



Darwin Initiative Annual Report

Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes

Submission Deadline: 30 April 2012

1. Darwin Project Information

Project Reference	DAR17-031
Project Title	Ecological sustainability of leopard trophy hunting in zimbabwe
Host Country/ies	UK, Zimbabwe
UK contract holder institution	WildCRU, Zoology Department, Oxford University
Host country partner institutions	Zambezi Society
Other partner institutions	Zimbabwe Parks And Wildlife Management Authority
Darwin Grant Value	£214 886
Start/end dates of project	December 2009 To November 2012
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	April 2011 to March 2012, Annual Report 3
Project Leader name	Dr Andrew J Loveridge
Project website	http://wildcru.org/research http://zamsoc.david.co.zw/
Report authors, main contributors and date	R.L Chikerema-Mandisodza (ZPWMA/ZAMSOC) P. Musto (ZAMSOC) Dr A. Loveridge (Oxford University) 25/4/2012

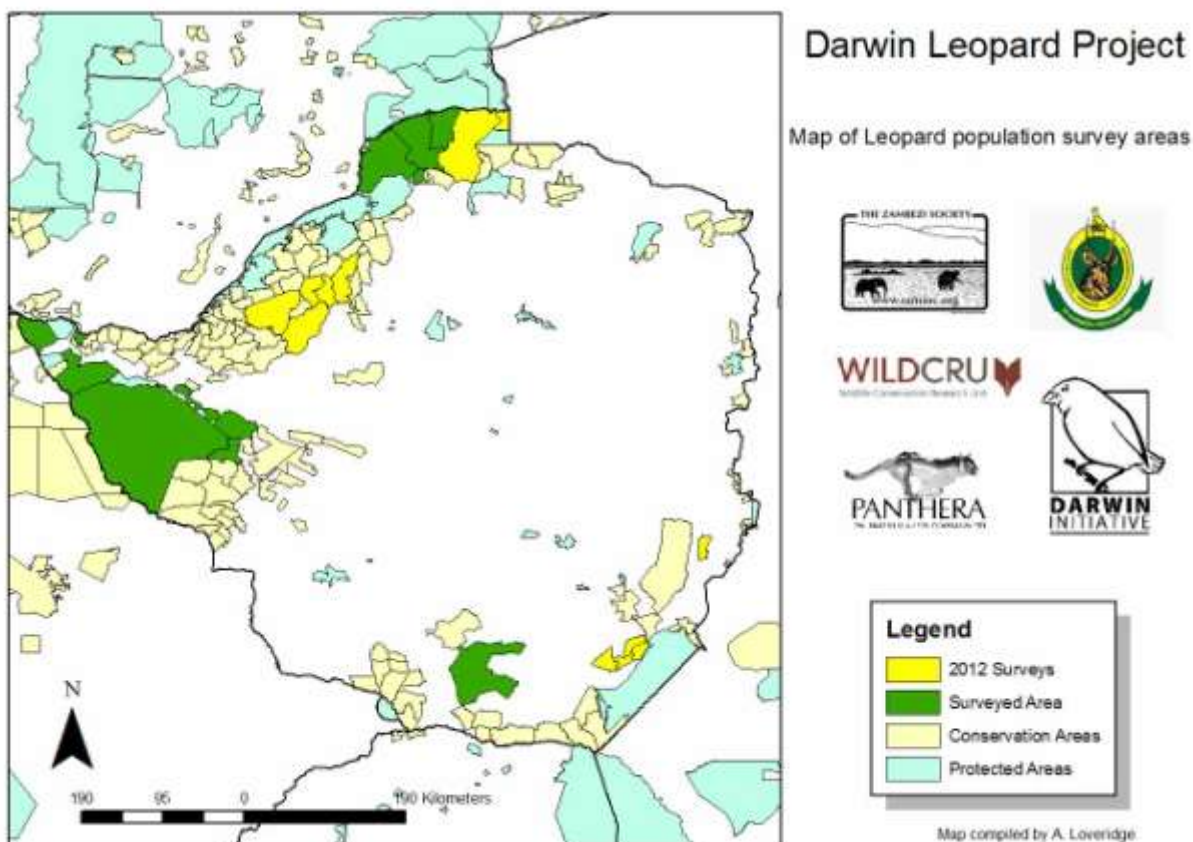
2. Project Background

This project aims to address the need for improved management and sustainable conservation of African leopard (*Panthera pardus*) and the leopard habitat in Zimbabwe. The project will collect ecological and management data to support a National Leopard Management Strategy in Zimbabwe; the design and implementation of which will be facilitated through this project. The project is a three way partnership between the Wildlife Conservation Research Unit, Oxford University (WildCRU, lead UK institution), Zambezi Society (ZAMSOC) and the Zimbabwe Parks and Wildlife Management Authority (ZPWMA, project partner).

Zimbabwe have a CITES allocated sport hunting quota of 500 leopards since 1992. However, this quota has never been fulfilled. Which raises the question on whether the leopard population can sustain the off take or the quota of 500 was allocated from an unrealistic figure?

This project seeks to formulate the baseline data on which the impact of hunting on leopard population will be assessed. There was little or no data to assess the impact of hunting on leopard populations or carry out a non-detrimental findings assessment. This project will also help in the formulation of a National Leopard Management Action Plan for Zimbabwe at the completion of the project through collecting baseline ecological and distribution data, providing training.

The map below shows the survey areas for 2012, the survey areas will complete the agreed minimum survey areas for the National Leopard Spoor Survey.



Map showing 2012 Leopard spoor survey areas

3. Project Partnerships

This project is a partnership of three institutions.

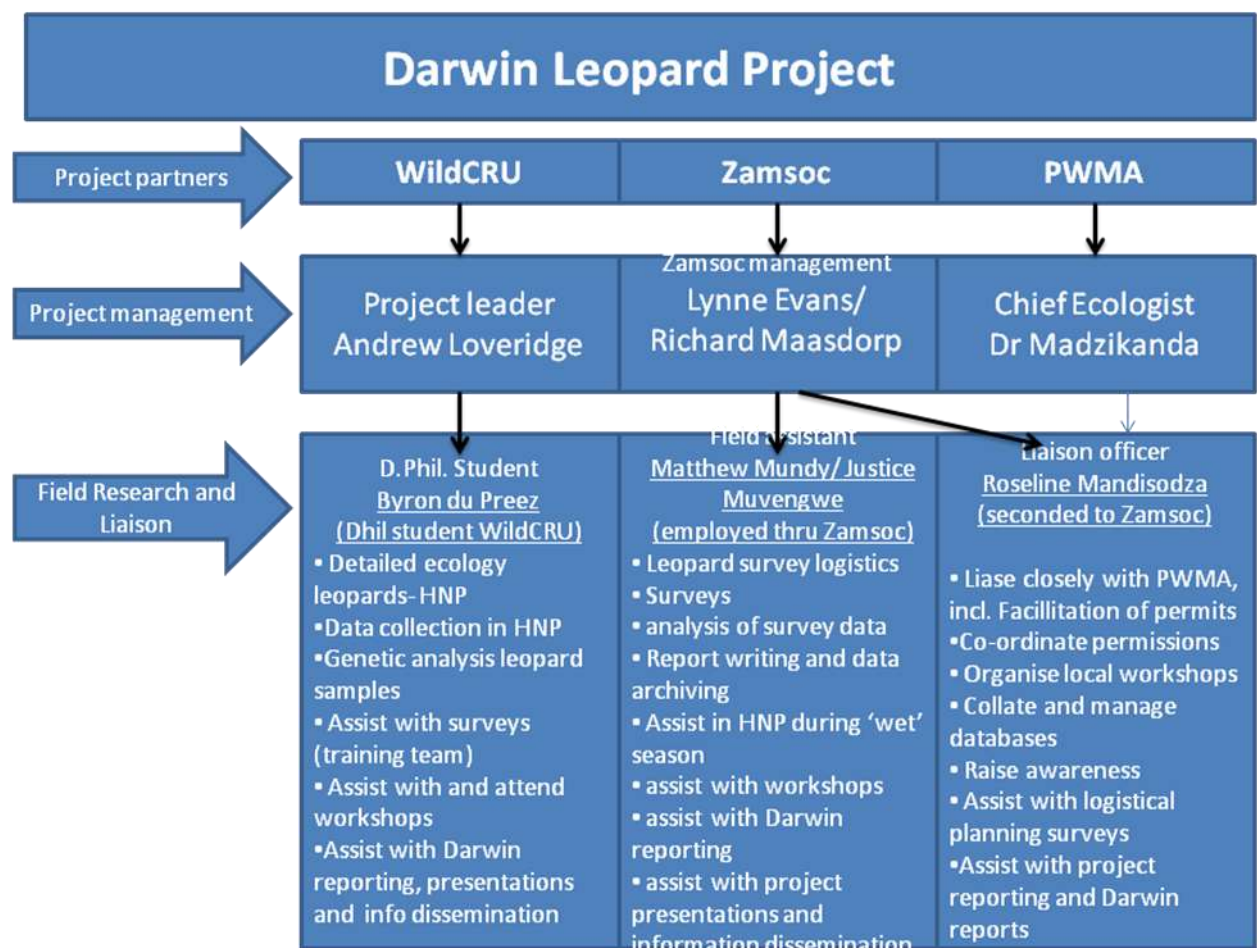
The WildCRU, Department of Zoology, Oxford University based research group is the UK partner in the project. Dr Andrew Loveridge is the project leader for this Darwin project. Mr Byron du Preez is a D.Phil. student registered at Oxford. Mr du Preez is working on a detailed study of leopard spatial ecology and social behavior in Bulyebe Valley Conservancy. His study investigates the impact of trophy hunting on a closed/fenced population.

The Zambezi Society (ZAMSOC), an established conservation NGO that has previously undertaken assessments of the sustainability of leopard trophy hunting, has initiated the National Strategy for leopard conservation and brought together the partners for the project. ZAMSOC liaises closely with the Zimbabwe Parks and Wildlife Management Authority research staff, local stakeholders, will organise and run technical and management workshops, coordinate permissions and logistics for surveys, maintain the project website and disseminate results and information. ZAMSOC is the recipient of all host country DI funding.

Roseline Chikerema-Mandisodza, a Senior Ecologist in ZPWMA Scientific Services has been seconded to ZAMSOC and is fulfilling a coordination and liaison role. Mr Justice Muvengwi is the Field Officer responsible for spoor survey data collection in the field.

Zimbabwe Parks and Wildlife Management Authority (ZPWMA), is a government wildlife management authority responsible for management of protected areas and biodiversity, sustainable use of wildlife, population monitoring, and evaluation of CITES allocated quotas and other wildlife quotas. ZPWMA has commissioned this project and assigned a staff member to the research to facilitate and co-ordinate research, permission and compilation of data. ZPWMA are the management authority responsible for formulation of policy and implementation of CITES legislation. Thus, recommendations of this project can be translated into changes to policy and management. ZPWMA will provide access to official government records and databases. Staff time will be made available in CITES office, hunting and administration offices, permits office, scientific services, regional offices and national parks. ZPWMA will not receive direct funding. Roseline Chikerema-Mandisodza (ZPWMA, Senior Ecologist-Scientific Services), has been assigned to work on the project and has office space in the ZAMSOC office. The project has contact with and liaises with other projects working on leopards and other large carnivores. We anticipate collaborations arising from these contacts.

The organogram below sets out the operational structure of the project.



4. Project Progress

4.1 Progress in carrying out project activities

1. Leopard population surveys

The leopard spoor surveys are being carried out in all major wildlife areas in all the ZPWMA administration regions. The survey seeks to provide knowledge of distribution, population viability and wider ecosystem that will inform national management. The survey has been completed in the Western region of Zimbabwe. Surveys of leopard populations started in the Northern Region of Zimbabwe. Spoor data was collected in Mana Pools National Park, Nyakasanga Safari Area, Hurungwe Mkwichi and Rifa. The areas represent three different land use types of protected areas i.e. National Parks, Safari areas and Communal (CAMPFIRE) areas. We have done an average of about 150 kilometres of transect length in each survey area. Spoor data collected was collated and is yet to be analysed. Details of these surveys are given below:-

Mana Pools National Park

The Mana survey started on 1st August. This survey was carried out by Mat Mundy and Justice Muvengwi. Mat had done some surveys last year and although Justice was new to the team he had previous experience from time spent with Dambari Trust. Six transects totalling 177.2 kms were covered three times each. A total of 531.6 kms were covered and 36 leopard spoor counted.

Nyakasanga Safari Area

The Nyakasanga survey started on 9th September. This survey was carried out by Justice Muvengwi and Pete Musto. The tracker was Christopher Hungwe from Parks(Marongora). Six transects totalling 160.9kms were each covered twice giving a total distance of 321.8 kms and a total of 30 spoor counted.

Mukwichi Campfire Area

The Hurungwe Mukwichi survey started on 7th October. This survey was carried out by Justice Muvengwi and Graham Van Der Ruit. This was Graham's first survey. Seven transects totalling 195 kms were each covered twice giving a total distance of 390 kms and 5 spoor were counted.

Rifa Safari Area

The Rifa survey started on 3rd November. This survey was carried out by Justice Muvengwi and myself. Again Christopher Hungwe was the tracker. Five transects totalling 137kms were each covered three times giving a total distance of 411kms and 23 spoor counted.

The substrates for all four surveys were fairly similar, ranging from very soft, powdery sand to a very firm surface with stretches of gravel along some transects. The first transect of the Rifa survey, along the base of the escarpment, was a particularly difficult transect with long stretches of gravel that had to be covered very slowly and carefully.

Spoor surveys will be carried out in the major areas in all the regions as listed below. We plan to start surveys again as soon as the rains abate and aim to complete the Northern Region surveys by doing a campfire area within Dande Communal lands and then another in the Chewore safari area. From there we'll move to Southern Region where we will do, possibly, two surveys within 'campfire' areas surrounding Gonarezhou National Park and the conservancies. Surveys have been done in Malilangwe, Save and Gonarezhou. Once Southern Region has been completed we will move to Central Region. The aim is to complete a survey every month once the rains abate and before the following rainy season commences.

Northern Region

Dande Communal Area

Chewore Safari Area

Southern Region
Chipinge Safari Area
Chiredzi RDC

Central Region
Chizarira National Park
Sengwe Safari Area
Omay Communal Area

We intend to have a team of experienced field researchers in each region. Thus, three teams at any given time in all the regions. The project will work with other leopard researchers to complete the surveys. The surveys will be starting in May 2012 after the rain season.

2. Detailed study of leopard behavioural ecology

The project's detailed leopard behavioural ecology study is being undertaken by D.Phil. student B. duPreez in at the Buby Valley Conservancy (BVC). BVC is a hunting area where leopards are hunted on quota. This study aims to understand how population demographic processes are influenced by hunting and the presence of other competing carnivores. In 2011 an additional 5 leopards and 3 lions were captured and GPS radio-collared, taking the total number of collared animals to 15 leopards and 5 lions. One leopard that was captured in 2010 was recaptured and had a faulty collar replaced. Unfortunately, 1 lion and 4 leopard collars have failed so far, and 3 collared leopards have died after fighting with other leopards. From the collar data, male leopards have an average home range of 180 km², and females 40 km². The collar data also shows that leopards tend to avoid lions, and seek the shelter of denser riverine vegetation when lions are present.

A 50 day baited camera-trap survey of leopards was conducted in both the Mazunga and Kwalusi study sites in the Buby Valley Conservancy. In total 22,365 photographs of leopards were recorded in the surveys, and these were each individually identified, resulting in 9 males, 15 females and 3 small cubs in the Mazunga site where lions are present, and 8 males, 14 females, 6 small cubs and 7 juveniles in the Kwalusi site where lions are excluded. From the difference in the number of cubs, and the total lack of juveniles where lions are present, it is apparent that lions at high density impact negatively on leopard population reproduction and recruitment.

The annual spoor transects were carried out for the third time. This data is yet to be analysed, but any trends in population density changes over time will start becoming apparent, particularly that of leopards as the lion population increases. The camera trap survey will be repeated in 2012 at both of the sites.

3. Trends in past data and management

This data is being collated for all the country and is work is ongoing. This work is being undertaken by R. Chikerema-Mandisodza. At completion an analysis report will be produced and a database established for use by managers and decision makers.

4. National Technical Workshop

A technical workshop for all the leopard researchers and the wildlife management authority was held at Sethule Lodge in Bulawayo on the 18th of August 2011. Presentations were made by 5 research projects working on leopards in the country. The workshop discussed the possibility that a formal CITES non detriment finding assessment meeting be held to reassess the leopard CITES quotas, as a lot of information is now available through this and other projects to revise leopard management in Zimbabwe. We are to have the NDF meeting this year before the end of year.

5. Training and Awareness

A training workshop was hosted at Hwange National Park from the 9th to the 13th of May 2011. The training workshop objective was to train stakeholders in the conservation industry in carnivore management and monitoring techniques especially focusing on leopards. Trainees from the Rural District council through CAMPFIRE association and trainees who manage protected areas were represented through ZPWMA and the Forestry Commission. The training workshop consisted of a theory and a field study on identifying and measuring spoor. The following topics were covered;

- Overview of leopard population biology
- Distribution of leopards in Africa and Zimbabwe
- Overview of techniques used in monitoring carnivores
- Why studying/ monitoring leopards
- Discussion on use of spoor transects as a technique to monitor animals including leopards
- Differences between leopard spoor and other cats' spoor
- Leopard identification and aging- in the field
- Aging and sex determination from spoor
- Trophy size estimates using spoor
- Spoor data collection and analysis

A spoor survey training manual was compiled and disseminated to all the field stations. We have made posters and fliers for the national leopard survey in all the three local official languages to raise awareness. The posters and fliers are being distributed to all the areas with leopards in Zimbabwe. We are working on a leopard DVD that will be circulated in all areas to raise leopard awareness. We are also working on a leopard documentary that will be aired on the local television, radio and published in a local newspaper.

4.2 Progress towards project outputs

1. Output 1:

The national leopard surveys provide knowledge of distribution, population viability and wider ecosystem that will be the baseline of the national leopard management action plan. This is the key result area of the project. During this reporting period, four surveys have been completed. Thus, a total of 10 surveys have been completed. We hope the target of 17 survey areas will be met by the end of the project, because for this year we are going to have three survey teams on the ground.

2. Output 2

Impact of hunting on behavioral ecology. This study has entered its final year. Significant progress has been made in collecting valuable demographic data using state of the art camera traps and GPS radio-collars. Further data will be collected in 2012. Mr duPreez will begin the analysis and write-up of this work in November 2012.

3. Output 3

The trends on past management and utilization will be used to inform the national management action plan. Data collection is ongoing , we hope that by the end of the project information will be disseminated.

4. Output 4

Sustainable management of leopard populations and leopard habitats implemented through the national leopard management action plan. This is one of the outputs of the project to take place in 2013.

5. Output 5

A technical workshop on leopard researchers was held in August 2011. Five presentations were made on work being done on leopards. At the workshop it was resolved that there was enough data to have a non detrimental findings assessment for the leopards and CITES. We are hoping the workshop will be held before the end of this year.

4.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for this reporting period	Total planned from application
1A	Number of people to submit thesis for PhD qualification (in host country)				1	0	0	1
3	Number of people to attain other qualifications (i.e., Not outputs 1 or 2 above)	1	1		1	2	0	3
4C	Number of postgraduate students to receive training		2	1	1	2	1	3
4D	Number of training weeks to be provided		20	20	20	0	20	60
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	1	1	1	1	2	1	4
6B	Number of training weeks to be provided	0	33	33	33	0	33	100
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country		1	1		1	1	2
8	Number of weeks to be spent by UK project staff on project work in the host country	5	25	25	20	25	10	75
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country				1	0	1	1
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording				2	0	2	2
11A	Number of papers to be published in peer reviewed journals				4	0	0	4
11B	Number of papers to be submitted to peer reviewed journals				4	0	0	4
12A	Number of computer based databases to be established and handed over to host country		1		1	0	2	2

14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings		1	1	2	1	1	4
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.			1	1	1	1	2
15A	Number of national press releases in host country(ies)			1	1	1	1	2
15B	Number of local press releases in host country(ies)			1	1	1	1	2
16A	Number of newsletters to be produced		4	4	4	0	0	12
16B	Estimated circulation of each newsletter in the host country(ies)		75	75	75	0	0	75
17A	Number of dissemination networks to be established				2	0	0	2
19A	Number of national radio interviews/features in host county(ies)				1	0	0	1
19C	Number of local radio interviews/features in host country(ies)			1	1	0	0	2

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Poster	Leopard awareness poster	ZAMSOC	http://zamsoc.david.co.zw/	nil

4.4 Progress towards the project purpose and outcomes

The project aims and objectives are being met. The purpose of the project is to collect ecological and management data to assess the sustainability of leopard trophy hunting in Zimbabwe. Data is being collected in the major wildlife areas as agreed and we hope this will all be completed by the end of the project.

The wildlife management authority will implement management outcome of this project. At the moment no major changes are being made on leopard quota allocation because they are

waiting for results of this project. Thus the ZPWMA is motivated to protect leopards as a sustainable resource.

4.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

The final aim of this work is to facilitate the implementation of a well designed management plan, with particular reference to sustainable leopard trophy hunting. The implementation and monitoring of management outcomes of this project will contribute to the conservation of a very important component of biodiversity and ecosystem function as well as protecting valuable habitat. The results of this project will provide vital information for the reassessment of allocation of sport hunting quotas and hunting areas in Zimbabwe. Provision of this information will provide baseline information for future surveys and also underpin any management strategy.

5. Monitoring, evaluation and lessons

We do not currently anticipate that we will need to change the means of monitoring and evaluating the progress of the project originally outlined in the project proposal (technical reports on surveys and demographic study, databases on historical management, workshops organised and reports published, training monitored through number of trainees attending training and courses).

In terms of lessons learned, we need to better engage ZPWMA in order to both facilitate the ongoing work of the project and ensure buy-in and sustainability of the project and in particular any management plan and recommendations the project is able to produce. As a project we need to put more effort into building this relationship to ensure that we are able move forward with key project activities. In addition we need to ensure that management structures and project planning are instituted to ensure smooth running of the work and successful achievement of project outcomes.

6. Actions taken in response to previous reviews (if applicable)

Actions have been taken to comments relating to the 2010 annual report and these are outlined in the corresponding section in the annual report number 2 (April 2011). The 2011 annual report was not reviewed and thus there are no further comments that currently require action.

7. Other comments on progress not covered elsewhere

Despite early delays in implementing surveys of leopard populations in the early part of this project due to problems with permits, significant progress was made in 2011 and the survey teams covered a number of important wildlife areas. Further surveys are planned in 2012 and we feel confident that we will be able to deliver on a comprehensive series of population surveys that will be valuable for informing future management. We have forged a partnership with the Wild Horizons Trust- a conservation trust actively involved in practical conservation action and activities and this has led to some additional surveys and data becoming available to the project

8. Sustainability

Significant interest exists on the issues of leopard management and trophy hunting in conservation entities in the country and this has resulted in significant support and interest from hunters and the hunting community (Bubye Valley Conservancy and Mazunga Safaris), and other conservation organisations. This has resulted in assistance with surveys outside ZPWMA areas. It is likely that this interest and buy-in will continue and can be exploited with dissemination and feedback of project information. It would seem likely that any well designed management strategy for leopards that incorporated both sustainable utilisation with long term protection of leopards and leopard habitats would gain considerable support from within the

hunting and conservation industry in the country. It is crucial that ZPWMA buy into the project objectives and management plan. Without this support it is unlikely that any sustainable management for leopards can be implemented in the country.

9. Dissemination

Educational posters are being printed in English and the two official local languages, along with fliers requesting public feedback on leopard and carnivore sights. These are to be widely distributed to advertise the project and elicit public assistance and awareness. We are working on a leopard DVD that will be circulated in all areas to raise leopard awareness. We are also working on a leopard documentary that will be aired on the local television, radio and published in a local newspaper.

10. Project Expenditure

Table 3 project expenditure during the reporting period (1 April 2010 – 31 March 2011)

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance/ Comments
Staff costs specified by individual			

	Total:	£18 900	£19 867.50	
	TOTAL SALARY	£33 400	£34 567.5	0.03%
Overhead costs				
Travel and subsistence				
Operating costs				
Capital items/equipment (specify)				
Others: Consultancy				
Others (please specify)				
TOTAL				

* Overall the year's budget was with 10% of what was predicted. There has been a slight overspend on the total budget. In three budget headings variance exceeded 10% of the budgeted amount- in all cases this represented an overspend which has been covered with funds from other sources. The reason for inflated costs is it has been difficult to predict expenses in Zimbabwe's uncertain economic environment. Many costs (eg fuel, salaries etc) have increased dramatically since the project budget was first drawn up.

11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for LTS and the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

We have many good photographs of leopards from camera trapping surveys which could be made available on request.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2010-2011

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <ul style="list-style-type: none"> ⇒ The conservation of biological diversity, ⇒ The sustainable use of its components, and ⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 		<p><i>This project should ultimately contribute towards improved sustainable management of African leopards in Zimbabwe, we are in the early stages of collecting the relevant ecological data and although progress has been made we need to accelerate this. Some progress has been made in local and regional collaboration and training, but further efforts need to be made to consolidate these areas</i></p>	
<p>Purpose To collect ecological and management data to support a National Leopard Management Strategy and to build local and regional consensus to create and implement a conservation strategy to manage leopards and their habitats on a sustainable basis.</p>	<p>Increased understanding of the distribution, viability and previous management of leopard populations and improved motivation, capacity and tools to monitor and manage them.</p>	<p>Progress has been made towards collecting the ecological and population data that will underpin any management strategy. Significant progress has been made in leopard surveys and in the detailed behavioural study. 5 population surveys were completed in 2011</p>	<p>Leopard surveys continue Detailed study of leopard ecology in a hunting area continues Continued collection of historic hunting data Regional workshop organised Training of ecology staff continues, training workshops organised</p>
<p>Output 1: National leopard survey provides knowledge of distribution, population viability and wider ecosystem that will inform national management.</p>	<p>Surveys of distribution and abundance of leopards and other mammals undertaken in 12 protected areas, 2 conservancies and 2-3 rural districts councils (years 1 and 2).</p>	<p>Five surveys were completed in 2011, these were undertaken in Mana Pools NP, Nyakasanga Safari Area, Rifa Safari concession, Mukwichi Campfire area and Buby Valley Conservancy.. PWMA permission to undertake further surveys is in place and 2012 surveys are currently being planned as outlined in the main report. Technical reports for each survey are considered appropriate indicators.</p>	
<p>Activity 1.1 National leopard survey to determine leopard population size and distribution at ~17 sites across the country</p>		<p>Personnel were recruited to carry out surveys in 2011, and sites were identified and permissions were sought to access these areas..</p>	
<p>Activity 1.2. Baseline survey data compiled. Results disseminated, reports to decision makers in management institutions, data inform quota allocation, CITES non-detriment findings</p>		<p>Technical report for the 2011 surveys are being prepared and will be distributed to interested stakeholders</p>	

<p>Output 2. Impacts of trophy hunting on behavioural ecology and population viability recognised and incorporated into management during the life of the project and ultimately into policy through a National Management Strategy</p>	<p>Technical knowledge gained in years 1-3 by project scientists on the impacts of trophy hunting on behavioural ecology and viability of leopard populations, and put forward for inclusion in national planning, changes in management and policy</p>	<p>This component of the project has been underway since June 2010 and has achieved its goals and in producing valuable data (GPS data and camera trap data of leopard population demography) on leopard behavioural ecology in a hunted area. Training has been given to relevant staff (capture, handling, use of equipment, appropriate analytical tools etc). Annual technical reports will provide appropriate indicators of progress towards this output.</p>
<p>Activity 2.1. Detailed ecological study to measure the demographic impacts of trophy hunting, undertaken at hunted and un-hunted study sites, results inform management strategy</p>		<p>Project staff have been trained, equipment purchased and fieldwork has been ongoing for 23 months and has focused on capture and instrumentation of study animals. The first camera trapping session was completed at two separate sites.</p>
<p>Activity 2.2 Results disseminated, published in relevant peer reviewed journals, lessons inform management of leopards and setting of hunting quotas</p>		<p>The results of this work have been presented by Mr duPreez at a seminar in November 2011.</p>
<p>Output 3. Trends in past management and utilisation identified and used to inform management during the life of the project and incorporated into the National Management Strategy</p>	<p>Database of historical leopard management and utilisation compiled by project staff by year two</p>	<p>Data on trophy hunting trends has been collected prior to the start of this project by Dr G. Purchase and Ms R. Mandisodza. These data are available for use by the project and data collation is ongoing. A hunt return form was devised and distributed and results from this are currently being evaluated. Forms are being printed and distributed through this project. The resulting database will form a suitable indicator of this output having been achieved.</p>
<p>Activity 3.1. To inform future management, data on historical leopard hunting and management trends compiled, database analysed for trends in quota allocation, trophy size, off-take 3.2 Identify shortcomings of system and future management requirements. Propose solutions as part of National Strategy based on field/ historical data</p>		<p>Data have been collated and this process is ongoing. A database is being compiled and when complete a broad analysis of trends will be undertaken to inform future management. This activity is expected to be completed in 2012 (Year 3 of the project).</p>
<p>Output 4. Sustainable management of leopard populations and leopard habitats implemented through National Leopard Management Strategy</p>	<p>National Leopard Management Strategy workshop held to devise strategy, in consultation with and attended by all stakeholders in year three</p>	<p>Workshops to design a management strategy for leopards will be held in Year 4. A regional technical and stakeholder workshops was held in 2011.</p>
<p>Activity 4.1. Design a stakeholder driven National Leopard Management Strategy through participatory workshop</p>		<p>This activity will only take place towards the end of the project (in Year 4)</p>
<p>Activity 4.2. Approval sought by project partners from Minister for Environment & Tourism for National management strategy. Strategy</p>		<p>This will only be undertaken once the above strategy is complete at the end of the project</p>

endorsed		
Output 5. Improved regional collaboration and technical exchange between conservation managers and scientists in southern Africa	Regional technical and management meetings organised by the project (years 1 and 2). Potential regional collaborations set up to enhance project impact	The stakeholder and regional technical workshop was held in July 2011. A technical report is being prepared. This will be an indicator of success in achieving this output.
Activity 5.1. Two Regional technical workshops, attended by regional and local scientists, conservationists and managers, organised. Knowledge transferred and collaborations established		Project information and networking with regional and local research scientists was achieved at the African Wildlife Consultative Forum held in Victoria Falls in November 2010 and at a technical workshop in 2011.
Activity 5.2. Workshops reports (2) compiled, published and distributed to all stakeholders and workshop participants		Presentations of the projects aims and objectives were given at the forum and these can be made available if required. A technical report from the 2011 workshop is currently being prepared.
Output 6. Local conservationists monitor important components of biodiversity, using skills acquired during project, leading to improved monitoring of leopard trophy hunting off-takes and management of leopard populations and their habitats	25 PWMA (field and administration staff), 5 RDC, 3 Forestry and hunting staff trained in monitoring of leopard populations, trophy hunting and survey methods 2-4 Zimbabweans gain valuable training and experience on project, 2-3 Zimbabwean graduates receive diplomas	Since the beginning of the project two Zimbabwean PWMA ecologists (Mr Edwin Makuwe and Mr Godfrey Mtare) have been enrolled in the Oxford Diploma in International Wildlife Conservation. Their places on this course were directly facilitated through this project. We will continue to put forward candidates in future years. A week long training course to familiarise PWMA ecology staff with appropriate survey methodology will be held in May 2011 attended by around 15 people. One Zimbabwean (Mr Matthew Mundy) was recruited and trained to undertake the surveys and received on the job experience. One Zimbabwean (Mr Byron duPreez) is reading for a D.Phil. at Oxford University. Zimbabwean graduate Paul Trethowan is received training in 2011 and enrolled for a DPhil at WildCRU, Oxford University in Autumn 2011. Progress towards diploma and degree qualifications will indicate achievement of this output. Training manuals and number of attendees at workshops will provide an indication of the success of training exercises.
Activity 6.1. Develop training manuals where needed (e.g., survey manual; quota allocation; trophy measurement protocols). Manuals used in conjunction with training sessions		A manual for undertaking surveys of carnivores- using spoor transects has been compiled and will be used in training of PWMA and other ecology staff.
Activity 6.2. Identify host country personnel for Diploma training course		So far two host country personnel have attended and passed a diploma course at Oxford University. We are in the process of identifying other local conservationists as potential candidates for the this course as the project progresses.

Annex 2 Project's full current logframe

LOGICAL FRAMEWORK

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p>Sub-Goal: Promote leopards as ecological flagships to reduce loss of biodiversity in whole ecosystems and as components of biodiversity to be sustainably used to generate revenue to benefit people.</p>	<p>Leopard populations are stabilised and increase, leopard habitats are conserved, providing protection for other components of biodiversity. Use of species is managed within sustainable limits.</p>	<ul style="list-style-type: none"> • Non-detriment findings by National CITES Technical Committee submitted to CITES for the species • Future surveys show leopard habitats are better protected and leopard populations healthy 	
<p>Purpose To collect ecological and management data to support a National Leopard Management Strategy and to build local and regional consensus to create and implement a conservation strategy to manage leopards and their habitats on a sustainable basis.</p>	<p>Increased understanding of the distribution, viability and previous management of leopard populations and improved motivation, capacity and tools to monitor and manage them.</p>	<ul style="list-style-type: none"> • Survey data and technical information published as reports and peer reviewed papers, workshop reports published and disseminated • Information made publicly available to raise awareness • National Leopard Management Strategy published 	<ul style="list-style-type: none"> • Ecological data collected through continuing collaboration of project partners • Workshops are attended by stakeholders and consensus reached on leopard management • Political motivation to protect and manage leopards as a sustainable resource is in place
<p>Outputs 1. National leopard survey provides knowledge of distribution, population viability and wider ecosystem that will inform national management.</p>	<ul style="list-style-type: none"> • Surveys of distribution and abundance of leopards and other mammals undertaken in 12 protected areas, 2 conservancies and 2-3 rural districts councils (years 1 and 2) 	<ul style="list-style-type: none"> • Technical survey report published and made available to stakeholders • Information made available via websites and pamphlets • Peer reviewed papers submitted for publication 	<ul style="list-style-type: none"> • Permissions remain in place to undertake surveys, collaboration between partners continues • Methods appropriate to survey leopards and suitable data collected and analysed

<p>2. Impacts of trophy hunting on behavioural ecology and population viability recognised and incorporated into management during the life of the project and ultimately into policy through a National Management Strategy</p>	<ul style="list-style-type: none"> • Technical knowledge gained in years 1-3 by project scientists on the impacts of trophy hunting on behavioural ecology and viability of leopard populations, and put forward for inclusion in national planning, changes in management and policy 	<ul style="list-style-type: none"> • Technical reports made to PWMA yearly • Results and recommendations disseminated nationally and regionally through websites and printed material • Peer reviewed scientific papers submitted for publication 	<ul style="list-style-type: none"> • Permissions remain in place to undertake research • Suitable and sufficient data collected using appropriate research tools • Data analysed and made available for use by managers
<p>3. Trends in past management and utilisation identified and used to inform management during the life of the project and incorporated into the National Management Strategy</p>	<ul style="list-style-type: none"> • Database of historical leopard management and utilisation compiled by project staff by year two 	<ul style="list-style-type: none"> • Database available to managers • Reports disseminated to stakeholders and via project website • Peer reviewed papers submitted 	<ul style="list-style-type: none"> • Data made available by stakeholders, RDCs, PWMA • Data effectively collated by project staff
<p>4. Sustainable management of leopard populations and leopard habitats implemented through National Leopard Management Strategy</p>	<ul style="list-style-type: none"> • National Leopard Management Strategy workshop held to devise strategy, in consultation with and attended by all stakeholders in year three 	<ul style="list-style-type: none"> • Workshop reports prepared and disseminated • National Leopard Management Strategy disseminated to stakeholders, approved by Minister 	<ul style="list-style-type: none"> • Co-operative relations established with all stakeholders • Stakeholders and resource managers willing to contribute to and adopt a management strategy
<p>5. Improved regional collaboration and technical exchange between conservation managers and scientists in southern Africa</p>	<ul style="list-style-type: none"> • Regional technical and management meetings organised by the project (years 1 and 2). • Potential regional collaborations set up to enhance project impact 	<ul style="list-style-type: none"> • Two regional technical and management workshops facilitated, with scientists and managers invited from region • Workshop reports prepared and disseminated 	<ul style="list-style-type: none"> • Regional scientists willing and motivated to collaborate with the project • Scope exists for regional collaboration
<p>6. Local conservationists monitor important components of biodiversity, using skills acquired during project, leading to improved monitoring of leopard trophy hunting off-takes and management of leopard populations and their habitats</p>	<ul style="list-style-type: none"> • 25 PWMA (field and administration staff), 5 RDC, 3 Forestry and hunting staff trained in monitoring of leopard populations, trophy hunting and survey methods • 2-4 Zimbabweans gain valuable training and experience on project, 2-3 Zimbabwean graduates receive diplomas 	<ul style="list-style-type: none"> • Annual reports to PWMA • Annual project reports • Pre-survey training sessions at all 17 sites to be included as part of national survey 	<ul style="list-style-type: none"> • Staff motivated to learn and apply new skills • Staff continue to be supported by PWMA and RDCs in conducting monitoring and management activities • Most project trained staff remain in conservation organisations • Entry requirements met by applicants for diploma course

Activities (details in workplan)

- 1.1 National leopard survey to determine leopard population size and distribution at ~17 sites across the country
- 1.2 Baseline survey data compiled. Results disseminated, reports to decision makers in management institutions, data inform quota allocation, CITES non-detriment findings
- 2.1 Detailed ecological study to measure the demographic impacts of trophy hunting, undertaken at hunted and un-hunted study sites, results inform management strategy
- 2.2 Results disseminated, published in relevant peer reviewed journals, lessons inform management of leopards and setting of hunting quotas
- 3.1 To inform future management, data on historical leopard hunting and management trends compiled, database analysed for trends in quota allocation, trophy size, off-take
- 3.2 Identify shortcomings of system and future management requirements. Propose solutions as part of National Strategy based on field/ historical data
- 4.1 Design a stakeholder driven National Leopard Management Strategy through participatory workshop
- 4.2 Approval sought by project partners from Minister for Environment & Tourism for National management strategy. Strategy endorsed
- 5.1 Two Regional technical workshops, attended by regional and local scientists, conservationists and managers, organised. Knowledge transferred and collaborations established
- 5.2 Workshops reports (2) compiled, published and distributed to all stakeholders and workshop participants
- 6.1 Identify training needs, conduct field training exercises (surveys, radio-tracking, analysis of data), conduct in-house training programmes for administration staff
- 6.2 Develop training manuals where needed (e.g., survey manual; quota allocation; trophy measurement protocols). Manuals used in conjunction with training sessions
- 6.3 Identify host country personnel for Diploma training course

Monitoring activities:

Indicator 1: Robust data available via monitoring data (collected by project-trained staff and with project protocols) to show that leopard off-take is demonstrably sustainable and allowing annual report, based on scientific evidence, to be made to CITES, by the CITES technical committee

Indicator 2: Leopard utilisation sustainable and populations stable (indicated by comparison of future surveys against baseline data collected by project) leading to habitat protection and improved benefits generated for stakeholders and communities

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

We have no included supplementary material. We can make available workshop programmes, photographs from camera trapping and posters if these are required. We anticipate that these will all be included in the final report due in February 2013.

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Y
Is your report more than 5MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	N
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	N
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	N
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	