



Department  
for Environment  
Food & Rural Affairs



Foreign &  
Commonwealth  
Office



Department  
for International  
Development



## Darwin Plus: Half Year Report

(due 31 October 2015)

<b>Project Ref No</b>	DPLUS038
<b>Project Title</b>	Mapping Ascension Island's Terrestrial Ecosystem
<b>Country(ies)</b>	Ascension Island, St Helena & Falkland Islands
<b>Lead Organisation</b>	Ascension Island Government Conservation Department
<b>Partner(s)</b>	Environment Systems Ltd., RBG Kew, SAERI
<b>Project Leader</b>	Drs Sam & Nicola Weber
<b>Report date and number (e.g., HYR3)</b>	HYR1 – 28/10/2015
<b>Project website</b>	No dedicated website.

**1. Outline progress over the last 6 months (April – September) 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) (max 500 words).**

Work is progressing well against the project implementation timetable, as detailed below:

**Output 1. Satellite imagery sourced, processed and preliminary habitat map produced.**

High-resolution WorldView 2 imagery has been sourced and processed by Environment Systems and passed to Ascension Island Government. A range of preliminary, unsupervised and supervised land cover classifications of different altitudinal zones have been derived from satellite imagery and validated by field-based vegetation surveys (see Output 2). Creation of a fine scale (0.5m) Digital Elevation Model from stereo-paired images is progressing well, with some final processing needed to tie the model to existing elevation data. This output was delayed from Q1 until Q2 as license costs for the required imagery became cheaper after this time.

**Output 2. Habitat map ground-truthed, refined and augmented with field data.**

Following a two week training visit by RBG Kew, preliminary land cover classifications have been validated with approximately 700 vegetation quadrat surveys stratified across all altitudinal zones. Surveys comprised of comprehensive plant community surveys in 20 m plots, with vegetation structure, substrate type and community composition measured on a semi-quantitative (DAFOR) scale. Community data are currently being analysed using TWINSpan and ordination techniques to develop a hierarchical habitat classification scheme for Ascension, which was lacking at the start of the project. Resultant habitat classes will then be tied to georeferenced survey points and used to test and refine the rule-base for automated land cover classification from satellite imagery. This process is already underway for mid-altitude elevation zones and will be completed for all zones by the end of Q3, in line with the project implementation timetable. In addition to vegetation surveys, good progress has been made on the collection of climatic data to augment habitat zonation. Existing meteorological data has been collated and six new weather stations have been deployed to fill spatial and altitudinal gaps. Due to delays in sourcing and shipping instruments, deployment of weather stations was postponed until Q2 meaning a full seasonal cycle will not be measured within the project. Nevertheless, the intention is to continue operating the new weather stations indefinitely, so

these data will be obtained in due course. Measurements of absolute and relative temperature and rainfall derived from data collected during the project will be sufficient to support habitat zonation from land cover mapping e.g. for assessments of aridity.

### **Output 3. Cross-territories workshop held on remote sensing techniques**

This output was due to be delivered in Q4 but has now been organised for 6<sup>th</sup> – 12<sup>th</sup> November 2015 to accommodate the availability of participants. In addition, these timings fit well with the structure of the project, enabling consultants from Environment Systems to get on-the-ground experience of Ascension’s habitats before beginning the second iteration of the image analysis. The workshop will be led by Environment Systems and attended by biodiversity professionals from the Falkland Islands (1), St Helena (2) and Ascension Island (2). Workshop content and training materials are currently being developed based on requests from participants.

#### **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 (max 300 words).**

Following the initial field visit by RBG Kew it became apparent that the inaccessible terrain and heterogeneous nature of Ascension’s predominantly introduced vegetation meant that ground-truthing of land cover classifications would be substantially more time consuming than originally anticipated. The need to generate a novel habitat classification scheme has also added to the amount of post-processing and statistical analysis required. To help manage this workload and ensure that objectives were delivered on time, Mr Philip Lambdon, an affiliate of Kew and consultant with an intimate knowledge of the flora of Ascension Island, was contracted for a two month period to assist the local Conservation team with vegetation surveys and data analysis. Since this work fell within the scope of RBG Kew’s contribution to the project, Mr Lambdon’s fees (£2,280) will be met out of the funds originally allocated for salaries of Kew staff. This development therefore has no budgetary implications and has ensured that the project timetable has remained on track.

The only substantial problem relating to project activities that has been encountered concerns soil mapping. It was originally expected that the local conservation team could deliver a soil sampling and analysis regime with remote support from ecologists at Environment Systems. However, it has become clear that Ascension Island Government lack the technical knowledge to implement a meaningful programme of soil science without dedicated on-island support and/or access to costly overseas analytical facilities. We are currently exploring several options to enable us to advance this output and will liaise with LTS international to agree on an appropriate course of action. Since soil mapping was a peripheral component of the overall project objectives, any changes will have minimal impact on the project budget and outputs.

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

We regret that we did not inform LTS International of the decision to contract Mr Lambdon to assist in the field component of the project. Arrangements were made urgently amidst a clear shortfall in local capacity and the proper channels were evidently not followed. We hope that the progress that has been made as a result of Mr Lambdon’s involvement, and the fact that costs were accommodated within existing budget lines, will satisfy reviewers that the correct decision was taken.

Discussed with LTS:	No
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Formal change request submitted:	No
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Received confirmation of change acceptance:	No
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**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 as it is unlikely that any requests to carry forward funds will be approved this year.** 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 and would like to talk to someone about the options available this year, please indicate below when you think you might be in a position to do this and what the reasons might be:

**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.

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](mailto:Darwin-Projects@ltsi.co.uk) . The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message e.g., Subject: DPLUSXXX Darwin Half Year Report**