

Darwin Initiative: Half Year Report

(due 31 October 2007)

Project Ref. No.	13/001
Project Title	Conservation of Wetlands and Associated Biodiversity in Northern Zambia
Country(ies)	UK and Zambia
UK Organisation	University of Aberdeen
Collaborator(s)	Kasanka Trust, Zambia (KTL)
Project Leader	Professor Paul Racey
Report date	16th October 2007
Report No. (HYR 1/2/3/4)	Half yearly report no. 4
Project website	www.kasanka.com

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).

Darwin Trainee: Gryton Kasamu continued his training on the MSc course in Biodiversity and Tourism at DICE, University of Kent, and returned to Zambia during the reporting period to undertake fieldwork for his independent research project. He submitted his thesis during September on “Trophy hunting and socio-economic development of local people in Lupande Game Management Area, Zambia” and returned finally to Zambia in early October. He awaits the results of his thesis examination.

Guide Training: Leslie Reynolds has continued training activities within Kasanka, and the guide training manual which he is preparing is nearing completion.

Community Relations: The resource mapping exercise within the Kafinda GMA has been ongoing, and the inputs of Darwin researchers (Dr Mike Kennedy and Lackson Chama) have also been ongoing. Dr Kennedy received an early draft of the resource mapping report document during September 2007 and has provided comments.

Links to local schools have been maintained, and rainfall data summaries have been circulated to those schools which took part in rainfall data collection. School visits will take place during October 2007 to make sure rain gauges are put out and to circulate data record sheets for the 2007/08 wet season.

Despite strong interest in beekeeping workshops to be held at Kasanka Research Centre (where the Darwin project is based), turnout to initial workshops was low. Efforts will be made to gauge ongoing interest and reinvigorate the process will be made, as the linkages between beekeeping as a sustainable form of livelihood provision and habitat conservation are well understood.

Hydrological investigations: Sampling has continued at up to 34 sites throughout the park and within the Kafinda GMA (concentrating generally upon sites where waters will subsequently flow into the national Park). Alkalinity analysis is still underway in the laboratory at Kasanka Research Centre. Further samples have also been returned to the UK for oxygen isotopes ratio analysis at the Scottish Universities Environmental Research Centre (SUERC) in East Kilbride.

The techniques employed allow ‘finger-printing’ of different sources of water (e.g. rainfall or groundwater) in order to gain an insight into which sources of water are helping maintain various freshwater habitats. The ongoing results increasingly support the initial tentative conclusions from the data collected during the first field season of the project, namely, that critically important wetland habitats found within the park have seasonally variable inputs of water, with rainwater being important in replenishing water levels following of rains. Two of the main rivers which flow through the park, the Musola and the Kasanka, also appear to have a degree of connectivity to the wetland systems, and also to

the groundwater within the park. A third major river which flows through the park, the Luwombwa, appears to have a different character, with little connection between the main channel and adjacent groundwater. This then suggests that a majority of the water found within the Luwombwa channel originates from outwith the boundaries of the National park.

Rainfall gauges at various sites within the park where there are permanently stationed staff, will be set out once again during October 2007, and rainfall recording booklets will be circulated. Rainfall data has now been collected for two full rainfall seasons (2005/06, and 2006/07). The data show that the rainfall for the 2006/07 season exceeded the regional average of 1200mm at all stations monitored, and at Fibwe (where extensive papyrus swamps, and remnants of mushito woodland exist), the rainfall almost reached 1900mm (i.e. >50% above the regional average). The same spatial variability observed in the 2005/06 wet season was again observed.

Burning Experiments: Early burning treatments have been implemented in the miombo and termitaria grassland experimental plots for 2007 during July, and monitoring of the plots has continued. Given the extreme wet season during 2006/07, water levels have remained high in seasonal wetlands, and initial 'early' burn was not possible until September for the grassland plots. Percentage green material has remained high in most of the plots as a result of the wet conditions, and late burn is due to be carried out in late October (in contrast to September burning during 2006). The possibility of variability in timing of burning in relation to conditions from year to year was referred to in previous reports. Monitoring includes assessments of vegetation composition and structure from paired sample locations inside (ungrazed) and outside (grazed) grazing exclosure cages. Treatments (early burn, late burn, no burn) are replicated within various key habitat types found within the park.

Other activities: An expedition from the University of Aberdeen took place during August and September, and research work (aimed at data collection for two honours projects) focussed upon (i) fire damage and nitrification of guano inputs in the mushito habitat, and (ii) behaviour and grazing ecology of sitatunga in the nearby papyrus swamp. Frederick Museka, a school student who is being sponsored through Kasanka Trust and has previously volunteered with the Darwin project was chosen to work with the expedition group.

Discussions for a joint expedition between the Universities of Aberdeen and Glasgow in 2008 are currently underway, and research ideas are being formulated.

Dr Kevin Murphy of the University of Glasgow visited Zambia as part of the new British Council DELPHE link (Capacity Building for Sustainable Biodiversity Management in Zambia) during Late August till early September. Meetings, along with Dr Kennedy took place with British Council personnel and with Dr Henry Sichingabula of the Geography department at UNZA. Dr Murphy gave a presentation (Biodiversity in Streams and Wetlands), which had input from Dr Kennedy to a group including members of the local Chitambo Community Resource Board whilst at Kasanka.

Victoria Patterson, and Msci student from Glasgow University, co-supervised by Mike Kennedy, completed her placement in Kasanka looking at the effectiveness of using chilli pepper 'fences' as a means of deterring elephants and other large grazers, in June. She presented a report and had a viva as part of her placement on 8th October. Victoria's assistance on the day to day Darwin project activities were much appreciated.

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.

None

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

Discussed with the DI Secretariat:	no/yes, in..... (month/yr)
Changes to the project schedule/workplan:	no/yes, in.....(month/yr)

3. 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 the Darwin Secretariat directly.

Please send your **completed form email** to Eilidh Young, Darwin Initiative M&E Programme at Darwin-Projects@ectf-ed.org.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: 14-075 Darwin Half Year Report**