Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

Funded by UK Government

Darwin Initiative Main/Post/D+ Project Half Year Report

(due 31st October 2018)

Project reference	DPLUS063
Project title	The Ascension Island Ocean Sanctuary (ASIOS): planning for the Atlantic's largest marine reserve
Country(ies)/territory(ies)	Ascension Island
Lead organisation	Ascension Island Government Conservation & Fisheries Department
Partner(s)	University of Exeter, SAERI, University of Western Australia, University of Windsor, University of Birmingham, Army Ornithological Survey
Project leader	Dr Sam Weber
Report date and number (e.g., HYR3)	HYR2
Project website/blog/social media etc.	

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

Output 1: Information systems for managing and disseminating spatial datasets gathered during the project are established

1.1–1.3: No additional work on this output has been conducted during the reporting period; however a major update of the online WebGIS system is planned during the next quarter (Y2 Q3) to incorporate results of analyses carried out to date.

Output 2: Distributions of species impacted by commercial fisheries are mapped and modelled to identify key usage areas and risk areas.

2.1 – 2.2: Additional tagging of sooty terns scheduled for Q1 of Y2 will take place during Q3 of Y2 instead. This is due to the postponement of the first tagging expedition until Q4 of Y1 as a result of accessibility issues on Ascension Island and was explained in more detail in previous reports. No further tag deployments were planned for the reporting period; however an unplanned expedition to deploy GPS devices on brown boobies was organised in collaboration with project partners from the University of Exeter using T&S underspend from the previous financial year. Two postgraduate students visited Ascension in September 2018 and tracked more than 70 foraging trips of 17 nesting brown boobies. These are the first tracks for this species on Ascension Island and will be incorporated into broader analyses of seabird space use that have been carried out during the project.

2.3: Following trials of near-real-time ocean front mapping reported in the last annual report, a second application was successfully submitted to the NERC Earth Observation and Data Acquisition and Analysis Service (NEODAAS) to produce long-term composite front maps of the Ascension Island EEZ and extract contemporaneous front metrics (e.g. distance to nearest front) for at-sea biodiversity surveys to determine whether frontal activity is an important predictor of species distributions in the Ascension Island EEZ. Annual, quarterly and monthly front maps for an 11-year period (2006-2017) have now been produced and combined with a

suite of other remote sensing datasets in a 'pelagic bioregionalisation' exercise to try and identify any distinct oceanic habitat zones which may influence species distributions. This exercise has revealed a clear latitudinal split in the surface oceanography of the Ascension Island EEZ with a northern region strongly influenced by the Central South Equatorial Current.

2.5: Analyses of telemetry datasets are now largely complete and work has begun on analysing data from pelagic BRUVs in collaboration with partners from the University of Western Australia. A suite of environmental variables has been extracted from remote sensing datasets for each BRUV deployment and will be used to determine which, if any, factors influence the frequency and abundance of large, marine predators recorded by them. Limited progress has been made with constructing SDMs for sharks and fish species tagged to date as these species have been either strongly feature associated e.g. around seamounts or Ascension island itself or have been tracked in insufficient numbers for robust modelling of space use. Tracking and at-sea-survey data has been used to map the 'radius of influence' of topographic features such as seamounts and in Q3 and Q4 of Y2 we will explore the feasibility of SDMs for oceanic species that have been tracked in greatest numbers (e.g. Atlantic blue marlin and blue sharks).

Output 3: Threats to marine megafauna from commercial fisheries are quantified including both direct (by-catch) and indirect (food chain) impacts.

3.3: A ranked risk assessment of fishery impacts on marine vertebrates has now been completed using available data from the Ascension Island longline fishery in conjunction with literature sources. The assessment used a productivity-susceptibility analysis, known by-catch risk and information on species distributions and overlap with fisheries to assess impact for a range of pelagic fish, sharks, seabirds and turtles.

3.4: The very limited high-resolution catch data available for the Ascension Island fishery has meant that it has not been possible to identify by-catch hotspots within the EEZ. With the exception of small amounts of local observer data collected since 2015, all set-level catch data is held by foreign fishing authorities and efforts to obtain it have not been successful. This was identified a potential risk in the original project application and has been partially mitigated by using ICCAT grids to compare overall catch composition within the Ascension Island EEZ to the wider region. Results suggest that Ascension Island as a whole does not constitute a by-catch hotspot for any species; in fact target species (primarily bigeye tuna) constituted a larger proportion of the overall catch in Ascension waters suggesting the fishery may be operating reasonably efficiently. Although this will not assist with MPA planning per se, it has placed the impact of the Ascension Island longline fishery in a regional context and will allow decision-makers to assess the likely environmental costs of a scenario where some commercial fishing activity is permitted to continue.

3.6: Stable isotope analyses of samples collected during the project have now been largely completed with only material collected from brown boobies during the September 2018 visit still requiring processing (see Output 2). Preliminary analyses have been completed on yellowfin tuna samples and suggest that it will be very difficult to reconstruct diet for this species due to considerable overlap in the isotopic signatures of prey organisms. However, comparison of tissues with different isotopic turnover rates have provided further evidence that animals captured around Ascension spend time feeding elsewhere and are not fully resident. Analysis of seabird samples will be carried out in Q3-Q4 of Y2

Output 4: Recommendations for MPA placement are developed based on a synthesis of species distribution data, threat assessments and economic costs/values within a marine spatial planning framework.

4.1: A bioeconomic assessment of the Ascension Island longline fishery has now been completed ahead of schedule (target was Q3 of Y2) through a new collaboration with the Centre for Environment, Fisheries and Aquaculture Science (Cefas). The exercise evaluated long-term trends in catch and effort by key players in the regional fishery alongside potential

economic drivers (e.g. market value, fuel costs, consumer demand) and recent legislative changes at Ascension Island to forecast the future profitability of the fishery. Results of the assessment will feed into a cost-benefit analysis of each MPA scenario presented to decision-makers.

Output 5: Experimental satellite surveillance technologies are trialled as a cost-effective method for MPA compliance monitoring and enforcement.

No work has been conducted on this output during the reporting period which falls outside of the Ascension Island fishing season.

Output 6: Biodiversity baselines are established and a robust monitoring framework is developed for evaluating the long-term conservation benefits of the ASIOS.

6.1: As outlined in the previous annual report, repairs to Ascension Island Government's inshore vessels has hindered progress with establishing inshore BRUV monitoring sites. The Conservation and Fisheries Department's RIB is now operational again but has proven to be an unsuitable platform for deploying and recovering BRUVs. As a partial solution we plan to use the larger, offshore patrol charter for this purpose during the next routine fisheries patrol in Q3 of Y2.

Output 7: International best practice is incorporated into the design and planning of the ASIOS, and experiences and knowledge gained during the project are widely shared.

7.4: As detailed in the previous annual report, the recent production of the IUCN Best Practice Standards for Large Scale MPAs has effectively delivered many of the activities planned for this output. Work has begun on developing a management plan for the ASIOS and will incorporate the best practice standards summarised in this document wherever possible.

7.5: No progress has yet been made with the production of a project micro-documentary but we are investigating the feasibility of sending a professional filmmaker to join the next offshore fishery patrol in Q3 of Y3. General video media for online dissemination, including aspects of marine research and progress towards marine management are currently in production as part of a wider AIGCFD programme using visiting media personnel.

Output 8: The ASIOS is formally designated and management structures are put in place to ensure its long-term success.

8.1 – 8.4: A draft 'MPA Evidence and Options' (E&O) document has now been prepared and sent to the Ascension Island Council for feedback. The E&O document summarises scientific and economic data that has been collected to date and presents two alternative scenarios for the location of a large-scale MPA at Ascension Island, each with an environmental and economic cost-benefit analysis. The document will be sent for wider public consultation in Q3 of Y2. The Ascension Island Government has come under pressure from NGOs, HMG and other stakeholders to accelerate the designation process and as such the production of the E&O document is significantly ahead of schedule (originally planned for Q1 of Y3). As such, several of the activities planned for Q3-Q4 of Y2, such as Marxan analyses and species distribution modelling may not be able to feed into this document to the extent that was originally planned. These analyses will still take place and the results will be available to feed into later drafts before final decisions on MPA placement are taken early in 2019, as well as towards technical manuscripts for peer-reviewed publication. Work on the development of a management plan is also underway as it is a requirement of local legislation that this is in place before designation occurs.

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

As in previous reporting periods, accessibility issues on Ascension Island following the suspension of civilian flights from the UK have impacted on the amount of international travel

undertaken by Ascension Island Government staff and project partners. Currently, there is only one flight per month to Ascension via South Africa and St Helena and project partners are not always able to commit this amount of time. Nevertheless, the Ascension Island Government team are on track to deliver all key project activities in spite of this. A change request will be submitted to Darwin and LTS international to transfer any T&S underspend to support international travel for the Overseas Territories Blue Belt Symposium planned for summer 2019, which is one of the key project deliverables.

As detailed in Section 1, Ascension Island Government has decided to move the MPA consultation and designation process forward by several months compared to the original project timetable which will have some impact on the extent to which activities planned for Q3-Q4 of Y2 can feed into the planning process. These activities will still take place and results will be available in advance of formal designation to inform the final configuration of the MPA and be incorporated into the management plan.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS:	Yes/No
Formal change request submitted:	Yes/No
Received confirmation of change acceptance	Yes/No

3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?

Yes ☒ **No** ☐ Estimated underspend:

3b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded under R24 and asked to provide further information by your first half year report, please attach your response as a separate document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but should also be raised with LTS International through a Change Request.

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 22-035 Darwin Half Year Report**