



Department
for Environment
Food & Rural Affairs



**UK International
Development**

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Darwin Plus Main & Strategic: Final Report

Darwin Plus Project Information

Scheme (Main or Strategic)	Main
Project reference	DPLUS164
Project title	Conservation Actions for Seabirds on the Turks and Caicos Cays
Territory(ies)	Turks and Caicos Islands
Lead Organisation	University of Liverpool, UK
Project partner(s)	Turks and Caicos National Trust (TCNT) Royal Society for the Protection of Birds (RSBP) Turks and Caicos Reef Fund (TCRF) BirdLife International SAERI Falklands Ltd (SFL) Collaborators – TCIG's Department of Coastal Resources (DECR)
Darwin Plus Grant value	£516,398
Start/end date of project	1 st May 2022 – 30 th April 2025
Project Leader name	Dr Rhiannon Austin
Project website/Twitter/blog etc.	www.caribbeanseabirds.weebly.com @tciseabirds Twitter: TCISEabirds
Report author(s) and date	Dr Rhiannon Austin, Dr Jonathan A Green and project partners.

1. Project Summary

The Turks and Caicos Islands, where this project was 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).

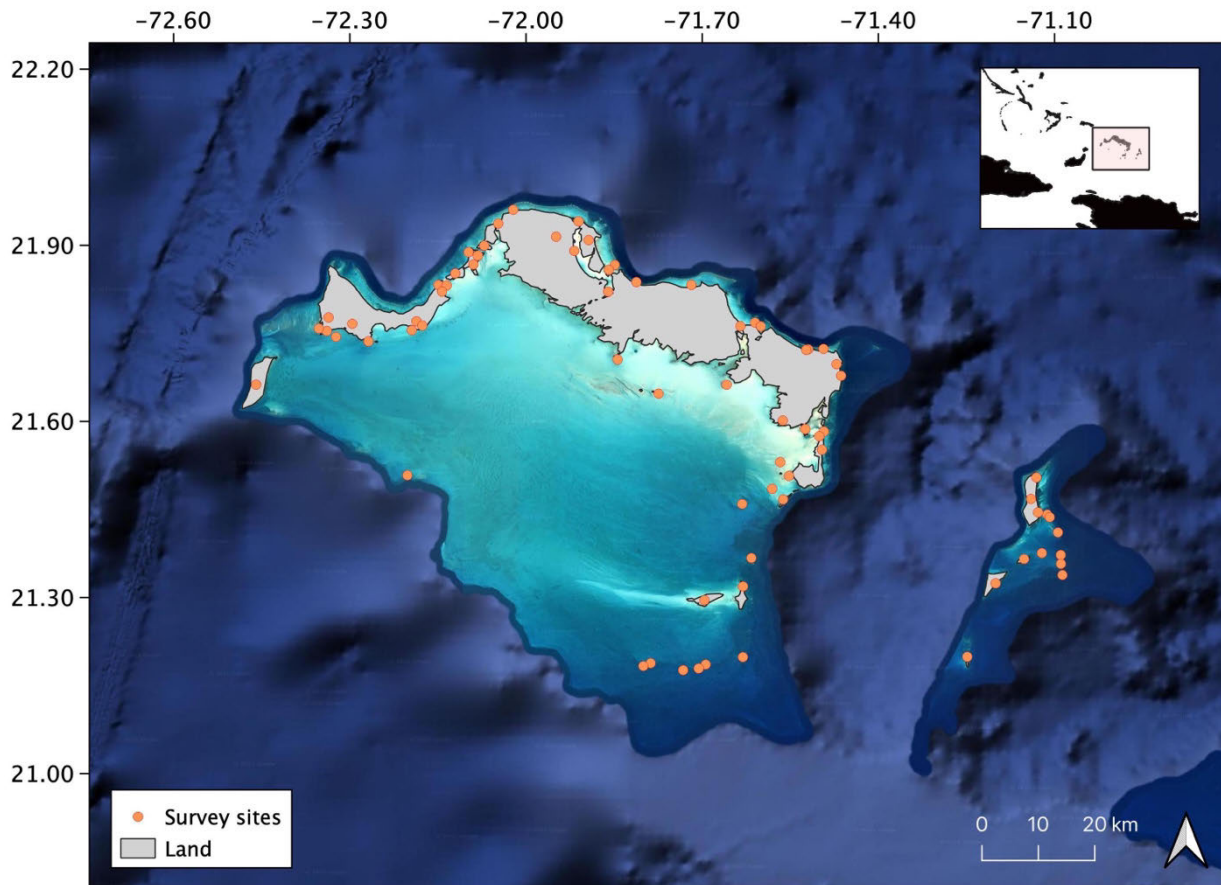


Fig 1. Map of the Turks and Caicos Islands and main study sites of DPLUS164.

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 continue intensifying, 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 were believed in the past 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), 13 of which we have now confirmed breeding in (this project). The main breeding sites are predominantly the remote cays of the Caicos and Turks Banks (>40 sites), where tens of thousands of seabirds were previously recorded nesting (Pienkowski, 2008 & 2009). Prior to the DPLUS164 project, 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 coarse methodologies, were severely outdated and likely inaccurate. As a result, prior to this project information remained sparse and precautionary for most species, with formal confirmations of breeding in some species still not achieved. These old data were the basis for designation of a network of Important Bird and Biodiversity Areas (IBAs) in the TCI, which have not been updated since their creation in 2007 due to lack of information.

Many known sites on which seabirds breed remain unprotected and are vulnerable to rapid coastal development and tourist activities. There is no active routine monitoring for seabirds, and those sites that have been afforded some level of protection under National legislation lack active management plans. 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 aimed to deliver locally driven population monitoring programmes to provide up-to-date seabird assessments that would enable threats to be identified and appropriate management strategies to be implemented. Furthermore, it planned to 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 Important Bird and Biodiversity Areas (IBAs) and Key Biodiversity Areas (KBAs) for seabird breeding sites on the cays and islands of TCI*
- 5) *Develop monitoring and management recommendations for seabirds in TCI and feed these to the Turks and Caicos Islands' Government*
- 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 Partnerships

This project was 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), BirdLife International and SAERI Falklands International (SFL). The project also received additional support from the Government of the Turks and Caicos Islands' Department of Environment and Coastal Resources (DECR), and School of Field Studies - South Caicos (SFS), as well as building active partnerships with a range of Ecotour Operators in the TCIs.

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 stage in 2021. Therefore, all partners were involved in the project's development in its early stages. All partner organisations contributed to the project through fieldwork support, and staff of TCRF, TCNT, RSPB, DECR and SFS gained training in seabird identification and monitoring methods. While the DECR could not sign up as official project partners, they actively participated in the project by engaging in fieldwork, training events and meetings to discuss the incorporation of project data and new knowledge into TCIG management processes. For example, the DECR, in collaboration with the UoL and RSPB, are now engaged in the processes of reviewing and

recommending important sites as KBAs and IBAs. Furthermore, they have initiated plans for a long-term DECR Bird Monitoring Programme.

To ensure independent monitoring and evaluation of project progress, Steering Group Meetings between all project partners were held in August 2022, May 2023, and January and September 2024 (Annex 5.1). Regular face-to-face meetings between TCI-based staff at UoL, RSPB, TCRF and TCNT took place throughout the project, and core project partners remained in touch remotely. Nevertheless, staff retention issues throughout the lifespan of the project resulted in the onus being put on the project leader to deliver the bulk of project outputs.

Collaborations were key to the successful delivery of the project. The collaboration with 'Conservation AI' and 'Conservation Drones' through Liverpool John Moores University added notable value to the project and allowed a drone-focused workshop to take place in 2024 to train partner staff in the use of UAV technology for ecological surveys (see Annex 5.2). The School of Field Studies on South Caicos, a local environmental research and teaching organization, has also engaged notably in the project by providing in-kind accommodation, T&S and safety support, in addition to field staff. Professor John Arnould at Deakin University also supported the project by providing funding to purchase bio-loggers to track Sargasso shearwaters, which took place in 2023 and 2024 generating new data on island connectivity in this species. A small number of Brown noddies were also tracked. Tracking of at-sea movements of seabirds extended knowledge beyond the colony into the marine realm. This provided a proof-of-concept for future work, and new information on connectivity and conservation considerations, which has been used to inform the BirdLife International IBA update that took place during DPLUS164.

3. Project Achievements

3.1 Outputs

Output 1. 1. The size, distribution and health of breeding seabird populations identified on the cays and main islands of the TCI archipelago.

Prior to the initiation of this project, information regarding the distribution, health, and status of seabird populations in the Turks and Caicos Islands (TCI) was significantly lacking. The last effort-based surveys had been conducted in 2002, and even those were limited in scope and duration. Over the past two decades, the socio-economic and environmental landscape of the TCI has changed substantially, yet the absence of up-to-date data has hindered the Government's ability to integrate seabird considerations into contemporary management and spatial planning efforts. This project has markedly improved this situation by generating one of the most detailed and comprehensive seabird population databases in the Caribbean. This new dataset includes multi-year, multi-site population estimates for 15 seabird species, representing a critical baseline for future conservation and planning.

Between 2022 and 2024, surveys were conducted at 60 sites known or suspected to support breeding seabird populations. Many of these sites were visited multiple times within each year to reflect the variable breeding schedules of different species (see Annex 5.2 for site and survey information). Over the course of the project, more than 221 survey days (equating to >1545 survey hours) were completed, involving the participation of 58 field staff and volunteers (further details in Annex 5.2 and 5b).

To ensure data quality and representativeness, a variety of best-practice survey methodologies were employed. These included visual surveys from both boat and land-based platforms, aerial drone surveys, and acoustic monitoring for cryptic, cave-nesting species such as shearwaters. In many cases, double-sample approaches were used to compare methodologies and calculate conversion factors, accommodating the challenges presented by inaccessible terrain, resource limitations, and the need to minimise disturbance to wildlife. Large colony sites were surveyed using subsampling techniques, with results extrapolated using mapping software to generate full colony estimates. Detailed methodological descriptions are available in Annexes 5.2 and 5b. The resulting National and Site-level data (Annex 5.2 and 5b) suggest that sizable populations of

seabirds exceeding 43,000 individuals use the TCI on an annual basis, demonstrating the country's importance to this group. Project data have supported several key conservation outputs. These include an assessment of threats at both the species and site level (Output 3), the identification of biodiversity hotspots and priority conservation sites (Output 4), and the development of a suite of evidence-based management recommendations to support long-term seabird conservation in the TCI (see Seabird Management Recommendation Report - SMRR, Annex 5b).

Aerial surveys conducted at six key seabird sites in 2022 and 15 sites in 2023 generated a substantial dataset of over 36,000 drone images. Initial efforts to process and analyse this dataset were made during Y2 and Y3, involving University of Liverpool students and volunteers. However, the scale of this task is considerable and would require a dedicated full-time staff member—something that was not feasible within the scope of DPLUS164 given the project's demands and the staffing capacity constraints outlined later in this report. Some of the imagery has been processed using the 'Conservation AI' platform (<https://www.conservationai.co.uk>; Annex 5.2), with the aim of building models that can automate the process of detecting birds for the most abundant and relevant species in TCI (e.g. Sooty terns, Brown noddies, Royal terns, Neotropical cormorants). This work began through a continuing collaboration with Liverpool John Moores University. However, due to the time-intensive nature of processing and model training, further progress is dependent on securing additional funding, which the project team is actively pursuing. Despite this challenge, it was possible to meet all the project's data-related outputs with streams of survey data generated using visual, acoustic, and spatial mapping methods (see Section 3 of the SMRR in Annex 5b).

Limited biosecurity monitoring was also conducted at selected high-risk sites using baited ink traps and camera trap imagery (see summary table in Annex 5.2). Although rats were observed on camera at White-tailed tropicbird nests on Grand Turk, no additional new evidence of rats or cats was recorded at sites where their presence had not already been confirmed by previous initiatives. However, due to limited staffing capacity and the broad geographic scope of the baseline seabird surveys, biosecurity monitoring under DPLUS164 remained minimal. Further, more comprehensive biosecurity assessments are recommended across numerous seabird cays to better inform predator management strategies (see SMRR in Annex 5b).

Output 2. Local NGOs, Government and community partners develop skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes

Between 2022 and 2024, surveys conducted under DPLUS164 enabled project staff to identify and refine best-practice methods suited to the diverse habitats and seabird species found across the TCI. A wide range of approaches was employed, including full sampling at small to medium-sized sites and clustered colonies, and subsampling within large colonies and sites, using plots, transects, or irregular grids. These subsamples were later upscaled to full population estimates using extrapolation approaches. Where land access permitted, flush counts, vantage point counts, and detailed searches were used, with methods tailored to species and site conditions. In some locations, double and triple sampling methods were implemented to allow comparisons, validate techniques, and calculate correction factors to address underestimation errors—particularly for shrub-nesting species like Sooty terns. For inaccessible, nocturnal, cave-nesting species such as the Sargasso shearwater, specialised acoustic survey techniques were developed to produce reliable population estimates (Annex 5.2).

These methodologies are documented in the SMRR (Annex 5b), which serves as a practical roadmap for ongoing monitoring of priority species and sites, contributing to the long-term viability of seabird populations in the TCI. A large population database with supporting files was created and maintained during the project to summarise the data generated and make it accessible to relevant practitioners (see Annex 5.3).

Notable effort was invested in training throughout DPLUS164. The core project team trained 16 staff and volunteers from partner organisations in seabird identification, field skills, data handling and analysis, including 7 from TCNT, 5 from DECR, 2 from TCRF, 8 from RSPB and 1 linked to

SFL (see examples of training materials in Annex 5.3). A focused workshop also trained representatives from all major conservation and environmental management agencies in the TCI in use of drones and image processing techniques to assess wildlife (See workshop report in Annex 5.3).

Beyond core partners, bespoke on-the-ground training in seabird identification and monitoring was provided to 16 crew and staff from tourism and ecotour operators, 9 staff from research organisations, and 10 committed members of the public. In Y3, tailored training events for ecotour operators and the DECR were provided to enhance their understanding of seabird ecology. A BirdsCaribbean-led workshop with TCNT in October 2023 also trained local people in bird identification and guiding skills. The interest generated during this course has continued through a 'birdwatchers' group on WhatsApp (63 members), where interested parties discuss birds and seek species identification support. To further promote seabird awareness, a Seabird Monitoring Guide was developed and distributed to partners and stakeholders (evidence in Annex 5.3). Collectively, these activities have significantly increased local capacity for seabird monitoring and conservation in the TCI, representing a major step forward from the baseline prior to DPLUS164.

Output 3. Knowledge of the main threats to key seabird populations is greatly improved, allowing identification of appropriate conservation strategies

There is growing concern about development pressures and predation risks at seabird colonies as human populations in the Turks and Caicos Islands continue to expand. Historically, seabird populations have also been threatened by harvesting, and there is concern that such practices may persist on a small scale in certain locations. Prior to this project, knowledge of threats to seabirds in the TCI was extremely limited due to significant data gaps for this group.

Using the data generated under Outputs 1 and 2, a qualitative threat assessment was carried out for all 15 resident seabird species in the Turks and Caicos Islands. This assessment considered a broad range of potential threats, including mammalian predation, human disturbance, habitat degradation and loss, pollution, competition from invasive species, disease, climate change and storm frequency, bycatch, and human harvesting. Although a quantitative threat assessment, using ranking metrics such as scope, severity, timing, and overall impact, was originally planned, it was not feasible due to time limitations and staffing constraints (outlined elsewhere in this report). As an alternative, a binary assessment approach was adopted, identifying the presence or absence of key threats for each species. The results are summarised in the SMRR and were used to help inform the management recommendations provided (see Annex 5b).

Output 4. IBAs identified and delineated for seabird breeding sites on the cays and islands of TCI

Prior to the DPLUS164 project, the network of Important Bird Areas (IBAs) in TCI had not been reviewed since its initial designation in 2007. In 2016, existing IBAs were automatically reclassified as legacy KBAs when the IBA framework was integrated into the new global standard for identifying sites critical to the persistence of global biodiversity. However, these legacy KBAs required updated ecological data to assess their current validity and suitability under the revised criteria.

Using the seabird population database generated through Outputs 1 and 2, spatial analyses were conducted using GIS software to map seabird habitats (see Section 3 of the SMRR, Annex 5b). These georeferenced data outputs were analysed using the KBA and IBA global and regional criteria (see Annex 5.4) to assess the existing IBA network and identify areas requiring revision. A collaborative effort between seabird ecologists at the UoL and BirdLife International facilitated a comprehensive review, resulting in updates to existing sites, proposals for extensions, and nominations of new IBAs and KBAs (see Section 4 of the SMRR, Annex 5b). These revisions are currently under review within the World Database of Key Biodiversity Areas (WDKBA) platform, with final updates expected to go live in September 2025.

In summary, all six existing IBAs with seabird features were reassessed, two IBAs were proposed for merging into a single, more ecologically coherent site, extensions were recommended for all sites to include previously unassessed cays and areas on the main islands, and four entirely new KBA designations were proposed, covering large areas of North, Middle, and East Caicos, the Caicos Bank Southern Cays, and the Turks Bank Seabird Cays. In addition, four site groupings that were not included in the original 2007 IBA designations—Providenciales, South Caicos and nearby cays, Big Ambergris, and West Caicos—were evaluated. As a result, Big Ambergris was recommended for designation as a new KBA (and IBA), based on combined seabird data from DPLUS164 and complementary data on the endemic TCI Rock Iguana (collected by the RSPB). Seabird numbers on Providenciales and South Caicos did not meet KBA thresholds, however, these habitats held regionally important seabird populations (Providenciales = White-tailed tropicbirds and Laughing gulls, South Caicos = White-tailed tropicbirds and Magnificent frigatebirds) and thus were recommended for inclusion in the IBA network. West Caicos had small populations of seabirds but was recommended for inclusion in local conservation and management planning given the importance of Lake Catherine for foraging and resting Neotropical Cormorants (see Section 4 of the SMRR, Annex 5b).

This assessment underscores the continued importance of both nearshore and offshore habitats in the TCI for seabird conservation. It also highlights an urgent need to integrate these critical habitats into national environmental management strategies to ensure the long-term persistence of TCI's seabird populations and broader biodiversity.

Output 5. Development of monitoring and management recommendations that will be fed to the TCIG.

Until the start of this project, major gaps in knowledge regarding the distribution and status of seabird populations in the Turks and Caicos Islands meant that this group was largely overlooked in conservation planning and management. As a result, seabirds received little to no targeted protection. The data collected during this project represent a significant shift in our understanding of the country's seabird populations, providing a much-needed foundation for informed conservation action moving forward. An extensive Technical Document (the Seabird Management Recommendation Report) has been prepared to summarise the data and information generated using DPLUS164 and can be found in Annex 5b. This report details 1) the methodologies developed and applied to monitor seabird populations and assess threats within core areas of use, 2) the spatial distribution and abundance estimates of breeding seabird populations, 3) the conservation threats and site-level vulnerabilities identified, and 4) the recommended conservation actions and management strategies to guide long-term seabird protection. These outputs are intended to serve as a foundation for future conservation planning, informed policy development, and adaptive management practices across the TCI, and have been shared with the TCIG's DECR and other agencies tasked with environmental management. Initial steps have been made to begin implementing some management recommendations through the creation and printing of signage planned for key access points at vulnerable seabird colonies within existing Protected Areas (Annex 5.5).

Output 6. Local communities and stakeholders, and more widely regional and global audiences, understand, support and engage with avian conservation actions on the TCIs

Prior to the start of this project, community knowledge of seabird populations and their ecological importance, as well as public awareness of their conservation, was low in the TCIs. This was largely due to the remoteness of key breeding sites, which are primarily located on offshore cays. Despite this, seabirds hold cultural significance in the TCI, with the Brown pelican recognised as the national bird and a symbolic species for the islands. To address these gaps, community outreach and engagement activities were implemented under DPLUS164 to raise awareness and build public support for seabird conservation. These included school visits, participation in science fairs and beach days, film festival involvement, and consistent social media engagement (see full list in Annex 5.5). Although a stand-alone Seabird Festival could not be delivered and fewer school visits were conducted than originally planned, largely due to staffing limitations among project partners, alternative opportunities were successfully leveraged. In particular, the project supported the TCNT's participation in the National Science Fair, where interactive

seabird-focused activities were run. It also produced and showcased two mini films at the TCI Film Festival (see Annex 5.5).

Informal engagement was also achieved during field operations, with project staff interacting with boat crew and community members at docks and marinas during survey preparations. These interactions provided meaningful opportunities to raise awareness in an informal but impactful way. More broadly, the project's work and findings were shared through regional seabird conservation networks, including via BirdsCaribbean through newsletters and events. A Seabird Code of Conduct was also developed (Annex 5.5) and is intended to be promoted by the DECR as part of future community engagement activities, including those under the Blue Belt Programme in collaboration with the Marine Management Organisation. Lastly, signs were produced and printed to be deployed at access points within key seabird sites to educate visitors (permitted and unauthorised) about the risk of disturbance to breeding birds (Evidence in Annex 5.5).

While the project team focused its limited resources on building seabird monitoring capacity, and thus community engagement efforts were not as extensive as originally intended, there is strong evidence that public knowledge and support for seabird conservation in the TCI has increased meaningfully since the project began in 2022.

3.2 Outcome

The overall Outcome statement of the DPLUS164 project was 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'*. Through the data, assessments, and knowledge generated, as well as the monitoring frameworks established during the project, we have laid a long-term foundation for achieving this outcome—provided that the recommended management actions are adopted (see SMRR in Annex 5b).

The project was well-planned, accounting for initial data gaps and benefiting from Darwin Plus's flexibility on timelines and project modifications. With support from core partners, we strategically adjusted some of the more ambitious components—particularly the delivery of full management plans—recognising through ongoing monitoring and evaluation that these were unrealistic within the project's timeframe, and beyond the responsibility of the project team. This was associated with the complex challenges and timelines faced by the DECR with active site protection processes.

Instead, efforts were focused toward establishing a comprehensive baseline database on seabird populations across as many sites in TCI as possible. We implemented population monitoring programmes, trained staff from local conservation organisations, assessed threats, and developed recommendations for integrating new findings into future management plans. Overall, the project delivered several high-impact, local-scale outcomes that strengthen the long-term conservation of seabirds and their habitats in TCI. Moreover, it offers a model of best practice for other Caribbean nations facing similar conservation challenges.

3.3 Monitoring of assumptions

Key Assumptions of the Project

The success of this project was based on two primary assumptions: 1) the engagement and cooperation of partner organisations and collaborative management agencies, and 2) the availability of wild seabirds and favourable weather conditions during fieldwork periods, enabling robust data collection to assess seabird distribution and health across the TCI.

Amenability of partners and collaborative management agencies:

Strong collaboration with partner organisations and environmental management agencies was foundational to the development of the project. All core partners were involved from the earliest planning stages. This helped ensure the project's relevance and fostered engagement. During Y1 and Y2, staff from TCNT, TCRF, DECR and RSPB actively participated in fieldwork and received training in seabird monitoring techniques (see photos in Annexes 5.2 and 5.3). This approach not only enhanced data collection but facilitated meaningful skills transfer and capacity building. Throughout the project, partners contributed to regular review meetings (see meeting minutes in Annex 5.1), which provided a forum to monitor progress and address Output-level assumptions. In Y3, representatives from all partner and collaborative organisations attended a dedicated workshop on the "Use of Aerial Survey Methods for Ecology and Conservation" (see Workshop Report in Annex 5.3). This event further developed technical skills in planning and conducting drone surveys, as well as post-survey processing and analyses of imagery. It also reinforced cross-organisational relationships that will support long-term conservation efforts in the TCI. In addition, partners played a visible role in community outreach, participating in events such as the TCI Science Fair to raise awareness about seabirds (Evidence in Annex 5.5).

However, the project did encounter challenges related to staffing capacity and the availability of local partner organisations. To address this, the core team hired dedicated staff and increased reliance on a volunteer network. Despite these efforts, much of the capacity gap was filled by the project leader, which led to adjustments in planned outputs via change requests in Y1 and Y2. Nevertheless, the project successfully generated one of the most comprehensive seabird datasets in the Caribbean, meeting its core objectives and laying the groundwork for lasting conservation impact.

Availability of wild animals / weather conditions:

The project assumed that seabird colonies would be occupied during scheduled survey periods and that bird numbers would be sufficient to 1) estimate breeding population sizes across multiple sites on the Caicos and Turks Banks, and 2) conduct robust extrapolations and threat assessments to support evidence-based conservation planning.

Preparations began well in advance of the project's official start in May 2022. The project leader visited TCI in summer 2021 (funded by DPLUS097) to establish local partnerships, including with ecotourism operators, enabling early coordination of boat logistics. UK-based staff also relocated to the Caribbean ahead of their official start dates to commence fieldwork promptly in May 2022—an early demonstration of the team's commitment. Core field staff were based in TCI throughout the project, allowing for adaptable scheduling in response to logistical or weather-related constraints. The assumption that main fieldwork periods (spring/summer, when seabirds typically breed) would coincide with favourable weather generally held true across all project years. Moreover, the project design included the flexibility to spread data collection across multiple years, enhancing resilience and allowing for reallocation of activities when necessary.

4. Contribution to Darwin Plus Programme Objectives

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

Our project's focus has been tightly linked to the overarching objective of Darwin Plus of supporting the UKOTs to achieve strategic long-term outcomes for the natural environment. Seabirds 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. The project outputs will contribute to progress with national Government commitments under the TCI Environmental Charter (2001), including to 1) use natural resources wisely, 2) recognise needs for a healthy environment for well-being and livelihoods, and 3) contribute towards protection and improvement of the global environment. A need for a holistic approach to management has been identified in TCI, following initiatives such as DPLUS094, which has developed strategies for adoption of a Marine Spatial Planning framework in TCI.

Prior to our project, seabirds were largely overlooked in site management. Our work has quantified their population sizes and identified key threats, highlighting their role as vital components of coastal ecosystems. This improved understanding has directly contributed to more integrated and effective management practices. Specifically, the project outputs will support the TCIG in fulfilling Charter Commitment 2- to *‘ensure protection and restoration of key habitats, species and landscape features through legislation and appropriate management structures and mechanisms, including a protected areas policy, and attempts to control and eradicate invasive species’*. This aligns with R10 priorities of *‘increasing the area coverage, effectiveness, and conditions of protected areas in pursuit of global targets’* and *‘implementing National Biodiversity and/or Environmental Action Plans’*.

Under Charter Commitment 2 and others (1, 3–7, 9–10), the TCIG’s DECR is investing considerable effort to review and improve management of protected areas in and around TCI. This process can now incorporate important seabird nesting sites into the existing protected area system and integrate environmental considerations more effectively into economic and social planning. These management objectives will be advanced through the review of the TCI National Parks Ordinance, which included the aim of *‘protecting, managing, improving and extending the Protected Area System’* (Charter Commitment 2.I), in part through establishing a new category of Critical Habitat Reserve. Our seabird data now provides a valuable evidence base to inform these updates, particularly in support of commitments to “protect and restore key habitats, including coastal areas, wetlands, and Salinas”—all critical for seabirds (Charter Commitment 2.II)—and to “protect important species” (Commitment 2.III).

Furthermore, the outputs of the project enhances TCI’s ability to meet its obligations under multilateral environmental agreements extended to UKOTs. These include contributing to the Convention on Biological Diversity’s (CBD) Strategic Plan (2021-2030) goals of improving biodiversity status, sustainably managing ecosystems and protected areas, and protecting migratory species. TCI is also better positioned to support the SPAW Protocol of the Cartagena Convention in advancing regional collaboration and the protection of shared marine biodiversity, especially considering that seabirds inhabit ocean areas that fall under the jurisdiction of multiple nations. The outputs of the project also support the TCI in fulfilling its commitments under the three pillars of the Ramsar Convention: promoting the wise use of wetlands, designating and effectively managing suitable wetlands, and engaging in international cooperation on shared wetlands and species. It strengthens the evidence base for improved protection of sites on North, Middle, and East Caicos, including through the IBA and KBA assessments made.

4.2 Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Sensitive	The GESI context has been considered, and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups, and the project will not contribute to or create further inequalities.	x

We recognise and support the BCFs’ commitment to GESI, although note that the Ambition Statement was published after the commencement of our project. As a result, our project did not have higher level GESI goals built into it. However, we believe that our project meets the GESI descriptor for ‘sensitive’ throughout its lifetime, and our partner group are continuing to build toward more inclusive and equitable approaches. Below is our supporting evidence aligned with the GESI principles outlined in the DPLUS guidance:

- **Rights:** Environmental legislation in the TCI seeks to promote the wise use and sustainable management of natural resources (e.g. fisheries, minerals, wetlands and reefs). Our project worked closely with the TCIG to ensure support of their aims of a healthy environment that benefits all the TCI people in an equitable manner. We ensured

that project activities were aligned with both national environmental legislation and the local cultural context. The project team, which included the TCNT and TCRF, worked in close coordination with the TCIG's DECR, to collectively ensure respect for local laws and customs related to access to land and natural resources.

- **Practice:** The TCI have a small population, characterised by a strong sense of local identity. The complexities of society in terms of dependencies on local marine and coastal environments emerged during our project, including a wide range of social and cultural perspectives among different community sectors. The project team engaged with local communities in ways that respected cultural norms and local knowledge systems and sought to include varied views. Examples of how this operated are as follows:
 - We collaborated with local institutions to encourage participation from underrepresented groups in technical field roles traditionally held by men
 - Local boat operators and fishers were used throughout the project and their knowledge included in survey design and operation
 - Our training sessions and community meetings were structured to promote open discussion and equal voice, with materials tailored for accessibility and clarity
 - Community and school events aimed to engage with young people
 - Capacity-building initiatives were designed to ensure equitable access to conservation knowledge and tools regardless of gender or race
 - Our Seabird Code of Conduct was developed in partnership and consultation with groups for whom it was most relevant.
- **Representation:** We have sought to provide opportunities equally to women, men and agender persons through all aspects of our project outreach and training activities. Project roles were designed to encourage inclusive participation, regardless of gender, and we actively sought to involve women in training, capacity-building, and monitoring programmes to promote equal representation. This is demonstrable in the proportion of female (39%), male (59%) and agender (2%) volunteers on the project. All five project partners are either led by women (3) or have senior leadership teams consisting of a high proportion of women (2), and 50% of the project Steering Group were women. Our project was wholly conducted within the TCI. While the TCI Statistics Authority does not present data on ethnicity, the CIA World Factbook reports ethnic groups in the TCIs as Black (87.6%), White (7.9%), Mixed (2.5%) and East Indian (1.3%). While we did not survey our project participants (local partners, island volunteers) for their identified ethnicity, there is no evidence that our team's composition in terms of ethnicity did not reflect the local population of the TCI.
- **Resources:** In the context of our project, there was no evidence of gender or social dynamics influencing control of resources (outcomes, data, information, best practice) emerging from our work.

Overall, our project has had a major focus on data gathering, dissemination information and best practice. The design of our project in terms of engaging with inclusive local organisations that demonstrate best-practice approaches attuned to the needs of the TCI have been a major factor in how we have approached our responsibilities to GESI. We have relied on the experience of partners in this context and their governance. In conclusion, while we recognise that there is progress to be made, DPLUS164 has taken meaningful steps to integrate GESI principles into its design and implementation. Future projects would explore this aspect in more detail to ensure the maximisation of our GESI commitments.

5. Monitoring and evaluation

Organisation and coordination of formal M&E was the responsibility of UoL, with an independent M&E Lead (Dr Green) facilitating regular meetings of a Project Steering Group (PSG), which consisted of representatives from each partner and independent members. Information was shared via meeting agendas and minutes that are circulated to the PSG.

Four Steering Group Meetings (SGMs) were held at regular intervals and coinciding with key project reporting milestones (see Annexe 5.1 for SGM Minutes). An end of project SGM was postponed as the Project Leader was focussing on developing final outputs and it was thought

that a meeting prior would be premature. All SGMs provided opportunities for partner organisations to discuss issues and lessons learned, measure progress against Measurable Indicators and the Implementation Timetable, discuss required changes and agree a plan for the remainder of the project (see Annex 5.1). These M&E processes worked well and helped to ensure delivery of the project Outcome and lasting change in the TCI for seabirds and habitats.

In addition to the PSG meetings, the core project team (Project Leader, in-country RSPB manager, and managers from TCNT and TCRF) regularly met face-to-face to discuss project progress and logistics. The Project Leader and M&E Lead (both UoL) also met via Teams regularly (usually biweekly) to informally discuss progress and mitigation of issues. Communication between the project lead and remote partners was also regular, particularly during time periods coinciding without output delivery via email and teams. For example, UoL and BirdLife International staff were in frequent correspondence about the IBA/KBA update process in Y2 and Y3. Similarly, the DECR and core project staff met in Y2 and Y3 to discuss ongoing relevance of project data, a strategy for application of new knowledge into national management (see AR2), and a future pathway for funds acquisition for follow-on work.

Our monitoring and evaluation plans were constructed based on experiences of previous DPLUS projects and for the most part worked well. They enabled us to identify challenges early on and respond accordingly. Where necessary, this included change requests to LTSI/DPLUS for financial and staffing reasons, and/or to modify the logframe. As an example of these processes working well, a major change was made to the project (and logframe) in Y2 to remove some activities and streamline reporting. This change was necessary due to local staff unavailability, increases in local survey costs and administrative capacity issues in the host organisation. Full details of these changes and their justification were given in the Change Request. These challenges were discussed during SGM2, where a plan was agreed upon. The approval of this plan by DPLUS was subsequently reported at SGM3 (see Annex 5.1). The final logframe is provided (Annex 2) and reported against in this report. This illustrates effective operation of our M&E plan, the success of which is underpinned by tight reporting and frequent communication by the core project team members, supported by the broader PSG.

6. Lessons learnt

There are several lessons learned from this project pertinent to development and implementation of similar projects in similar socio-economic environments in the UKOTs, based on both positive and negative experiences.

- (1) **Local Partner Capacity & Engagement.** This project was led by an external organisation (University of Liverpool) with extensive experience of designing and delivering DPLUS projects and indeed stemmed from a previous DPLUS project (DPLUS097) also led by UoL. During the design phase, local partners, including previous partners from DPLUS097 were involved and committed to playing various roles in the work. However, as detailed elsewhere in this report, after project commencement, some local partner organisations struggled to meet their commitments and deliver on elements of the project, following staffing issues. This had two consequences: firstly, the project had to be modified and downscaled in scope and, secondly, this introduced increased pressure on the lead organisation to deliver the project with less support. We acknowledge that priorities can change for organisations that cannot be anticipated. However, future strategies to avoid this situation could include more extensive dialogue to ensure that named individuals have capacity (time, expertise, skills) to engage in new projects, and that partner organisations have built in redundancy to ensure they can deliver on DPLUS project commitments should staff change. Partner organizations could be more closely involved in creating final drafts of the application so that their commitment is fully and completely described. Finally, if partners cannot deliver, then they should be involved closely in project redesign so that all are happy with the outcome, without fear repercussions. We believe we were largely successful in the latter aspect, but feel that the above suggestions are a sensible good practice.

- (2) **Scope of the Project.** Soon after survey work began in Year 1, it became clear that the scale and complexity of the project exceeded initial expectations. Although the project was carefully designed with scenario planning in place, the actual number of occupied seabird sites, associated survey requirements, and logistical demands, both pre- and post-survey, proved significantly more extensive than anticipated. Additional challenges arose in managing staff, and in processing and analysing the resulting data. Faced with this situation, the project team had two options: either substantially reduce the project's ambition or intensify efforts to meet the original goals (notwithstanding other project limitations). The team opted for the latter, recognising the importance of the work. While this decision enabled the core objectives to be pursued, it also placed considerable demands on the team, particularly the Project Leader, and was further compounded by limitations in local capacity and engagement (as discussed earlier). As a result, some project outputs were delayed, and others required refinement to ensure quality and feasibility. The core quality of the project and its data remains strong, potentially even exceeding initial expectations, though the production of final outputs has experienced some delays and been affected to a degree. In the future, it would be beneficial if opportunities existed to apply for linked follow-on funding, allowing projects that have expanded in scope to be fully realised. Alternatively, it is important that project teams feel supported in adjusting project scope through the formal change process, without concern about negative perceptions or repercussions, should unforeseen circumstances arise.
- (3) **Capacity of Lead Organisation.** The lead organisation for this project is large organisation that is used to leading large projects with budgets far more than this project. However, the specific reporting requirements of the DPLUS scheme, particularly regarding how funds are spent and claimed annually, present unique challenges within this environment. Furthermore, the University's financial accounting and payment systems are not suited to operating in the UKOTs, nor to working with and making payments to small local organisations such as the sole traders In this project. These issues placed considerable demands on the University's finance team, much of which ultimately fell to project staff, most notably the Project Leader. Going forward, similar projects would benefit from access to dedicated administrative support (even part-time) to ensure smoother and more efficient project delivery. While the current DPLUS budget cap allows for significant project scope, it does not easily accommodate dedicated administrative roles. Furthermore, the 40% overhead limit can constrain larger institutions from providing the level of internal support required, and expanding this to full cost recovery may further reduce funds available for delivery. Nonetheless, we recommend that the budget cap be reviewed and that the inclusion of administrative support, particularly for larger, more complex projects, be considered an investment in project success, rather than a cost to be minimised. Enabling project staff to focus on their core expertise in biodiversity and conservation, rather than on administrative and financial tasks as this project suffered from, would ultimately enhance the impact and efficiency of future DPLUS-funded work.
- (4) **Monitoring and evaluation procedures.** As noted elsewhere, we would like to highlight the strength of our M&E approach. While our project did have problems, an effective M&E strategy was successful in providing support to the Project Leader, and allowed them to modify the project with the support of the M&E team. Our M&E processes are clearly aligned with the DPLUS change process. It would be good to have feedback on whether our interactions with the change process were appropriate or whether we could have interacted more efficiently or effectively.
- (5) **Timeline alignment.** Externally funded projects such as DPLUS164 are often carefully designed to ensure their outcomes align with the ongoing and future work of local partner organisations. For instance, a data output might directly support an ongoing assessment or policy development process, however, in smaller organisations, government and

institutional priorities can shift rapidly due to political, social, or personnel changes. These shifts can challenge the ability of time-bound projects like DPLUS to fully deliver their intended outcomes if timelines or objectives become misaligned. While the risk of misalignment cannot be entirely avoided, since the alternative would be designing projects without relevance to local priorities, it is essential that both project implementers and evaluators remain alert and adaptable to these kinds of changes throughout the project lifecycle.

7. Actions taken in response to Annual Report reviews

Overall, we were flattered by the positive responses of the reviewers to our proposal and to the Y1 and Y2 Reports. We responded to all feedback on the Y1 Report in the Y2 Report. In HYR3, we briefly responded to the reviewer comments present in AR2. However, we have attempted to further elaborate below:

Comment	Response
The project highlights challenges related to staff retention at TCNT, which it states resulted in the Project Leader (PL) being responsible for the bulk of project outputs. The reviewer sympathises with the PL, who is clearly taking on a heavier workload, but still faces a backlog of tasks; UAV data processing is cited as an example. The project could consider a change request to ease the pressure on the PL and the team.	Further change requests were submitted to and approved by LTSI/DPLUS but as noted elsewhere the fundamental challenges underlying the delivery of this project could not be addressed. Nevertheless, through the tenacity and perseverance of the PL, we have delivered on the project largely as originally conceived, subject to approved modifications.
The project indicates that it is no longer feasible to analyse the entire survey database. It reports that population estimates will be obtained from count data using 'other methods'. However, it is not clear when the models will be completed and prove the concept of automated processes.	Our project has generated a unique UAV image dataset that is far larger and more extensive than a) we planned and b) anticipated even given the original plan. Analysing the entire dataset is a task that would require at least one dedicated fulltime staff member or student working on the analysis alone. The massive tasks of this project outside of the UAV data along with limited staff capacity meant that it was simply not feasible to process and analyse the UAV data with this project's resources (staff, time, funds). We also failed to recruit a self-funded master's student to address this task, so much of the UAV dataset remains unanalysed at the time of reporting. It remains the case that analysing the UAV dataset will depend on future funding. However, the data from the ground surveys are more than adequate to address the project's main objectives, as outlined in this Final Report. Analysis of the UAV imagery in future will increase the accuracy of surveys, but this is additional to the project's core objectives. The collaborative project team plan to address this with a future grant application that is in development.
In future reports, the reviewer urges the team to present the supporting evidence as individual documents, at a higher resolution. Although the main text is clear in the evidence pdf, many of the images (photos and illustrations	We believe that all imagery in this Final Report and its annexes is supplied at an appropriate resolution to facilitate evaluation.

and drone images) are too low resolution to evaluate – for example the field guide sample pages; and the snapshots of excel spreadsheets are difficult or impossible to read	
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8. Risk Management

No unanticipated risks have arisen in the last 12 months, other than ongoing issues around availability of some partner organisations and their staff to engage with and participate in the project. While this risk was not new for this year, we remained optimistic that the situation might change, given the stochastic nature of operational capacity within small organisations with limited staff. The main adaptation in response is that the project leader has had to work even harder to complete project tasks with very limited input. Although this may have implications for the breadth of recommendations in the main Technical Report, the Project Leader has nonetheless effectively compiled, analysed, and reported on the substantial data and outputs produced during DPLUS164.

9. Scalability and Durability

The project was designed with durability in mind and fostered cross-organisational collaboration and capacity building among the main conservation and management organisations in the TCI (i.e. DECR, TCNT, TCRF, SFS). Staff and volunteers received notable training in seabird ID and monitoring - knowledge that is now embedded in organisations and can be passed peer-to-peer to ensure ongoing skill retention. Training extended beyond formal partners, engaging local boat crew and community members, particularly around nearshore areas under high human pressure close to Providenciales and South Caicos. These efforts, coupled with the development of Monitoring Guides and Code of Conducts, provide the foundation for locally run monitoring programmes. Over the entire project, more than 50 people were involved in surveys demonstrating increasing interest in seabirds, and the potential for sustained benefits post-project. That said, in terms of durability, funding remains an issue due to the remote locations of many seabird populations and the costs of accessing sites. Efforts are being made by the project partner team to identify future funding sources to retain capacity. The project has also helped to push for a National Bird Monitoring Scheme that the DECR are developing, demonstrating both increased awareness and enhanced capacity, both indicators of durability.

We focussed on project durability via development of skills, knowledge and awareness so that project findings can be acted on and future surveys conducted after a suitable time interval. For example, TCIG is currently engaged with the task of enhancing site protection, specifically through the passing of the Biodiversity Bill and expansion of the Protected Area System. They continue to seek and acquire resources for this objective, including ongoing skills expansion of personnel in spatial planning. DECR staff have benefitted from DPLUS164 thorough bespoke field and data training, providing them with an enhanced understanding of seabird ecology, survey design, population data, and challenges associated with protecting seabirds and their habitats. They also participated in the drone workshop and a seabird identification training event in Y3. Consequently, the TCIG have been provided with the knowledge and data needed to implement appropriate strategies for seabirds and their habitats, and the tools to ensure a sustained legacy planned through the project Outcome.

The project received sustained coverage and interest through social media, community engagement events and promotion on partner websites (Evidence in Annex 5.5). More widely, it was featured at regional events run by BirdsCaribbean's Seabird Working Group (SWG), facilitated by the Project Leader through her role as SWG committee co-chair (see Annex 5.5). Two mini documentaries were showcased at a Y2 community event and will continue to promote seabirds. These combined efforts should promote long-term awareness of seabird conservation in TCI. Two key resources designed for ongoing use to support lasting impact were the Seabird Field Monitoring Guide and Code of Conduct (Annexes 5.2 and 5.5). The Code of Conduct was designed with local ecotourism operators in mind, who are vital in educating tourists and communities. As stewards of the marine environment, these individuals are incentivized to act in a way to safeguard seabirds to support conservation goals and their own livelihoods.

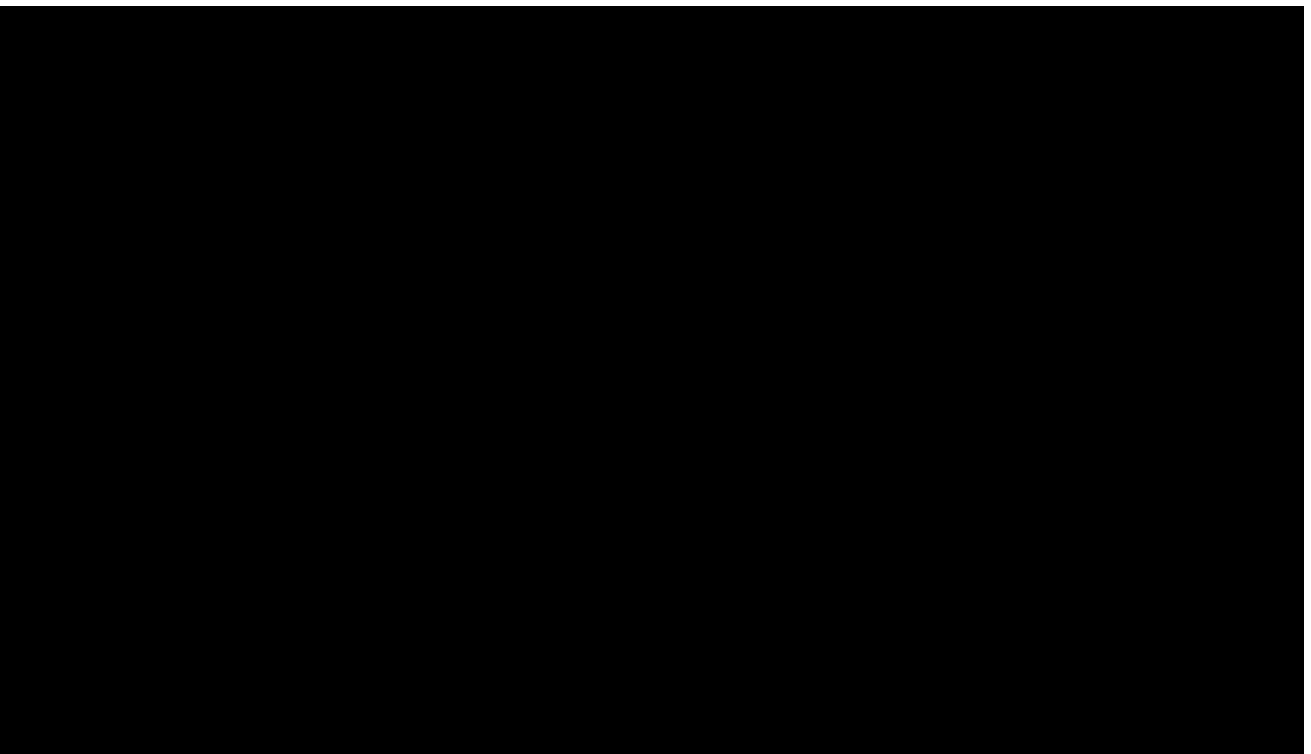
In terms of scalability, the project covered most key habitats in TCI, although further survey effort is needed in the extensive marsh and tidal flat systems on North, Middle and East Caicos. It has successfully achieved its objective of bringing current knowledge of local seabird populations up to date, and shifting attitudes positively toward seabird conservation, an impact that is likely to be long-lasting. With comprehensive methods and local capacity now in place, future monitoring can be scaled efficiently. The level of survey effort required to meet the outputs of DPLUS164 was never intended to be sustained. Future monitoring can therefore be scaled to a manageable set of focal sites, with more comprehensive surveys at 5 to 10-year intervals. When the next major survey is undertaken, the necessary tools and local expertise will be available for deployment.

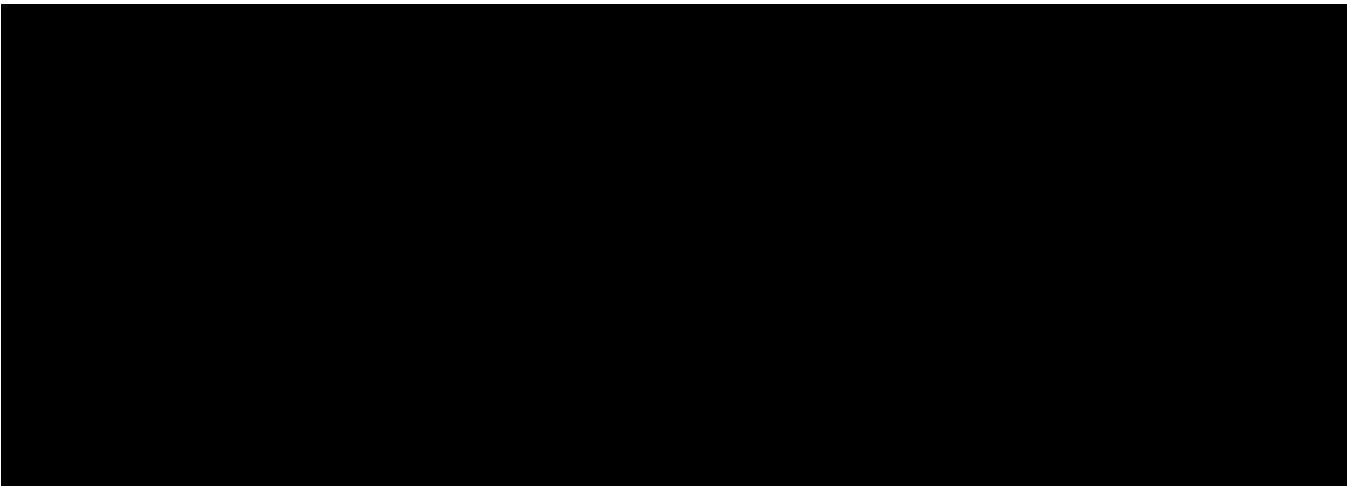
10. Darwin Plus Identity

All dissemination associated with this project acknowledged the Darwin Initiative and UK Government as the major funding source, and/or used the Darwin logo was used. This included media releases, public presentations, formal outputs and educational materials (Annex 5.5). Partner social media feeds (i.e. @tciseabirds, @tcnationaltrust_, @decrtci, @tcreef_fund, @ddutz_doodles), and project websites (<http://caribbeanseabirds.weebly.com>, <https://turksandcaicosnationaltrust.com>, <https://www.gov.tc/decr/>, <https://www.tcreef.org>) were also used to further publicise the project work, and Darwin Plus and/or the Darwin logo were acknowledged through all these social media channels. In addition, two mini films, that clearly acknowledged the DPLUS scheme funding, were produced to report on project activities. These were showcased at a local film festival, as well as through local and regional webpages (see Annex 5.5). The project was also advertised regionally through BirdsCaribbean regional events and newsletters, including a series of webinars and symposiums on seabird monitoring and conservation, as well as a regional conference (Annex 5.5).

Several organisations and initiatives in the TCIs have benefitted from several other high-profile projects that the Darwin Initiative have funded (i.e. DPLUS175, DPLUS153, DPLUS129, DPLUS121). several of these projects operated concurrently and in close collaboration with our project (i.e. DPLUS129, DPLUS181), and the public who are engaged with nature and biodiversity within the TCIs are familiar with this grant scheme.

11. Safeguarding





12. Finance and administration

12.1 Project expenditure

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total actual Darwin Plus Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others				
TOTAL	£130,309.00	£124,165.92		

Staff employed (Name and position)	Cost (£)
Dr Rhiannon Austin (Project Leader)	
Collaborators	
TOTAL	

Consultancy – description and breakdown of costs	Other items – cost (£)
	NA
TOTAL	NA

Capital items – description	Capital items – cost (£)
TOTAL	

Other items – description	Other items – cost (£)
Credit for University of Oxford invoice claimed in Y1	
TOTAL	

12.1 Additional funds or in-kind contributions secured

Matched funding leveraged by the partners to deliver the project	Total (£)
Y1 Total	
Y2 Total	
Y3 Total	
TOTAL	

12.2 Value for Money

Most of the expenditure for this project was on staffing and surveys and, through this and other mechanisms, demonstrated exceptional value for money:

- The project hired Dr Austin, who worked tirelessly non-stop on this project, above and beyond contracted hours to keep it on track, in the face of multiple obstacles. In that case, the project received excellent value for this investment through this efficiency.
- The project paid for an unprecedented comprehensive series of surveys of islands and offshore cays for breeding seabirds. These were expensive and could not have occurred without DPLUS funding. The full value of the investment into the survey dataset, particularly the UAV data, has yet to really be capitalized upon, but will be realized in the fullness of time. However, in terms of reward for additional expenditure, this additionality represents exceptional value.
- Quantifying what lives where and when is the first step in understanding biodiversity and so to addressing threats and effecting change. Our simple project design where there was clear delivery from activities to outputs and outcomes shows high levels of effectiveness as detailed throughout this Final Report.
- The significant scale of this project and its comprehensive nature further developed substantial efficiency throughout the work.
- Volunteers from partner organisations and the local community represented further efficiency by reducing staff costs during the extensive survey programme, and helped to address staffing shortfalls. Collaborative organisations beyond the core partners including local and international research organisations (SFS, Liverpool John Moores University), public sector departments (TCI Royal Police Force Drone Team), and ecotour vendors provided additional value. This included provision of accommodation and food, scientific and technical expertise during focused workshops, and subsidized boat support.

- Substantial economy value was extracted by the very large contribution of matched funding for salary overheads in this project, particularly from the University of Liverpool.

Annex 1 Report of progress and achievements against logframe for the life of the project

Project summary	Progress and achievements
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.	The large diverse populations of seabirds on the Turks and Caicos Islands were comprehensively surveyed and catalogued during DPLUS164. As a result of this project, it is evident that TCI supports seabird populations of both regional and international importance, including key breeding colonies for several species. This project has trained environmental practitioners to monitor, assess, manage and advocate for seabirds in TCI. This enhanced capacity is expected to support long-term stewardship and evidence-based advocacy for the protection of seabird biodiversity in the wider Caribbean region.
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.	
<u>Outcome indicator 0.1:</u> 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 Y3.	Widespread repeated surveys of 15 seabird species were conducted between 2022 and 2024, using tried and tested best-practice methodologies. This comprehensive effort has focussed on 13 seabird species of confirmed breeding status, and 2 species believed to be resident for which breeding has not been confirmed. Population estimates have been generated for 10 networks of islands and cays, encompassing 60 sites within the TCI (Evidence in the SMRR, Annex 5b).
<u>Outcome indicator 0.2:</u> Sustainable locally driven population monitoring programmes developed and implemented by end of project, 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 10) in Y1 and 2.	Training was provided to 25 local staff of environmental conservation and management organisations in TCI (16 from partner organisations and 9 from collaborating organisations) in seabird identification and monitoring methods. An additional 26 individuals, either involved in the tourism industry or committed members of the public, also received training. A population database and monitoring guide were produced to aid future activities focused on seabirds and their habitats (Annex 5.3). Appropriate monitoring methods have been developed, refined, described and recommended for each species at each site (Evidence in the SMRR, Annex 5b).
<u>Outcome indicator 0.3:</u> Threats to key seabird populations and their breeding habitats identified and addressed (for 15 species and at least 24 sites), along with management recommendations, by Q1 of Y3.	Threats to seabird species identified and reported for 15 species across 60 surveyed sites in the TCI (Evidence in the SMRR, Annex 5b). The most pressing threats include habitat disturbance, degradation and/or loss associated

	predominantly with tourism and coastal development, and predation from invasive species (cats and rats).
<u>Outcome indicator 0.4:</u> IBAs for breeding seabird populations identified and updated (according to the current baseline of 10 existing IBAs) by Y3, using BirdLife International approaches.	Six Important Bird and Biodiversity Areas (IBAs), and an additional four undesignated site groupings, were assessed for their breeding seabirds, and reviews were sent to BirdLife International for formal updates on the World Database of KBAs (Annex 5.4 and 5b).
<u>Outcome indicator 0.5:</u> 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, at least 6 school/youth group talks, and project publicity through news channels and social media.	A range of public engagement activities were run with diverse sectors of the TCI community, through a series of targeted events and media interactions (including local festivals, science fairs, school visits, news reports and social media; Evidence in Annex 5.5). More widely, the regional community has been engaged through online webinars and a practitioner's conference (Annex 5.5).
Output 1 The size, distribution and health of breeding seabird populations identified on the cays and main islands of the TCI archipelago.	
<u>Output indicator 1.1:</u> 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).	Between 2022 and 2024, over 221 days of field surveys were completed, amounting to more than 1,545 hours of survey effort extending into Year 3 of the project. Surveys targeted 15 seabird species across 60 sites, many of which were visited multiple times both within and across years to capture temporal variation. Evidence of the detailed survey methodologies and results is presented in Annexes 5.2 and 5b.
<u>Output indicator 1.2:</u> Technical report (Seabird Management Recommendation Report) produced summarising population estimates and data generated in 1.1.	An extensive technical report, the <i>Seabird Management Recommendation Report</i> (SMRR), was produced to summarise the survey methods and population monitoring programmes developed, the species and site data collected, the threat assessments conducted, and the resulting management recommendations for both species and sites (see Annex 5b).
<u>Output indicator 1.3:</u> Predation rates and biosecurity risks assessed on priority offshore cays during land-based surveys and remote time-lapse monitoring in Y1 and Y2 (up to 7 sites) and summarised in Seabird Management Recommendation Report.	Biosecurity monitoring was conducted at priority sites during land-based surveys, using bait and camera traps, and revealed no further additional predation or biosecurity risks beyond those already known prior to the start of the project (see Annex 5.2). These risks are considered in species and site assessments that are summarised in the SMRR (Annex 5b).
Output 2. Local NGOs, Government and community partners develop skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes	
<u>Output indicator 2.1:</u> 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.	Comparisons of count methodologies were undertaken from population data, and appropriate survey methods were determined for different species and sites to apply in ongoing monitoring activities. A variety of 'best-practice' methods were

	recommended within and between species and sites and summarised for practitioners in the SMRR (Evidence in Annex 5b).
<u>Output indicator 2.2:</u> Population database created by end Y1 and maintained by local partners (managed by TCNT and shared with TCIG).	A population database was created and maintained during the project (Evidence in Annex 5.3). This was handed over to TCIG's DECR for their ongoing use in bird monitoring programmes.
<u>Output indicator 2.3:</u> 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 run by end of project.	<p>Training was provided in seabird identification, field monitoring methods and data management to 25 staff from local partner and collaborating organisations, including 7 from TCNT, 5 from DECR, 2 from TCRF, 8 from RSPB and 1 linked to SFL (see Annex 5.2 and 5.3).</p> <p>During a bespoke 5-day workshop, seven representatives from key conservation and management organisations in TCI received advanced training in the use of drones for conservation and management of seabirds and other wild animals (see Evidence in Annex 5.3).</p>
<u>Output indicator 2.4:</u> 10 islander volunteers trained in seabird identification and monitoring methods by end of project, and capacity built for longer-term involvement in seabird monitoring work.	Sixteen individuals from the ecotourism sector and 10 committed volunteers from local communities participated in survey activities and received hands-on training in field survey methods. Seabird ID training events were also conducted in Y3 for DECR staff and local ecotour operators (Evidence in Annex 5.4), and a Seabird Monitoring Guide was produced and disseminated amongst collaborating organisations and ecotour vendors (Output Indicator 2.5) to aid continued involvement in seabird monitoring and conservation activities.
<u>Output indicator 2.5:</u> 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 Seabird Monitoring Guide specific to the Turks and Caicos Islands was produced (Evidence in Annex 5.3) and distributed to local stakeholder organisations.
<u>Output indicator 2.6:</u> Drone workshop run in Y3 to build local capacity amongst partner organisations for generating and handling drone imagery for monitoring seabird populations.	A drone-focused workshop was conducted in Y3 to provide advanced training to seven attendees from local environmental organisations. The workshop focussed on approaches to generate and handle UAV imagery for monitoring wild animal populations, including seabirds (Evidence in Annex 5.3).
Output 3. Knowledge of the main threats to key seabird populations is greatly improved, allowing identification of appropriate conservation strategies	
<u>Output indicator 3.1:</u> Threats (including development conflicts, predation, harvesting pressure) to seabird populations on the cays and islands of Turks and Caicos assessed, ranked and outlined in Y2 Q4, using data gained through surveys and remote monitoring (output 1) in Y1 and Y2.	Threats to seabird species were identified using the population and survey data generated in Output 1 and were reported in the SMRR (Evidence in Annex 5b). The most pressing threats were assessed as habitat degradation and loss through coast development, disturbance from tourist activities, and predation from invasive species.

Output 4. IBAs identified and delineated for seabird breeding sites on the cays and islands of TCI	
<u>Output indicator 4.1:</u> Distribution maps and GIS layers produced from survey data, identifying breeding and roosting sites of seabird species on TCI (Q3 & Q4 of Y2).	Delineations and shapefiles were created for newly proposed IBAs and KBAs.
<u>Output indicator 4.2:</u> Review of TCI IBA network undertaken with new data (Q3 and Q4 of Y2), and IBA list updated by BirdLife International using standardized methods in first quarter of Y3.	Six existing IBAs for breeding seabirds were updated, and reviews (including data, written assessments and GIS shapefiles) were submitted to BirdLife International for formal updates on the World Database of KBAs (Evidence in Annexes 5.4 and 5b). An additional three new sites were identified for potential future designation as IBAs or Key Biodiversity Areas (KBAs), and associated assessments submitted to BirdLife International for consideration (Evidence in Annexes 5.4 and 5b).
Output 5. Development of monitoring and management recommendations that will be fed to the TCIG.	
<u>Output indicator 5.1:</u> Recommendations created for key actions to mitigate identified threats to TCI's seabird populations.	A technical document (the SMRR) was prepared providing detailed monitoring and management recommendations to mitigate identified threats to TCI's seabird populations (see the SMRR in Annex 5b). Initial steps were made towards implementing some of these actions through the creation of signage for key seabird sites within existing protected areas (Evidence in Annex 5.5)
Output 6. Local communities and stakeholders, and more widely regional and global audiences, understand, support and engage with avian conservation actions on the TCIs.	
<u>Output indicator 6.1:</u> The project engages local communities with publicity and education activities, via 4-6 community meetings / school or youth group engagement events throughout the project.	Diverse sectors of the TCI community engaged through a series of public engagement activities including school talks, science fairs and community beach days (Evidence in Annex 5.5).
<u>Output indicator 6.2:</u> Participation of local communities in public outreach event in Y3 entitled the 'TCI Seabird Fest', with support from regional conservation bodies (BirdsCaribbean).	The originally planned Seabird Festival ('TCI Seabird Fest') was replaced with more appropriate partner involvement in National Science Fairs in Y2 and Y3, and a local film festival (Evidence in Annex 5.5).
<u>Output indicator 6.3:</u> Local communities engage with the project via regular project updates (minimum of once quarterly), provided through dedicated project webpages (created and hosted on www/caribbeanseabirds.weebly.com) and other partner social media feeds.	Updates were provided on the project website, through the dedicated @TCISeabirds Instagram page, and through Instagram updates by project partners (@tcreef_fund, @tcnationaltrust_, @decrtci), however, the extent of this activity was narrower than originally anticipated due to limited staff capacity and project prioritisation (Evidence in Annex 5.5).
<u>Output indicator 6.4:</u> A voluntary 'seabird colony code-of-conduct' produced and distributed amongst local ecotour operators and other stakeholders by end of the project.	A voluntary 'Seabird Code of Conduct' was produced (Evidence in Annex 5.5) and disseminated amongst nine partner and collaborating organisations (including 4 local ecotour operators) and trained volunteers involved in DPLUS164 to encourage ongoing participation in seabird monitoring activities.

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 Y3 0.2 Sustainable locally driven population monitoring programmes developed and implemented by end of project, 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 10) 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), along with management recommendations, by Q1 of Y3 0.4 IBAs for breeding seabird populations identified and updated (according to the current baseline of 10	0.1 Population estimates available in databases hosted on project, partner and regional organisation websites, and within technical Seabird Management Recommendation Report 0.2 Best-practice population survey methods, and population database and other training documents, available on project and partner websites 0.3 Threat assessment and management recommendations reported within technical Seabird Management Recommendation 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 Updates and photos 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
	<p>existing IBAs) by Y3, using BirdLife International approaches</p> <p>0.5 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, at least 6 school/youth group talks, and project publicity through news channels and social media</p>		
<p>Outputs:</p> <p>1. The size, distribution and health of breeding seabird populations identified on the cays and main islands of the TCI archipelago.</p>	<p>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)</p> <p>1.2 Technical report (Seabird Management Recommendation Report) produced summarising population estimates and data generated in 1.1</p> <p>1.3 Predation rates and biosecurity risks assessed on priority offshore cays during land-based surveys and remote time-lapse monitoring in Y1 and Y2 (up to 7 sites) and summarised in Seabird Management Recommendation Report.</p>	<p>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.</p> <p>1.2 Seabird Management Recommendation Report uploaded and available from project and partner websites</p> <p>1.3 Seabird Management Recommendation Report available on project and partner websites.</p>	<p>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).</p> <p>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).</p> <p>Field staff and equipment will be safe from threats associated with poaching and illegal immigration activity on the offshore cays (mitigation: survey team will be cautious during trips to offshore cays and will always work in teams</p>

Project summary	SMART Indicators	Means of verification	Important Assumptions
			following recommended TCIG safety protocols. Contingency survey periods incorporated into project workplan).
<p>2. Local NGOs, Government and community partners develop skills, knowledge and capacity to operate self-sustaining seabird monitoring programmes</p>	<p>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</p> <p>2.2 Population database created by end Y1 and maintained by local partners (managed by TCNT and shared with TCIG).</p> <p>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 run by end of project.</p> <p>2.4 10 islander volunteers trained in seabird identification and monitoring methods by end of project, and capacity built for longer-term involvement in seabird monitoring work.</p> <p>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)</p>	<p>2.1 Details of suitable monitoring protocols available within population database and Seabird Management Recommendation Report available on project and partner websites</p> <p>2.2 Population data available on TCI Data Portal</p> <p>2.3 Presentations and notes from staff training sessions, field trips and workshops available on project and partner websites</p> <p>2.4 Presentations and notes from volunteer training sessions, field trips and workshops available on project and partner websites.</p> <p>2.5 Copy of seabird monitoring guide available on project and partner websites</p> <p>2.6 Copies of PowerPoint presentations and training materials available on project and partner websites.</p>	<p>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).</p> <p>Longer-term staffing and funds are available for sustained monitoring efforts.</p>

Project summary	SMART Indicators	Means of verification	Important Assumptions
	<p>for wider community dissemination in Y2.</p> <p>2.6 Drone workshop run in Y3 to build local capacity amongst partner organisations for generating and handling drone imagery for monitoring seabird populations.</p>		
<p>3. Knowledge of the main threats to key seabird populations is greatly improved, allowing identification of appropriate conservation strategies</p>	<p>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 Y2 Q4, using data gained through surveys and remote monitoring (output 1) in Y1 and Y2</p>	<p>3.1 Technical report (Seabird Management Recommendation Report) containing threat assessment held by and available from local and international partners, and disseminated on project and partner websites</p>	<p>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</p> <p>(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).</p>

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	<p>4.1 Distribution maps and GIS layers produced from survey data, identifying breeding and roosting sites of seabird species on TCI (Q3 and Q4 of Y2).</p> <p>4.2 Review of TCI IBA network undertaken with new data (Q3 and Q4 of Y2), and IBA list updated by BirdLife International using standardized methods in first quarter of Y3.</p>	<p>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</p> <p>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</p>	Sufficient data collected to implement BirdLife International procedures and identify IBAs.
5. Development of monitoring and management recommendations that will be fed to the TCIG.	5.1 Recommendations created for key actions to mitigate identified threats to TCI's seabird populations	5.1 Recommendations listed in Seabird Management Recommendation Report. Copies available from the TCIG and partner websites.	<p>Sufficient data collected to inform development of Seabird Cays Policy and subsequent site management plans.</p> <p>The TCIG will uptake actions within the Seabird Cays Policy, and it will be adapted into legislation in the long-term.</p> <p>Site Management Plans will be met favourably by local stakeholders and approved and adopted by the TCIG Cabinet after positive public consultation.</p>
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 The project engages local communities with publicity and education activities, via 4-6 community meetings / school or youth group engagement events throughout the project.	6.1 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	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
	<p>6.2 Participation of local communities in public outreach event in Y3 entitled the 'TCI Seabird Fest', with support from regional conservation bodies (BirdsCaribbean).</p> <p>6.3 Local communities engage with the project via regular project updates (minimum of once quarterly), provided through dedicated project webpages (created and hosted on www.caribbeanseabirds.weebly.com) and other partner social media feeds.</p> <p>6.4 A voluntary 'seabird colony code-of-conduct' produced and distributed amongst local ecotour operators and other stakeholders by end of the project.</p>	<p>6.2 Photos, feedback forms and media coverage from the 'TCI Seabird Fest' event available on project and partner websites and social media feed.</p> <p>6.3 Regular updates on project activities available on dedicated project webpages and partner social media feeds.</p> <p>6.4 Electronic copy of voluntary seabird code-of-conduct leaflets available on project and partner websites</p>	
Activities Output 1. Population surveys and estimates <p>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</p> <p>1.2 Technical report (Seabird Management Recommendation Report) produced summarising population estimates and data</p> <p>1.3 Array of time-lapse cameras deployed on priority seabird cays (up to 7 sites) to collect image data for publicity purposes and biosecurity monitoring, and biosecurity risks assessed from combined data and presented in the Seabird Management Recommendation Report</p> Output 2. Capacity building for population monitoring <p>2.1 Population monitoring methods and data outputs assessed and compared, and best-practice methods for ongoing monitoring of specific sites and species outlined in the technical report (Seabird Management Recommendation Report)</p> <p>2.2 Population database created and maintained</p>			

Project summary	SMART Indicators	Means of verification	Important Assumptions
<p>2.3 Local partner staff trained in seabird identification, monitoring methods and data handling during survey work and tailored training sessions</p> <p>2.4 Small number of islander volunteers trained in seabird identification and monitoring during field periods</p> <p>2.5 Seabird monitoring guide produced and distributed amongst local partners and stakeholders</p> <p>2.6 Drone workshop run during Y3</p> <p>Output 3. Seabird threat assessment</p> <p>3.1 Using data generated during population surveys, threat assessment undertaking to identify threats to seabird populations and added to Seabird Management Recommendation Report.</p> <p>Output 4. IBA network identification</p> <p>4.1 Key breeding and roosting sites of seabird species identified, and maps and map layers produced</p> <p>4.2 Review and update of TCI's IBAs undertaken, and the BirdLife International IBA list updated</p> <p>Output 5. Species and site management recommendations</p> <p>5.1 Recommendations for seabird management presented in Seabird Management Recommendation Report</p> <p>Output 6. Community engagement and education</p> <p>6.1 Community meetings and school / youth group events run to engage local communities and young people (Y1 – Y3)</p> <p>6.2 A 'TCI Seabird Fest' event run during Y3</p> <p>6.3 Dedicated project webpages created and maintained on the www.caribbeanseabirds.weebly.com website, and regular quarterly project updates given on this and other partner social media feeds</p> <p>6.4 Seabird code-of-conduct produced and disseminated amongst local ecotour operators and other stakeholders</p>			

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, scheme type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	X
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	X
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 14)?	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
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	NA
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	