

Darwin Initiative: Half Year Report

(due 31 October 2010)

Project Ref No	17-022
Project Title	Conservation of the lowland savanna ecosystem in Belize
Country(ies)	Belize
UK Organisation	University of Edinburgh (UE) with Royal Botanic Garden Edinburgh (RBGE)
Collaborator(s)	University of Belize, Environmental Research Institute (ERI) Belize Botanic Garden (BBG); Government of Belize Forest Department (FD); Programme for Belize (Pfb), Belize Tropical Forest Services (BTFS).
Project Leader	Dr Neil Stuart
Report date	31 October 2010
Report No. (HYR 1/2/3/4)	HYR 2
Project website	http://eeo.ed.ac.uk/sea-belize

1. Outline of progress over the 6 months 1st April – 30th September 2010 against the agreed project timetable. (Activity numbers refer to activities in the project Logframe.)

Project Co-ordination

10th -12th May: Dr Neil Stuart (NS) and Duncan Moss (DM) held bilateral meetings with in-country project partners Pfb, BBG, ERI and BTFS in preparation for annual partner meeting (**activity 1.2**).

14th May: Annual meeting of all host country and UK project partners hosted by the ERI in Belmopan (**activity 1.2**)

26th – 29th July: Visit to RBGE and UoE by project partner Dr Elma Kay (EK, Director of the ERI). EK attended a project progress review and forward planning meeting attended by all UK staff, gave two seminars and received advice from RBGE staff on design requirements for a proposed new herbarium to be constructed as part of a new ERI building being planned in Belmopan.

July – September: Activity Report on May field season written by the UK Darwin Botanist (Zoë Goodwin, ZAG) and the Belizean Darwin Botanist German Lopez (GL). (**activity 1.3**).

August – September: Interim Herbarium Recuration report written by ZAG, GL and NS. Submitted for consideration by FD. (**activity 1.3**).

September: Forward planning and budgeting discussions by NS and DM with each project partner to review progress since April and to confirm activities to be completed by March 2011.

September: Requests for and receipt by NS of six monthly progress reports from each partner.

Botanical collecting, databasing and (re-) curation of specimens into Belize herbarium

28th April – 9th May; 14th May- 2nd June: during these periods, ZAG and GL conducted botanical surveys at 35 sites. Over 450 plant specimens are collected and ~600 further observations made (**activity 1.3**).

15th May and 1st June: Live plant collections made by ZAG, GL and BBG staff for transplanting to the new Savanna Trail being created at BBG (**activity 1.4**).

10th – 13th May; 2nd – 4th June: UK Darwin Botanist and Belizean Darwin Botanist re-curated 800 specimens into the Belize National Herbarium in Belmopan (**activity 1.3**) and entered/ updated the records for these collections into the project's database using the Brahms software (**activity 1.7**).

June – July: Under guidance from UK Darwin Botanist, the Belizean Darwin Botanist curated plant specimens collected by students of the Natural Resources Management programme at UB. (**activity 1.6**)

July – September: Drafts of both the basic and the advanced photo-guides to savanna plants produced by ZAG. 40 copies printed, laminated and delivered to Belize for field testing by FD Rangers and NGO staff during the November training course in Plant Identification (**activity 5.1**)

Developing the Savanna Trail at Belize Botanic Gardens (BBG) (activity 6.1)

5th – 12th April; Levelling and compacting of savanna soil. Marking out path, wetland area and zones within the Savanna Trail. Excavation of the wetland area.

26th April: Meeting with ZAG and GL to discuss the planting required for the new Darwin Savanna Trail.

27th April - 3rd May: live plant collecting. Collection of river stone to support wetland walls, to control inflow and outflow of water and to line path edge. Creation of paths into and of from the savanna area.

15th May: Plant collecting led by ZAG with GL, Freddy Tut, Rudy Aguliar & Sinead Mc Cormick of BBG. Collection of 17 species, 66 plants.

16th – 24th May: Accessioning and labeling of plants. Construction of boardwalk over wetland area.

1st June: Plant collection trip south of Runaway Creek led by ZAG and GL with BBG staff. Collection of 24 species, 87 plants.

2nd - 6th June: Accessioning and labeling of plants into database. Storage in plant nursery awaiting rains.

7th – 14th June: Improvement of drain on far side of road. Installation of culverts at end and at entrance to savanna. Controlled burning of palmetto in old savanna area, for transplanting into Darwin Savanna Trail.

5th – 12th July: Planting of palmetto from nursery into savanna. Planting out of collected plants into the Darwin Savanna Trail at BBG.

16th – 23rd August: Weeding out of invasive grasses and plants; cutting back surrounding vegetation.

Reports, publications and other media and press outputs

3rd June: Botanical fieldwork by project botanist ZAG featured in the *San Pedro Sun* Newspaper. <http://sanpedrosun.net/old/10-224.html>

July – September: 'A checklist of the lowland savannas and associated wetlands of Belize, Central America Lowland' prepared for submission to *Anales del Jardín Botánico de Madrid* (**activity 2.1**).

16th – 19th August: Poster Paper on the Botanical Surveys of the Belizean Savannas presented in Belize at the *Annual Natural Resource Management Symposium*, by Darwin Botanist GL. (**activity 2.1**).

August: 'Floristic Description of the San Pastor Savanna and Preliminary Checklist of the Savannas of Belize, Central America' paper provisionally accepted by *Edinburgh Journal of Botany*. (**activity 4.1**).

August: Successful completion of 4 Master of Science dissertations supervised by project staff, providing supplementary scientific data that will be handed over to the ERI in Oct 2010, viz: for the *MSc in Biodiversity & Taxonomy of Plants*, Alex Trevaskis 'Extent to which soil properties contribute to oak (*Quercus oleoides* Schldl. & Cham.) distribution within the lowland savannas of Belize' and Lizzie Oldroyd (LO) 'Illustrated user-friendly identification key to the Cyperaceae of Belize' (Supervisors: Furley, Harris, Haston & Goodwin) and for the *MSc in Geographic Information Systems*, Jason van Warmerdam 'Comparing MODIS Active Fire and Burnt Area products for detecting fire in the ecosystems of Belize' and Katerina Tsioli 'Visualisation of botanical records' (Supervisors: NS, Dr Iain Cameron (IDC)). (These provide supplementary information that enhances activities **1.5, 1.7, 3.1 & 3.2**.)

1st September: Report on the Savanna Mapping submitted by IDC to Planet Action according to the terms of their donation of satellite imagery to the project (**activity 3.1**).

24th September: 2 Posters and 1 Presentation given by NS at the 13th Annual UK-Belize Association Conference, Department of Continuing Education, Oxford, UK. Poster titles:

(1) *Botanical Inventory of the Lowland Savannas of Belize*, by ZAG, GL, SB, DH, IDC, NS & EK

(2) *The Savanna Ecosystems Map of Belize 2010* by IDC, NS, PF, SB and ZAG. (**activities 1.3, 3.1**)

27th September: Technical report on the Savanna Ecosystems Map 2010 written by IDC with input from NS (**activity 3.1**).

1-14th September: design of generic template and layout of first ten Educational fact sheets about the savanna ecosystem, its flora and fauna drafted by Sam Bridgewater (SB), ZAG and IDC (**activity 7.1**).

27th-30th September: redesign of project website by IDC. (**activity 1.1**)

Training and Staff Development

June – September: Training materials and course documentation prepared by ZAG for the new plant identification course to be delivered on 2nd -5th November 2010 at the Paynes Creek Nature Reserve. Materials for the Introductory Herbarium User Course revised following feedback received from participants who attended the first delivery of this course in January 2010 (**activity 1.8**).

August: Illustrated key to the genera of the Belizean Cyperaceae developed by ZAG and LO. Key to be tested by land managers attending the new plant identification course in Belize in November.

19th-21st May : Training given in field surveying and GPS to four staff members of UB and the ERI by DM and NS (**activity 1.8**).

21st May – 2nd June: Training in soil surveys conducted by Prof Peter Furley (PAF) and Alex Trevaskis (AT). Soil sampling undertaken at six sites in Northern Belize. Samples exported and analysed at UE. (**activity 1.8**).

19th – 23rd July; EK attends meeting and course on 'Botanical Databases' at the University of Oxford, UK.

22nd – 23rd July: Belizean Darwin Botanist GL attends "Planning Workshop of REDD Project by CCAD-GTZ" held at Radisson Fort George Hotel, Belize City.

27th July: GL attends workshop on "Improving Sustainable Forest Management in Belize by Scientific Research into Tree Species Growth Rates and Carbon Stocks" held at San Ignacio Hotel, San Ignacio.

6th – 12th September: GL receives training by FD staff in forest stock survey methods in the Chiquibul Forest Reserve.

13th – 17th September: GL receives training from FD staff in the measuring of trees in permanent sample plots for carbon stock assessment.

23rd September: GL attends launch meeting for "Development of an Implementation Plan for the Regional Framework for Achieving Development Resilient to Climate Change" held at the Meteorological Service Station, Ladyville, Belize.

2. Give details of any notable problems or unexpected developments 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.

There are no problems to report in this period that will affect the budget or timing of activities.

Because of other work commitments, one of the botanical consultants, Dr Sam Bridgewater has reduced his contributions to the project this year. His input mostly concerned the in-country training and the creation of educational materials. For training, we have secured the services of another expert tropical botanist, Dr Stephen Brewer who will help us to deliver the plant identification course this November along with the UK and Belize Darwin Botanists. The remainder of the budget originally allocated for Dr Bridgewater is being used to make further use of Dr Iain Cameron who was employed by the project full time until the end of March this year. Dr Cameron is now undertaking specific further tasks such as the design and layout of the educational fact sheets and is also redesigning the project website to improve access to various resources that it will host. This also allows us to respond to a query about the website raised by a reviewer of our first annual progress report. These minor changes in staffing can be accommodated within the budget and do not affect the timetable for the delivery of activities.

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

No

Discussed with LTS: no

Formal change request submitted: no

Received confirmation of change acceptance no

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

Yes No

If yes, and you wish to request a carryforward of funds, this should be done as soon as possible. It would help Defra manage Darwin funds more efficiently if you could give an indication of how much you expect this request might be for.

Estimated carry forward request: £

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

No

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 or budget should not be discussed in this report but raised with LTS International directly.

Please send your **completed form by email** to Eilidh Young at 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 eg Subject: 17-075 Darwin Half Year Report**