

## Annual Report

### 1. Darwin Project Information

Project reference number: 13/001

Project title: Conservation of wetlands and associated Biodiversity in Northern Zambia

Countries: UK and Zambia

UK Contractor: University of Aberdeen (UA)

Partner Organisation: Kasanka Trust, Zambia (KTL)

Darwin Grant Value: £131,669

Start/End dates: 1 April 2004 to 31 March 2008. (Revised end date).

Reporting period: 1 April 2004 – 31 March 2005. Annual Report No.1

Project website: [www.Kasanka.com](http://www.Kasanka.com)

Author(s), date: Professor Paul Racey with input from Professor Chris Soulsby, Dr. Glenn Iason, Dr. Mike Kennedy, Edmund Farmer & Martin Stanley. June 2005

### 2. Project Background

The project is taking place in Kasanka National Park (KNP) in Northern Zambia, one of two independently run parks in Zambia. The conservation concern is that despite seasonal inundation of grasslands during the rains, and rivers that never dry, some of the distinctive habitats in the park, the papyrus swamp and the mushito evergreen swamp forest, may be drying out and their distinctive biodiversity threatened (sitatunga and straw coloured fruit bats respectively). The established management practice of seasonal burning may also interact with these hydrological considerations and influence habitat dynamics and sustainability. Now that internationally competitive tourist accommodation is available there is also a need to enhance the capacity of the park to attract tourists by training environmental educators and guides, and to make the fullest use of the distinctive niche occupied by KNP.

### 3. Project Purpose and Outputs

#### Purpose

- To secure the future of Kasanka's distinctive biodiversity through the conservation of sensitive habitats, particularly wetlands.
- To train local people to build their capacity for environmental education of community members and visitors to the area.
- To enhance the capacity of KNP to attract tourists and thereby achieve

financial self sustainability.

- To provide baseline data on the natural resources of the Kafinda Game Management Area (KGMA), facilitating the development of plans for sustainable resource utilisation.
- To alleviate poverty through improved conservation and sustainable utilisation of natural resources and enhanced employment and the facilitation of rural development projects.

## Outputs

PROJECT OUTPUTS		
Year/Month (starting April)	Standard Output Number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc)
04/09-05/09 05/09-06/09	2	Two Zambian graduates to year long MSc course in Tourism and Conservation at DICE.
04/09-05/09 05/09-06/09 06/09-07/09	5	Three Zambians each year trained as conservation and ecology educators and guides.
05/06-05/09 06/06-06/09	4A/C	Aberdeen University biological expeditions consisting of 4 AU students partnered with 4 Zambian students separately funded by AU, Carnegie Trust, BES & BP Conservation Programme.
05/06-05/09 06/06-06/09	4B/D	10 weeks in each of two years.
04 & 05	7	A video already commissioned from a professional film maker (and funded separately by Holly Hill Trust) to include publicity for Darwin Project. Posters on Communal Wildlife Management and on Communal Forestry Management. A manual on Hydrological and Fire Management will be produced (and installed on the website).
04/09-05/03 05/04-06/03	8	78 weeks: postdoctoral hydrologist at KNP.
06/03 06/04-07/03 07/04-08/07	8	78 weeks: postdoctoral ecologist at KNP.
04/05/06/07	8	Total of 4 weeks per annum by two AU professors and Principal Scientist from Macaulay Land Use Research Institute.
07	9	A Hydrological and Fire Management Plan.
07	9	GMA resource map.
07	11B	4 papers to be submitted.
04/05/06/07	14A	Annual Workshops held for Stakeholders and at beginning and end of project (n=4).

05/06/07	14B	One Conference per annum attended by postdocs. One of each press release in each calendar year.
04/05/06/07	15A,15B 15C	
05/06/07	16A,16B	Two electronic newsletters per annum to 200 recipients.
05/06/07	18A	One TV programme per annum.
04/05/06/07	19A 19B 19C	One in each calendar year of project One for BBC World Service One in each calendar year of project
07	20	3 year old Landrover Defender value 2 Laptop computers GPS handsets Reprint collection and similar resource materials
04-07	23	£pa from Holly Hill Trust £ value of time donated by Principals, and others

#### Modifications to outputs and proposed operational plan:

The original proposal aimed to appoint a postdoctoral hydrologist for the first 18 months of the project followed by a postdoctoral grazing ecologist for the second 18 months. However, shortly before the (delayed) announcement of the results of the round 12 competition, the post doctoral hydrologist named on the application accepted a post with The Scottish Environment Protection Agency. Rather than seek a replacement immediately, the project leader decided to wait until two other members of the project team, Chris Soulsby, a hydrologist and Glenn Iason, a grazing ecologist from the Macaulay Land Use Research Institute (MLURI) had visited KNP to devise a workplan for the hydrological and ecological investigations required and assess the skills required. They concluded that greater continuity in the research aspects of the project would be achieved by appointing a postdoctoral hydrologist with an interest in grazing ecology for the three-year duration of the project. Such a post was advertised nationally, interviews held during January and Dr. Mike Kennedy, a hydrologist/plant ecologist was appointed with effect from 1 March 2005.

Since this appointment has been delayed for almost a year, a rescheduling of the reporting requirements of the project was successfully sought from Sarah Moon at DEFRA. There was no corresponding request to reschedule Darwin funding, since the flexibility of the funding arrangements from the co-funder, The Holly Hill Trust (HHT) means that Mike Kennedy's salary will be available for the fourth year of the project from the Trust's contribution to the project.

#### 4. Progress

- History: the need for the project was identified during a visit by the project leader to KNP, at the invitation of and sponsored by the HHT, to assess the research and tourism potential of a colony of ca. 8 million straw coloured fruit bats which is established seasonally in the mushroom evergreen swamp forest.

It became clear during the visit that both the conservation management in the park, particularly the management of wetlands and the exploitation of natural resources in the surrounding area, were lacking scientific data and informed planning. Local educators and tourist guides lacked ecological and conservation knowledge, needed to influence communal resource management practices and to exploit the area's distinctive tourism attractions.

- Progress and achievements over the last year.

#### *Preparation of work plan for the scientific investigations*

- Chris Soulsby and Glenn Iason visited KNP from 18 to 26 August 2004 and together with Edmund Farmer produced a detailed research proposal for work on flagship habitats and associated species. This was used during the recruitment process for the postdoc and is now being used to guide Mike Kennedy's work plan. (It is appended as "supporting material" together with a powerpoint presentation prepared by Glenn Iason)

- *Research approach and methodologies*

Discussions between the postdoc and other project members has allowed clarification of research priorities for KNP. (This has been followed up by an initial visit to KNP by Mike Kennedy from May 20<sup>th</sup> to June 2<sup>nd</sup>).

It has been decided that hydrological monitoring needs to be carried out: (i) at the park scale (using naturally occurring chemical tracers to identify seasonal flow pathways, sinks and sources through the various riverine, wetland and lake habitats); and (ii) through instrumentation and intensive monitoring of water levels and hydrochemistry within the specific habitats such as the mushito forests, papyrus swamps and seasonal dambo wetlands. Various sites have been identified and instrumentation will begin when Mike Kennedy returns to Zambia in August 2005. However, trial plots have been established on an area of seasonal floodplain, and various manipulations applied (early burn, late burn, mowed, control). Follow up monitoring by Mike Kennedy will allow investigations of potential effects on soil water chemistry, vegetation responses, and grazer utilisation under different management scenarios.

#### *Stakeholders workshop*

Paul Racey and Martin Stanley visited KNP 26 November – 4 December. A day-long inaugural stakeholders workshop was held at KNP on 30 November, chaired by Mr. Tagd Wixted, Chairman of Kasanka Trust Limited and attended by 20 people as follows:

Name	Title	Organisation
Derrick Chalwe	Councillor	Chalilo Ward
Dolly Chanda	CRA	KTL
Gershom Chilukusha	Director-Directorate of Game Management	ZAWA
Charles Chisenga	Chairperson	KCRB
Elliam Chiwila	Chiefs' Representative	Chief Chitambo
Mabo Chola	Community Relations Assistant (CRA)	KTL

Edmund Farmer	Park Manager	Kasanka Trust Limited
Fred Kapokola	Area Warden	ZAWA
Cryton Kasamu	Ranger Operations	ZAWA
Isaac Longwe	Acting Director	Zambia Wildlife Authority (ZAWA)
	Directorate of Conservation & Management Services	
Rita Moono	Resource Management Committee Chairperson	Kafinda Community Resources Board (KCRB)
K. Mulenga	Agricultural Coordinator	Agriculture
Mambepa Nsamunjabu	Senior Wildlife Police Officer (WPO)	ZAWA
Bechani Nyawali	Extension Assistant	Forestry Department
Paul Racey	Professor	University of Aberdeen
Martin Stanley	Trustee	Holly Hill Trust
Cornelie Van Der Feen de Lillie	Community Relations	Kasanka Trust Limited
Tadg Wixted	Trustees Chairperson	KTL

Professor Racey introduced the Darwin Initiative and the outlined the proposed Darwin Project at KNP.

There followed an extended discussion of the role the project would play in poverty alleviation, principally by contributing to the long-term viability of KNP, which was the largest employer in the area.

Stakeholders were asked if and how they would like to contribute to the project and were all very positive. It was agreed that an Advisory Committee would be established, consisting of the local MP, and representatives from the Community Resource Board, ZAWA, Community Development, the local council, Agriculture and Forestry departments and the Honourable Chief.

Because the stakeholders meeting was residential, KTL was able to hold a meeting of its management committee the following day, which Paul Racey and Martin Stanley attended as observers.

Paul Racey and Martin Stanley were given a guided tour of the Mulaushi Conservation and Research Centre close to the entrance of KNP by Edmund Farmer. Several buildings were nearing completion. The Darwin project together with the community projects will be based at Mulaushi which is being funded by a grant from the Beit Trust.

- *Training*

During summer 2004, Edmund Farmer identified a Zambian graduate, Patricia Mupeta who had worked for WCS and The Environment Council for Zambia and who was familiar with KNP, to attend the MSc in Tourism and Conservation in DICE. Her application was successful, and as a result of the high standard of her course work, she is highly regarded by her teachers in Canterbury. With input from Paul Racey, Martin Stanley and Edmund Farmer she has developed a proposal to assess the potential of KNP for visits by school parties from throughout Zambia.

During the year Bob Sternstedt, a resident Zambian Ornithologist (and probably Zambia's best birder) has trained the following guiding staff in KNP: Damson Chola, Marle Katinta, Julius Changamoyo, Aaron Mbaloma and Benson Beupe.

During the stakeholders workshop, ZAWA was invited to nominate a second Zambian graduate to apply to the DICE MSc course, and a further graduate to assist and be trained by the postdoc. We await the outcome.

- *Visit to Community Projects*

Paul Racey and Martin Stanley visited community projects with Mabo Chola (Community Relations Assistant) and Charles Chisenga (Chairperson, Chitambo Community Resource Board). At Mapepela, rabbit and chicken husbandry projects and horticulture projects (bean growing) were observed. A school where KNP pays the salary of an unqualified teacher was also visited in the neighbouring village of Naboia.

As a result of these visits, the project agreed to make up to \$1500pa available for community projects. So far, this has funded the renovation of a forestry department house in Chalilo, with the aim of filling the long standing vacancy of a forestry officer. The renovation is nearing completion as a result of the active involvement of the local community.

Also witnessed at Mapela was the aftermath of the 2004 caterpillar harvest. This is the largest "cash crop" in the area, and the source of some conflict with respect to fire management. Chief Chitambo has ordered late burning in the Game Management Area (GMA) and villages around the park, in order to stimulate fresh growth of leaves on trees sought out by five species of hawk moths for egg laying. Late burning tends to be hotter and potentially more damaging particularly if it gets out of control than the cooler early burns which is the standard management practice at KNP.

The method of caterpillar harvest is potentially unsustainable, since the long-term consequences of the associated burning regime are unknown, and the harvest involves felling of bushes and trees on which caterpillars are feeding. The latter (a delicacy) are bartered in exchange for second-hand clothes brought in by dealers from Lusaka or the Copper Belt. The Chief collects a caterpillar "tax" from the villages. The benefits and environmental impact, if any, of the habitat management for and harvesting of caterpillars requires further investigation, and a student is being sought for this project.

- *Visit to Bangweulu*

Paul Racey and Martin Stanley also visited Shoebill camp at Bangweulu with Edmund Farmer. This is leased by KNP from ZAWA, and is important since Bangweulu and Kasanka are marketed together, and for many tourists, the birds and antelope (shoebills, lechwe and tsessebe) at Bangweulu are major attractions. KNP is often a stop-off point for tourists visiting Bangweulu by air.

- *Video*

A professional video funded by HHT, has been made by Jenny Sharman of Uhuru films and requires some final editing and badging before release as a Darwin output.

- *Press release*

A press release on the Darwin project issued by the Aberdeen University Communications Team resulted in extensive coverage in a local Aberdeen newspaper.

- *Project vehicle*

A customised landrover was purchased from Foley Specialist Vehicles, shipped to Windhoek and driven overland to Lusaka by one of Foley's staff. It is now in a customs pound in Lusaka, awaiting the re-registration of KTL as a charity so that an application can be made for remission of £ import charges that would otherwise be payable.

- *Additional funding:*

Chris Soulsby prepared a funding proposal for hydrological tracer work which was short listed for the Ralph Brown Award by the Royal Geographic Society (RGS) but not funded. It will be submitted to The Royal Society in November 2005 and to the RGS.

- **Significant difficulties**

No significant difficulties have been encountered during the year. The failure to appoint the originally-nominated postdoctoral hydrologist, has been made good since it forced a rethink on how to staff the project, with an excellent outcome in the appointment of Dr. Mike Kennedy, who combines the skills required.

A significant difficulty will arise if the landrover is not available when Dr. Kennedy begins full time work in KNP in August 2005. In that case, the import charges will have to be paid with negative impact on the project's finances.

- **Enhanced design**

The August 2004 visit of Chris Soulsby and Glenn Iason resulted in a draft research proposal for hydrological and ecological studies which will be further developed by Mike Kennedy's visit in May 2005.

- **Timetable for next reporting period**

In the sixth month reporting period May – October 2005:

July 2005

1. Patricia Mupeta will complete data gathering in Zambia, return to UK, analyse her results, write and submit her MSc thesis.
2. A second candidate for the MSc course in Tourism and Conservation at DICE has been identified, her availability to attend this course is being determined, and if her employer gives her leave of absence, an application will be made to the University of Kent.

August 2005

Mike Kennedy will return to KNP to commence detailed investigations of hydrology and effects of burning on grazing ecology.

**5. Actions taken in response to previous reviews: N/A**

**6. Partnerships**

The partnership between AU, HHT, KTL and MLURI, has worked very well, as detailed in section 4.

There appear to be no similar projects operating elsewhere in Zambia. KTL is involved in developing a project with WWF/UNDP, which is still at the planning stage

**7. Impact and Sustainability**

The stakeholders workshop involved the local MP and senior ZAWA staff, who are now fully aware of the Darwin Initiative.

**8. N/A**

**9. Outputs, Outcomes and Dissemination**

- Explain differences in actual outputs against those agreed.

The delayed appointment of the postdoc (and his Zambian assistant) has delayed the scientific investigations.

Five guides have been trained (rather than three mentioned in the implementation time table)

- **Dissemination activities**

The Stakeholders workshop (November/December 2004) disseminated details of the Darwin Initiative and the project at KNP at local and national levels. Further dissemination opportunities will be sought as the project develops.

**Table 1**

<b>Code No.</b>	<b>Quantity</b>	<b>Description</b>
2	1	MSc student being trained
5	5	Guides trained
7	1	Video produced
8	4	Weeks of visits by AU, MLURI & HHT personnel.
14A	1	Annual workshop
15A	1	Press release
23	2	£ pa received from Holly Hill Trust (i.e. £)

**5. Project Expenditure**

- Please expand and complete Table 3.

**Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)**

<b>Item</b>	<b>Budget (please indicate which document you refer to if other than your <u>project schedule</u>)</b>	<b>Expenditure</b>	<b>Balance</b>
Rent, rates, heating, overheads etc	0.0		
Office costs (e.g. postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others			
Salaries (specify)			
<b>TOTAL</b>			

- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

**6. Monitoring, Evaluation and Lessons**

- Discuss methods employed to monitor and evaluate the project this year. How can you demonstrate that the outputs and outcomes of the project actually contribute to the project purpose? i.e. what are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?

- What lessons have you learned from this year's work, and can you build this learning into future plans?

**7. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)**

■ **I agree for ECTF and the Darwin Secretariat to publish the content of this section**

In this section you have the chance to let us know about outstanding achievements of your project over the year that you consider worth highlighting to ECTF and the Darwin Secretariat. This could relate to achievements already mentioned in this report, on which you would like to expand further, or achievements that were in addition to the ones planned and deserve particular attention e.g. in terms of best practice. The idea is to use this section for various promotion and dissemination purposes, including e.g. publication in the Defra Annual Report, Darwin promotion material, or on the Darwin website. As we will not be able to ask projects on an individual basis for their consent to publish the content of this section, please note the above agreement clause. *Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2003/2004*

<b>Project summary</b>	<b>Measurable Indicators</b>	<b>Progress and Achievements April 2003-Mar 2004</b>	<b>Actions required/planned for next period</b>
<p><b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>• The conservation of biological diversity,</li> <li>• The sustainable use of its components, and</li> <li>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<b>Purpose</b> (insert original project purpose statement)	(insert original purpose level indicators)	(report impacts and achievements resulting from the project against purpose indicators – if any)	(report any lessons learned resulting from the project & highlight key actions planning for next period)
<b>Outputs</b>			
(insert original outputs – one per line)	(insert original output level indicators)	(report completed activities and outcomes that contribute toward outputs and indicators)	(report any lessons learned resulting from the project & highlight key actions planning for next period)
Building capacity. Improve conservation education	Improved conservation experience for visitors	Inaugural workshop held Research proposal prepared	Implement research

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Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output