



# 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 2011**

## 1. Darwin Project Information

Project Reference	19-006
Project Title	The CUT plan for large carnivore management in Tanzania
Host Country/ies	Tanzania
UK contract holder institution	Institute of Zoology, Zoological Society of London
Host country partner institutions	Tanzania Wildlife Research Institute (TAWIRI)
Other partner institutions	Wildlife Division
Darwin Grant Value	£299,090
Start/end dates of project	April 1 <sup>st</sup> , 2012 – 31 <sup>st</sup> March 2015
Reporting period (eg Apr 2010 – Mar 2011) and number (eg Annual Report 1, 2, 3)	April 1 <sup>st</sup> 2012 – 31 <sup>st</sup> March, 2013
Project Leader name	Dr Sarah M. Durant & Dr Charles Foley
Project website	<a href="http://www.tanzaniacarnivores.org">www.tanzaniacarnivores.org</a>
Report authors, main contributors and date	Maurus Msuha, Sarah Durant, Rose Mosha 10 <sup>th</sup> May 2013



## **2. Project Background**

Tanzania holds some of the most important large carnivore populations in Africa, harbouring an estimated 25% of the world's remaining lions, 27% of its wild dogs and 9% of its cheetah. Tanzania's leopard population is also thought to be significant. However, these populations, many of which occur outside protected areas, face growing pressures from multiple threats including direct conflict with rural communities and illegal wildlife trade. Additionally, there are concerns about long-term sustainability of trophy hunting of lion and leopard. As top predators, large carnivores play key roles in the maintenance of Tanzania's unique ecosystems. They also contribute substantially to national revenue as a major draw for tourism, which contributed more than US\$1 billion in national revenues in 2008. Recognizing the biological and economic importance of its large carnivores, the Tanzanian government endorsed the 2005 National Conservation Action Plan (NCAP) for Carnivores. However, the sustainable management of large carnivore populations is limited by insufficient institutional capacity and weak co-ordination.

The main thrust of this project is to develop institutional capacity and strengthen coordination for management of Tanzania's large carnivores and reduce mortality and improve the conservation status of four IUCN threatened or near threatened species: leopard, lion, cheetah and wild dog. It will do this by managing key direct threats identified by the NCAP, namely: Conflict, unsustainable consumptive Use and illegal Trade (CUT). Conflict due to livestock loss results in retaliatory killing or problem animal control, and is a threat to all four species. Leopard and lion are targets of consumptive use through trophy hunting, which, although controlled through quotas, can be compromised due to insufficient information on abundance, risking unsustainable offtakes. Finally, evidence of a growing illegal international trade is may be also increasingly threatening cheetah, leopard and lion populations.

## **3. Project Partnerships**

The success of the CUT project relies on strong and productive partnerships across a range of stakeholders. The CUT project has been able to build on 10 years of partnerships established by the Tanzania Carnivore Program with a wide range of governmental and non governmental organisations, that have already established foundations of trust, and the project has further developed these relationships over its first year. The project works closely with the wildlife management authorities and other stakeholders in Tanzania, particularly the Wildlife Division (WD) which is responsible for management of wildlife and formulation of policies, laws and regulations. WD have participated in the project fully, and have provided free entry permits to project staff to carry out camera trap surveys in Game Reserves to develop a protocol for monitoring leopard and lion; and advice on establishing appropriate institutional linkages in developing training programs for customs for the control of illegal wildlife trafficking. WD are also a crucial partner in addressing human-carnivore conflict, and are responsible for developing policy guidelines for managing such conflict. They have actively participated and supported our progress in developing a protocol for the management of human-carnivore conflict.

We have also developed an active working relationship with Tanzania National Parks (TANAPA) which is responsible for the conservation of wildlife in national parks and with the Ngorongoro Conservation Area Authority (NCAA) which manages Ngorongoro Conservation Area. All three management authorities (WD, TANAPA and NCAA) have endorsed the project and are fully participating in project activities and assisting with project progress as required.

The CUT project has also established strong working relationships with a number of key NGO and projects. In particular, we have established a Tanzania human-carnivore conflict working group which is developing the evidence base for the protocol to manage human-carnivore conflict. Members of this group include the Ruaha Carnivore Project which works with communities to develop strategies for mitigating human-large carnivore conflicts in the Ruaha region; the Tarangire Lion Project which works to mitigate conflicts between livestock keepers and lions in the Tarangire, western Kilimanjaro and Simanjiro regions; the Tanzania People and Wildlife Fund (TPWF) which works with livestock keepers and promotes the use of living walls for reducing livestock loss to large carnivores outside Tarangire National Park; the Ngorongoro

Lion Project which aims to develop measures for mitigating conflicts with livestock keepers in the NCA; the Watu, Simba na Mazingira Project (WASIMA) or People, Lions and the Environment, which uses grassroots strategies to halt the trend in lion hunting in the Katavi region; and the long-term Serengeti Cheetah Project and the Range Wide Cheetah and Wild Dog Conservation Program both of which are also led by the CUT PI. We have also established links with the FAO Tanzania office with whom we are working to develop and adapt their toolkit for managing human-wildlife conflict. For our work in combatting illegal trade in large carnivore products in Tanzania we have established a strong working relationship with WWF-Traffic.

#### **4. Project Progress**

The project has suffered from some initial delays, which have had impacts on field activities, and some knock on effects on the development of interpretive materials and web site design. These include the following:

- Delays in permits to allow staff to access field sites due to staff changeovers at Wildlife Division
- A need for a substantial amount of prior analysis before commencing conflict mitigation trials – including a series of stakeholder meetings. While these are expected to reap extensive added value, through strong collaborations with ongoing projects, they have resulted in a delay in the onset of field activities.
- Unanticipated additional meetings for the customs components of the project. We have needed time to cement our partnership with TRAFFIC Tanzania. However, this time has been well spent, as we now we expect to reap substantial added value for the project in the development of interpretation materials and a training curriculum for customs officials.

We anticipate being able to make up for all delays in years 2-3.

Despite these delays we have been able to implement most of the planned activities for year of the CUT project. Notable achievements include:

1. Project equipment purchased, including replacement computers for the project team.
2. Relevant data on approaches to large carnivore conflict management has been collated.
3. Support from FAO Tanzania has been engaged for adapting their HWC toolkit for use in Tanzania
4. A workplan has been established to guide the development of the large carnivore management and conflict mitigation protocol and full support of WD in drafting the protocol secured. This protocol will be driven by TAWIRI and will be used to develop guidelines for implementing wildlife policy on conflict management.
5. The extensive camera trap database held at TAWIRI has been brought up to date, lion call in survey data collated, and a standardized survey protocol for lion and leopard been developed ready for field testing.
6. The first pilot survey for establishing leopard density in one of the four priority pilot sites within a hunting concession (Maswa Game Reserve) has been implemented.
7. A centralized database and reporting for all trafficked large mammal (large carnivores and elephants) products has been established at TAWIRI
8. Partnerships have been established for providing training to customs officers at priority exit ports to enable better identification of large carnivore products, improve reporting and enforce CITES legislation.
9. A stakeholder network has been established to deliver news, report project progress and raise awareness of the CUT project

In addition, we have also contributed to a number of unplanned achievements that also support CUT objectives, notably:

10. A Tanzania National Conservation Action Plan for Cheetah and Wild Dogs, in line with the regional strategy for eastern Africa.
11. A proposal for an investigation into illegal trade in cheetah accepted at the CITES CoP16.

## 4.1 Progress in carrying out project activities

### 4.1.1 National Carnivore Conflict Protocol

A desk-based survey was first carried out to establish a library of scientific literature on human-carnivore conflict. Relevant scientific publications were collated and have been stored as electronic files in the project office. A visiting program was organised to ensure that project staff were acquainted with ongoing approaches to manage human carnivore conflict in Tanzania. The project team visited three established large carnivore conservation project sites – the Tarangire Lion Project in Engaruka, Tanzania; the People and Wildlife Fund Project in Simanjiro; and the Ruaha Carnivore Project. The team also visited the Mikumi human-elephant conflict management project, which is developing a micro credit scheme to manage conflict, to assess whether micro finance might also be an option for managing carnivore conflict.



**The project team visited conflict mitigation projects to learn about the necessary elements that need to be included in a national carnivore conflict mitigation protocol.**

Once these initial fact finding activities had been completed, the project launched a series of small stakeholder workshops (three two day meetings in total), and established a Tanzania human carnivore conflict working group. These meetings have developed a work plan for the conflict mitigation activities of the project and secured the support of Wildlife Division in the last meeting. Wildlife Division requested that the group draft the final protocol document, with TAWIRI taking the lead, and agreed that this protocol should be used to inform the guidelines for implementing government legislation on human carnivore conflict. This will include the development of guidelines for problem animal control.

Discussions during the human carnivore conflict workshops established that there are sufficient tools for reducing livestock loss at bomas. Such tools depend on boma reinforcement using wire mesh, combined, in some areas, with acacia based living walls, and are highly effective. However, there are currently not sufficient tools to reduce livestock loss at pasture and at temporary bomas. In particular, there is an inadequate understanding of the contributory factors leading to livestock loss at pasture, which has made it difficult to develop strategies to prevent such losses. Moreover nomadic people continue to move with their livestock, and construct mobile bomas at seasonal pastures, and these bomas are difficult to reinforce against predator attacks. The group has therefore agreed to gather relevant information on livestock loss at pasture, to enable the development of herding guidelines, and to develop and test a prototype mobile boma defence strategy. The latter will include trialling a modified version of the light defence developed and implemented in Kenya. Modifications will link lights to motion detectors and an alarm, that will be used to alert livestock herders at the bomas, and slow potential habituation to the lights by predators. The project has also secured two HWC toolkits from the FAO office in Zimbabwe. These are undergoing review by the human carnivore conflict working group and we are collating comments and suggested changes for submission to FAO.

Timing of the conflict mitigation aspect of the CUT project has been extremely fortuitous, as it coincides with the recent introduction of consolation legislation for dangerous wildlife, whose implementation has proven problematic. WD have identified a need for the development of policy advice and guidelines to accompany this recent legislation, which is a focus of this project.

#### 4.1.2 Tools for monitoring lion and leopard abundance

The Carnivore Centre at TAWIRI holds probably one of the most extensive camera trap survey databases in the world. The database holds information from 27 surveys conducted across the country since 2004. As a first step, the project ensured that the database was up to date, and that data was cleaned and accurate. Of the 27 sites surveyed, 22 sites had photographed leopard, totalling 206 sightings, with an average of around 10 leopard sightings per survey at sites holding leopard. We identified individual leopards at sites with many photographs and assessed whether there was potential for estimating densities. Density estimation was possible at only two sites: Tarangire and Arusha National Parks. We used these sites to guide survey design.



**Leopard photographed by camera trap during a survey of Gelai Forest Reserve.**

The camera trap database held fewer sightings of lions, totalling 40 sightings at only 12 of the 27 survey sites, an average of only 3 lion sightings per survey at sites holding lion. Hence it is unlikely that camera traps will be sufficient for estimating population density of lions. We have collated existing call in data (Katavi, Ugalla, Swagaswaga, Serengeti, Ngorongoro). However studies have documented changes in behaviour in lions in hunted populations wherein lions may not approach call ins. We have therefore have agreed that spoor counting is likely to hold more promise as a monitoring method, provided it can be calibrated against density. We are therefore planning to conduct road transect counts of lion and leopard spoor in combination with camera trap surveys. We will then calculate leopard density using camera trap survey data, and calibrate with the leopard spoor count. This calibration information will then be used to estimate lion density from spoor counts.

We have identified four priority sites for testing survey techniques. These have been selected to cover the main three ecoregions where lion and leopard trophy hunting takes place in Tanzania - Central Zambezan Miombo woodlands, Eastern Miombo woodlands, Northern Acacia-Commiphora bushlands and thickets and Southern Acacia-Commiphora bushlands and thickets. The sites have been identified as Maswa Game Reserve (Southern Acacia-Commiphora bushlands and thickets, Ugalla and Rungwa Game Reserves (Central Zambezan Miombo woodlands) and Selous Game Reserve (Eastern Miombo woodlands). The first pilot survey has started in Maswa Game Reserve, which will be used to develop the protocol for the remaining three surveys. Because of the delay in permits, we were forced to conduct this survey in the wet season, which proved to be a challenge.

A further aim of the project is to generate a genetic map of lions and leopards using trophy samples, to allow identification of the source of any confiscated illegally traded products from these species. DNA sampling kits have been purchased and a sampling protocol established. DNA will be extracted from leopard and lion skin samples submitted to the TAWIRI genetics lab and analysed at ZSL.



The survey in the Maswa game reserve in the wet season – 13 punctures, mud, and final success

#### 4.1.3 Better enforcement of CITES for large carnivore products

Tackling illegal wildlife trade is a major new area for the project team. It has been an exciting new development, but it has required collaboration and coordination across ministries, and it has taken more time than anticipated to develop effective working partnerships. The project team has now invested considerable ground work in establishing new relationships, having held a series of meetings with WD and TRAFFIC, followed by exploratory meetings with representatives from Tanzania's Interpol office and Tanzania Port Authority to introduce the project. Through these discussions we have identified ten exit ports which will be the focus of the project: Dar es Salaam, Mtwara and Lindi sea ports; Dar es Salaam, Kilimanjaro airports; Namanga, Holili, Hohoro, Tunduma and Sirari land border exit points.

Project staff have set up Google alerts for information pertaining to wildlife trafficking and have initiated systematic reviews of national newspapers. All information is entered in a database and stored at the Carnivore Centre. However, with the exception of frequent confiscations of elephant products, there is virtually no reporting of large carnivore confiscations. This could either be because there is not much illegal trade in these products, or because illegal trade is not detected, due to a lack of awareness in enforcement officers. Recent publicity about increases in overall wildlife crime, including widespread sale of lion bone to China and Vietnam from trophies hunted in South Africa, together with a clear rise in illegal poaching of ivory, leads us to suspect the latter. One of the aims of the project will be to establish the real extent of trade in large cat products.

#### 4.1.4 Establish capacity for large carnivore management

During the first year under review TAWIRI staff have received on the job training in conflict management of large carnivores, camera trap survey design and implementation, and approaches to addressing wildlife crime. However, where possible, we have taken advantage of opportunities for more formal training. In particular, Rose Moshia attended a three day workshop on Human Wildlife Conflict mitigation in Botswana from 4-9<sup>th</sup> June.



**Project team member Rose Moshia participating in conflict mitigation workshop in Gaborone.**

The project has expanded its extensive network of stakeholders developed over 10 years of operation so that it now numbers 350 people and projects. Notable new stakeholders include the CITES office at WD and WWF-Traffic. As noted above, these stakeholders are key collaborators in developing a training curriculum for customs officers at exit ports. The project has also engaged additional funding to allow it to continue to print and distribute its newsletter, Carnivore NewsBites, which provides a forum to disseminate information about carnivores to Tanzanian stakeholders and public. This newsletter is widely distributed and has been uploaded on the Carnivore Centre website ([www.tanzaniacarnivores.org](http://www.tanzaniacarnivores.org)).

#### 4.1.5 CUT large carnivore plan

The CUT large carnivore plan will be delivered in year 3 of the project.

## **4.2 Progress towards project outputs**

### **4.2.1 Standardised evidence based protocol on large carnivore management and conflict reduction agreed and accepted by government, NGOs and local community stakeholders**

A Tanzania human-carnivore conflict working group has been established; a workplan for collecting information to guide development of the protocol established; and agreement from WD that TAWIRI should lead on the development of this protocol has been secured.

### **4.2.2 Standardised tools for monitoring lion and leopard abundance established, supported and implemented by WD, TAWIRI, hunting operators and conservation NGOs**

Existing camera trap data held at the Carnivore Centre from 22 sites where leopard were photographed were reviewed to develop a survey protocol for the species; a pilot survey using a grid system of camera trapping with 40 camera stations with 2 km interval between stations and with double cameras placed opposite each other was initiated in January at the first pilot trial site, Maswa Game Reserve. This survey covers a total area of 102 km<sup>2</sup>

### **4.2.3 Better enforcement of CITES through a systematic and centralised reporting system at exit ports and identification of source populations for large carnivore products confiscated at custom checkpoints.**

WWF-Traffic has been engaged as a key partner; 10 priority exit ports have been identified; the project aims to build on interpretation materials developed by Traffic, and adapt and roll out for use in Tanzania. Stakeholders (WD, Tanzania Port Authority) have been engaged in the project to secure their support for training programs.

### **4.2.4 Established capacity in Tanzanian institutions, NGOs and local communities for conflict management, ensuring sustainable use of large carnivores, and controlling illegal trade**

On the job training provided in all aspects of the project, including human carnivore conflict management, camera trap surveys and monitoring illegal trade. A supportive and active human carnivore conflict mitigation working group has been established, comprising Tanzanian and expatriate wildlife research scientists and management authorities.

### **4.2.5 CUT large carnivore management plan for sustainable management of CUT threats to large carnivores**

Yet to be developed as it depends on the completion of 1-4 above



### 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 reporting period	Total planned during the project
1A	Number of people to submit thesis for PhD qualification (in host country)	0	0	0	1	0	0	1
1B	Number of people to attain PhD qualification (in host country)	0	0	0	1	0	0	1
2	Number of people to attain Masters qualification (MSc, MPhil etc)						0	0
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)						0	0
4A	Number of undergraduate students to receive training						0	0
4B	Number of training weeks to be provided						0	0
4C	Number of postgraduate students to receive training	2	2	2	0	0	2	6
4D	Number of training weeks to be provided	8	8	8	0	0	0	24
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	5	5	5	0	5	5	5
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5)	7	132	133	0	7	7	252
6B	Number of training weeks to be provided	7	63	63	0	6	7	133
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	0	0	3	0	0	0	3
8	Number of weeks to be spent by UK project staff on project work in the host country	25	25	26	0	0	25	76
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	0	1	0	1

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	0	0	1	0	0	0	1
11A	Number of papers to be published in peer reviewed journals	0	0	3	0	0	0	3
11B	Number of papers to be submitted to peer reviewed journals	0	0	3	0	0	0	3
12A	Number of computer based databases to be <b>established</b> and handed over to host country	1	0	2	0	1	1	3
12B	Number of computer based databases to be <b>enhanced</b> and handed over to host country	1	1	1	0	1	1	1
13A	Number of species reference collections to be <b>established</b> and handed over to host country(ies)	0	0	0	0	0	0	0
13B	Number of species reference collections to be <b>enhanced</b> and handed over to host country(ies)	0	0	0	0	0	0	0
14A	Number of conferences/seminars/workshops to be <b>organised</b> to present/disseminate findings	3	3	3	0	3	0	5
14B	Number of conferences/seminars/workshops <b>attended</b> at which findings from Darwin project work will be presented/disseminated.	0	0	9	0	0	0	9
15A	Number of national press releases in host country(ies)	1	1	1	0	1	1	3
15B	Number of local press releases in host country(ies)	0	0	0	0	0	0	0
15C	Number of national press releases in UK	0	0	3	0	0	0	3
15D	Number of local press releases in UK	0	0	0	0	0	0	0
16A	Number of newsletters to be produced	2	5	4	0	2	2	10 Decrease from application

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
16B	Estimated circulation of each newsletter in the host country(ies)	350	400	450	0	350	350	300 Increase from application
16C	Estimated circulation of each newsletter in the UK	0	50	100	0	0	0	100
17A	Number of dissemination networks to be <b>established</b>	2	1	0	0	2	2	3
17B	Number of dissemination networks to be <b>enhanced/ extended</b>	1	1	1	0	1	1	1
18A	Number of national TV programmes/features in host country(ies)	1	0	1	0	1	0	2 Increase from application
18B	Number of national TV programmes/features in UK	0	0	0	0	0	0	0
18C	Number of local TV programmes/features in host country(ies)	0	0	1	0	0	0	1
18D	Number of local TV programmes/features in UK	0	0	0	0	0	0	0
19A	Number of national radio interviews/features in host county(ies)	0	0	3	0	0	0	3
19B	Number of national radio interviews/features in UK	0	0	3	0	0	0	3
19C	Number of local radio interviews/features in host country(ies)	0	0	0	0	0	0	0
19D	Number of local radio interviews/features in UK	0	0	0	0	0	0	0
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	0	0	28450	0	0	0	28,450
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	0	0	1	0	0	0	1
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	0	0	0	0	0	0	0

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	£140 K				£140 K	£123K	248,659

**Table 2 Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Newsletter	NewsBites 11 <sup>th</sup> issue, 2013	TAWIRI	www.tanzaniacarnivores.org	0

#### 4.4 Progress towards the project purpose and outcomes

The purpose of the CUT project is 'improved national and local capacity to reduce direct threats to leopard, lion, cheetah and wild dog by managing Conflict, ensuring sustainable Use; and reducing illegal Trade'. During the report period we have completed a number of activities identified as key to meeting the project purpose. These include laying out the ground work and identifying information needs for a human-carnivore conflict management protocol; establishing and implementing a survey protocol that aims to establish leopard densities and trophy offtake; and engaging stakeholders to initiate a training and awareness raising program to address the illegal trafficking of large carnivore products.

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

The project expects to make its main contribution to overall impact in its final year. However it has generated substantial added value in its first year due to contributions to two key achievements:

- Tanzania National Action Plan for the Conservation of Cheetah and Wild Dog

Due to previous Darwin Initiative support, Tanzania was one of the first countries in Africa to develop a national conservation action plan for cheetah and wild dog in 2005. However, since this plan was developed there has been a range wide initiative to develop regional strategies for both species together, to provide an international framework for coordinated national conservation action planning – the cheetah and wild dog range wide conservation program ([www.cheetahandwilddog.org](http://www.cheetahandwilddog.org)). In 2013, eight years after the first plan was developed, there is a need to update the first plan in line with the regional eastern Africa strategy. This was done through a two day workshop, organised and led by the project team, which has established a new updated conservation action plan, detailing a range of activities that are needed to secure cheetah and wild dog conservation in Tanzania. This plan includes addressing a number of activities identified by this project that will benefit not only cheetah and wild dogs, but also lions and leopard, the two other species targeted by the project. It also provided an opportunity to raise the profile of the CUT project among stakeholders in Tanzania.

This achievement would not have been possible without support from the CUT project. In particular, staff time was critical in organising the workshop, while the reputation of the project team at TAWIRI was critical to engaging the support of the wildlife management authorities – WD, TANAPA, and NCAA – and in securing the attendance of senior representatives of stakeholder groups.



**Participants at the national conservation action planning workshop for cheetah and wild dogs – two focal species of this project. The workshop was opened by the Director of Wildlife and featured on national television.**

- CITES proposal to investigate illegal trade in cheetah

During the first year of the project a CITES proposal to investigate illegal trade in cheetah has been submitted and accepted. The range wide program for conservation of cheetah and wild dog played a key role in this process, with the eastern Africa Coordinator now based with the CUT project at TAWIRI. Tanzania's support for the proposal, was aided by a recent high profile confiscation of three cheetahs in Arusha, later released in Tarangire National Park by the Tanzania Carnivore Programme.

These achievements demonstrated the substantial added value that can be achieved by establishing skills and capacity in national institutions for large carnivore conservation in Africa.

## **5. Monitoring, evaluation and lessons**

The project is monitored and evaluated in the same manner as previous Darwin Initiative projects managed by the PI, as this strategy proved to be extremely effective. The activities of the project are monitored against work plans drawn up at quarterly planning meetings attended by the entire project team including project leaders. These work plans are based on the logical framework in the original proposal. Each project staff member writes a monthly work plan based on the needs detailed at our quarterly meetings, and this work plan is submitted to the project manager and coordinator who use it to determine progress. The project manager collates the information and submits monthly reports to the project leaders and ZSL which are also used to monitor progress against the work plans and logical framework. In this way the entire team is engaged in the project implementation and is kept fully aware of project goals and targets and can adjust work plans and timetables to ensure that the project outputs are met.

This project, as with previous projects, has been subject to start up delays, mainly due to changeovers in staff in partner organisations which occurred between the project's inception and implementation. As with previous projects, we expect to make up for these delays, and anticipate no change in overall project delivery by end of year three.

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

NA

## **7. Other comments on progress not covered elsewhere**

- One additional survey using camera traps were carried out using funds leveraged from elsewhere - Gelai Forest Reserve June-July 2012.
- The status of the Tanzania Carnivore Centre building was assessed and a tender has been issued (as required by Government) for carrying out repairs.
- Project staff have contributed to a SADC review of legislation pertaining to wildlife. This review aims to identify contradictions in law and policy, and develop recommendations for harmonisation across the region.
- Project staff have also contributed to a long term collaboration with St Louis Zoo between US and Tanzanian schools, centred around awareness raising among school children about the conservation of Tanzania's wildlife.

## **8. Sustainability**

This project builds on 10 years of experience, after our first grant from the Darwin initiative in 2002. Over the years, TAWIRI, our main partner organization, has shown its commitment to the project by having made many of our staff permanent TAWIRI employees. We have also been able to build on 10 years of established foundations of trust with the wildlife management authorities, namely TANAPA, NCAA, FBD and WD. Hence, the core capacity of the project, in terms of staff and relationships with stakeholders, is sustainable. However, the additional training, large carnivore management protocols, and interpretation documents that will be delivered by this project will further secure the ability of the project team to deliver conservation outputs for Tanzania.

## **9. Dissemination**

Dissemination of information to stakeholders is an integral and essential part of this project. The project has an active and attractive website; maintained communication with an increasing network of data contributors and stakeholders; and produced an edition of the project newsletter detailing information on the project activities. Members of the project team have contributed to editorial panels for newsletters and magazines for wildlife in Tanzania, including the Malihai Newsletter (Rose Masha); a book on wetlands in Tanzania (Rose Masha); 1000 copies of the Carnivore NewsBites newsletter.. PDF copies of the newsletters are available for download on the project website. The national conservation action planning workshop for cheetah and wild dogs was covered by national television.

## 10. Project Expenditure

**Table 3 project expenditure during the reporting period (1 April 2012 – 31 March 2013)**

Item	Budget	Expenditure	Variance/ Comments
Staff costs specified by individual	Maurus Msuha		
	Rose Mosha		
	Flora Kipuyo		
	Zawadi Mbwambo		
	Paul Baran		
	Sarah Durant		
<b>Subtotal</b>			<i>Individual salaries adjusted to balance overall salary budget</i>
<b>Overhead costs</b>			<i>Internet and electricity charges have been larger than expected</i>
<b>Travel and subsistence</b>			
<b>Operating costs</b>			<i>Field costs are higher than expected - particularly camera trap surveys</i>
Capital items/equipment (specify)	Building repairs		
	Camping equipment - t		
	Binoculars, GPS, cameras etc.		
	Computers, printers and software		
<b>Subtotal</b>			<i>Because field costs and other costs higher than expected, savings have had to be made in equipment budget</i>
<b>Others: Consultancy</b>			
Others (please specify)	Genetic analysis (primers, lab consumables etc.)		We have not yet initiated the DNA analysis component of the project
	Office consumables - stationary, computer consumables etc.		
	Vehicle running costs - two project vehicles		Vehicle running costs have been higher than expected - we have had to undertake a number of expensive repairs, and we have needed to run two vehicles much of the time
	Boma construction for conflict mitigation activities		
	Printing interpretation materials		
	Website design		We have had to reduce this budget due to other demands
<b>Subtotal</b>			
<b>TOTAL</b>			

**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)



## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2012-2013

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
<p>Goal:</p> <p>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:</p> <p>Populations of leopard, lion, cheetah and wild dog in Tanzania are well conserved and sustainably managed.</p>	<p>A CUT large carnivore strategy and management plan is established by the wildlife authorities and used for the sustainable implementation of best practice methods proven to reduce Conflict, set sustainable Use quotas, and reduce illegal international Trade.</p>	<p>Methods proven and documented, and CUT strategy and management plan developed and endorsed by MNRT and stakeholders.</p>	
<p>Purpose</p> <p>Improved national and local capacity to reduce direct threats to leopard, lion, cheetah and wild dog by managing Conflict; ensuring sustainable Use; and reducing illegal Trade.</p>	<ol style="list-style-type: none"> <li>1. National evidence based protocol established to reduce conflict in local communities with lion, leopard, cheetah and wild dog in Tanzania.</li> <li>2. Survey protocol established for monitoring lion and leopard abundance and tools established for analysing results and assessing impact of trophy offtakes.</li> <li>3. Reporting systems established and, by the end of the project, confiscations of large cat products originating from Tanzania reduced.</li> <li>4. Established capacity for sustainable implementation of activities 1-3 within the relevant institutions in Tanzania.</li> <li>5. CUT large carnivore strategy and management plan formally accepted by MNRT.</li> </ol>	<p>All purpose indicators are final year deliverables</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
<p>Outputs</p> <p>1. Standardised evidence based protocol on large carnivore management and conflict reduction agreed and accepted by government, NGO and local community stakeholders.</p>	<p>1.1. Review of relevant data on success of approaches to large carnivore conflict.</p> <p>1.2. Results from field trials of agreed standardised approach at 3 sites.</p> <p>1.3. Protocol document.</p> <p>1.4. Letters of support from stakeholders (active carnivore conflict projects, WMA authorities, wildlife authorities, communities etc.).</p>	<p>1.1 Carnivore conflict working group established over 3 meetings; Library established; 2-year workplan agreed for working group;</p> <p>1.2 Identified field testing priorities: field trials to establish causes of livestock loss at pasture; development and testing of prototype for reducing livestock loss at mobile bomas</p> <p>1.3 Agreement for Carnivore Conflict working group to draft protocol document secured from WD</p> <p>1.4 Final year activity</p>	<p>1.1 Literature review to be updated with data on success of Tanzania based activities – including pilots identified in 1.2.</p> <p>1.2 Field testing to start in year 2</p> <p>1.3 Agreement secured ahead of schedule. Protocol document scheduled for final year.</p> <p>1.4 NR</p>
<p>2. Standardised tools for monitoring lion and leopard abundance established, supported and implemented by WD, TAWIRI, hunting operators, and conservation NGOs.</p>	<p>2.1 Standardised survey protocol for lion and leopard established through review of existing camera trap and call-in data.</p> <p>2.2 Results from field trials at 4 pilot sites.</p> <p>2.3 Handbook of survey protocol.</p> <p>2.4 Website providing tools for data analysis and exploring impact of trophy offtakes.</p> <p>2.5 TAWIRI/WD recommendations for survey protocols for lion/leopard abundance and example of their use to calculate trophy quotas at 4 pilot sites.</p> <p>2.6 Hunting operators in support of the survey and quota recommendations.</p>	<p>2.1 Preliminary protocol agreed and first test field survey implemented.</p> <p>2.2 Results from 1 pilot site nearly complete</p> <p>2.3 Year 3</p> <p>2.4 Years 2-3</p> <p>2.5 Year 3.</p> <p>2.6 Year 3.</p>	<p>2.1 Preliminary protocol will be refined from results of first field survey.</p> <p>2.2 First field survey delayed due to permitting problems. Therefore only one survey complete – planned two surveys. Expect to make up time in year 2.</p> <p>2.3 NR</p> <p>2.4 NR</p> <p>2.5 NR</p> <p>2.6 NR</p>
<p>3. Better enforcement of CITES through a systematic and centralised reporting system at exit points and identification of source populations for large carnivore products confiscated at customs checkpoints.</p>	<p>3.1 Review and prioritisation of likely exit ports for cheetah and leopard trafficking.</p> <p>3.2 Customs officers at exit ports trained in identifying carnivore products.</p> <p>3.3 Genetic map of cheetah, leopard and lion for use in identifying source populations for trafficked products.</p> <p>3.4 Improvement in reporting of trade and</p>	<p>3.1 Likely ports identified and documented</p> <p>3.2 Discussions with Interpol, Tanzania Ports Authority, Wildlife Division, TRAFFIC held and support engaged. Agreement to partner with TRAFFIC on way forward.</p> <p>3.3 Genetic database from key hunting operators established at TAWIRI.</p>	<p>3.1 NR</p> <p>3.2 Move forward with the training program as matter of priority</p> <p>3.3 Start genetic analysis</p> <p>3.4 Improve reporting at point of confiscation.</p> <p>3.5 NR</p>

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
	<p>reduction in trafficked large cat products.</p> <p>3.5 Centralised database, using google map, documenting all confiscations relevant to Tanzania, and centralised reporting for trafficked large carnivore products.</p>	<p>3.4 Database on wildlife crime established at TAWIRI</p> <p>3.5 Year 3.</p>	
<p>4. Established capacity in Tanzanian institutions, NGOs and local communities for conflict management, ensuring sustainable use of large carnivores, and controlling illegal international trade.</p>	<p>4.1 CUT carnivore threat co-ordinator and a minimum of 4 senior staff at TAWIRI trained as trainers in all aspects of project.</p> <p>4.2 Minimum of 3 communities trained in large carnivore management and conflict reduction and representatives from local pastoralist and conservation NGOs engaged as trainers.</p> <p>4.3 Training curriculum developed and implemented to train hunting concession stakeholders in monitoring lion and leopard.</p> <p>4.4 Customs officers at priority exit ports trained to recognise and intercept large carnivore products and enforce CITES legislation.</p> <p>4.5 Stakeholder network and regular communication established to increase collaboration and cooperation.</p>	<p>4.1 Training and information exchange provided for 3 senior TAWIRI staff in conflict management; 4 staff (one senior) in lion and leopard surveys; and 5 staff (two senior) in developing means to monitor illegal trade in. On the job mentoring provided to all staff.</p> <p>4.2 Year 3</p> <p>4.3 Years 2-3</p> <p>4.4 Delay due to need to establish linkages with new partners.</p> <p>4.5 enewsletter; Carnivore Newsbites and frequent phone calls and email exchanges between stakeholder network.</p>	<p>4.1 Training to continue</p> <p>4.2 NR</p> <p>4.3 NR</p> <p>4.4 Training to move forward in Year 2</p> <p>4.5 Need for increased frequency of enewsletter. Maintain email exchanges.</p>
<p>5. CUT large carnivore management plan for sustainable management of CUT threats to large carnivores.</p>	<p>5.1 CUT large carnivore management workshop.</p> <p>5.2 All stakeholders in support of CUT large carnivore strategy and management plan</p> <p>5.3 letter of acceptance of CUT plan by MNRT.</p>	<p>5.1 Year 3</p> <p>5.2 Year 3</p> <p>5.3 Year 3</p>	<p>NR</p>
<p><b>Output 1.</b></p> <p>Standardised evidence based protocol on large carnivore management and conflict reduction agreed and accepted by government, NGO and local community stakeholders.</p>			
<p><b>Activities</b></p> <p>1.1 Review of existing data on approaches to carnivore conflict in Tanzania and other relevant systems elsewhere.</p>		<p>1.1 Library of published approaches to carnivore conflict established; further information needs identified</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
<p>1.2 Meeting with FAO Tanzania office to establish way forward for adapting HWC toolkit for use in Tanzania</p> <p>1.3 Adapt HWC toolkit for use in Tanzania</p> <p>1.4 Development of large carnivore management and conflict mitigation protocol and identification of pilot sites (in WMAs, Game Controlled Areas or Open Areas) in collaboration with ongoing community-based human carnivore conflict projects.</p> <p>1.5 Conduct field trials of agreed standardised protocol at 3 pilot sites.</p> <p>1.6 Conduct participatory interviews of communities at pilot sites.</p> <p>1.7 Develop a scientific publication for a peer reviewed journal describing and justifying evidenced based protocol to mitigate conflict between people and large carnivores.</p> <p>1.8 Develop protocol, interpretive materials and roll out procedure through training workshops across participating community based NGOs and wildlife authorities.</p> <p>1.9 Distribute, revise and finalise protocol document according to a consensus amongst stakeholder groups.</p> <p>1.10 Develop a training curriculum and manual for mitigation of conflict with large carnivores to enable national roll out of protocol by extension officers, NGOs and others.</p>		<p>1.2 One meeting with FAO Tanzania office held; further meetings planned</p> <p>1.3 Year 2-3</p> <p>1.4 Carnivore conflict working group established over 3 meetings; 2-year workplan agreed for working group; sites will be selected from sites where ongoing projects located – Ruaha region; west Kilimanjaro; Simanjiro; Ngorongoro</p> <p>1.5 Need for additional work to identify information needs before field trials could take place; this includes developing a prototype for securing livestock safety in mobile bomas. Information needs now identified as establishing causes of livestock loss at pasture; developing and testing prototype for reducing livestock loss at mobile bomas. Field trials to start beginning of year 2.</p> <p>1.6 Not necessary – due to full support of members of conflict working group who are working closely with communities, and are already engaged with respective projects in their region.</p> <p>1.7 Year 3</p> <p>1.8 Year 3</p> <p>1.9 Year 3</p> <p>1.10 Year 3</p>	
<p><b>Output 2.</b> Standardised tools for monitoring lion and leopard abundance established, supported and implemented by WD, TAWIRI, hunting operators, and conservation NGOs.</p>			
<p>Activity 2.1.</p> <p>2.1 Review existing camera trap and call in data (including data from 22 camera trap surveys carried by TCC and 6 call-in surveys carried out by the project leader in and around Serengeti National Park and FCF in Moyowosi Game Reserve) to develop a standardised protocol to survey lion and leopard</p> <p>2.2 Carry out pilot surveys at 4 sites within hunting concessions, documenting manpower and financial resources used.</p> <p>2.3 Analyse data from sites and use to refine survey protocol, including maximising cost effectiveness of surveys.</p> <p>2.4 Develop a handbook outlining the survey protocol.</p> <p>2.5 Develop a website to provide tools for data analysis and a population simulation model to enable users to explore the impact of different trophy offtakes.</p> <p>2.6 Develop and justify TAWIRI/WD recommendations for survey protocols for lion/leopard abundance with example of their use to calculate trophy quotas at the 4 pilot sites.</p>			<p>2.1 Preliminary protocol agreed and first test field survey implemented.</p> <p>2.2 Results from 1 pilot site nearly complete</p> <p>2.3 Analysis moved to early year 2</p> <p>2.4 Year 3</p> <p>2.5 Years 2-3.</p> <p>2.6 Year 3.</p> <p>2.7 Year 3</p>

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
2.7 Write and submit a scientific publication for a high ranking peer reviewed journal justifying approach to quota setting.			
<b>Output 3.</b> Better enforcement of CITES through a systematic and centralised reporting system at exit points and identification of source populations for large carnivore products confiscated at customs checkpoints.			
<b>Activities</b> 3.1 Review and prioritise likely exit ports for cheetah, leopard and lion trafficking. 3.2 Develop training curriculum, manual and interpretive materials for customs officers at exit ports, training should cover scale of the problem; role of CITES and Interpol; species identification; data recording; and reporting systems. 3.3 Provide interpretive materials at 10 land, air and sea exit ports and set up reporting system. 3.4 Establish centralised database and reporting for all trafficked large carnivore products, including any media articles from source or destination countries for trafficked products originating in Tanzania, using google map to generate a visually accessible geographical representation of trade. 3.5 Extract DNA from leopard and lion tissue samples collected by hunting operators and opportunistically from cheetah (incl. faeces) and conduct microsatellite analysis. 3.6 Use STRUCTURE software to establish a genetic map of cheetah, leopard and lion that can be used to identify source populations for trafficked products and publish scientific paper.		3.1 Likely ports identified and documented 3.2 Delayed progress - discussions with Interpol, Tanzania Ports Authority, Wildlife Division, TRAFFIC held and support engaged. Agreement to partner with TRAFFIC on way forward. Year 2 3.3 Delayed progress – however agreement with TRAFFIC secured on development of interpretive materials, to be adapted from materials available elsewhere. Years 2-3 3.4 Database on wildlife crime established at TAWIRI, need for establishment of centralised crime reporting database Year 2 3.5 Genetic database from key hunting operators established at TAWIRI. Genetic analysis to proceed in years 2-3. 3.6 Year 3	
<b>Output 4.</b> Established capacity in Tanzanian institutions, NGOs and local communities for conflict management, ensuring sustainable use of large carnivores, and controlling illegal international trade.			
<b>Activities:</b> 4.1 Provide training to establish an effective CUT carnivore threat co-ordinator and a minimum of 4 senior staff at TAWIRI trained as trainers in all aspects of project. 4.2 Provide training to extension officers and community based NGOs to become trainers, and to a minimum of 3 communities, in large carnivore management and conflict reduction. 4.3 Develop a training curriculum for hunting concession stakeholders in all aspects of lion and leopard monitoring protocol, including use of data analysis tools. 4.4 Provide training in monitoring protocol to hunting concession stakeholders (WD, hunting operators, NGOs, communities) in at least 4 hunting concessions 4.5 Provide training to customs officers at priority exit ports to enable better identification of large carnivore products, improve reporting and enforce CITES		4.1 Training and information exchange provided for 3 senior TAWIRI staff in conflict management; 4 staff (one senior) in lion and leopard surveys; and 5 staff (two senior) in developing means to monitor illegal trade in. On the job mentoring provided to all staff. 4.2 Year 3 4.3 Years 2-3 4.4 Year 3 4.5 Delay due to need to establish linkages with new partners. 4.6 newsletter; Carnivore Newsbites and frequent phone calls and email exchanges	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
legislation. 4.6 Establish a stakeholder network and issue a quarterly email newsletter to deliver news, report project progress and raise awareness of CUT issues..		between stakeholder network.	
<b>Output 5.</b> CUT large carnivore management plan for sustainable management of CUT threats to large carnivores.			
<b>Activities</b> 5.1 Hold a workshop with government, NGO and safari/hunting operator stakeholders to develop consensus based CUT large carnivore strategy and management plan 5.2 Circulate strategy and management plan and engage support of all stakeholders 5.3 Engage acceptance of CUT strategy and management plan by MNRT.		All planned for year 3	

## **Annex 2 Project's full current logframe**

Logframe has not changed in any substantial way – only the timing of some activities have changed

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

This may include outputs of the project, but need not necessarily include all project documentation. For example, the abstract of a conference would be adequate, as would be a summary of a thesis rather than the full document. If we feel that reviewing the full document would be useful, we will contact you again to ask for it to be submitted.

It is important, however, that you include enough evidence of project achievement to allow reassurance that the project is continuing to work towards its objectives. Evidence can be provided in many formats (photos, copies of presentations/press releases/press cuttings, publications, minutes of meetings, reports, questionnaires, reports etc) and you should ensure you include some of these materials to support the annual report text.



## Checklist for submission

	Check
<b>Is the report less than 5MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	Yes
<b>Is your report more than 5MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	No
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	NewsBites
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	