Darwin Plus:
Overseas Territories Environment and Climate Fund

Final Report

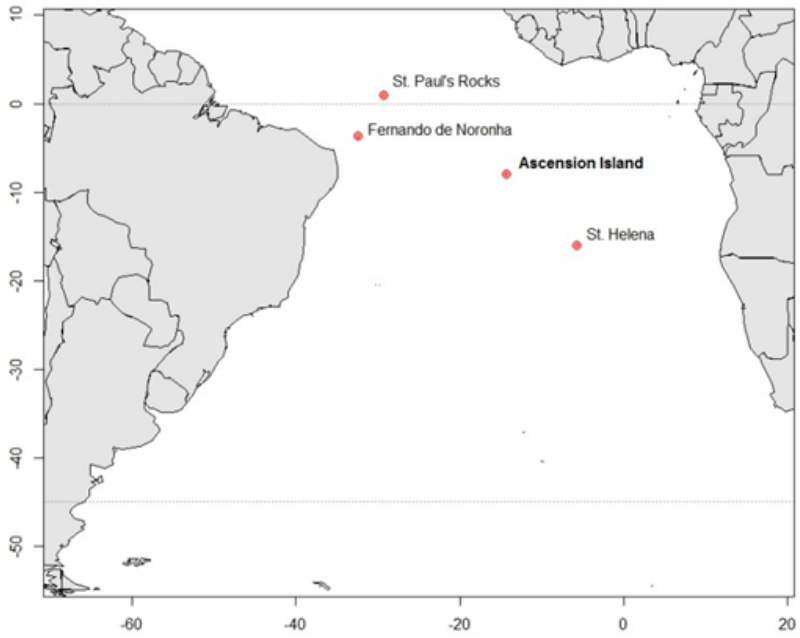
Important note *To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be a maximum of 20 pages in length, excluding annexes*

Darwin Project Information

Project reference	DPLUS046
Project title	Tracking marine megafauna at Ascension Island: towards evidence-based 'blue belts'
Territory(ies)	Ascension Island
Contract holder Institution	Ascension Island Government Conservation & Fisheries Department
Partner institutions	Zoological Society of London, University of Windsor, South Atlantic Environmental Research Institute, Ascension Island Fishing Charters
Grant value	£48,568
Start/end date of project	01/04/2016 - 31/06/2017
Project leader name	Dr Sam Weber
Project website/Twitter/blog etc.	http://www.ascension-island.gov.ac/government/conservation/ https://www.facebook.com/AscensionIslandConservation
Report author(s) and date	Dr Andy Richardson (with input from project partners) 13/07/2016

1 Project Overview

In its 2015 manifesto, the Conservative UK Government pledged to create "a Blue Belt around the UK's Overseas Territories", including "a protected area at Ascension Island, subject to the views of the local community". Currently, however, consensus on the most appropriate form of marine management for Ascension is lacking. Ascension harbours globally important marine biodiversity, and currently also supports a commercially valuable pelagic tuna fishery, and an inshore recreational fishery. A Darwin Plus project (DPLUS023) which ran from 2014-2016 (building on smaller previous Darwin Challenge awards (EIDCF012)) generated significant baseline scientific data from the inshore marine environment and increased marine and fisheries science capacity within the Ascension Island Government (AIG). With both economic and environmental interests at stake, AIG is keen to ensure that informed decisions are made using appropriate biological information. Spatial data on the distribution of vulnerable species is fundamental to this discussion, but are currently lacking for key taxa such as sharks and billfish, despite these groups ranking as the most susceptible from fisheries by-catch.



The current project aimed to address this knowledge gap by using tracking technologies to describe the movements of shark and billfish species at a range of scales, thereby strengthening the evidence base for policy. The primary method to achieve this outcome was satellite telemetry with results to be disseminated in both scientific publications and a non-technical report to policy makers to ensure maximum impact. Following the success of previous Darwin Initiative-funded projects, project activities will be used for raising awareness of marine management issues in both local and overseas audiences through social media and public talks.

2 Project Stakeholders/Partners

Ascension Island Government Conservation and Fisheries Departments (**AIGCFD**) were the project lead, being responsible for the conservation and sustainable use of marine biodiversity on Ascension Island. Equipment ordering and logistical arrangements for the tagging expedition were conducted by the AIGCFD Project Officer. AIGCFD was also responsible for financial matters related to the project and leads on analysis, dissemination as well as being active in all fieldwork/tagging activities. AIGCFD benefitted from substantial input from other project partners and all partners were kept abreast of developments by email circulations and Skype meetings.

Dr Nigel Hussey of the University of Windsor (**UoW**), with Dr Matt Gollock and Fiona Llewellyn from the Zoological Society of London (**ZSL**) travelled to Ascension Island for a two-week expedition in June-July 2016 to launch the tagging programme and train the local Project Officer and other AIGCFD staff. They have also offered support in data analysis.

South Atlantic Environment Research Institute (**SAERI**) and Dr Paul Brickle provided advice for analysis of tag data and support in reporting, as well as Dr Brickle personally assisting with the secondary phase of fieldwork in August 2016.

Ascension Island Fishing Charters (**AIFC**) provided access to their vessels, skippers and contributed considerable local angling knowledge to facilitate this project.

This project has been very successful in furthering AIGCFD's collaborations with external academic institutions and this has led to the transfer of critical skills for future marine conservation work and research around Ascension Island (see Sections 1.2 and 4).

3 Project Achievements

3.1 Outputs

1.1 Appointment of part-time project officer A part-time project officer was appointed in April 2016, the role being taken by Dr Andy Richardson who had previously led on the Darwin Ascension Island Marine Sustainability project (DPLUS021, 2014-2016) and had experience in tagging methodology and telemetry data analysis. The project officer has been retained to work on DPLUS063 "ASIOS: The Ascension Island Ocean Sanctuary", thus ensuring that local capacity developed through this project is retained in the Territory.

Evidence: Employment contract (AIG), Appraisal reports (AIG)

1.2 ZSL and UoW training/tagging expedition Partner institution staff from ZSL (Dr Matthew Gollock and Fiona Llewellyn) and UoW (Dr Nigel Hussey) visited Ascension Island from 17th June to 1st July 2016 to train five of the AIGCD project team and initiate the tagging programme (see 2.2). AIGCFD staff all had prior experience of attaching tracking devices to various species, but none specifically to sharks. Five AIGCD staff were fully trained in shark tag attachment and tissue sampling, with a further four staff trained in tissue sampling protocols and safe shark handling practices. Tagging protocols have been compiled into a manual to be used in future research involving telemetry and the expedition was disseminated in an online project documentary. The skills acquired by AIGCFD staff have been extensively used throughout 2016/2017, including satellite tagging of silky sharks on Ascension Island's shallow water seamounts as part of EU BEST project 1599 ("An ecological assessment of Ascension Island's shallow-water seamounts as candidate Marine Protected Areas") and tagging of blue sharks and oceanic white tips in offshore areas as part of project DPLUS063. The project has therefore enabled the collection of policy-relevant spatial data for vulnerable marine megafauna in Ascension's waters far beyond its original scope and objectives.

Evidence: Appendix 1, Appendix 2, https://vimeo.com/173475358, Travel documentation

2.1 Equipment ordering and preparation of tagging platform Equipment for tagging operations was sourced on Ascension Island or purchased from the UK and USA, delivery and shipping to the island being achieved prior to the tagging expedition. Contracting and logistical arrangements for the use of a local fishing charter ("Dive Frigate") were made with the project partner AIFC for the duration of the tagging expedition. Auxiliary equipment, including tools, tackle and a custom made tagging harness sourced by ZSL partners has been retained for use in future tagging studies such as research towards DPLUS063.

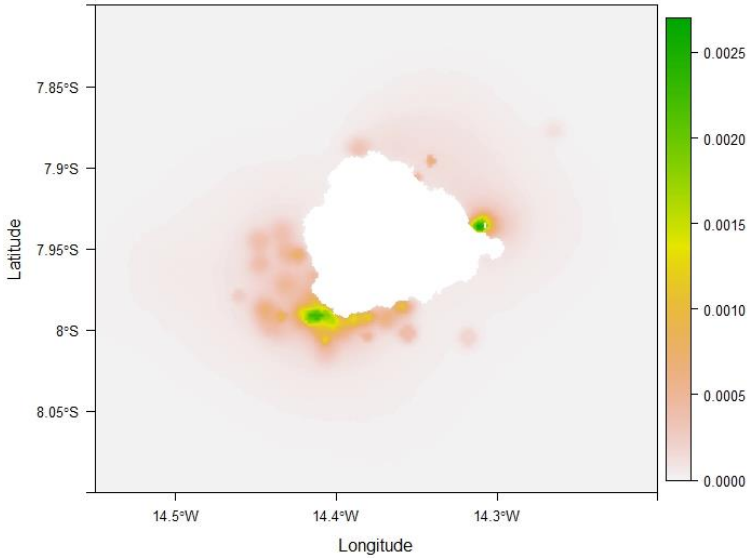
Evidence: AIG Purchase Orders, Argos Satellite Data Agreements

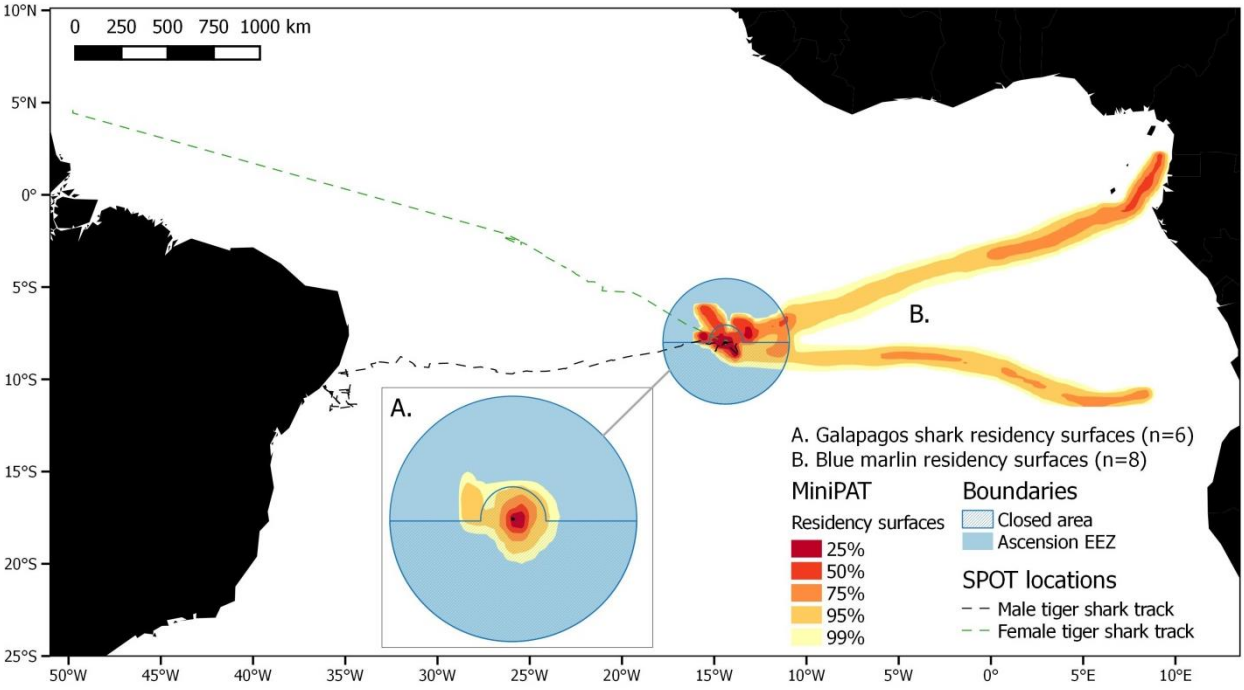
2.2 Deployment of satellite tags on marine megafauna Limited telemetry data existed at Ascension Island for billfish prior to this project (5 devices by Goodyear et al. (2008) Vertical habitat use of Atlantic blue marlin *Makaira nigricans* - interaction with pelagic longline gear. *MEPS* 365:233-245), and no data was available for pelagic sharks. During the initial training/tagging expedition in late-June 2016 (AIGCFD, UoW, ZSL, AIFC) and a subsequent tagging event on 14th August 2016 (AIGCFD, AIFC), all 18 Wildlife Computers (WC) SPOT tags were successfully deployed on sharks (16 Galapagos sharks, 2 tiger sharks) along with 8 WC-MiniPAT tags (6 Galapagos sharks, 2 tiger sharks) contributed in-kind by ZSL. The combination of the tags purchased through DPLUS046 and additional units provided by ZSL resulted in the tagging of 19 individual sharks, 7 of these being fitted with both types of tag (Appendix 1). Although tags were not spread equally between species, these sample sizes reflect the relative abundances of these species at Ascension Island. Standard biometric measurements were taken from all tagged individuals, as were tissue biopsies for future genetic and stable isotope analysis (non-DPLUS046 funding). All animals were handled in the water throughout the tagging process and released in a healthy condition. Additional match funding (Blue Marine Foundation) was also obtained by the project team to place telemetry

devices on billfish caught in the inshore sports fishery, with 10 blue marlin and 1 sailfish being tagged in February/March 2017 (Appendix 1). As a result, total numbers of animals tagged during the project (30) were substantially higher than initially projected.

Evidence: Appendix 1, https://vimeo.com/173475358, https://www.facebook.com/AscensionIslandConservation

3.1 Spatial analysis of tracking data At the time of report production, fin-mounted SPOT tags had provided 523 locations from 15 tagged animals. Kernel analysis is being performed on SPOT locations to indicate key usage areas (probability distributions in figure right) and light geolocation tracks from six Galapagos sharks have been processed to indicate residency zones for 90 days after deployment. Analysis of both types of track indicates a strong association with inshore areas in Galapagos sharks, with most tag locations being within 12 nautical miles of the coast. However, tiger sharks showed far less fidelity with both sharks ultimately crossing expanses of open ocean to reach the Brazilian coast within 6 months of tag deployment.





Evidence: https://www.facebook.com/AscensionIslandConservation, Richardson et al (in prep) Horizontal and vertical movements of the Galapagos shark, Carcharhinus galapagensis, at a mid-Atlantic Island, MoveBank

3.2 Non-technical report submitted to policy makers Preliminary results have been compiled into a non-technical report for presentation to AIG Senior Management and other marine policy makers/stakeholders (Appendix 3). In December 2016, additional shark species were added to the Ascension Island Wildlife Protection Ordinance, resulting in the current situation where fourteen shark species are now fully protected in in Ascension's waters. This was particularly relevant in the light of apparent recent increases in the numbers of large sharks (Galapagos sharks) seen in the inshore areas of Ascension, resulting in public safety concerns and subsequent restrictions in fish waste discards in some areas. Ascension recorded its first

proven, unprovoked shark attack on a human swimmer in April 2017; information from DPLUS046 has helped to educate the public and stakeholders in the wake of this unfortunate incident.

Evidence: Appendix 3, Wildlife Protection Ordinance 2013 (http://www.ascension-island.gov.ac/wp-content/uploads/2017/03/ORD-8-Wildlife-Protection-Ord-Schedule-Amendment-2016-Asc.pdf)

3.3 Manuscript submitted to a peer-reviewed journal A manuscript presenting analysis and discussion of the tracking data and possible implications for marine protection within the Territory is in preparation, currently awaiting final data to present a 12 month interpretation of movement and residency areas,

Evidence: Richardson et al (in prep) Horizontal and vertical movements of the Galapagos shark, Carcharhinus galapagensis, at a mid-Atlantic Island

4.1 Production of project documentaries A video documentary was produced online immediately after the tagging expedition, being disseminated using social media and was well received. The video was also shown as part of two public-engagement talks for island residents. A second project documentary is to be disseminated in July 2017, including results presented visually as animated tracks.

Evidence: https://vimeo.com/173475358

4.2 Posting of project updates on blogs and social media Updates from the project have been posted on both the lead and partner organisations' social media outlets. Reception for all posts has been very good, with the success of several being exceptional; one update on Facebook being viewed by 88,687 people (Appendix 4). All posts have acknowledged Darwin funding and included appropriate branding. Twitter updates have an average 'retweet' of around 50. Many of the posts have generated discussion amongst online readers and led to them contacting the AIGCFD with additional questions about the project and other areas of research. This has included communications with Brazilian tiger shark researchers keen to link migrations of animals tagged at Ascension with tracks of sharks tagged in continental South America. Public engagement has also been instrumental in an additional output, stemming from the core research. This took the form of a free online survey where members of the public were invited to submit shark sightings, together with species and location information, with over 150 records currently submitted. The results were disseminated back to the public using 'infographics' and social media. This activity was run at zero financial cost but was considered to be a very successful exercise.

Evidence: Appendix 4, https://www.facebook.com/AscensionIslandConservation

4.3 Public talks held on Ascension Island A public talk by AIGCD, UoW and ZSL at the conclusion of the June tagging expedition was well attended and presented content from the current project along with an overview of the global status of shark populations and the threats that they face, drawing on partner organisations' experience and wider work in this field. Updates on DPLUS046 have also been included in two AIGCFD talks aimed at schoolchildren and the wider public held in August and September 2016, respectively. The talk to the schoolchildren as part of their activities group "Ascension Explorers" allowed the children to name all of the tagged sharks which helped to continue the public interest in the project. Two educational events for island school pupils were held in June 2017, showing animated figures and shark footage to disseminate information, reception was very good and the children were well engaged.

Evidence: Newspaper adverts, posters, PowerPoint slideshows.

3.2 Outcome

Outcome: By tracking the movements of taxa potentially at risk from fisheries by-catch, the project will contribute spatial data urgently needed to inform decisions concerning the management of Ascension's maritime zone.			
Output	Status before project/baseline data	Indicators of success	Source of information

1. Local capacity established.	Current funding for AIG marine scientists expired in June 2016	Project Officer appointed to coordinate project activities.	AIG employment records; online project updates
2. Telemetry devices deployed on sharks and billfish.	No previous attempts to track these species at Ascension Island.	At least 15 individuals tagged.	Posts of tracks on an appropriate online forum; project updates on social media.
3. Results and policy implications communicated to all relevant stakeholders	No published information, technical or general, relating to the migrations of sharks and billfish in Ascension waters.	Non-technical summary with recommendations for marine protection and fisheries management submitted to the Island Council, Ascension and UK Government's, NGOs and other stakeholders. Peer-reviewed manuscript accepted for publication in a high impact scientific journal.	Reports available on AIG website and widely disseminated.
4. Project activities widely publicised as a platform for awareness-raising.	Previous projects on Ascension have used similar approaches and found them to be effective awareness raising tools with broad reach and appeal. There is a proven Local demand for conservation interest stories delivered by visiting specialists.	Short film(s) documenting tagging expeditions and results made available online. Project activities reported in online blogs, social media posts and newsletters. Public talks on shark research in the UKOTs and project findings are held on Ascension Island.	AIG website and social media pages.

The intended Outcome has been successfully achieved through the implementation of the Outputs by the project team and its partners. Each Output was fundamental to the effective achievement of the project outcome. Output 1 established the local capacity needed to carry out the project and ensure that objectives were delivered effectively. Output 2 provided the data necessary to fill spatial and temporal gaps in marine megafauna distribution and habitat use, this being effectively disseminated and reported to stakeholders and policy makers in Outputs 3 and 4. Additionally, through Output 3, we have ensured that the project will have a lasting legacy through the continued high-quality marine research and reliably informed marine management by policy makers. Output 4 has successfully capitalised on the appeal of shark research and has positively increased awareness of both project-specific and more general marine conservation issues.

3.3 Long-term strategic outcome(s)

Data collected from this project has contributed significantly towards the objectives of the "Scientific Roadmap" drawn up following a stakeholder workshop at the Foreign and Commonwealth in April 2016, which prioritised research needs to support future marine spatial planning on Ascension Island. The workshop was convened in response to the UK Government's 2015 manifesto pledge to create "a Blue Belt around the UK's Overseas Territories" including "a protected area at Ascension Island, subject to the views of the local community". Among the key actions identified in the Roadmap were a need to understand "the distribution dynamics of target and by-catch species by identifying key foraging habitats and migration routes, including categorising biodiversity hotspot areas" and "understand the Ascension marine ecosystem in terms of food web dynamics". Through the deployment and analysis of satellite telemetry and collection of tissue stable isotope analysis, this project has directly contributed to progress towards the Scientific Roadmap outcomes. Within the Territory, marine management currently ranks amongst the most high-profile issues and the scientific outputs and outreach activities during this project have already helped to underpin local decision making, not least the protection of all shark species under an amendment to the Wildlife Protection Ordinance 2013. The project has also contributed to Ascension Island Government commitments under the Ascension Island Environmental Charter, particularly 2 (Protection of key habitats and species through management structures), 3 (Promote sustainable use of natural resources and integrate environmental considerations into economic planning) and 7 (Review the range and availability of data for natural resources and biodiversity). The project has contributed towards Ascension's role in progress towards multilateral agreements such as Aichi Targets 2 (Environmental Mainstreaming), 6 (Sustainable Fisheries), 11 (Protected Areas), 12 (Prevention of Extinction of Threatened Species) and 19 (Biodiversity Knowledge Improved).

4 Sustainability and Legacy

The project was conceived to contribute to the long term, sustainable management of marine biodiversity by enabling the development of evidence-based policies that meaningfully take into account the biology of species impacted by fisheries. The increased local awareness of and interest in shark ecology resulting from this project has already helped to facilitate some local management decision making, with particular regard to species protection under the Wildlife Protection Ordinance 2013. The project's increased capacity for understanding aspects of shark ecology and making such information accessible and relatable to decision makers has been important in assisting the introduction of legislation. Crucially, data and reports generated will also form an integral component of the marine spatial planning process in the run up to designation of the "Ascension Island Ocean Sanctuary" in 2019, helping to ensure that the eventual reserve boundaries adequately protect vulnerable species such as those tagged during the project. Based on the initial findings of this study, permanent closure of a 50 nm buffer around the Island is likely to feature in the final design in order to protect resident shark populations. To ensure that data is available to support longer-term decision making, all tracking datasets generated will be made available through a new, custom, web-GIS platform (in progress). Metadata records have also been deposited in the South Atlantic IMS-GIS data centre, managed by SAERI, where they will be discoverable by users searching for environmental data pertaining to the South Atlantic UKOTs (http://south-atlantic-research.org/ims-gis-data-centre-home). Due to the successful application for additional Darwin Initiative marine funding (DPLUS063: The Ascension Island Ocean Sanctuary (ASIOS): planning for the Atlantic's largest marine reserve), the project officer from DPLUS046 has been retained and the AIGCFD project team will continue to monitor DPLUS046 tag activity until transmissions cease to ensure that a comprehensive final dataset is compiled. Collaborations initiated through this project have also been extended in DPLUS063, on which Dr Hussey (UoW) is a partner, ensuring that access to expertise, training and scientific support is maintained in the longer term. The retention of key project staff, the strengthening of external collaborations and the enhanced local capacity in marine megafauna research generated through the project will assure a lasting legacy of evidence-based marine conservation in the Territory. This legacy is already apparent in locally-led research activities carried out in offshore

areas since January 2017 (see Section 1.2), with further tagging work of pelagic species planned for January 2018 through project DPLUS063.

5 Lessons learned

The management structure within AIGCFD and past experience in project planning and working with project partners was key to the success of this project. The Project team at AIGCFD already had an established track record of project leading and achieving project outputs and so understood the issues on the ground. Engaging with project partners with significantly more experience in shark telemetry was particularly successful, ensuring that the initial tagging expedition ran safely and efficiently, and leaving the AIGCFD project team in an excellent position to conduct subsequent fieldwork. Working in a remote Overseas Territory presents clear challenges in terms of supply chains, but previous experience in securing materials for project work in this location meant that all required equipment and materials arrived in a timely manner.

5.1 Monitoring and evaluation

M&E was coordinated by the Project Leaders, through internal audits and staff appraisals (of the AIGCFD project officer) and regular email correspondence with project partners, using the work plan as a basis for measuring and reporting progress against deliverables. One of the significant unknowns at the outset of the project was the feasibility of catching sufficient animals to tag, and monitoring progress with deployments was identified as the main priority for M&E during the fieldwork phase. Following the initial project partner visit in June/July, however, it became apparent that achieving the stated sample size would be relatively straightforward. One notable change to the original project design was the placement of all DPLUS046 tags on sharks, rather than a split between shark and billfish species as intended. This decision was due to additional funding having been secured (since DPLUS046 application), specifically for tagging of blue marlin at Ascension Island through the Blue Marine Foundation and also due to an unusual but significant increase in the number of large Galapagos sharks in inshore areas in the months leading up to the first fieldwork expedition. The option to place all DPLUS046 devices on shark species was discussed between project partners during the June/July training visit with the consensus being that this approach would maximise scientific return while not compromising the overall project goal of collecting telemetry information for both shark and billfish species. Increasing the number of tags deployed on Galapagos sharks allowed the inclusion of both sexes from a range of size classes, improving the representativeness of the final tracking dataset. M&E was used to measure the progress of outputs at project end, and in addition to continuing collaboration on a strong manuscript for submission to a peer-reviewed journal (and non-technical document) all partners contributed to the final project report which was an clear opportunity for reflection on the perceived project successes and shortfalls from all partners.

5.2 Actions taken in response to annual report reviews

(Not Applicable)

6 Darwin Identity

Throughout the “Tracking marine megafauna at Ascension Island: towards evidence-based ‘blue belts” project, all efforts have been made to publicise the Darwin Initiative. All publicity material that has been created e.g. leaflets and posters bear the logo as do all articles in the local newspaper and on social media. Dissemination of media surrounding work towards project outputs on social media has been extremely well received (*https://www.facebook.com/AscensionIslandConservation*). A large majority of the Island’s population is now familiar with the purpose and identity of the Darwin Initiative. The project has increased the profile of marine conservation on Ascension Island, already raised considerably during the previous Darwin AIMS (DPLUS021) project. The increased capacity and successful

output has enabled AIGCFD to secure a Darwin Plus award to consolidate a variety of marine datasets and research avenues into a scientific case towards a large Ascension marine reserve (DPLUS063: The Ascension Island Ocean Sanctuary (ASIOS): planning for the Atlantic's largest marine reserve).

7 Finance and administration

7.1 Project expenditure

Project spend (indicative) since last annual report	2016/17 Grant (£)	2016/17 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			+26.29	Overspend due to requirement for slight increase in projected salary to recruit suitable Project Officer.
Consultancy costs			0	NA
Overhead Costs			0	NA
Travel and subsistence			-19.31	Budget underspend due to changes in airfares and difficulty in projecting accurate subsistence costs.
Operating Costs			-48.82	Freight charges were lower than anticipated (difficult to estimate as they are based on volume rather than weight). Some equipment donated in kind by project partners.
Capital items			-44.89	
Others			-4.96	
TOTAL	48,568.00	47,208.65	-2.79	

Staff employed (Name and position)	Cost (£)
Dr Andy Richardson, Project Officer	
TOTAL	12,787.34

Capital items – description	Capital items – cost (£)
Tagging and handling tools	
Megafauna handling sling	
Fishing equipment	
TOTAL	926.53

Other items – description	Other items – cost (£)
SPOT tags Argos Satellite fees Open Access Publication fee *	
TOTAL	27,885.58

* Agreement made with Darwin Initiative that this money be used to offset AIG match funding

7.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
ZSL project partner (8 MiniPAT tags)	
AIG (Project Officer employment benefits, accommodation, insurance etc.	
TOTAL	**33027.00**

Source of funding for additional work after project lifetime	Total (£)
Blue Marine Foundation (11 MiniPAT tags for billfish species)	
TOTAL	33,550

7.3 Value for Money

The budget and work timeframes were worked out on the basis of key costs incurred during previous projects on Ascension Island with which the leaders had been involved, and with advice from AIG. The AIGCFD project team and partners consider this project to have been cost effective and offered value for money. There was considerable matched funding from partner organisations, with regards to staff time, overheads, and additional tracking devices. As a result, only around 59% of the total cost of delivering the project objectives came from the core project budget. The employment of a part-time local Project Officer ensured that project activities were delivered consistently and efficiently. Non-salary costs associated with the Project Officer's employment on Ascension Island (insurance, medical, accommodation, utilities etc.) were offered in kind by AIG. As a result of careful planning and monitoring, overall spend has been close to the initial budget forecast (2.79% underspend), with a significant proportion of underspend being the result of in-kind contribution from project partners.

Annex 1

Project's original (or most recently approved) logframe (if your project has a logframe), including indicators, means of verification and assumptions. N.B. Insert your full logframe. If your logframe has changed since your application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe. 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:			
Outcome:			
Outputs: **1**. Add more outputs as necessary	1.1 1.2 1.3 etc.	1.1 1.2 1.3	
2.	2.1 2.2	2.1 2.2	
3.	3.1	3.1	
Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)			

Annex 2 Report of progress and achievements against final project logframe for the life of the project (<u>if your project has a logframe)</u>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
Impact: Insert **agreed** project Impact statement		Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits
Outcome Insert **agreed** project Outcome statement	Insert **agreed** Outcome level indicators	Report on progress towards achieving the project purpose, i.e. the sum of the outputs and assumptions
Output 1. Insert **agreed** Outputs with Activities relevant to that output in lines below	Insert **agreed** output level indicators)	Report general progress and appropriateness of indicators, and reference where evidence is provided e.g. *Evidence provided in section 3.2 of report and Annex X*
Activity 1.1 Insert activities relevant to this out put		Report completed or progress on activities that contribute toward achieving this Output
Activity 1.2. Etc.		
Output 2. Insert **agreed** Output	Insert **agreed** Output level indicators	Report general progress and appropriateness of indicator
Activity 2.1.		
Activity 2.2. Etc.		
Output 3. Etc.		

Annex 3 Standard Measures

Code	Description	Totals (plus additional detail as required)
Training Measures		
6A	Number of people to receive other forms of education/training	5 local staff trained in shark tagging methodology and handling protocols 4 local staff training in shark handling protocols
6B	Number of training weeks to be provided	2 weeks training duration (partners fieldwork expedition)
7	Number of (e.g., different types - not volume - of material produced) training materials to be produced for use by host country	1 manual produced for studies involving telemetry on marine fish species at Ascension Island
Research Measures		
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	1 significant amendment to Wildlife Protection Ordinance 2013 to protect endemic fish species and all recorded elasmobranch species in Ascension waters
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	1 manual produced for studies involving telemetry on marine fish species at Ascension Island
12b	Number of computer-based databases enhanced (containing species/genetic information). Were these databases made available for use by UKOTs?	1 telemetry database created, metadata records searchable through the the South Atlantic IMS-GIS data centre
Physical Measures		
20	Estimated value (£s) of physical assets handed over to UKOT(s)	£750 – tools and reusable equipment
23	Value of resources raised from other sources (e.g., in addition to Darwin funding) for project work	£33027.00 (additional MiniPAT tags from ZSL partner AIG in-kind contribution to Project Officer post)

Annex 4 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (*) all publications and other material that you have included with this report

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. weblink, contact address, annex etc)

Annex 5 Darwin Contacts

Ref No	DPLUS046
Project Title	Tracking marine megafauna at Ascension Island: towards evidence-based 'blue belts'
Project Leader Details	
Name	Drs Sam & Nicola Weber
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Partner 1	
Name	Dr Judith Brown
Organisation	Ascension Island Government
Role within Darwin Project	Head of AIGCFD
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Partner 2	
Name	Dr Nigel Hussey
Organisation	University of Windsor, Ontario
Role within Darwin Project	Project Partner
Email	
Partner 3	
Name	Dr Matthew Gollock
Organisation	Zoological Society of London
Role within Darwin Project	Project Partner
Email	
Partner 4	
Name	Dr Paul Brickle
Organisation	South Atlantic Environmental Research Institute
Role within Darwin Project	Project Partner
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Project Officer	
Name	Dr Andy Richardson
Organisation	Ascension Island Government
Role within Darwin Project	Project Officer
Email	