6), has resulted in notable change from the baseline condition, and partners are now honing skills to be able to run population surveys to full effect. This current status will be further strengthened during survey work in Y2 to apply lessons learned from Y1 to a full-scale seabird census. We believe that, by the end of the project, local NGOs, Government,

and community partners will possess the skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes in the long term across the TCIs.

Output 3. Seabird threat assessment

Historically, seabirds have been threatened from harvesting, and there is notable concern surrounding development conflicts and predation at human populations on the TCIs continue to grow. Prior to this project there was little up-to-date information on the threats to seabird populations given the extreme data gaps in knowledge on the distribution and status of populations in TCI. Y1 surveys have transformed knowledge on seabird distributions that will allow a formal threat assessment to be undertaken in Y2, and any conflicts to be highlighted for management action. This will be built upon with generation of new data in Y2 and repeat visits to seabird sites. We believe that by the end of the project, knowledge of the main threats to key seabird populations will be greatly improved, allowing identification of appropriate conservation strategies.

Output 4. IBA network identification

The current IBA network in TCI is highly outdated having been delineated based on limited seabird population data collected over short periods of time between 2002-2005. Furthermore, these data do not align with the peak breeding season of many species nor account for inter-island variability in the timing of breeding. While we are yet to undertake a formal review and update of IBAs, collection of an impressive database of count and distribution data in Y1 has transformed the prior state of knowledge, and map layers are being produced at varying resolution (Evidence in Annex 4.2 and 4.3). When combined with population estimates that will be collected during Q1 and Q2 in Y2, this dataset will enable project partner BirdLife International to update existing IBAs in Y2, and identify new candidate IBAs and KBAs as priorities for future management. The project will provide data that are highly likely to allow BirdLife International to achieve this goal by its close

Output 5. Species and site management planning

Large data gaps in knowledge of seabirds have meant that they have been largely ignored in management and conservation actions to date in the TCIs. The data being generated in this project, and the threat assessments and IBA updates that will be delivered by BirdLife International, should notably change the capacity of managers to include seabirds in spatial planning processes in the future, thus improving their protection over the long term. Progress with this Output and its indicators is scheduled to take place towards the end of the project in Y3.

Output 6. Community engagement and education

Knowledge of seabird populations and their ecological value, and support for seabird conservation by the community in TCI, was deemed to be limited prior to the start of this project. This was largely owing to the remote locations of many of the sizable breeding populations and species, which nest in larger numbers on offshore cays. Nevertheless, seabirds are an important cultural symbol in TCI, with the brown Pelican holding status as TCI's national bird. In Y1, we attempted to engage communities through social media and school visits, and are due to run a focused event early in Y2 to further promote the work of DLUS164. Furthermore, we spent notable time talking to boat crew and interested community members during boat trips and while at docks and marinas preparing for surveys, which we deem as a valuable form of informal engagement. Community engagement has not been as active as we had planned in Y1 (Annex 4.6), owing to the challenges mentioned in sections 3.1 and 7. However, further effort in activities under this Output in Y2 should put seabirds on the map in TCI, and improve understanding, support and engagement of local communities and stakeholders with avian conservation actions. More widely, we are promoting the work being undertaken here through regional seabird conservation channels at BirdsCaribbean. We believe that the Output and its indicators (with some rescaling) will be achievable by the end of the project.

3.3 Progress towards the project Outcome

The overall Outcome statement of our project is that 'Protection and health of TCI's seabird populations will improve through locally-driven monitoring programmes that determine the current status of populations, tackle threats through increased stakeholder capacity, and allow targeted management'.

Considerable effort has been made in the field over Y1, to develop appropriate monitoring methods for the 15 seabird species that collectively inhabit over focal 40 sites in TCI. This has notably improved our knowledge of the current distribution and status of seabird populations within the TCI archipelago against a baseline of little to no knowledge since previous surveys were undertaken over 20 years prior. A wealth of count data have already been generated to create a population database that will be further added to in Y2, enabling national updates on Important Bird and Biodiversity Areas to be performed. This has resulted from a massive effort of project staff, many of whom have worked beyond their committed project time, in addition to the in-kind support of local volunteers and ecotour companies. As a result, and despite difficulties suffered this year that have slowed progress, we have made great strides towards a course of achieving the overall project outcome by the end of the project. The remainder of the project will focus on implementing what was learned in Y1 to complete data collection in Y2, further developing and refining population monitoring programmes, and working with partners to undertake activities that will support longer-term management of seabirds and their habitats in TCI. Rescaling the more ambitious elements of the project, in terms of citizen science initiatives, wide-scale biosecurity work, costly year-round trail camera monitoring, and extensive unrealistic reporting and policy development, will help us reach the project Outcome by the end of the project. As set out elsewhere in this report, most of the proposed indicators remain adequate for measuring achievement of the Outcome and, where not, alternatives have been implemented and outlined.

3.4 Monitoring of assumptions

The major assumptions of this project are associated with the availability of wild animals for sufficient data collection to improve management, and suitability of weather condition for accessing field sites, and amenability of contributing organsations to the project and its outputs. These assumptions all still hold true and are relevant in Y2 of the project.

Assumption 1: Availability of birds at colonies and environmental conditions during survey periods will allow ample collection of data to assess threats to seabirds, assess site importance, and develop appropriate management plans.

The project assumes that seabird species will be present at sites during survey periods, and available in peak numbers when population counts are conducted to 1) allow collection of sufficient data to ensure robust population estimates of breeding populations are obtained, and 2) provide an evidence base for site and species conservation planning. Fieldwork began almost immediately at the start of the project (week 3), with UK staff having relocated to the Caribbean, and multiple partners having started work on the project in early May 2022 to ensure its success. Project staff remained flexible in summer 2022 to ensure that surveys could be completed at as many key sites as possible in the TCIs, within logistical and weather constraints. Nevertheless, the survey demands and time commitments were considerably more extensive and costly than originally anticipated. Furthermore, there was limited availability of field personnel in Y1 due to reduced staff capacity of TCNT. Therefore, it was not possible to survey all sites to a full extent. We instead focused on key breeding areas, and where full area coverage was impossible due to limited manpower, we used subsampling protocols to gain population counts. We also pre-emptively built a second field period into the project to allow time for data collection. It remains impossible to survey every island and site fully in TCI, with over 40 cays and large islands making up this territory. However, we learned an incredible amount about species distribution and breeding behaviour in Y1 which is allowing us to prioritise efforts and manpower at the key breeding sites and those areas exposed to higher risk of human-induced disturbance.

Assumption 2: Amenability of contributing organisations to the project:

The project was largely developed following preliminary surveys run collaboratively between the UoL and DECR in 2021 (under DPLUS097). Following initial development of the project concept, and identification of management priorities, all other project partners were engaged in the project's development. Project partners have participated in meetings, and field partners (RSPB, TCNT, the Reef Fund) have participated in fieldwork and training where possible. Nevertheless, changing priorities and workloads of key in-country partners (TCNT) resulted in reduced levels of engagement in Y1 from those that were initially planned. Consequently, there was a need to recruit field help from outside the TCIs during the survey period in Y1, and a greater onus was placed on the Project Leader, RSPB and DECR to provide higher levels of in-kind staff time. Reduced field capacity continues to be an issue into Y2, during which the field team are relying more heavily on RSPB sabbatical staff involvement, survey participation of ecotour boat crew, and in-kind time of local volunteers outside of the project partner team. Furthermore, many surveys will need to be conducted using smaller teams under reduced capacity, limiting the data that can realistically be collected over such large survey areas and numbers of sites. This follows through to handling and processing of data, a task which is largely falling on the Project leader at present due to workloads and current levels of skill competency of other project staff.

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

Our project's focus is tightly linked to Darwin Plus' overarching objective of supporting the UKOTs to achieve strategic long-term outcomes for the natural environment. It aims to aid conservation actions by providing tools that will allow appropriate monitoring and management of seabirds, including identification of priority habitats for protection. The project remains committed to this overarching objective and, over the last year, has made notable steps towards generating a wealth of new data on seabird populations and their size and distributions (Evidence in Annex 4.2 and 4.3), as well improving knowledge of breeding behaviour and potential threats to colonies. Training of local staff and development of population monitoring activities represent notable progress towards improving management capacity in this UKOT.

Seabirds, which represent the top of biodiversity pyramids, are key components of marine ecosystems and are under severe threat from multiple stressors. The 1992 UN Rio Convention requires the development of holistic ecosystem-based management approaches, which are being adopted by states around the world. Partner UKOTs are committed to incorporating these approaches into their marine and coastal management practices. Our project aids this process by bringing together a strong multi-disciplinary project team and other relevant stakeholders to work collaboratively at a national level, to generate essential information that is required to develop National Biodiversity Strategies and Conservation Plans. For example, the project will help to identify major threats to seabirds, priority sites for protection, and appropriate site and species-specific steps to achieve this goal. It should provide information to aid the Protected Area network process in TCI, thus supporting PA network creation under multi-lateral environmental agreements such as the SPAW Protocol to the Cartagena Convention.

5. Gender equality and social inclusion

Our project team is well-balanced in terms of race and gender. The two main in-country organisations are led by women and have a strong proportion of woman seated in management positions, and the PI is also a woman.

Please quantify the proportion of women on the Project Board[1].	50%

[1] A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women[2].	All five project partners are either led by women or have senior leadership teams consisting of a high proportion of women.

6. Monitoring and evaluation

The project's first steering group meeting took place in August 2022, gathering participants from all partner organizations. The purpose of this meeting was to discuss the project's objectives and determine the best way forward (see Annex 4.1 for meeting minutes). This approach has proven successful in previous projects and has yielded similar results here. Organisation and coordination of formal M&E is the responsibility of UoL, with an independent M&E Lead (Dr Green) facilitating regular meetings of a Project Steering Group (PSG), which consists of representatives from each partner and independent members. Information is shared via meeting agendas and minutes that are circulated to the PSG.

We did not hold another steering group meeting at the end of Y1 due to the sheer wealth of tasks and challenges that the core project team had to juggle at this time to ensure progress with the project. The project's second steering meeting was held at the beginning of Y2 (May 2023) just prior to submission of this annual report. This allowed the core project team to discuss issues and lessons learned in Y1, measure progress against Measurable Indicators and the Implementation Timetable, discuss required changes and agree a plan for Y2. We believe this process is working well, and will help to ensure delivery of the project Outcome and lasting change in the TCIs for seabirds and their habitats.

In addition to the PSG meetings, the core project team (Project Leader, TCNT and in-country RSPB managers) regularly met face-to-face in Y1 to discuss project progress and logistics. The Project Leader and M&E Lead (both UoL) also meet via Teams regularly (minimum of once per month) to informally discuss progress and mitigation of issues. Remote partners also engaged in regular communication with the Project Leader via Microsoft teams / Skype and email. Our monitoring and evaluation plans remain unchanged, are working well, and we intend to continue convening routine steering group meetings to ensure the ongoing achievement of project objectives.

Within this report, we have highlighted aspects of the project that are not working well and areas that we may need to adapt and refine in Y2. Any changes that will alter the project's activities, Outputs and Indicators will be presented in a formal change request for approval during Y2, along with an amended logframe.

7. Lessons learnt

Overall, the project has been a success to date, as we have amassed an impressive amount of data that will contribute to conservation goals in this UKOT. Surveys and data collection in Y1 while challenging and time consuming, was ultimately successful, resulting in generation of multiple data stream that span many months of the year. Through survey efforts, new information on the distributions and breeding behaviour of seabird populations was gained, allowing population monitoring methods to be developed for implementation in Y2. Nevertheless, despite these successes, some project components have not worked as originally planned.

[2] Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

Magnitude of data collection: The data collection task was much greater than anticipated in the project application, due to (i) a larger than expected number of field sites, (ii) a larger than expected number of seabird nesting areas, and (iii) the extensive areas that needed to be covered. This resulted in heavy field planning demands, large manpower and time commitments and high costs. In addition, the task of processing and analysing the sizable volumes of generated data is therefore more extensive than anticipated.

Financial challenges: The project has suffered from financial constraints due to high rates of National inflation, which have been further impacted by the unfavourable GBP:USD exchange rate in Y1. These issues have affected many aspects of the project from boat chartering costs to accommodation, travel, and food expenses. In addition to this, limited capacity and competency within the UoL financial administrative team, as well as reworking of the budget multiple times in attempts to address project challenges, has meant that the Project Leader has had to spend notable time inputting into financial tracking and administration, placing further strain on her time.

Partner capacity and engagement: The anticipated level of involvement of project partners has also proved unrealistic, largely owing to overextended partner commitments, changing workloads and reduced staffing levels since the time of developing the project. The project has therefore suffered from limited staff availability for both survey and administrative work, and an inability of local staff to assist the Project Leader in delivering outputs to any large degree. This has led to unrealistic demands on core project staff. For example, limited productivity from the project officer role in Y1 has led to slower progress with outputs.

In addition to these issues, late notification of the project award left virtually no time to plan a demanding field season, order essential equipment, and mobilise field staff. Many partners and local vendors had prior commitments by the time the project award was announced, and the core project team had to work extremely hard around these challenges to ensure that the Y1 survey period could still take place. Darwin Plus could mitigate against these issues and the strain they cause by providing applicants with ample notice to plan prior to the start date of projects. In this project, we are highly constrained to run activities at times of year that align with the breeding seasons of wild animals, so start dates are not flexible.

If we had to start this project again, we would downscale the activities to align more closely with what is realistic, given the logistical and financial constraints listed above. However, we are still able to propose changes going forward to ensure maximum project success.

We would recommend to others doing similar projects to be aware that the award notification timeframes that Darwin provide are often not adhered to, and thus building in capacity and room to deal with incredibly short periods between award notification and start dates is essential. Another suggestion is to be wary of writing in too many ambitious activities that rely on delivery from multiple project partners. This is especially important for projects where baseline information and prior knowledge on the ecological features of interest are severely outdated and there are many unknowns. For projects with heavy field, training, and data handling commitments, run by organisations with limited or ineffective administrative capacity, Project Leader's should strongly consider writing dedicated project management staff time into the budget to help with administrative tasks, reporting requirements, field planning and the financial demands of project running.

To build this learning into the project, we will likely need to reframe some project aspects to streamline our efforts. This will allow more realistic delivery of outputs, and a greater chance of longer lasting change in TCI for seabirds.

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

This is the first Annual Report of the project. All reviewer comments in the award letter were addressed in the half year report.

9. Risk Management

One risk that became more apart during the project's first field season in 2022, was the risk of infection from cuts/scraps caused during foot-based searches in dense vegetation on the

offshore cays. While we were aware of this risk to an extent, one of our team suffered a serious infection during the Y1 survey period (cause unknown), which may or may not have been related to cactus spine wounds on his feet that occurred during surveys. To mitigate this risk, we have now ensured that all team members have and wear ample sturdy protective footwear (walking boots) in these habitats. We have also created a vegetation index so all field team members are aware of the plants that they may encounter during surveys and their associated dangers (Annex 4.6). A training session will be given to all new field team members to teach on field safety and risk management. We also put all core field team members (UoL, RSPB, TCNT, 9 people) through a 1-day first aid training course in Y1.

10. Other comments on progress not covered elsewhere

The design of the project has been refined as new information from surveys in Y1 has allowed appropriate methods for estimating population to be identified, including the manpower and time requirements needed to achieve this task in Y2. Furthermore, it has allowed us to identify through M&E the outputs that are achievable, and make plans for project adaptation to ensure that core goals are both appropriate and achievable within the project's lifespan. For example, the project team have become aware of the magnitude of the task that was set out for developing management plans, in addition to successfully implementing widescale population monitoring programmes for the many seabird species and habitats in TCI. The project team plan to refine methods in the coming months for the intended activities and Outputs that will be generated over the remainder of the project, and will identify an appropriate exit strategy later as the project continues to be refined. Significant difficulties encountered (the magnitude of the survey task, funding constraints, engagement of partners, and capacity and competency issues) are addressed in sections 3 and 7.

11. Sustainability and legacy

Local cross-organisational capacity has already been built in Y1, with TCNT, TCRF, DECR staff and volunteers having received notable training in seabird ID and monitoring, who themselves can provide future peer-to-peer training within their organisations to retain skills. Time has also been spent training the project officer in data handling skills and using the population database, which will embed new skills into the TCNT that should be retained. These combined efforts should ensure that locally run population monitoring programmes are in place by the project's close and can continue to operate. We have also attempted to educate and engage crew members of local boat vendors to build capacity for future seabird monitoring should ongoing funding be secured, particularly around nearshore areas such as inshore cays off Providenciales which are high targets for development. The intended larger specialised volunteer network mentioned in the project proposed is no longer believed to be realistic. However, we plan to focus training efforts on a smaller number of dedicated staff and well-placed volunteers into Y2. Note that funding will always be a constraint in the TCIs, due to the remote breeding locations of many of the larger seabird populations and notable costs of accessing sites, but efforts will be made in Y3 by local partners to identify future funding sources to retain capacity.

TCIG has urgent obligations to enhance environmental conservation in TCI, specifically by expanding the Protected Area System. They are actively acquiring sustained funding and resources to ensure the continuation of this objective, which includes ongoing expansion of their specialized personnel with knowledge of marine spatial planning. We have included DECR staff in our survey and training activities in Y1 to ensure engagement with the project and a thorough understanding of seabird ecology, the data being acquired, and challenges to protecting seabirds and their habitats. As a result, DECR are being provided with the knowledge and data needed to develop and implement appropriate strategies for seabird and site management, thereby establishing a sustained legacy of the project Outcome.

In Y1, the project has gained interest in the TCIs through the efforts made via social media and school visits to engage communities (see Annex 4.6). The project has also been promoted through blog articles and partner project websites. BirdsCaribbean's Seabird Working Group has provided further opportunities for promoting the project and its outputs via a series of webinars

on seabird ID and monitoring. Dr Austin (Project Leader) has been instrumental in arranging these through her role as SWG committee co-chair (see Annex 4.6). Owing to project challenges outlined elsewhere in the report, project publicity and dissemination has not been as forefront as hoped, however efforts will continue into Y2 through ongoing media activity and community involvement. A focused seabird event is due to take place in Q1 of Y2, and a mini documentary on shearwaters will also be produced in collaboration with DECR to further promote seabirds. In addition, we will disseminate project outputs to a wide range of Caribbean stakeholders through regional BirdsCaribbean channels. We believe these combined efforts will foster longer term awareness and support of seabird conservation in TCI.

12. Darwin Plus identity

All media releases associated with this project acknowledged the Darwin Initiative and more widely the UK Government, as the major funding source, and the Darwin logo has been used in public presentations and educational materials (Annex 4.6). Partner Instagram and twitter feeds (i.e., @tciseabirds, @tcnationaltrust_, @decrtci, @RhiAustin, @krossez_, @ddutz_doodles), and the project webpages (www.caribbeanseabirds.weebly.com), were also used during Y1 to further publicise the project work. The Darwin Initiative were acknowledged through all social media channels. The Turks and Caicos Islands have benefitted from a number of other high-profile projects that the Darwin Initiation have funded (i.e., DPLUS175, DPLUS153, DPLUS129, DPLUS094, DPLUS181), and thus the general public are familiar with this grant scheme. Moving into Y2, this project and its future outputs will continue to be clearly identified as stemming from Darwin Initiative funding, and the Darwin logo will be displayed on all project material.

13. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No, the UoL already possess an extensive safeguarding policy.
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	No. Organisation HR teams have staff responsible for safeguarding.
Has the focal point attended any formal training in the last 12 months?	NA
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: None Planned: 0%
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. No	

14. Project expenditure

Table 1: Project expenditure during the reporting period (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	**198,485.95**	**193,788.03**		

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.

Two aspects of this project for which considerable progress is being made beyond that envisaged in the project proposal are:

1) The automated methods for analysing aerial imagery of nests that we are developing through collaboration with 'AI Conservation' and 'Liverpool John Moores University, UK'

2) The acoustic survey methods under development for monitoring crevice-nesting seabirds.

Both forefront techniques are considerably improving our ability to gain current data on the more challenging seabird species that breed in the Turks and Caicos Islands, and are revealing new insights into sizable populations of birds that have been largely unnoticed in the past. The key example of this is the Audubon shearwater, a seabird which nests in crevices and small caves within limestone bedrock, and is mostly active on land at night thus appearing absent during the day. Development of targeted acoustic survey techniques during both day and night, and associated training of local staff, has already transformed knowledge of this species' population in the Turks and Caicos Islands. Furthermore, we believe this knowledge will be of use to others attempting to monitor this elusive seabird elsewhere in the Caribbean. The Audubon shearwater remains data deficient in many countries in the region, mostly due to logistical difficulties in locating nest sites, and is believed to be declining in number. Therefore, it represents a conservation priority in nations with high levels of human activity. Collection of drone imagery at remote sites, and automated detection of birds within the large number of generated images, is also showing great potential to revolutionise the ability of local organisations to monitor open nesting seabirds on the remote offshore cays. In the second stage of the project, we will trial the use of thermal cameras to gain population estimates of problematic scrub-nesting seabirds that are proving impossible to survey on foot.

Video Information:

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)
Video	DPLUS164_AUSH_Survey_Vid01.MP4	"Birds-eye view of team surveying Audubon's shearwater nests"; Country: Turks and Caicos Islands; Credit: DECR (Christopher May)		Yes
Video	DPLUS164_AUSH_Survey_Vid02.MOV	"Calling Audubon's shearwater in nest within limestone bedrock on the seabird cays of the Turk and Caicos Islands"; Country: Turks and Caicos Islands; Credit: Rhiannon Austin		Yes
Image	DPLUS164_UAVImage.png	"Image containing Neotropical Cormorants and American Flamingos, taken with a UAV during DPLUS164 surveys in 2022";		Yes

		Country: Turks and Caicos Islands; Credit: DPLUS164 project partner team.		

Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Impact Internationally and regionally important seabird populations on the Turks and Caicos Islands will flourish following improved and sustainable capacity of local stakeholders to identify, assess and address conservation threats.		Notable steps have been made towards gaining information and building local capacity that will enable an improved ability of local stakeholders to manage and protect seabirds and their habitats in the TCIs. This should contribute to conserving biodiversity and maintaining healthy ecosystems in this UKOT.	
Outcome: **Protection and health of TCI's seabird populations will improve through locally-driven monitoring programmes that determine the current status of populations, tackle threats through increased stakeholder capacity, and allow targeted management.**	0.1 Priority seabird populations secured through identification and greater awareness of key breeding and roosting areas of 15 species, and generation of population estimates for at least 24 sites by Q2 of Y2 0.2 Sustainable locally driven population monitoring programmes developed and implemented by Q2 of Y2, accounting for different breeding behaviour and habitats of 15 resident seabird species, and supported by increased capacity generated thorough training of local staff (at least 6) and volunteers (at least 20) in Y1 and 2. 0.3 Threats to key seabird populations and their breeding habitats identified and addressed (for 15 species and at least 24 sites) by end of Y2 0.4 IBAs for breeding seabird populations identified and updated (according to the current baseline of 10	0.1 Data collected in Y1, to identify key breeding sites and roosting areas for 15 species, and are being used to obtain preliminary population estimates for >40 sites. 0.2 Population monitoring programmes developed during surveys in Y1, methods compared and refined in preparation for Y2 survey, and staff trained in monitoring methods to ensure local capacity for surveying. 0.3 Threat assessments to take place in Y2, but initial threats recorded at visited sites during Y1 surveys. 0.4 Information on existing IBAs and trigger species of importance are being collated by BirdLife International for targeted Y2 data collection. IBA updates to take place in Y2. 0.5 Progress under this indicator will be made in Y3	0.1 A second year of data will be collected in Y2 using refined site and species-informed population monitoring methods. 0.2 Population monitoring programmes will be implemented in Y2 to collect population estimates for us in formal IBA updates and management documents and training / capacity building will continue into Y2. 0.3 Threat assessments will be undertaken at each survey site in Y3 using standardized criteria. 0.4 Seabird population estimates and associated relent site information will be obtained within existing IBAs, and new candidate IBAs will be identified within the directory of visited sites. 0.5 Progress under this indicator will be made in Y3

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	existing IBAs) by end of Y2, using BirdLife International approaches 0.5 To safeguard seabirds in the TCIs, a Seabird Cays Policy and draft Site Management Plans (for at least 6 existing and 3 candidate sites) are developed by end Y3 Q3, and actions identified to implement them by end of project 0.6 Local community education, engagement and support for seabird and site conservation is promoted through participation in project activities spanning Y1-Y3, including a focused seabird community event, a citizen science programme, at least 6 school/youth group talks, at least 4 community meetings and project publicity through news channels and social media	0.6 Local communities have been reached through media channels and school talks, and a community event is being planned for Q1 Y2.	0.6 Further school talks and media posts will be released in Y2. A mini documentary on shearwaters will be produced and disseminated in TCI.A focused community event will be held in Q1 Y2.
Output 1. The size, distribution and health of breeding seabird populations identified on the cays and main islands of the TCI archipelago.	1.1 Population estimates gained from visual (boat and land-based), aerial (UAV) and/or acoustic surveys for 15 resident species on/over a minimum of 24 seabird breeding sites on the TCI cays and main islands by the midpoint of Y2 (end Q2) 1.2 Non-technical report ('Breeding Seabird Atlas of the Turks and Caicos Islands') produced summarising	We generated a wealth of visual, acoustic, and aerial data from 42 sites over a 12-month survey effort in Y1, allowing initial population estimates to be gained in varying levels of resolution for 15 species (Evidence in Annex 4.2 and 4.3). This exceeds the number of sites that we expected to visit and is a result of the sizable investment of the core project team way exceeding committed salary time. Much progress has been made to process and analyse the multiple data streams that comprise this dataset during Y1, and this task will continue as new data are collected in Y2 to provide population estimates that will be fed into Output 3 and 4. A report on this Output is still relevant, but delivery will be delayed until Y3 allowing time for the task of processing data from multiple sites and species.	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	population estimates and data generated in 1.1 1.3 Breeding success within 5-6 seabird populations on key offshore cays recorded in each project year, with remote time-lapse camera array (12 cameras) 1.4 Predation rates and biosecurity risks assessed on key offshore cays during land-based surveys in Y1 and Y2 (minimum of 15 sites), and with remote time-lapse camera data (collected from 5-6 sites in Y1 and Y2), and biosecurity risk assessment report and protocols document produced by end of Y2	We have trialled the use of trail cameras on 6x cays to monitor nesting sites of 4 species and obtain data on breeding phenology and productivity. The nesting behaviour of many species in TCI has not proven to lend itself well to this form of monitoring, resulting in small sample sizes and low levels of data. Therefore, we plan to refine this deliverable and indicator, and collect data opportunistically during other routine survey work. Nevertheless, the cameras will continue to be used for publicity purposes (see Output 6), and images will be checked for signs of predators. Biosecurity monitoring began in Y1. However, we did not target as many high priority sites as originally planned due to manpower and logistical constraints. Remaining high priority sites will be monitored with stations and tunnels in Y2, and this indicator remains relevant.	
Activity 1.1 Boat-based, land-based, aerial, and acoustic surveys undertaken on the seabird cays and main TCI islands, and population estimates obtained for 15 resident species		91x boat and/land-based survey visits were undertaken in Y1 over 42 islands and cays in TCIs. In addition, 6x aerial surveys days were undertaken in July 2022. Acoustic monitoring took place from December 2022 until the present day using 5x song meters. In April 2023 8x audiomoths were also deployed for ongoing acoustic monitoring on cays close to Providenciales. A focused acoustic population survey was undertaken on two Cays in March 2023 where a sizable Audubon's shearwater colony was discovered in Y1. These combined activities have results in data collection for 15 seabird species.	A second year of surveys will take place to implement knowledge and methods gained in Y1, and obtain population estimates that will be used in formal IBA updates and management planning.

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 1.2, Non-technical report produced summarising population estimates and data		Population data collected in Y1 are still being processed.	A non-technical report will be produced following the end of field surveys in 2023 and analysis of the data from ~40 sites.
Activity 1.3 Array of 12 time-lapse cameras deployed on priority seabird cays (5-6 sites), and image data collected to feed into the citizen science programme		Eight Reconyx cameras were deployed on 6x cays sites to monitor nests of 4x key species, and obtain data on return dates of birds to colonies. To date, only Audubon's shearwaters and White-tailed tropicbirds were caught on camera within a small number of images.	Cameras already in situ will be left to monitor breeding birds over the course of the incubation and chick-rearing periods, which will generate data on breeding phenology and fledgling success, and will be maintained during survey work. We will recover cameras at the end of the survey period prior to the hurricane season.
Activity 1.4 Biosecurity monitoring undertaken on key seabird cays, and biosecurity risk assessment undertaken and presented in non-technical report		A biosecurity risk assessment was undertaken early in Y1, identifying 7x priority sites for biosecurity work. Tracking tunnels and baited stations were deployed at 1x site in 2022, and 3x sites in 2023 (Evidence in Annex 4.2). No signs of rats have been detected to date.	In Q1 of Y2, tracking tunnels and baited stations will be deployed on 3x new cays. Biosecurity items currently in situ on 2x cays will be recovered.
Output 2. Local NGOs, Government and community partners develop skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes	2.1 Visual, aerial, and acoustic survey methods compared in Y1 Q3-Q4, and best- practice methods identified for specific sites and species prior to full surveys in Y2 2.2 Population database created by end Y1 and maintained by local partners (managed by TCNT and shared with TCIG). 2.3 A minimum of 6 staff from local partner and collaborating organisations	Survey methods for different sites and species were assessed and compared from survey data collected in Y1 to identify appropriate monitoring protocols to implement in Y2 (Evidence in Annex 4.2). A population database was created, into which Y1 are being ongoingly input and processed. TCNT staff have been trained in maintaining this platform (Evidence in Annex 4.2). Notable training activities took place in Y1 for partner staff (TCNT, RSPB, TCRF, SFL), collaborators (i.e. TCIG DECR, School of Field Studies, Marine Conservation Society), ecotour boat crew (vendors: Deep Blue Charters, Big Blue Collective, T&V Tours, Jedi Kiting) and a small number of other enthusiastic local volunteers (staff of www.visittci.com), exceeding our expectations for this deliverable in Y1 (Evidence in Annex 4.2 and 4.6). While we are making effort to recruit and train local volunteers, access, safety, and cost constraints associated with remote field locations mean that plans to form	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	(i.e., TCNT, TCRF, TCIG) trained in seabird identification, monitoring methods and data management during survey work in Y1 and Y2, and through tailored training events (minimum of three) run by end Y2 2.4 10-20 islander volunteers trained in seabird identification and monitoring methods by end of Y2 Q3, and a team of dedicated trained volunteer 'seabird stewards' recruited to continue regular monitoring activities post-project. 2.5 Seabird monitoring guide for the TCIs produced in Y1 Q4, and distributed to partner staff, the volunteer network, DECR, and other local organisations (i.e., Big Blue Collective) for wider community dissemination in Y2.	a self-sustaining wider 'seabird steward' network are deemed unrealistic. In Y1, we have focused effort on thorough training of a smaller number of local people keen to be involved in future seabird work, thus retaining knowledge and skills for longer-term monitoring. To aid this process, we have produced a seabird monitoring guide, that will be disseminated in Y2 and repurposed for activities at the seabird festival event (Evidence in Annex 4.6).	
Activity 2.1. Population monitoring methods and data outputs assessed and compared, and best-practice guidelines written for ongoing monitoring of specific sites and species		Suitable population monitoring methods developed at 42 sites across the TCIs in Y1, and field tests undertaken to compare counts using different methods (vantage point, flush, details search) to obtain correction factors for population estimation (Evidence in Annex 4.2). Details of suitable monitoring protocols for each site and species have been incorporated into the population database (Annex 4.2).	Data will be added to during Y2 surveys, and continue to be analysed in Q3 and Q4 of Y2. Outputs will be summarised in a non-technical report at the beginning of Y3.

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 2.2. Population database and associated guide for use created		Population database produced with an associated key.	Data will be added to database throughout Y2.
Activity 2.3 Local partner staff trained in seabird identification, monitoring methods and data handling during survey work and tailored training sessions		5x TCNT staff, 3x DECR staff, 2x RSPB staff, 1x SFL staff, 1x TCRF staff were trained in seabird identification and monitoring methods during field periods.	We plan to continue training new staff in Y2, including two RSPB sabbatical staff who are joining the team in June-July 2023, and new members of TCNT.
Activity 2.4 Wider volunteer 'seabird steward' network formed and trained in seabird identification and monitoring at tailored training events, and during field periods		1x TCRF volunteer, 4x ecotour volunteers, 3x students and 3x other volunteers were trained in seabird identification and monitoring methods during field periods.	We plan to continue training new volunteers in Y2.
Activity 2.5 Seabird monitoring guide produced and distributed amongst local partners and stakeholders		Monitoring guide produced in Y1 (Evidence in Annex 4.6), and will be edited / finished for printing in Y2.	Guide will be printed and disseminated in Y2.
Output 3. Knowledge of the main threats to key seabird populations is greatly improved, allowing identification of appropriate conservation strategies	3.1 Threats (including development conflicts, predation, harvesting pressure) to seabird populations on the cays and islands of Turks and Caicos assessed, ranked, and outlined in non-technical report in Y2 Q2-Q3, using data gained through surveys and remote monitoring (output 1) in Y1 and Y2 3.2 TCI Seabird conservation strategy developed by end of Q4 Y2, outlining recommendations for management action to threats, and proposing priorities for at least 3 new candidate sites for strengthened protection under the National Parks Ordinance, with written endorsement from the TCIG's DECR	Activities for this Output was confined to Y2 of the project, following the end of the main survey period. However, initial signs of potential threats to seabirds were noted during surveys in Y1 (list in Annex 4.4).	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 3.1 Threat assessment report produced outlining a threat assessment to seabird populations undertaken following population surveys		NA	This activity is scheduled for after the main survey period in Y2.
Activity 3.2 Seabird conservation strategy produced outlining threats and recommendations to address them		NA	This activity is scheduled for Y2.
Output 4. IBAs identified and delineated for seabird breeding sites on the cays and islands of TCI	4.1 Distribution maps and GIS layers produced from survey data, identifying breeding and roosting sites of seabird species on TCI (Q3, Y1 and Y2). 4.2 Review of TCI IBA network undertaken with new data (Q4, Y1 and Y2), and IBA list updated by BirdLife International using standardized methods by end Y2.	We have been working to produce distribution maps and layers of breeding and roosting sites based on initial data collected during Y1 (Evidence provided in Annex 4.2). However, a wealth of data were collected over 42 sites, many of which require additional processing to obtain robust population estimates, and we are in the process of completing this task in spatial software which will result in further outputs in Y2. We have prepared a suitable database for data input relevant to the Birdlife International IBA review process and will pass combined data to BirdLife International in Y2 when most of the activities under this Output are scheduled to take place.	
Activity 4.1 Key breeding and roosting sites of seabird species identified, and maps and map layers produced		Breeding and roosting sites at 42 sites over the Caicos and Turks Bank were identified through preliminary survey work in Y1 and collated in the population database with locational information. Distribution maps and many layers of varying resolution are being produced (Evidence in Annex 4.2) as data are analysed,	A second year of survey data will be collected using best-practice methods developed during Y1, and updated maps and map layers will be produced.
Activity 4.2 Review and update of TCI's IBAs undertaken, and the BirdLife International IBA list updated		This activity is scheduled to take place in Y2. However, an initial review of requirements for IBA update undertaken in planning meeting in Q4 Y1.	IBA review and update to take place in Q4 of Y2.
Output 5. Development of a 'seabird cays policy' that will inform development of 'site management plans' for both Protected	5.1 A Seabird Cays Policy produced by end Y3 Q1, and adopted by the TCIG, outlining key actions to mitigate identified threats, and including 1) a	Activities for this Output are confined to Y3 of the project, and will be based on data and information gained during the combined extensive survey work in Y1 and Y2. Owing to challenges outlined in report sections 3 and 7, the project	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Areas within IBAs, and IBAs proposed for protection, and steps taken to initiate identified conservation actions	voluntary 'seabird colony code-of-conduct' that will be distributed amongst local ecotour operators and other stakeholders by end of the project, and 2) a recommended time-bound 'monitoring implementation plan'. 5.2 Site Management Plans drafted for existing Protected Areas within identified IBAs (minimum of 6), and new sites proposed for protection (at least 3) on the cays and islands of TCI, and submitted to DECR in Y3 for consultation, approval, and adoption 5.3 Site Management Plans presented to local stakeholders (e.g., fishers, communities, businesses, eco-tour operators) for consultation during at least 1x TCIG-led community meeting in Y3 Q2-Q4, followed by submission to the TCIG Cabinet for approval	team plan to make some suggested changes to this Output and its activities, which will be covered under a formal change request.	
Activity 5.1 Seabird Cays Policy (including a voluntary 'seabird code-of-conduct' and 'monitoring implementation plan') written in collaboration with the TCIG		NA	Activity scheduled for Y3
Activity 5.2 Seabird code-of-conduct leaflets produced and disseminated amongst local ecotour operators and other stakeholders		NA	Activity scheduled for Y3
Activity 5.3 Site management plans drafted for cays and protected areas in the main island chain		NA	Activity scheduled for Y3
Activity 5.4 Draft management plans presented to local stakeholders in TCIG-led community meeting		NA	Activity scheduled for Y3

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Output 6. Local communities and stakeholders, and more widely regional and global audiences, understand, support and engage with avian conservation actions on the TCIs	6.1. At least 20 local community members and stakeholders, and 15 regional/global people, participate in a seabird citizen science initiative, hosted through the online Zooniverse platform, undertaking data processing of seabird images collected with time-lapse cameras at seabird colonies on the offshore cays (beginning in Y1 Q3 and ongoing); A non-technical report produced outlining data outputs (Y3 Q1) 6,2 The project engages local communities with publicity and education activities, via at least 4 community meetings, and 6 school / youth group engagement events (e.g., through youth programmes at the Edward C. Gartland Youth Centre, Providenciales); beginning in Y1 and continuing throughout the project. 6.3 Participation of local communities in public outreach event in Y2 Q1 entitled the 'TCI Seabird Fest' run under the Caribbean Endemic Bird Festival, with support from regional conservation bodies (BirdsCaribbean). 6.4 Local communities engage with the project via regular project updates (minimum of once quarterly), provided through dedicated project webpages (created and hosted on	We have been working to engage local communities in the project through school talks (Evidence in Annex 4.6) and social media channels (Evidence in Annex 4.6). A focused seabird community event is also being organised in close conjunction with World Seabird Day (3rd July), with the aim of raising awareness of resident seabirds in TCI, and the wider links between healthy reef ecosystems and marine top predators (Annex 4.6). Follow-up talks in schools are then planned for the second half of Y2. The use the trail cameras was tested at nest sites in the latter part of Y1 (Evidence in Annex 4.4), and the Zooniverse citizen science initiative has not begun as is not deemed an appropriate activity for community engagement and appropriate data were not obtained. The habitats and breeding behaviour of many seabirds on the TCI cays do not lend themselves well to time-lapse camera monitoring for large-scale data collection. The project team thus wish to drop this activity, which will be addressed via a formal change request. Nevertheless, cameras will be used in an opportunistic way for publicity and community engagement, and for collecting data on breeding phenology in Y2.	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
	www/caribbeanseabirds.weeby.com) and other partner social media feeds.		
Activity 6.1 Time-lapse camera images of breeding seabirds processed through Zooniverse platform by volunteers, and a non-technical report written on productivity data outputs		Deployment of cameras was delayed in the 2022 breeding season due to field logistics and initial delays in purchasing the equipment. Eight trail cameras were deployed in Y1 and, so far, have yielded only a small number of images of seabirds at nest sites.	We plan to drop this activity because cameras did not yield suitable images for a large-scale citizen science project in Y1, and are not believed to be the most suitable monitoring tool for many species in TCI due to the dispersive and unpredictable nest locations of many species.
Activity 6.2 Community meetings (minimum of 4) and school / youth group events (at least 6) run to engage local communities and young people (Y1 – Y3)		2 talks were given to students at the School of Field Studies on South Caicos, and 1 talk was given at Provo Primary School on Providenciales in Y1.	At least 3 additional talks will be held in schools on Providenciales, Grand Turk and South Caicos in Y2.
Activity 6.3 A 'TCI Seabird Fest' event run during the Caribbean Endemic Bird Festival in Y2 Q1		Planning began for the TCI Seabird Festival at the end of Y1.	The event is due to be held on 1st July 2023 in honour of World Seabird Day (July 3rd), with activities run by the TCNT, TCRF, DECR and main project team.
Activity 6.4 Dedicated project webpages created and maintained on the www.caribbeanseabirds.weeblly.com website, and regular quarterly project updates given on this and other partner social media feeds		A project Instagram feed (TCISeabirds) and twitter feed (@tciseabirds) were created early in Y1 and regular updates have been posted on them and other project staff social media accounts.	Project updates will continue through social media channels in Y2. A mini documentary is also being worked on focused on the Audubon Shearwater population in TCI, with the aim to potentially showcase this at the Film Festival in November 2023.

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

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: Internationally and regionally important seabird populations on the Turks and Caicos Islands will flourish following improved and sustainable capacity of local stakeholders to identify, assess and address conservation threats.			
Outcome: **Protection and health of TCI's seabird populations will improve through locally-driven monitoring programmes that determine the current status of populations, tackle threats through increased stakeholder capacity, and allow targeted management.**	0.1 Priority seabird populations secured through identification and greater awareness of key breeding and roosting areas of 15 species, and generation of population estimates for at least 24 sites by Q2 of Y2 0.2 Sustainable locally driven population monitoring programmes developed and implemented by Q2 of Y2, accounting for different breeding behaviour and habitats of 15 resident seabird species, and supported by increased capacity generated thorough training of local staff (at least 6) and volunteers (at least 20) in Y1 and 2. 0.3 Threats to key seabird populations and their breeding habitats identified and addressed (for 15 species and at least 24 sites) by end of Y2 0.4 IBAs for breeding seabird populations identified and updated (according to the current baseline of 10 existing IBAs) by end of Y2, using BirdLife International approaches 0.5 To safeguard seabirds in the TCIs, a Seabird Cays Policy and draft Site Management Plans (for at least 6 existing and 3 candidate sites) are	0.1 Population estimates available in databases hosted on project, partner and regional organisation websites, and in non-technical reports 0.2 Reports on stakeholder activity and best-practice survey methods, as well as population database and user guide, available on project and partner websites 0.3 Threat assessment report available on partner and TCIG websites 0.4 Maps and associated information on updated IBAs listed on BirdLife International online database (http://datazone.birdlife.org) and partner websites 0.5 Seabird Cays Policy and draft Site Management Plans held in TCIG records 0.6 Report on community outputs from citizen science project, and photos, feedback forms and media coverage of community events, available through partner websites and media feeds.	Sufficient data collected to implement BirdLife International procedures, identify IBAs and threats, and develop appropriate management plans (mitigation: there is high confidence that sufficient data will be generated as the project team has budgeted for an extensive period of UK-supported seabird surveys in TCI. Furthermore, the TCNT and RSPB on-island resource will be year-round, boosted by RSPB sabbatical staff support, allowing for flexible survey work should weather-related challenges affect activities during UK scientist visits). Local organisations and volunteers retain sustained capacity and enthusiasm to operate continuing monitoring programmes and management activities (we believe this holds true based on enthusiasm for the work expressed via pre-project planning dialogue with on island partners).

Project summary	SMART Indicators	Means of verification	Important Assumptions
	developed by end Y3 Q3, and actions identified to implement them by end of project 0.6 Local community education, engagement and support for seabird and site conservation is promoted through participation in project activities spanning Y1-Y3, including a focused seabird community event, a citizen science programme, at least 6 school/youth group talks, at least 4 community meetings and project publicity through news channels and social media		
Outputs: **1**. The size, distribution and health of breeding seabird populations identified on the cays and main islands of the TCI archipelago.	1.1 Population estimates gained from visual (boat and land-based), aerial (UAV) and/or acoustic surveys for 15 resident species on/over a minimum of 24 seabird breeding sites on the TCI cays and main islands by the midpoint of Y2 (end Q2) 1.2 Non-technical report ('Breeding Seabird Atlas of the Turks and Caicos Islands') produced summarising population estimates and data generated in 1.1 1.3 Breeding success within 5-6 seabird populations on key offshore cays recorded in each project year, with remote time-lapse camera array (12 cameras)	1.1 Population estimates listed and available at the ebird online database (http://ebird.org), and project and partner websites. Population data also available through the Turks and Caicos Data Portal managed by SFL (https://dataportal.gov.tc), and a regional BirdsCaribbean Seabird Working Group (SWG) database. 1.2 Non-technical report ('Breeding Seabird Atlas of the Turks and Caicos Islands') uploaded and available from project and partner websites 1.3 Time-lapse imagery and productivity data viewable on Zooniverse website (http://www.zooniverse.org/projects /penguin-tom79/penguin-watch). Productivity data also available on	Breeding seabirds will be present at colonies during scheduled survey work, and sub-sections of colonies will be amenable to regular monitoring (mitigation: flexible, contingency survey periods incorporated into project workplan). Environmental conditions will be favourable for access to offshore cays, and survey methods not affected by variability in environmental conditions (mitigation: flexible, contingency survey periods incorporated into project workplan; local project officer stationed in- territory). Field staff and equipment will be safe from threats associated with poaching and illegal immigration activity on the

Project summary	SMART Indicators	Means of verification	Important Assumptions
	1.4 Predation rates and biosecurity risks assessed on key offshore cays during land-based surveys in Y1 and Y2 (minimum of 15 sites), and with remote time-lapse camera data (collected from 5-6 sites in Y1 and Y2), and biosecurity risk assessment report and protocols document produced by end of Y2	project and partner websites and the SFL-managed Turks and Caicos Data Portal 1.4 Biosecurity risk assessment report, and biosecurity protocols document, available on project and partner websites. Time-lapse imagery viewable on Zooniverse website	offshore cays (mitigation: survey team will be cautious during trips to offshore cays, and will always work in teams following recommended TCIG safety protocols. Contingency survey periods incorporated into project workplan).
2. Local NGOs, Government and community partners develop skills, knowledge, and capacity to operate self-sustaining seabird monitoring programmes	2.1 Visual, aerial, and acoustic survey methods compared in Y1 Q3-Q4, and best- practice methods identified for specific sites and species prior to full surveys in Y2 2.2 Population database created by end Y1 and maintained by local partners (managed by TCNT and shared with TCIG). 2.3 A minimum of 6 staff from local partner and collaborating organisations (i.e., TCNT, TCRF, TCIG) trained in seabird identification, monitoring methods and data management during survey work in Y1 and Y2, and through tailored training events (minimum of three) run by end Y2 2.4 10-20 islander volunteers trained in seabird identification and monitoring methods by end of Y2 Q3, and a team of dedicated trained volunteer 'seabird	2.1 Non-technical report on best-practice survey methods uploaded and available on project and partner websites 2.2 Guide to use and maintenance of population database available on project website. Population data available on TCI Data Portal. 2.3 Presentations and notes from staff training sessions, field trips and workshops available on project and partner websites 2.4 Presentations and notes from volunteer training sessions, field trips and workshops available on project and partner websites. Seabird Steward activities publicised through social media channels and by blog articles and newsletters of regional organisations (i.e., BirdsCaribbean)	Local partners and islander volunteers will engage in project and training activities (mitigation: hold talks, and use news channels and social media, to encourage interest and gain support for conservation activities. Partners are in support of, and were actively involved in development of, project). Longer-term staffing and funds are available for sustained monitoring efforts.

Project summary	SMART Indicators	Means of verification	Important Assumptions
	stewards' recruited to continue regular monitoring activities post-project. 2.5 Seabird monitoring guide for the TCIs produced in Y1 Q4, and distributed to partner staff, the volunteer network, DECR, and other local organisations (i.e., Big Blue Collective) for wider community dissemination in Y2.	2.5 Copy of seabird monitoring field guide available on project and partner websites	
3. Knowledge of the main threats to key seabird populations is greatly improved, allowing identification of appropriate conservation strategies	3.1 Threats (including development conflicts, predation, harvesting pressure) to seabird populations on the cays and islands of Turks and Caicos assessed, ranked, and outlined in non-technical report in Y2 Q2-Q3, using data gained through surveys and remote monitoring (output 1) in Y1 and Y2 3.2 TCI Seabird conservation strategy developed by end of Q4 Y2, outlining recommendations for management action to threats, and proposing priorities for at least 3 new candidate sites for strengthened protection under the National Parks Ordinance, with written endorsement from the TCIG's DECR	3.1 Non-technical report containing threat assessment held by and available from local and international partners, and disseminated on project and partner websites 3.2 Copy of the TCI seabird conservation strategy available from TCIG and partner websites	Availability of birds at colonies and environmental conditions during survey periods will enable sufficient data collection (output 1) to sufficiently assess threats to seabirds on the cays and main islands of TCI (Mitigation: flexible and contingency survey periods incorporated into project workplan. In the unlikely worst-case event that data collection is disturbed beyond realistic project flexibility, partners will undertake a desk-based exercise to 1) collect existing information on development proposals and other current activities at key seabird sites (through collaboration with TCIG), and 2) combine this information with the best available seabird data (new and past) to assess potential threats. Regardless of data generation, local staff and volunteers will receive training, to build capacity for ongoing surveys).

Project summary	SMART Indicators	Means of verification	Important Assumptions
4. IBAs identified and delineated for seabird breeding sites on the cays and islands of TCI	4.1 Distribution maps and GIS layers produced from survey data, identifying breeding and roosting sites of seabird species on TCI (Q3, Y1 and Y2). 4.2 Review of TCI IBA network undertaken with new data (Q4, Y1 and Y2), and IBA list updated by BirdLife International using standardized methods by end Y2.	4.1 Map layers of seabird breeding and roosting sites available from local partners and relevant government agencies, and uploaded to partner and project websites 4.2 Updated IBA map layers and associated information available on BirdLife International online database (http://datazone.birdlife.org), and links on project and partner websites	Sufficient data collected to implement BirdLife International procedures and identify IBAs.
5. Development of a 'seabird cays policy' that will inform development of 'site management plans' for both Protected Areas within IBAs, and IBAs proposed for protection, and steps taken to initiate identified conservation actions	5.1 A Seabird Cays Policy produced by end Y3 Q1, and adopted by the TCIG, outlining key actions to mitigate identified threats, and including 1) a voluntary 'seabird colony code-of-conduct' that will be distributed amongst local ecotour operators and other stakeholders by end of the project, and 2) a recommended time-bound 'monitoring implementation plan'. 5.2 Site Management Plans drafted for existing Protected Areas within identified IBAs (minimum of 6), and new sites proposed for protection (at least 3) on the cays and islands of TCI, and submitted to DECR in Y3 for consultation, approval, and adoption 5.3 Site Management Plans presented to local stakeholders (e.g., fishers, communities, businesses, eco-tour	5.1 Copies of the Seabird Cays Policy (and embedded monitoring implementation plan and code-of-conduct) available from the TCIG and partner websites. Electronic copy of voluntary seabird code-of-conduct leaflets available on project and partner websites 5.2 Copies of draft Site Management Plans held in TCIG records 5.3 Report on community meeting feedback available from TCIG	Sufficient data collected to inform development of Seabird Cays Policy and subsequent site management plans. The TCIG will uptake actions within the Seabird Cays Policy, and it will be adapted into legislation in the long-term. Site Management Plans will be met favourably by local stakeholders, and approved and adopted by the TCIG Cabinet after positive public consultation.

Project summary	SMART Indicators	Means of verification	Important Assumptions
	operators) for consultation during at least 1x TCIG-led community meeting in Y3 Q2-Q4, followed by submission to the TCIG Cabinet for approval		
6. Local communities and stakeholders, and more widely regional and global audiences, understand, support, and engage with avian conservation actions on the TCIs	6.1. At least 20 local community members and stakeholders, and 15 regional/global people, participate in a seabird citizen science initiative, hosted through the online Zooniverse platform, undertaking data processing of seabird images collected with time-lapse cameras at seabird colonies on the offshore cays (beginning in Y1 Q3 and ongoing); A non-technical report produced outlining data outputs (Y3 Q1) 6,2 The project engages local communities with publicity and education activities, via at least 4 community meetings, and 6 school / youth group engagement events (e.g., through youth programmes at the Edward C. Gartland Youth Centre, Providenciales); beginning in Y1 and continuing throughout the project. 6.3 Participation of local communities in public outreach event in Y2 Q1 entitled the 'TCI Seabird Fest' run under the Caribbean Endemic Bird Festival, with support from regional conservation bodies (BirdsCaribbean). 6.4 Local communities engage with the project via regular project updates	6.1. Data and associated non-technical report generated from community participation in citizen science initiative available on the Zooniverse platform, TCI data portal, and through partner websites. 6.2 Photos, meeting minutes, PowerPoint presentations and feedback forms from community meetings, school / youth engagement events available on project and partner websites and social media feeds 6.3 Photos, feedback forms and media coverage from the 'TCI Seabird Fest' event available on project and partner websites and social media feed. 6.4 Regular updates on project activities available on dedicated project webpages and partner social media feeds.	Local communities show interest in the project and seabird conservation and engage in citizen science activities (mitigation: hold locally led (TCNT and TCRF) talks to actively engage local communities in project and gain support for conservation activities).

Project summary	SMART Indicators	Means of verification	Important Assumptions
	(minimum of once quarterly), provided through dedicated project webpages (created and hosted on www/caribbeanseabirds.weeby.com) and other partner social media feeds.		

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Output 1. Population surveys and estimates

1.1 Boat-based, land-based, aerial, and acoustic surveys undertaken on the seabird cays and main TCI islands, and population estimates obtained for 15 resident species

1.2 Non-technical report produced summarising population estimates and data

1.3 Array of 12 time-lapse cameras deployed on priority seabird cays (5-6 sites), and image data collected to feed into the citizen science programme

1.4 Biosecurity monitoring undertaken on key seabird cays, and biosecurity risk assessment undertaken and presented in non-technical report

Output 2. Capacity building for population monitoring

2.1 Population monitoring methods and data outputs assessed and compared, and best-practice guidelines written for ongoing monitoring of specific sites and species

2.2 Population database and associated guide for use created

2.3 Local partner staff trained in seabird identification, monitoring methods and data handling during survey work and tailored training sessions

2.4 Wider volunteer 'seabird steward' network formed and trained in seabird identification and monotiling at tailored training events, and during field periods

2.5 Seabird monitoring guide produced and distributed amongst local partners and stakeholders

Output 3. Seabird threat assessment

3.1 Threat assessment report produced outlining a threat assessment to seabird populations undertaken following population surveys

3.2 Seabird conservation strategy produced outlining threats and recommendations to address them

Output 4. IBA network identification

4.1 Key breeding and roosting sites of seabird species identified, and maps and map layers produced

4.2 Review and update of TCI's IBAs undertaken, and the BirdLife International IBA list updated

Output 5. Species and site management planning

Project summary	SMART Indicators	Means of verification	Important Assumptions
5.1 Seabird Cays Policy (including a voluntary 'seabird code-of-conduct' and 'monitoring implementation plan') written in collaboration with the TCIG 5.2 Seabird code-of-conduct leaflets produced and disseminated amongst local ecotour operators and other stakeholders 5.3 Site management plans drafted for cays and protected areas in the main island chain 5.4 Draft management plans presented to local stakeholders in TCIG-led community meeting **Output 6. Community engagement and education** 6.1 Time-lapse camera images of breeding seabirds processed through Zooniverse platform by volunteers, and a non-technical report written on productivity data outputs 6.2 Community meetings (minimum of 4) and school / youth group events (at least 6) run to engage local communities and young people (Y1 – Y3) 6.3 A 'TCI Seabird Fest' event run during the Caribbean Endemic Bird Festival in Y2 Q1 6.4 Dedicated project webpages created and maintained on the www.caribbeanseabirds.weeblly.com website, and regular quarterly project updates given on this and other partner social media feeds			

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?	X
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	
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.	X
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	X
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.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)?	X
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	