Darwin Plus:
Overseas Territories Environment and Climate Fund
Annual Report

Darwin Plus Project Information

Project reference	DPLUS097
Project title	Regional-scale marine conservation through multi-territory tracking of frigatebirds
Territory(ies)	Cayman Islands, Anguilla, BVI, Turks & Caicos, Montserrat, Bermuda, UK
Lead organisation	University of Liverpool
Partner institutions	Department of Environment, Cayman Islands Government Anguilla National Trust, Anguilla Jost van Dykes Preservation Society, British Virgin Islands Department of Environment and Coastal Resources, Turks and Caicos BirdsCaribbean
Grant value	£305,882
Start/end date of project	April 2019 – Sept 2021
Reporting period (e.g., Apr 2018-Mar 2019) and number (e.g., AR 1,2)	April 2019 – March 2020 AR1
Project leader name	Dr Jonathan Green, Dr Rhiannon Austin
Project website/blog/social media	Twitter: @CaymanSeabirds, @SEG_UL, @RhiAustin www.caymanseabirds.weebly.com
Report author(s) and date	Rhiannon Austin, Jonathan Green, Farah Mukhida, Jennifer Wheeler, Louise Soanes, Jane Haakonsson, Tim Austin, Eric Salamanca

1. Project Summary

The United Kingdom Overseas Territories (UKOTs)

The Caribbean region is home to 6 of the UK's 14 overseas territories, which are scattered over distances of greater than 2000 km (Fig. 1). Anguilla, the British Virgin Islands (BVI) and Montserrat are located in the Lesser Antilles in the eastern Caribbean, the Cayman Islands and Turks & Caicos Islands are distributed in the western Antilles, and Bermuda is found further north in the Atlantic Ocean basin. While each of these territories has its own unique features, including a diverse array of habitats and associated fauna, the many islands that make up the Caribbean archipelago are interconnected both ecologically, and through commonly shared socioeconomic and management considerations. The marine and coastal environments of the Caribbean UKOTs benefit from varying levels of protection and conservation action, and there is thus recognition that efforts to foster multilateral discussions and cooperation could be extended.

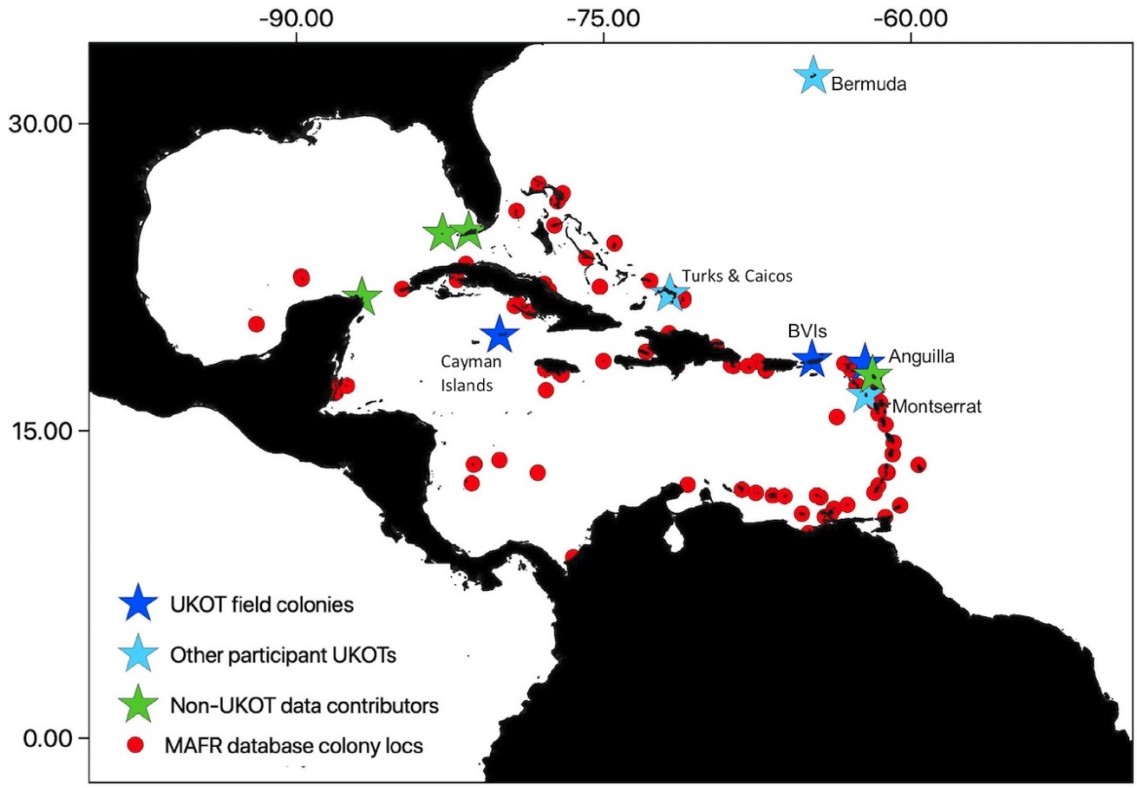

Fig. 1. Map of the UKOTs in the western Caribbean Sea. UKOTs with populations tracked during this project (dark blue stars), other partner/collaborating UKOTs (light blue stars), other territories for which tracking data already exist in the Caribbean (green stars) are shown. Locations of all known or possible frigatebird colonies throughout the region are provided in red (source: WIA MAFR database).

Project background & key issues addressed

The marine and coastal ecosystems of the UKOTs face multiple anthropogenic pressures including those associated with fisheries, pollution, introduced predators, habitat destruction, offshore development and climate change. Ecosystem-based management approaches are increasingly being recognized and used as effective tools to address such threats and deliver sustained maximum benefits for ecosystems and stakeholders. Essential to this is the identification of biodiversity hotspots, which may be designated and managed as protected areas. For example, the UK Government's 'Blue Belt' programme is creating large, highly regulated and protected zones in the EEZs of several isolated UKOTs across the globe. However, this approach is unlikely to work in the Caribbean UKOTs, where an additional understanding of the interactions and connectivity between different states and territories is essential, as is consideration of the diverse range of stakeholders and socioeconomic challenges in these densely populated areas.

Seabirds are highly mobile marine top-predators that are potentially powerful management tools for identifying biodiversity hotspots relevant to a diverse range of fauna. We know from previous territory-specific Darwin+ projects in the Caribbean that magnificent frigatebirds are an exemplar indicator species, due to their tendency to use and link onshore roost sites, coastal habitats and offshore marine areas, while travelling amongst multiple states and territories. This project is thus using this species and its unique traits as a tool to identify ecologically valuable areas for protection in marine and coastal environments, and encourage discussion and development of regional-scale trans-boundary management strategies, based on approaches that are appropriate to the challenges faced in the Caribbean UKOTs.

Project aims

This project aims to provide regional-scale ecological data, analytical tools for identifying important habitats, and a framework within which to develop management cooperation, which in combination will improve the ability of managers and policy makers in all six Caribbean UKOTs to recognize, designate and protect vulnerable ecosystems onshore, nearshore and offshore.

Project objectives

1. *Identify at-sea and onshore distributions and movements of adult and juvenile magnificent frigatebirds from globally and regionally important populations on Anguilla, BVI and the Cayman Islands during breeding and/or non-breeding periods*
2. *Identify habitat preferences of adult and juvenile magnificent frigatebirds, and develop repeatable methods for identifying and defining marine and coastal productivity hotspots*
3. *Discuss with collaborative local and regional conservation management agencies about how magnificent frigatebirds can be used to indicate marine and coastal biodiversity hotspots, and agree on the utility of this approach for improving transboundary regional-scale marine and coastal management strategies*
4. *Identify training, data and management needs relevant to future cooperative marine and coastal management strategies in the Caribbean UKOTs, and develop plans to fill them*
5. *Make initial steps to address territory identified gaps in training, data and management and, based on lessons learned during these supporting activities, assess the feasibility of future project development in each of the UKOTs*

2. Project stakeholders/partners

This project is being conducted as a direct partnership between the University of Liverpool, Anguilla National Trust (Anguilla), Department of Environment - Cayman Islands Government (Cayman Islands), Jost van Dykes Preservation Society (BVI), Department of Environment and Coastal Resources – Government of the Turks and Caicos (Turks and Caicos), and BirdsCaribbean (regional conservation organization), with additional collaboration of the Department of Environment – Government of Montserrat (Montserrat) and Department of Environment and Natural Resources – Government of Bermuda (Bermuda). Thus, all 6 of the Caribbean UKOTs are directly involved. The project application stemmed from initial conversations between Dr Austin and representatives from the 6 UKOTs in 2016, and developed with involvement from all project partners in the proceeding years as new information was gained under other projects. Thus, all partners were involved in the project's early development, as well as in the application process. While Montserrat and Bermuda were not able to sign up as official project partners, owing to existing project commitments, both territories were highly supportive of the project during its early stages (see supporting letters in the application), have actively participated in workshops and management discussions, and are keen to benefit from supporting activities and knowledge that will arise from the project action.

Early in the project, a meeting between all project partners was held (21st June 2019; Annex 3). This ensured that all partners were in agreement with the planned work, both in Y1 and over the remainder of the project, and further helped to build inter-partner relationships. In March 2020, representatives from all 6 UKOTs, BirdsCaribbean and the UoL attended and participated in the project's Initial Workshop in Anguilla (see Annex 4 for a detailed report). This allowed face-to-face discussions over a 3-day period, which substantially improved inter-partner relationships, and provided an invaluable opportunity for all partners to contribute to the steering of the project in Y2 and Y3 to ensure maximum sustained impact.

During implementation of field activities, representatives from the ANT, JVDPS and DoE have been heavily involved in fieldwork and associated planning, and have used these activities as opportunities for further staff training and engagement of local communities (through volunteer involvement and publicity; Annex 3). Our initial application provisioned for Dr Austin to be based in the Caribbean for seasonal periods to oversee and assist with fieldwork, and this has greatly benefited the project, particularly in the Cayman Islands where she has routinely worked with the DoE since 2016.

BirdsCaribbean have further supported this project by providing educational material to project partners (in the form of seabird posters and books; Annex 5) and continue to publicize the project through their media outlets and extensive Caribbean network (see Annex 6 for publicity activities). We have also extended our partner network and dataset by building new collaborations with the Avian Research and Conservation Institute - Florida, University of New Brunswick - Canada, Environment and Climate Change Canada, and Max Planck Institute - Germany, all of which have contributed Caribbean magnificent frigatebird data to our work.

Furthermore, we are working with habitat modellers at the Université Catholique de Louvain, Belgium to ensure that the most up-to-date and relevant approaches are developed and used during this project.

3. Project progress

3.1 Progress in carrying out project Activities

Excellent progress has been made with project activities in Y1, and activities are on schedule moving into Y2 of the project.

Output 1: At-sea and onshore distributions of magnificent frigatebirds

1.1 *Track adult magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the British Virgin Islands using GPS-GSM loggers*

1.2 *Track juvenile magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the British Virgin Islands using GPS-GSM loggers*

1.3 *Identify onshore, nearshore and offshore IBAs for adult and juvenile magnificent frigatebirds from the three UKOTs and produce distribution*

Between April and July 2019, we successfully tracked adult and juvenile magnificent frigatebirds from populations on Anguilla (*n*, adults = 10, fledglings = 15) and the Cayman Islands (*n*, adults = 22, fledglings = 22), using GPS-GSM loggers. A further 6 immature birds (age = 1-2 years) were tagged on Cayman to allow a detailed comparison of movements between the three life stages at this colony (tagging of this age class is extremely difficult at the other colonies where immature birds rarely roost). Further tagging working was planned on the BVI and Anguilla in March-April 2020, following evaluation of progress at our 6-month project mark (see HYR1), to reach planned sample sizes. However, partners have had to delay and be flexible with these plans in response to the COVID-19 outbreak, and there is current uncertainty about when remaining work will be completed. We hope that there will be an opportunity to deploy the remaining devices during spring/summer 2020. Of those loggers deployed in Y1, 6 are still transmitting on Cayman Islands and 4 on Anguilla (see Annex 7 Table 2 for a summary of transmission durations). It is anticipated that the majority of these devices will continue to transmit over the next few months. Example tracking data from both populations and life stages can be found in Annex 7. Preliminary spatial analyses to identify core foraging areas and density distributions of each population have been undertaken and distribution maps produced (Annex 7). Formal determination of marine IBAs using Birdlife International criteria will be undertaken in Y2.

Output 2: Frigatebird habitat preferences and hotspot identification

2.1 *Develop habitat suitability models using generated tracking data, to identify key features of preferred habitats of different life stages and populations, and produce habitat preference maps*

2.2 *Apply habitat suitability models to predict and identify marine and wetland hotspots at a regional scale, and produce hotspot maps*

2.3 *Produce non-technical report outlining methods and results and disseminate to local and regional conservation and management agencies*

2.4 *Present project findings to conservation practitioners community at a conservation conference(s)*

2.5 *Produce peer-reviewed scientific manuscript(s) for publication to disseminate developed approach to wider scientific community*

Considerable time and effort into data assimilation, processing and analysis was undertaken by Project Co-Leader Rhiannon Austin in Q3 and Q4, Y1. This task involved 1) processing and combining tracking data from adult magnificent frigatebirds from 6 breeding populations (3x populations tracked during this project: Cayman Islands, Anguilla and BVI, in addition to 3x other Caribbean populations that we gained additional data from through new collaborative partners), 2) undertaking overlap analyses on cleaned and analysed distribution data, 3) collating and processing various temporally-matching environmental data streams from marine and coastal environments, 4) developing methods for modelling and identifying habitat preferences and creating predictive habitat maps over the entire Caribbean region (Evidence presented in Annex Annexes 4 & 7). Existing data from juveniles has also been processed (Annex 7), although data collection is ongoing at present. A PhD student from the University of Milan (Federico de Pascalis), who is being supervised by staff at UoL, is also undertaking a PhD chapter using the

tracking data collected on the Cayman Islands to investigate the influence of wind conditions and precipitation on frigatebird movements (see recent study abstract in Annex 7). This work will provide additional project outputs in Y2. Dr Austin presented preliminary project information at the BirdsCaribbean conference in Guadelope in July 2019 (Evidence presented in Annex 8).

Output 3: Development of regional management strategies

3.1 *Run regional Final Workshop to present tracking and hotspot identification methods, and plan cooperative management strategies*

3.2 *Produce a Final Workshop Report, agreed by project and workshop participants and outlining regional management strategies*

Activities under this output will mostly take place in Y2 and Y3 (see section 26). However, steps towards building management discussions and cooperation were made during the project's Initial Workshop in March 2020 (see output 4 and Annex 4), and planning began during this meeting for a project Final Workshop that will take place at the next BirdsCaribbean conference in Trinidad during Summer 2021 (Y3; planning document presented in Annex 4). The format of this second Workshop will be further developed and discussed in Y2 amongst project partners to ensure that it has maximum tangible impact in the UKOTs.

Output 4. Identifying training, data and management needs

4.1 *Run an Initial Workshop to present preliminary analyses, and make initial steps to identify training, data and management needs*

4.2 *Produce a report outlining the training, data and management needs in participant UKOTs identified during the Initial Workshop*

In March 2020, delegates from the 6 UKOTs, plus staff of the UoL and BirdsCaribbean, met in Anguilla for an initial 3-day project Initial Workshop. This Initial Workshop was a huge success, giving a chance to evaluate project progress, helping to focus our continuing project activities, allowing partners to develop plans of action for supporting activities in their respective OTs, and further fostering inter-partner relations. In brief, the workshop aimed to 1) present preliminary project data and analyses, 2) understanding both seabird-specific and marine and coastal conservation issues in participant UKOTs, 3) establish to what extent project data could help objective 2, 4) make a plan for updated/adjusted analyses and activities within the project, 5) establish priorities for use of supporting activity funding and for future long-term work, and 6) establish aims for a second final workshop in 2021. During the workshop, initial steps were made towards identifying territory-specific gaps in training, data and management needs, of relevance to seabirds and the marine and coastal ecosystems on which they rely (see further comments in Output 5 below). The full Initial Workshop report can be found in Annex 4.

Output 5. Support, development and capacity building

5.1 *Undertake supporting activities in participant UKOTs (e.g. site visits seabird population assessments in Turks and Caicos – see Q14)*

5.2 *Produce and disseminate non-technical reports on activities in individual territories and future plans for addressing gaps in skills and expertise*

5.3 *Identify future funding streams and prepare draft funding applications as appropriate*

During activities under the Initial Workshop (see Output 4), and following identification of territory-specific gaps in training, data and management needs, each UKOT identified priorities for use of the 'supporting activity funding' available through this project, and drafted associated 'plans of action' with budgets (Evidence provided in Annex 4). Partners will continue working together to refine plans for these supporting activities, which are due to take place with support from UoL staff in Y2 and Y3 prior to the Final Project Workshop.

Additional outputs: Publicity and training.

Efforts to publicise the project have been made in partner territories through TV, news article, magazine and project website outlets (see Annex 6). We also maintain ongoing partner social media feeds (i.e @CaymanSeabirds, @SEG_UL, @axatrust, @BirdsCaribbean). We have also recently written articles for the BirdsCaribbean website blog and UoL's School of Environmental Sciences Newsletter, which are due to be released in April / May 2020, and will be submitting an article for Darwin's 'Safeguarding Our Seas' newsletter (see Annex 6). Further articles will also

shortly be released in the UK's Seabird Group Newsletter and the UoL Seabird Group's blog. Training of local partners in seabird handling and tagging techniques continued on both the Cayman Islands (1x DoE staff, 1x DoE intern, 1x NTCI volunteer) and Anguilla (2x youths from Zenaida Haven Juvenile Rehabilitation Centre). Additional plans exist for training on BVI during fieldwork, once this is possible.

3.2 Progress towards project Outputs

We are confident that excellent progress has been made towards the project Outputs in Y1, and that we will continue to deliver into Y2 to ensure that project objectives are met.

Output 1: At-sea and onshore distributions of magnificent frigatebirds
Prior to this project, tracking data from magnificent frigatebird populations in the Caribbean were sparse, with the exception of a sizable 'short-term' dataset from the Cayman Islands constrained to the 2017 early chick-rearing period, and a handful of tracks from populations on Anguilla and the BVI, again during early chick-rearing. In Y1 considerable effort was made to improve this situation, resulting in generation of a large stream of new data from birds originating on both Anguilla and the Cayman Islands, including the first data on fledgling movements in this species that we are aware of, and extended movement data of adults, from both populations, covering much longer durations than were previously available (Evidence presented in Annex 7). There have been setbacks in tagging and collecting data from frigatebirds on the BVI, owing to bad weather, new partner commitments and banking issues with funds transfer. However, we built in project capacity to adapt to such issues with the possibility of a second field season, which the JVDPS had thoroughly planned for in mid-March to April 2020. Outside of our control and foresight, the outbreak of COVID-19 has now delayed this activity. Despite this setback, with another year and a half of time remaining on this project, we believe that once it is safe to proceed there will be ample time to undertake fieldwork in this UKOT and collect the necessary data. Also, while we would like to gain ample data from the BVI population, following the contribution of additional datasets from other non-UK Caribbean populations to the project from new collaborators, we are confident of having sufficient data to characterise the habitat preferences of this species in difference periods of the year and over the entire region, which is substantial progress on the baseline condition of 'poor data coverage'. Distribution maps, preliminary spatial analysis and map layers have already been produced with the data generated and collated to date (Annex 4 & 7). However, we are waiting until all tags currently '*in situ*' have finished recording data before we can generate the final outputs and marine IBA boundary layers.

Output 2: Frigatebird habitat preferences and hotspot identification
Preliminary development of modelling approaches using the datasets collected so far indicates that we will have ample data within the time constraints of this project to identify habitat preferences of magnificent frigatebirds. This will allow us to predict suitable habitat over unsampled areas across the Caribbean, and assess the use of this species for hotspot identification. This is compared to a baseline of 'no data' on habitat preferences of this species, and 'no data' outside of the breeding period, or on non-breeding components of the population. Further development of the most appropriate modelling and analytical methods to achieve this output, and the resulting production of maps, GIS layers for practitioners, and scientific papers, will take place in Year 2, which remain the most appropriate indicators of success. Please see Annexes 4 & 7 for example maps and figures of the preliminary modelling and prediction maps as examples of the Final Outputs that we will be able to produce.

Output 3: Development of regional management strategies
Regional-scale management action, and multilateral cooperation, for highly mobile marine fauna remain challenging in the Caribbean, and past efforts towards building capacity for cross-territory working on seabirds are either limited to small groups (e.g. DPLUS007), or have not focused directly on the UKOT network (e.g. BirdsCaribbean's 2012 NFWF Seabird Support project, see seabird links at www.BirdsCaribbean.org). Thus, to help address this deficit and using the tools developed in the project, we plan to bring representatives from multiple UKOTs, and other non-UKOTs, together to encourage international discussions and strengthen and build new working relationships. During our Initial Workshop (see Output 4) we made great progress towards

identifying priorities for UKOT partner organisations, and making initial plans for a Final Workshop in Y3, which is the main activity under this Output. Our initial application proposed that a single MOU would be written at the workshop as a means of verification. However, after discussions and feedback under our Initial Workshop, we now believe that a less static 'Final Workshop Report', along with documentation of other outputs produced (i.e. plans of action, or a portfolio of MOUs developed between smaller relevant groups of territories that through workshop activities identify new ways of working towards common goals) is a more appropriate verifier. Following Darwin approval of our change request in December 2019, this Final Workshop will now be hosted by, and take place at, the next biannual BirdsCaribbean conference in Trinidad in summer 2021, towards the end of the project. Thus, with access to high levels of regional support and a large group of potential attendees, we are confident that this Output will be achieved and will maximise this project's legacy in the region.

Output 4. Identifying training, data and management needs
See above (Output 3). The Initial Workshop held at the end of Y1 allowed great strides to be made in developing cross-territory working and collaboration, and in identifying training, data and management needs in the 6 participant UKOTs (a full workshop report can be found in Annex 4). We believe that this activity was highly successful in helping to meet Output 4, and beneficial to the project in terms of focusing our future activities as a collaborative group. During this workshop, participants from all of the Caribbean UKOTs presented the main threats to their marine and coastal species and habitats, as well as associated data, training and management challenges. Through workshop activities, 'Plans of Action' were then drawn up for undertaking Supporting Activities that will begin to address one or more of the main identified gaps in knowledge (e.g. scoping field studies and site visits as a proof of concept for more extensive longer-term project work). We believe that the evidence of this Output that we have provided through an extensive report that outlines the Workshop activities and presents associated documents produced during this meeting (Annex 4) is the best means of verification.

Output 5. Support, development and capacity building
This activity and output will take place in Y2 and Y3 of the project (timing will be OT specific). However, progress towards the other Outputs suggests that there will be no difficulties in undertaking relevant Supporting Activities in the 6x UKOTs. During our Initial Workshop, partners identified priorities for spending the funding allocated in the budget for this task, and 'plans of action' already mentioned above were developed as a first step towards these activities. Partners at the UoL and BirdsCaribbean will continue to discuss these plans with partners, and provide support during implementation stages in Y2, and plans for future project work are expected to develop out of these activities. Non-technical reports and draft funding applications remain relevant verifiers.

3.3 Progress towards the project Outcome

The overall Outcome statement of our project is to 'use movement data from Caribbean magnificent frigatebirds to develop an approach for protected area definition onshore, nearshore and offshore that can be applied for conservation management at a regional scale'.

Considerable effort in the field, to develop analytical methods, and with engagement and management-related activities, has resulted in us being well on course to achieve this overall project outcome. A wealth of tracking data has already been generated and combined with existing data to create a strong and unique multi-population dataset that will be further added to in Y2. This, along with the combined expertise and regional support of project partners, will ensure that the Outcome will be achieved by the end of the funding. The remainder of the project will focus on completing data collection, further developing and refining data methods and outputs, and working with all partners to undertake activities that will support local and regional management of mobile marine/coastal species and their habitats. Nearly all of the proposed indicators remain adequate for measuring achievement of the Outcome and, where not, alternatives have been suggested.

3.4 Monitoring of assumptions

The major assumptions of this project are associated with amenability of management agencies to the project and its outputs, the availability of wild animals for tracking and capacity, and weather conditions.

Amenability of management agencies to the project: All project partners were involved in the development of the project form its earliest stages thus ensuring engagement and its relevance. As planned, all project partners actively participated in meetings and the initial project workshop, and field partners (staff of ANT and DoE) have participated in fieldwork and training to maximise capacity and data collection, and ensure transfer of skills and knowledge. In the BVI, poor weather conditions, in addition to issues associate with other previously unplanned JVDPS project commitments and funds transfer between partners, prevented tracking work taking place in spring 2019 (please see explanation in HYR1). However, staff of the JVDPS had planned extensive tracking work on this project for March / April 2020, which has now had to be delayed due to the COVID-19 pandemic. The JVDPS remain committed to this task, and more widely to the project (as evidenced by participation in the initial workshop on Anguilla in March 2020), and aim to undertake planned fieldwork as soon as the situation is safe to do so in the BVI.

Availability of wild animals / weather conditions: The project assumes that focal seabird species will be present at colonies during tracking periods, and available in ample numbers, to ensure 1) collection of sufficient data to capture the range of movement strategies present in the breeding populations, and 2) robust analyses to provide an evidence base for conservation planning. Fieldwork for this project began prior to the Darwin+ 2019 start date (1st April 2019), with UK staff having relocated to the Caribbean, and multiple partners having started work on the project in early March 2019 to ensure its success. Fieldwork and field staff remained flexible in spring/summer 2019 to ensure that as much tagging work could be completed as possible, within logistical and weather-related constraints. We assumed that planned fieldwork would take place during suitable weather conditions and this assumption largely held during Y1. However, capacity was built into the project in Y2, to allow for a second field period should weather conditions inhibit data collection. This was the case in the BVI, and a lack of accessible animals on Anguilla in Y1 also meant that a small amount of fieldwork has rolled over into Y2. Both partner teams have thus planned fieldwork in 2020 and remain dedicated to this task.

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

Our project's focus is tightly linked to Darwin Plus' overarching objective of supporting the UKOTs to achieve strategic long-term outcomes for the natural environment. It aims to aid conservation actions by providing tools that allow identification of priority habitats for protection, and determine their regional interconnectivity. Through this process, we also aim to help develop cross-territory discussions and management cooperation. Our progress this year, both in terms of data generation in multiple OTs, methods development, and workshops that all UKOT partners participated in (Annex 3, 4 & 7), demonstrates our contribution to this overarching objective. Identification of training data and management gaps, and steps towards addressing these by planning Supporting Activities in each UKOT, which should lead to future project actions, represent progress towards improving management capacity in the UKOTs.

Seabirds, which represent the top of biodiversity pyramids, are key components of marine ecosystems and are under severe threat from multiple stressors. The 1992 UN Rio Convention requires the development of holistic ecosystem-based management approaches, which are being adopted by states around the world. Partner UKOTs are committed to incorporating these approaches into their marine and coastal management practices. Our project aids this process by bringing together relevant stakeholders to work collaboratively at a regional level, and generating information that is required to further develop National and Regional Biodiversity Strategies and Action Plans. For example, the project will help identify priority hotspots for protection relevant to fauna from multiple UKOTs, thus providing information that should aid MPA and TPA network creation under multi-lateral environmental agreements (i.e. the SPAW Protocol to the Cartagena Convention).

5. Monitoring and evaluation

We held our first steering group meeting in June 2019 with participants from all partner organisations, in order to discuss the project objectives and best ways forward (see Annex 3 for meeting minutes). This process has been used successfully in past projects and so far we have found that it has similar success here. We did not deem a separate 'steering group meeting' necessary in the second half of Y1, as we held the Initial Workshop for the project in March 2020 (Annex 4). This workshop had a main aim of reviewing project progress and identifying future priorities, and thus represented a notable component of project Monitoring & Evaluation. The meeting was held over a 3-day period, with high levels of participation and information sharing amongst all project partners. This face-to-face meeting allowed us to identify any issues, draw on the wealth of experience held amongst our partners, and identify a way forward for Y2 to maximise outputs. Partners also all engaged in regular skype and email exchange in the run up to this workshop and have maintained regular contact following the workshop with continued discussions about 'Plans of Action' for Supporting Activities, for example. With the exception of a new timetable for the Final Workshop (as previously discussed here and in the approved change request) our plans for M&E remain unchanged, and we plan to continue holding routine steering group meetings to ensure that project objectives continue to be met.

We have also made minor changes to the project's logframe in order to tighten up the projects indicators, as requested in panel feedback during the application's approval stage. However, none of these changes are significant and they do not change the project's outcomes, outputs and activities with respect to version agreed in January 2020 (after acceptance of our formal change request relating to project Workshop timings). See Annex 2 for the current logframe with all tracked changes made since its original version in the project application.

6. Lessons learnt

On the whole, the collaboration between partners has worked very well, with knowledge and expertise contributed from all angles, to make the project run smoothly in its first year. We have amassed an impressive amount of data that will contribute considerably to conservation goals in the Caribbean UKOTs, and we have been able to draw on expertise and existing capacity that was built in partner OTs during previous baseline Darwin Plus project work.

Nevertheless, there are new lessons learned that are important for improved project management. The timing of the Darwin Plus projects means that project work always starts part way into, or at the beginning of, seabird breeding seasons in the Caribbean. This results in limited flexibility and wiggle room for project initiation and administrative activities (i.e. immediate steering group meetings). Project staff have to initiate field activities immediately, and this relies on in-kind contributions of time from our team before the official project start date to ensure that activities run smoothly after 1st April. This has always worked well within our hard-working collaborative group in past projects, as it has during the current project. However, one angle of our project management that could be improved on in the future is organisation and communication between partners with respect to finances, collaboration agreements and what is required from all. For example, delays in signing of collaboration agreements and issues with international bank transfers contributed to field delays in the BVI. When projects involve a large number of partners from multiple organisations and territories, and have tight schedules, we recommend that focused finance / administrative meetings are scheduled early on by the lead organisation, following the announcement of grant success, to ensure that all partners are aware of the required processes to allow smooth running of the project. Furthermore, while we have undertaken publicity for this project, this could be expanded on through various channels in existing frameworks within the partner OTs, which we hope to follow through with in Y2.

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

Not applicable. This is our first annual review.

8. Other comments on progress not covered elsewhere

All comments on progress discussed elsewhere in report.

9. Sustainability and legacy

The project has gained interest in the UKOTs in Y1 through TV interviews, news reports and social media (see Annex 6). The work has also been promoted through a number of blog articles and through partner project websites. The UK's Seabird Working Group have also approached Dr Austin to write an article on this project and her associated work on seabirds for their May newsletter (Y2), and her role as co-chair on the BirdsCaribbean Seabird Workshop Group Committee has provided further opportunities for promoting the project and its outputs (i.e. through a recent BC blog article; Annex 6). Project publicity and dissemination of results will continue into Y2, through continued media activity and community involvement, where appropriate (e.g. during Supporting Activities in the 6 UKOTs). In addition, we will disseminate project outputs to a wide range of Caribbean stakeholders at the BirdsCaribbean conference in Y3, to scientific communities at international conferences in Y2, and through peer-reviewed scientific publications. Field partners that undertook field activities in Y1 used this time to further build capacity in monitoring and data management skills and staff having opportunities to improve skills (with a number of new volunteers receiving training: see Annex 1).

The activities undertaken during the project, and the data generated, will provide an evidence base for future coordinated management strategies in the Caribbean (e.g. protected area networks) that could account for biological connectivity between the UKOTs and other surrounding territories, and complement the UK's 'Blue Belt' commitments. On a National level, outputs are being passed, and will continue to be passed, directly to management and conservation bodies to assist spatial planning processes (e.g. Species Conservation Plans under the National Conservation Law of the Cayman Islands), benefitting biodiversity conservation in the Caribbean and ensuring a sustained ecological legacy.

In terms of our exit strategy, BirdsCaribbean are involved actively in this project, and through their extensive regional network, will advocate the approaches developed to ensure that support and enthusiasm for collaborative approaches will continue long-term. The outputs of our project also meet the long-term goals of conservation organisations that operate over the long-term in the region (e.g. RSPB), and they will attend our Final Workshop to facilitate a sustained legacy from this work.

10. Darwin identity

All media releases associated with this project acknowledged the Darwin Initiative as the major funding source, and the Darwin logo was used in public presentations and educational materials (see Annexes 6 & 7). Partner twitter feeds (i.e. @CaymanSeabirds, @DoE, @SE_GUL, @RhiAustin), and project websites (www.caymanseabird.weebly.com, https://seguliverpool.wixsite.com, www.caribbeanseabirds.org.uk) were also used during Y1 to further publicise the project work, and the Darwin Initiative were acknowledged through all of these social media channels. All of the Caribbean partner UKOTs have benefitted from a number of other high-profile projects that the Darwin Initiation have funded (i.e. DPLUS019, 18-016, EIDPO045), and the general public of these host countries are familiar with this grant scheme. This project and its future outputs moving into Y2 will continue to be clearly identified as stemming from Darwin Initiative funding, and the Darwin logo will be displayed on all project material.

11. Safeguarding

The UoL has an extensive Safeguarding Policy to ensure that it maintains the highest possible standards to meet its social, moral and legal responsibilities to safeguard those that its work involves and brings it into contact with (e.g. children, young people and vulnerable adults: see full policy here: https://www.liverpool.ac.uk/studentsupport/staffhub/safeguarding/). UoL's HR department also has disability, mental health, sexual assault, harassment and hate crime policies and procedures that it strictly adheres to ensure a safe working environment (https://www.liverpool.ac.uk/studentsupport/policiesproceduresanddownloads/). These ways of working feed down through all levels of the University, including to our overseas project activities and field staff.

12. Project expenditure

Please expand and complete Table 1. If all receipts have not yet been received, please provide indicative figures and clearly mark them as Draft. The Actual claim form will be taken as the final accounting for funds.

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) in this financial year	**2019/20 D+ Grant (£)**	**2019/20 Total actual D+ Costs (£)**	**Variance %**	**Comments (please explain significant variances)**
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others (Please specify)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020 – <u>if applicable</u>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Impact This project will improve the ability of managers and policy makers in all six Caribbean UKOTs, and more widely, to recognize, designate and protect vulnerable ecosystems onshore, nearshore and offshore.		Capacity is being built amongst partner UKOTs that will contribute to towards the development of effective and appropriate regional management strategies for vulnerable onshore, nearshore and offshore ecosystems.	
Outcome Use movement data from Caribbean magnificent frigatebirds to develop an approach for protected area definition onshore, nearshore and offshore that can be applied for conservation management at a regional scale.	0.1 Marine IBAs for magnificent frigatebirds identified in nearshore and offshore zones using Birdlife International criteria. 0.2 Key roosting and breeding sites for magnificent frigatebirds in onshore habitats (usually vulnerable mangroves) identified. 0.3 Awareness of the broader importance of key habitats indicated by magnificent frigatebirds increased among local and regional conservation management agencies. 0.4 Regional-scale management strategy for use of magnificent frigatebirds as hotspot indicators agreed upon. 0.5 All project participants agree future goals to fill gaps in data, expertise, and understanding, as well as the applicability of our approach.	1. Preliminary maps of at-sea distributions of frigatebirds from multiple populations produced using Y1 tracking data, and other existing datasets, to be updated following completion of Y2 data collection (currently ongoing) 2. Preliminary data on on-shore distributions of frigatebirds from multiple populations produced using Y1 tracking data, and other existing datasets, to be updated following completion of Y2 data collection (currently ongoing) 3. Through development of preliminary habitat models, information on key habitats as indicated by frigatebirds obtained, and shared with local and regional partners during the Initial Workshop. Analysis to continue in Y2 once data collection is complete. 4. Inter-partner relationships strengthened, and management	1. Undertake remaining tracking work that was not possible in Y1 and combine new data under collection with existing datasets to identify marine IBAs in nearshore and offshore zones. 2. Undertake remaining tracking work that was not possible in Y1 and combine new data under collection with existing datasets to identify important onshore roosting sites of frigatebirds over sampled Caribbean areas. 3. Further develop methods used for identifying habitat suitability, run models, create regional scale maps of suitable habitat and identify hotspots. Share information amongst project partner organisations. 4. Hold planning meetings amongst project partners in Q2-Q3 of Y2 to continue discussions and planning for Supporting Activities and the Final Workshop.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
		discussions initiated during Initial Workshop. 5. The main training, data and management gaps in the 6x Caribbean UKOTs identified, and potential ways to address these discussed, during Initial Workshop. Feedback given on use of project methods under development within each OT (Evidence presented in Annex 4).	5. As per answer 4 above.
1. At-sea and onshore distributions and movements of adult and juvenile magnificent frigatebirds from globally and regionally important populations on Anguilla, BVI and the Cayman Islands identified during breeding and/or non-breeding periods.	1.1 Distribution maps and GIS layers produced from tracking data highlight core onshore, nearshore and offshore areas of adult magnificent frigatebirds, and are accessible to stakeholders both in 6x UKOTs and regionally. 1.2 Distribution maps and GIS layers produced from tracking data highlight previously unknown core onshore, nearshore and offshore areas of juvenile magnificent frigatebirds, and are accessible to stakeholders both in 6x UKOTs and regionally. 1.3 2x sets of maps and GIS layers (produced using Birdlife International criteria) show onshore, nearshore and offshore IBAs for adult and juvenile magnificent frigatebirds in the 3x focal UKOT populations, and are accessible to stakeholders both in 6x UKOTs and regionally.	We have been working to produce maps and GIS layers of core onshore, nearshore and offshore areas of both adult and juvenile magnificent frigatebirds from multiple populations, and will update these outputs once data collection is completed in Y2 (Evidence provided in section 3.2 of report, and Annex 7). We shared these preliminary data and outputs with stakeholders during our Initial Workshop.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 1.1 Track adult magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the British Virgin Islands using GPS-GSM loggers		22 adults and 6 non-breeders from the Cayman Islands, and 10 from Anguilla, were tracked with GPS-GSM loggers in Y1, yielding a wealth of data on distributions and movements both during, and after, the peak breeding season. Data from these deployments have been processed and preliminary maps of distributions created (Evidence in Annexes 4 & 7).	We plan to tag another 10x adult frigatebirds on Anguilla, and 20x adults on the BVI (see section 3.2).
Activity 1.2 Track juvenile magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the British Virgin Islands using GPS-GSM loggers		22 fledglings from the Cayman Islands and 15 from Anguilla were tracked with GPS-GSM loggers in Y1, yielding a wealth of data on distributions and movements in this early life stage. Data from these deployments have been processed and preliminary maps of tracks created (Evidence in Annex 7).	We plan to tag 15x juvenile frigatebirds on the BVI with spring/summer (see section 3.2).
Activity 1.3 Identify onshore, nearshore and offshore IBAs for adult and juvenile magnificent frigatebirds from the three UKOTs and produce distribution maps and GIS layers		Key at-sea habitats of adult and juvenile magnificent frigatebirds have been identified from initial data collected in Y1 and preliminary species distribution maps produced (Evidence in Annex 7).	Analyses and maps will be updated in Y2 after data collection is complete, and formal marine IBAs will be identified using BirdLife International methodologies at this stage.
Output 2. Habitat preferences of adult and juvenile magnificent frigatebirds identified, and repeatable methods for identifying and defining marine and coastal productivity hotspots developed.	2.1 Maps and/or similar outputs from habitat suitability models, developed using existing (DPLUS007/044) and new tracking data (Y1), identify the habitat preferences of frigatebirds (different life stages and populations). 2.2 Maps or and/similar outputs from habitat suitability models, which have been applied to tracking data, predict the location and features of important onshore and marine habitats, and	We began to develop habitat modelling approaches in Y1, and preliminary habitat models and suitability maps were produced using the 2019 Cayman Islands tracking data as a 'test' dataset in this early stage (Evidence presented in Annex 4 & 7).	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	potential marine hotspots throughout the region. 2.3 A non-technical report for local government agencies and regional conservation bodies / working groups informs 20x relevant states and territories in the region about the use of seabirds for identifying and protecting key onshore and marine habitats. 2.4 Dissemination of outputs at 1-2 regional conference(s) educates at least 20-40 conservation practitioners about the use of magnificent frigatebirds as marine hotspot indicators.		
Activity 2.1. Develop habitat suitability models using generated tracking data, to identify key features of preferred habitats of different life stages and populations, and produce habitat preference maps		Preliminary habitat models and preference maps have been produced during methods development phases in Y1 (Evidence presented in Annexes 4 & 7).	Development and testing of the most appropriate modelling methods will continue into Y2 and, once data collection is complete, final models and regional habitat preference maps, both for onshore and marine environments, will be produced.
Activity 2.2. Apply habitat suitability models to predict and identify marine and wetland hotspots at a regional scale, and produce hotspot maps		Using above modelling approaches, preliminary regional-scale habitat suitability maps were produced using the Cayman Islands 2019 dataset to test methods and provide example maps (Evidence presented in Annexes 4 & 7).	Through the above modelling approaches, regional scale habitat suitability maps will be produced both in onshore and marine environments, to allow priority hotspots to be identified.
Activity 2.3 Produce non-technical report outlining methods and results and disseminate to local and regional conservation and management agencies		NA	Non-technical report to be produced in Y2/Y3 following completion of analysis.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 2.4 Present project findings to conservation practitioners community at a conservation conference(s)		Initial project outputs were discussed during a seabird talk at a BirdsCaribbean Conference in July 2019 during their early stages (Evidence presented in section 3.2 and in Annexes 4 and 8).	Project findings to be presented at a conference(s) in Y2/Y3.
Output 3. Local and regional conservation management agencies informed of how magnificent frigatebirds can be used to indicate marine and coastal biodiversity hotspots, and agree that this approach can be used to improve transboundary regional-scale marine and coastal management strategies.	3.1 Through the Final Workshop, 6x representatives from the UKOTs, at least 4x from non-UK states and territories, and at least 3x from conservation bodies active in the region will gain an understanding of tracking and hotspot identification methods. 3.2 New regional cooperative marine and coastal management actions and strategies will be agreed by project and workshop participants (6x Caribbean UKOTs, at least 2x regional conservation organisations, and at least 4x non-UK states or territories) through outputs produced during the Final Workshop.	Activities for these Outputs are predominantly confined to the second and third year of the project. However, initial discussions took place in Y1 amongst project partners about the potential theme and utility of the Final Workshop, and preliminary Outputs from Output 1 & 2 were presented to workshop participants, discussed and feedback was given (Evidence presented in section 3.2 and Annex 4).	
Activity 3.1 Run regional Final Workshop to present tracking and hotspot identification methods, and plan cooperative management strategies		Initial discussions and planning for Final Workshop began during Initial Workshop (Evidence presented in section 3.2 and Annex 4).	Hold planning meetings amongst project partners in Q3 of Y2 to continue discussions and planning for Final Workshop.
Activity 3.2 Produce a Final Workshop Report, agreed by project and workshop participants and outlining regional management strategies		NA	Final Workshop report to be produced following workshop in Y3.
Output 4. Training, data and management needs relevant to future cooperative marine and coastal management strategies in the	4.1 Current marine/coastal species and habitats of conservation concern identified for all participant UKOTs during Initial Workshop.	The Initial Workshop was run on Anguilla between 9th-11th March, 2020, with participants from all 6x UKOTs, plus BirdsCaribbean, in attendance (either in person, or remotely in the case of DoE).	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Caribbean UKOTs identified, and plans developed to fill them.	4.2 Training, data and management needs in relation to marine/coastal species and habitats of conservation concern documented during Initial Workshop.		
Activity 4.1 Run an Initial Workshop to present preliminary analyses, and make initial steps to identify training, data and management needs		Initial steps were made during the workshop to identify training, data and management gaps, and Plans of Action were written for helping to address these through Supporting Activities (Evidence presented in section 3.2 and Annex 4).	Using knowledge and plans generated during the Initial Workshop, work with all partners to plan and implement Supporting Activities and develop associated proposals for longer-term project work.
Activity 4.2 Produce a report outlining the training, data and management needs in participant UKOTs identified during the Initial Workshop		Report produced outlining the outputs of the Initial Workshop and disseminated to project partners (find report in Annex 4)	No direct action required.
Output 5. Initial steps made to address territory identified gaps in training, data and management and, based on lessons learned during these supporting activities, feasibility of future project development in each of the UKOTs assessed.	5.1 Supporting activities in UKOTs in Y2 and Y3 (e.g. site visits and seabird population assessments in the Turks and Caicos – see Q14) provide initial steps to address gaps in training, data and management during last six quarters of project. 5.2 New funding applications and/or draft project proposals outline appropriate future activities / project work in individual territories identified and agreed upon by end of project.	Activities for these Outputs are confined to the second and third years of the project.	
Activity 5.1 Undertake supporting activities in participant UKOTs (e.g. site visits seabird population assessments in Turks and Caicos)		Initial ideas for Supporting Activities discussed amongst partners in Initial (Evidence presented in section 3.2 and Annex 4).	Supporting activities will be further planned in Y2, and undertaken in either Q3-4 of Y2 or in Q1 of Y3.

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 5.2 Produce and disseminate non-technical reports on activities in individual territories and future plans for addressing gaps in skills and expertise		NA	Non-technical reports will be produced following Supporting Activities in the UKOTs.
Activity 5.3 Identify future funding streams and prepare draft funding applications as appropriate		Initial discussions about available funding streams and potential future project priorities took place during Initial Workshop (Evidence presented in Annex 4).	Appropriate funding applications for project ideas that arise through collaborative working under this project to be drafted in Y3 following completion of Supporting Activities.

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

N.B. if your application's logframe is presented in a different format in your application, please transpose into the below template. Please feel free to contact Darwin-Projects@ltsi.co.uk if you have any questions regarding this.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: This project will improve the ability of managers and policy makers in all six Caribbean UKOTs, and more widely, to recognize, designate and protect vulnerable ecosystems onshore, nearshore and offshore.			
Outcome: Use movement data from Caribbean magnificent frigatebirds to develop an approach for protected area definition onshore, nearshore and offshore that can be applied for conservation management at a regional scale.	0.1 Marine IBAs for magnificent frigatebirds identified in nearshore and offshore zones using Birdlife International criteria. 0.2 Key roosting and breeding sites for magnificent frigatebirds in onshore habitats (usually vulnerable mangroves) identified. 0.3 Awareness of the broader importance of key habitats indicated by magnificent frigatebirds increased among local and regional conservation management agencies. 0.4 Regional-scale management strategy for use of magnificent frigatebirds as hotspot indicators agreed upon. 0.5 All project participants agree future goals to fill gaps in data, expertise, and understanding, as well as the applicability of our approach.	0.1. Marine IBAs listed on Birdlife International online database. 0.2. Onshore IBAs (coastal wetlands/mangroves) listed on Birdlife International online database. 0.3 Non-technical reports produced, uploaded to partner and project websites, and disseminated to relevant government agencies responsible for marine environmental management. Agencies acknowledge receipt of project findings. 0.4 Memorandum of understanding (MOU), agreed by all project participants, held on project website and distributed to all involved. 0.5 Workshop reports, and if appropriate future funding applications, logged on project website.	Sufficient data collected to represent the range of at-sea movements seen in the focal populations. Local and regional conservation management agencies amenable to incorporating provided information into management strategies.
Outputs: **1**. At-sea and onshore distributions and movements of adult and juvenile magnificent frigatebirds from globally and regionally important populations on	1.1 Distribution maps and GIS layers produced from tracking data highlight core onshore, nearshore and offshore areas of adult magnificent frigatebirds,	1.1 Links to tracking data on www.movebank.org and/or the Birdlife International Seabird Tracking database 1.2 Map layers of tracking data and marine IBAs held by, and available	Both adult and juvenile magnificent frigatebirds will be available at colonies during scheduled fieldwork in the three UKOTs, and accessible for capture, to allow sufficient data that represent the

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Anguilla, BVI and the Cayman Islands identified during breeding and/or non-breeding periods.	and are accessible to stakeholders both in 6x UKOTs and regionally. 1.2 Distribution maps and GIS layers produced from tracking data highlight previously unknown core onshore, nearshore and offshore areas of juvenile magnificent frigatebirds, and are accessible to stakeholders both in 6x UKOTs and regionally. 1.3 2x sets of maps and GIS layers (produced using Birdlife International criteria) show onshore, nearshore and offshore IBAs for adult and juvenile magnificent frigatebirds in the 3x focal UKOT populations, and are accessible to stakeholders both in 6x UKOTs and regionally.	from, local and regional partners and other relevant government agencies. 1.3 Links to updates on project websites.	range of at-sea movements seen in the focal populations to be collected (mitigation: plan for flexible fieldwork periods and multiple field seasons). Tracking devices will operate effectively and remain attached to birds for a long enough duration to collect intended data (mitigation: use of tried and tested devices and allowance for some device losses). Environmental conditions will be favourable for tracking work (mitigation: plan for flexible fieldwork periods).
2. Habitat preferences of adult and juvenile magnificent frigatebirds identified, and repeatable methods for identifying and defining marine and coastal productivity hotspots developed.	2.1 Maps and/or similar outputs from habitat suitability models, developed using existing (DPLUS007/044) and new tracking data (Y1), identify the habitat preferences of frigatebirds (different life stages and populations). 2.2 Maps or and/similar outputs from habitat suitability models, which have been applied to tracking data, predict the location and features of important onshore and marine habitats, and potential marine hotspots throughout the region. 2.3 A non-technical report for local government agencies and regional conservation bodies / working groups informs 20x relevant states and territories in the region about the use of	2.1 Habitat preference maps and GIS map layers held by, and available from, local partners and relevant government agencies, and available eventually in peer-reviewed scientific paper(s) that arise out of this work. 2.2 Regional-scale marine and wetland hotspot maps and GIS map layers held by, and available from, local partners and relevant government agencies. 2.3 Reports containing spatial data and analyses held by, and available from, local partners, government agencies and project websites. 2.4 Copy of powerpoint presentation from talk(s) given at marine practitioners conference(s) and made	Quantity and quality of data collected sufficient for habitat suitability modelling to encapsulate environmental-animal interactions from different life history stages (mitigation: plan for flexible fieldwork periods). Environmental data (e.g. SST, bathymetry) will be available for periods over which tracking data are collected (mitigation: project team are familiar with suitable environmental datasets and data depositories e.g. NOAA).

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	seabirds for identifying and protecting key onshore and marine habitats. 2.4 Dissemination of outputs at 1-2 regional conference(s) educates at least 20-40 conservation practitioners about the use of magnificent frigatebirds as marine hotspot indicators.	available on project websites. Record made of number of attendees.	
3. Local and regional conservation management agencies informed of how magnificent frigatebirds can be used to indicate marine and coastal biodiversity hotspots, and agree that this approach can be used to improve transboundary regional-scale marine and coastal management strategies.	3.1 Through the Final Workshop, 6x representatives from the UKOTs, at least 4x from non-UK states and territories, and at least 3x from conservation bodies active in the region will gain an understanding of tracking and hotspot identification methods. 3.2 New regional cooperative marine and coastal management actions and strategies will be agreed by project and workshop participants (6x Caribbean UKOTs, at least 2x regional conservation organisations, and at least 4x non-UK states or territories) through outputs produced during the Final Workshop.	3.1 Final Workshop report and documentation of other outputs held by partner organisations and relevant agencies, and uploaded to partner and government websites. 3.2 Final Workshop report and documentation of other outputs held by contributing organisations and agencies, and uploaded to their websites and the project website.	Management agencies are amenable to receiving recommendations from project (mitigation: managers were approached at early stage to gain support for project and instrumental in project development – see attached letters of support). Sufficient data / evidence collected to inform development of management strategy.
4. Training, data and management needs relevant to future cooperative marine and coastal management strategies in the Caribbean UKOTs identified, and plans developed to fill them.	4.1 Current marine/coastal species and habitats of conservation concern identified for all participant UKOTs during Initial Workshop. 4.2 Training, data and management needs in relation to marine/coastal species and habitats of conservation concern documented during Initial Workshop.	4.1 & 4.2 Initial Workshop presentations and report held by partner organisations and relevant agencies, and uploaded to partner and government websites.	Management agencies actively engage in identification of training needs (mitigation: managers were approached at early stage to gain support for project and instrumental in project development – see attached letters of support).

Project summary	Measurable Indicators	Means of verification	Important Assumptions
5. Initial steps made to address territory identified gaps in training, data and management and, based on lessons learned during these supporting activities, feasibility of future project development in each of the UKOTs assessed.	5.1 Supporting activities in UKOTs in Y2 and Y3 (e.g. site visits and seabird population assessments in the Turks and Caicos – see Q14) provide initial steps to address gaps in training, data and management during last six quarters of project. 5.2 New funding applications and/or draft project proposals outline appropriate future activities / project work in individual territories identified and agreed upon by end of project.	5.1 Non-technical reports on supporting activities held by partner organisations and relevant agencies, and uploaded to partner and government websites. 5.2 Draft funding applications to address identified territory specific requirements held by and available from partner organisations and agencies as appropriate	Management agencies are amenable to in-territory supporting activities (mitigation: managers were approached at early stage to gain support for project and instrumental in project development – see attached letters of support). Supporting activities can be completed within the £5,000 budget within each territory (mitigation: preliminary discussions with project partners have already identified potential activities that fit within the project scope and budget).

Activities

Output 1) At-sea and onshore distributions of magnificent frigatebirds

1.1 Track adult magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the BVI using GPS-GSM loggers

1.2 Track juvenile magnificent frigatebirds from globally and regionally important colonies in Anguilla, the Cayman Islands and the BVI using GPS-GSM loggers

1.3 Identify onshore, nearshore and offshore IBAs for adult and juvenile magnificent frigatebirds from the three UKOTs and produce distribution maps and GIS layers

Output 2) Magnificent frigatebird habitat preferences and hotspot identification

2.1 Develop habitat suitability models using generated tracking data, to identify key features of preferred habitats of different life stages and populations, and produce habitat preference maps

2.2 Apply habitat suitability models to predict and identify marine and wetland hotspots at a regional scale, and produce hotspot maps

2.3 Produce non-technical report outlining methods and results and disseminate to local and regional conservation and management agencies

2.4 Present project findings to conservation practitioners community at a conservation conference(s)

2.5 Produce peer-reviewed scientific manuscript(s) for publication to disseminate developed approach to wider scientific community

Output 3) Development of regional management strategies

3.1 Run regional Final Workshop to present tracking and hotspot identification methods, and plan cooperative management strategies

3.2 Produce a Final Workshop report, agreed by project and workshop participants and outlining regional management strategies

Output 4) Identifying training, data and management needs

4.1 Run an Initial Workshop to present preliminary analyses, and make initial steps to identify training, data and management needs

Project summary	Measurable Indicators	Means of verification	Important Assumptions
4.2 Produce a report outlining the training, data and management needs in participant UKOTs identified during the Initial Workshop **Output 5) Support, development and capacity building** 5.1 Undertake supporting activities in participant UKOTs (e.g. site visits seabird population assessments in Turks and Caicos) 5.2 Produce and disseminate non-technical reports on activities in individual territories and future plans for addressing gaps in skills and expertise 5.3 Identify future funding streams and prepare draft funding applications as appropriate			

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	X
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	X
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	X
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	X
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	