

WILDCRU

Wildlife Conservation Research Unit



Ruaha Carnivore Project Progress Report



August 2010

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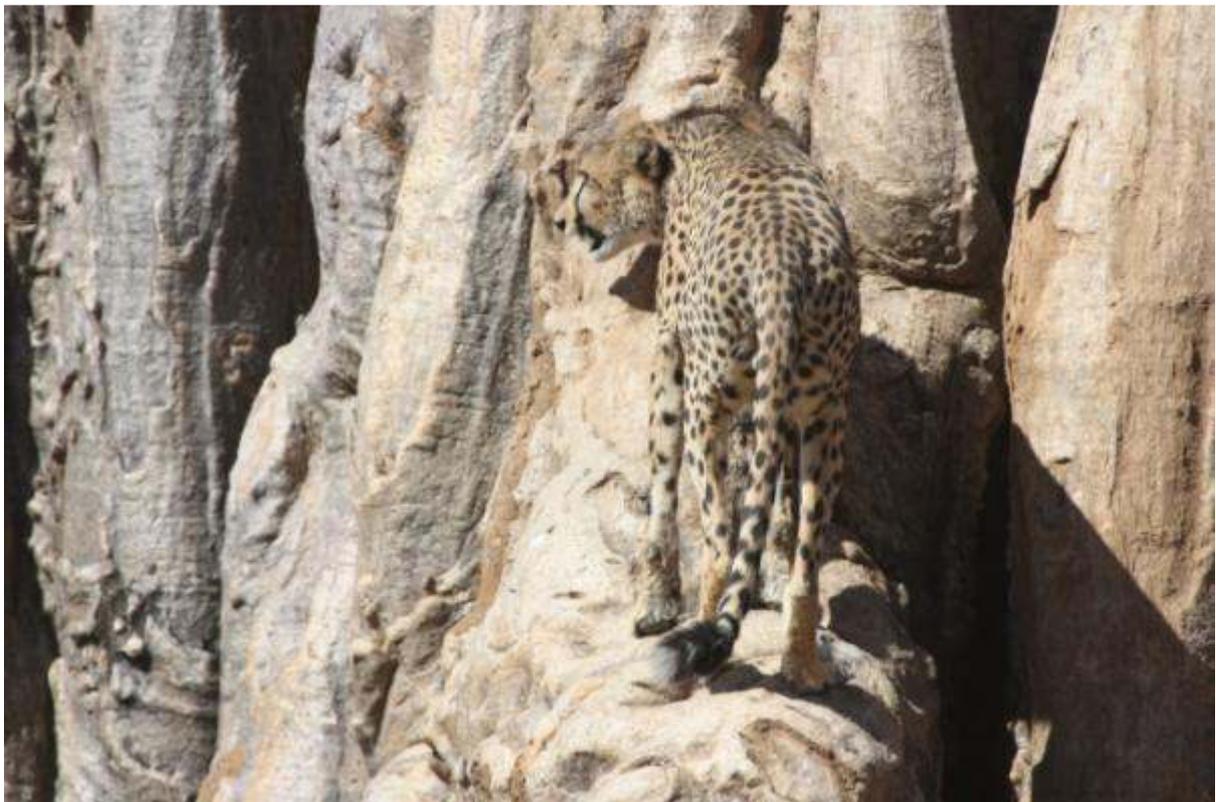
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Project summary

The Ruaha Carnivore Project (RCP) is a collaboration between the Wildlife Conservation Research Unit (WildCRU), Department of Zoology, University of Oxford and the Tanzania Carnivore Conservation Project. The aims of the RCP are to:

- (i) Provide baseline information on large carnivore distribution, relative abundance and ecology across the Ruaha landscape, including both protected and unprotected land; and
- (ii) Reduce the costs and improve the benefits associated with living alongside large carnivores for local people, thereby reducing human-carnivore conflict in this critically important area.

The RCP is focusing in particular on five large carnivore species: lion, leopard, cheetah, African wild dog and spotted hyaena. The activities initiated, and progress so far, for both these aims will be reported below, and updates on other project activities are also provided.



A male cheetah observed scent-marking a baobab tree near Campsite no. 1 in Ruaha National Park. The Ruaha landscape is an important area for cheetah conservation

Collecting baseline information on carnivore ecology

We are using a variety of techniques to examine large carnivore ecology in the Ruaha landscape, including camera-trapping, scat collection, and individual identification of large carnivores. Details on the progress so far is given below.

Camera-trapping

Currently we have 21 camera-traps in operation: 15 bought from a grant from the St Louis WildCare Institute, 5 borrowed from the University of Berkeley in California, and one which has been lent to us by Riaan Labuschagne from Mwangusi Safari Camp. Mdonya Old River Camp also has their own camera-traps, and has been very generous in sharing their images with us. We are ultimately aiming to have 80 camera-traps, as this will enable us to conduct a scientifically valid survey of carnivore density in the Ruaha landscape.

Camera-trapping is invaluable to the project, as it enables us to examine the density and diversity of carnivores across the Ruaha landscape, and to assess how this changes across different land use zones. So far, we have placed camera-traps both along transects and close to lodges in Ruaha National Park, transects in the Pawaga-Idodi Wildlife Management area and on village land.



RCP's Marcus Gwivaha helping as we place camera-traps on village land

So far, we have recorded the occurrence of 31 different mammal species, nearly half of which (15) were carnivore species. Excitingly for the project, we got our first camera-trap photos of lions and leopards, and new photos of spotted hyaenas (interestingly, all in the Wildlife Management Area rather than the National Park), but we have yet to capture images of wild dogs or cheetahs.



Our first camera-trap images of lions and leopards, from the Wildlife Management Area

We also recorded our first images of serval, honey badger, aardwolf, zorilla, white-tailed mongoose and bushy-tailed mongoose. All the camera-trapping data are now being compiled and the GPS locations sent to the Tanzania Wildlife Research Institute (TAWIRI), so the Ruaha data can be incorporated into the Tanzania mammal and carnivore distribution maps. We have been very pleased with the camera-trapping so far, particularly as we have been able to provide TAWIRI with the first 'dots on the map' for the Ruaha study area for a variety of species, including the zorilla, bushy-tailed mongoose and aardwolf.



RCP camera-trap photographs of aardwolf, bushy-tailed mongoose and zorilla

In addition to confirming the presence of a species in an area, we can use camera-trapping to identify animals which have clear individual markings, such as leopards, cheetahs and spotted hyaenas. If camera-trapping is done intensively enough, this information can be used to provide an estimate of how many individuals of that species live within the surveyed area.

The lodges in Ruaha National Park, especially Mwangusi Safari Camp, Mdonya Old River Camp, Kwihala Camp and Ruaha River Lodge, have been very helpful by putting up camera-traps near their lodges, and recording which species are captured in the images. We have had some excellent photographs of lions from Mwangusi (one of which is used as the cover image for this report), as well as photographs of serval, hyaenas, jackals and genets from Mdonya Old River Camp.



Young lion captured by a camera-trap set up by Mwagusi Safari Camp. This photograph is good enough for us to identify the lion from its whisker-spot pattern, adding extremely important data to our carnivore identification database

Unfortunately, our camera-trap at Ruaha River Lodge stopped working, just as a mating pair of leopards and a pack of 9 wild dogs started using the area where it was set up! These cameras are very expensive (around US\$ 500 each), but provide extremely valuable data for the project, so fund-raising for more cameras is a top priority for the project.

Scat collection

We have been collecting scat on village land, and since the last report we have collected another 16 scats – 6 from lion, 5 from cheetah, 4 from spotted hyaena and 1 from leopard. These have been air-dried and stored, bringing our total of scats collected to nearly 450. The aim will be to train a Tanzanian student how to examine these scats in order to determine the diet of large carnivores in the Ruaha landscape, and we also hope to raise money to conduct genetic analyses on the scats, which will provide us invaluable data on the genetics, population size and movements of large carnivores in this area.



Amy taking the GPS location of a spotted hyaena scat found on village land

Carnivore sightings and identification

The Ruaha Carnivore Project is aiming to collect information on as many carnivore sightings in the Ruaha landscape as possible, so that we can gather data on carnivore abundance and distribution, and the lodges and villagers have all been very useful in helping us collect this information. We have distributed 'Large Carnivore Sightings Forms' to the lodges, as well as GPS units wherever possible, so that we can obtain accurate information on where large carnivores are being seen. The RCP then follows up on this information, returning to areas where carnivores are often seen, and photographing any carnivores seen, so that they can be identified and added to the RCP carnivore identification database. The information is also sent to the Carnivore Centre at TAWIRI, so that the national carnivore distribution maps can be updated with all the most recent information from the Ruaha area.



Two young lions observed and identified by RCP staff near Msembe in Ruaha National Park

The lodges in and around Ruaha National Park have been extremely helpful, and their guides have been wonderful at filling out carnivore sightings forms. By August 2010, we had received 354 completed sightings forms, including 129 from Ruaha River Lodge, 95 from Mwangusi Safari Camp, 67 from Mdonya Old River Camp, 21 from Tandala Tented Camp, 1 from Ruaha Hilltop Lodge, and 41 completed directly by RCP staff.

These 354 sightings forms provide information on 281 lion sightings, 44 leopard sightings, 12 spotted hyaena sightings, 9 cheetah sightings and 8 wild dog sightings. This information has been invaluable in helping us establish where large carnivores are most commonly being seen around Ruaha, and following up and individually identifying as many large carnivores in the Ruaha landscape as possible.

Reducing human-carnivore conflict around Ruaha National Park

Conflict surveys and depredation incidents

Amy Dickman, the RCP's Principal Investigator, conducted in-depth surveys with 268 villagers in 2005-2008, to determine their attitudes towards large carnivores for her PhD. At the same time, monthly monitoring of livestock losses was being conducted, to examine how much of an impact depredation was having on local people, compared to other forms of livestock loss. Now, the Ruaha Carnivore Project is repeating those surveys with the original respondents, and re-establishing the monthly monitoring, so that we can determine whether peoples' attitudes towards carnivores are changing, and how levels of depredation change as we implement new methods of livestock protection.



Amy and Msago conducting an interview with Maasai villagers in Malinzanga

So far, we have conducted repeat surveys with 127 households (nearly half of the original sample), and conducted new surveys with an additional 102 villagers. We are focusing on pastoralists and agropastoralists, and have so far surveyed 85 Maasai, 56 Barabaig, 43 Hehe, 41 Bena and 4 Sukuma villagers. Monthly monitoring is being established at as many of these 229 households as possible, which provides us with a lot of information on depredation rates, and will enable us to test which livestock protection methods (fencing, use of solid gates, and noisemakers) are most effective at reducing those rates. This information will then be passed back to the villagers, who will be helped to implement the most effective techniques for protecting their livestock from large carnivores.

The RCP carnivore monitors have been working hard collecting information on livestock losses across the study villages, and helping RCP staff follow up on all reported depredation incidents. From April – August 2010, we had 40 depredation incidents reported to us, from 5 villages. The largest number of reports came from Malinzanga village (19 reports), followed

by Tungamalenga (11), while Kitisi and Idodi villages both reported 4 incidents, and Mapogoro reported 2. Nearly three-quarters of the attacks (73%) were due to spotted hyaenas, while 10% were due to lions, and 7% were due to leopards. No attacks upon livestock by cheetahs or African wild dogs were reported to us during this period.



Msago and George, the Kitisi RCP carnivore monitor, investigating a depredation incident reported in the village.

Providing benefits linked to carnivore presence

In order to improve the chances of carnivore conservation in this vitally important area, it is crucial that the villagers living around Ruaha National Park recognise direct benefits from the presence of large carnivores. The RCP held community meetings with all local village leaders, who then convened general village meetings to decide which benefits people would most appreciate. Education, healthcare and veterinary health initiatives were all considered very high-priority, so the RCP has been working with partners to try to provide some of these benefits, even if it is initially only at a small scale.



Community meeting with Kitisi village officials, held at the new RCP campsite

The main initiative is the establishment of the 'Kids 4 Cats' scheme, where local village schools in the study area are twinned with UK schools, who raise a minimum of £250 per year for their Tanzanian partner school. The Tanzanian school then draws up a budget for how it would like the £250 spent, which is agreed with the UK school, and the RCP buys the desired equipment and distributes it to the schools. So far, we have only started the scheme with a pilot group of three schools on each side: Exmouth Community College is twinned with Idodi Secondary School; Honiton Community College is twinned with Pawaga Secondary School; and TwoMoors Primary School is twinned with Kitisi Primary School. All the UK schools have been very enthusiastic and committed to raising money, and a special mention should go to Vicky Thomas of TwoMoors Primary School, who has helped to organise a non-uniform day at the school to raise money for the Kids 4 Cats programme, and who hopes to be a big cat specialist herself one day!



One of the classrooms and some of the students at Kitisi Primary School

The RCP also provides direct benefits from its presence on village land, as we pay rent annually to Kitisi village, thereby providing important economic benefits to the village, which is linked to the presence of carnivores. Our rent this year has contributed to a roof for the new schoolhouse, so we are very pleased to provide some benefits for Kitisi village.

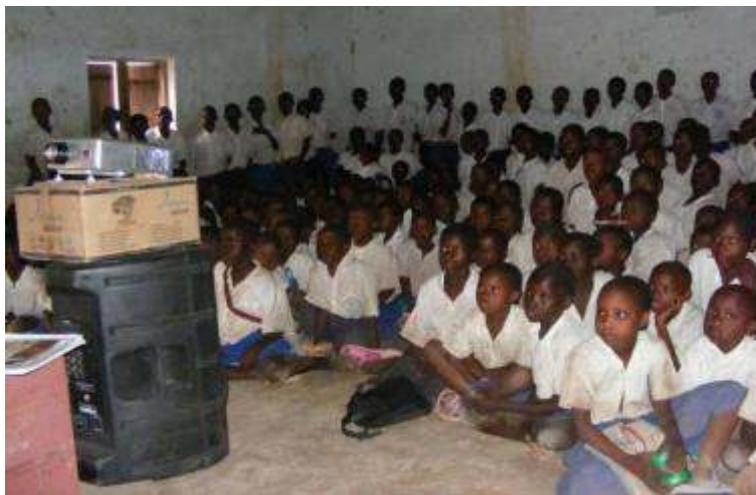


The schoolhouse in Kitisi: rent from RCP paid for the roof to be constructed

Outreach and education activities

Community outreach and education are hugely important parts of our work. We use posters, guidebooks, school visits, leaflets, pictorial guides, DVD nights and community meetings to explain what the RCP is doing and why. The main focus of these activities is to provide education about carnivore ecology and accurate kill identification, so that people are able to distinguish depredation from other cause of loss, and can identify the species concerned so that we can help them implement the most relevant methods to prevent further losses. It is also important that people understand what initiatives we have begun in the community to provide benefits from carnivore presence (such as the Kids 4 Cats scheme) and can provide direct input and feedback to guide us, thereby developing the initiatives most successfully.

The village DVD nights and the school DVD shows, both sponsored by a Phoenix Zoo grant, continue to be extremely popular. From April-August 2010, RCP showed DVDs in 13 sub-villages of 9 villages, using mainly the Swahili-language Living with Lions DVD given to us by Living with Lions, an NGO in Kenya, as well as Swahili DVDs given to us by the African Environmental Film Foundation of Nairobi. A total of 2781 people attended the DVD nights, including 910 adult men, 647 adult women, 700 boys and 524 girls. It is very important to reach the next generation, so we also conducted 6 school DVD shows in 4 villages, reaching another 1143 children (628 boys and 515 girls).



Schoolchildren watching an educational DVD shown by the Ruaha Carnivore Project

During the DVD shows at the schools, we asked the students questions about large carnivores, and the five students who showed most interest and knowledge were selected to go on an RCP trip into Ruaha National Park. Such trips are extremely valuable for helping children to learn more about the RCP's work, see potentially dangerous species in a non-threatening situation, learn more about wildlife, particularly large carnivores, and understand their importance to Tanzania in terms of tourism. These selected students then become RCP Ambassadors in their school, and help encourage other students to learn more about the wild animals living on village land. So far, 10 students (from

schools in Kitisi and Makifu) have been taken into the Park, and these extremely important and popular visits will continue for as long as we can afford to fund them.



RCP Ambassadors and their teachers from Kitisi and Makifu schools visit Ruaha National Park with the Ruaha Carnivore Project

In July 2010, the RCP also hosted the EnviroVet course for a day, to teach the students about human-wildlife conflict. The group was greeted by the Kitisi village chairwoman, Mrs Kaundama, as well as other village leaders, before learning about boma construction, human-carnivore conflict and human-elephant conflict from RCP staff members Ayubu Msago, Alphonse Msigwa and Monty Kalyahe. The visit was very productive on both sides, and was a great experience for all.



Envirovet students visiting a demonstration boma (livestock enclosure) in Kitisi village, and learning from RCP about human-wildlife conflict

Other RCP news and activities during April-August 2010

Our basic field camp has now been constructed, and we are very happy residents of Kitisi village! It is great to be right amongst the villagers so that we can learn quickly of any carnivore problems or sightings, and, as mentioned above, the rent we pay to the village helps them with much-needed development.



Constructing and thatching the main shade banda at the new RCP field camp

Msago and his team, especially Yuseph Tweve, Mr Mlaga and Anderson Kibiki, worked extremely hard to construct and thatch the camp ‘bandas’, and we now have thatched shade areas for people to pitch tents under, a kitchen area, and two ‘bathrooms’ with bucket showers and en-suite long drops! We would like to thank everyone involved for all their hard work, which has really paid off.



Marcus outside the tent under the main shade banda, and some curious Barabaig villagers paying the new camp a visit

Shortly after moving into the field camp full-time, we had a very close-to-home conflict incident, when a very large python killed a goat that was grazing just beside our camp. The farmer found the python as it was attacking the goat, and had to kill it in order to try to save his goat. When we measured the snake, it was 12 feet long, and apparently is the smaller of the two that are regularly seen around the camp area! Although it was a shame that the python was killed, it was a good chance for all the team to see and appreciate one of these mighty snakes close-up, and everyone was very interested in it. The snake was not totally wasted, however – we placed camera traps by its carcass, and got some excellent photos of civets, jackals and other animals very close to camp.



Having a look at the python, and the civet that later came to sniff at the carcass

In other exciting developments, we finally managed to accrue enough money (mainly from the Kaplan Fellowship) to buy our own second-hand field vehicle. It is a LandRover Discovery, and we are thrilled to have our own car. However, with the growing activities and size of the RCP team, a lack of vehicles is still the biggest issue we face, and one we are continually trying to fund-raise for.



Amy, Monty and Mzee Pesambili using RCP's new (well, second-hand) vehicle for fieldwork

We have also signed a MOU with the Wildlife Conservation Society (WCS) agreeing to work together and help each other out wherever possible, as both WCS and the RCP are actively engaged in wildlife conservation work in the Ruaha landscape. We have a long history with WCS, and are very pleased to have them as formal partners in our work.

In terms of talks and events, Amy gave a talk recently at the North of England Zoological Society (NEZS), based at Chester Zoo, to provide feedback on her work, as NEZS were one of the first sponsors of the RCP's work. She also recently talked at a Rotary Club meeting in Exmouth, as they are keen to get involved with the human development aspects of our work. Amy is to visit some of RCP's sponsors in the States in October to give them feedback, and hopefully encourage them to continue supporting the project! During that trip, she will

also be promoting the RCP at the Wildlife Conservation Network (WCN) Expo in California, which is a great opportunity to gain new supporters. Sandy Ball has been excellent in helping to arrange and plan this trip, while several people from Ruaha, especially Pietro Luraschi, Riaan Labuschagne, Micol Farina and Adrian Ghau, have been really helpful in providing us with excellent images of Ruaha carnivores to use in promotional material. Peter Jones from The Big Picture in Oxford has also been wonderful at helping us design the banners, leaflets and other material needed for the trip. Thank you all!



Sandy: A Ruaha lioness named after Sandy Ball, one of our key supporters

Another update will be produced in November 2010. For any questions, please contact Amy Dickman on amy.dickman@zoo.ox.ac.uk

Project partners

Wildlife Conservation Research Unit (WildCRU), Department of Zoology, University of Oxford
Tanzania Wildlife Research Institute (TAWIRI) and Tanzania Carnivore Centre
Wildlife Conservation Society (WCS)
Zoological Society of London (ZSL)

Project funders

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Rufford Small Grants for Nature Conservation
St Louis WildCare Institute
Riverbanks Zoo and Garden
Columbus Zoo
Chester Zoo
Cleveland Metroparks Zoo
Oregon Zoo
Phoenix Zoo

Fieldwork and education partners

African Environmental Film Foundation
Clinton Epps, Oregon State University
Exmouth Community College
Foxes African Safaris and Ruaha River Lodge
Friends of Ruaha
Honiton Community College
Justin Brashares and Chantal Stoner, University of California, Berkeley
Kwihala Camp
Living with Lions
Mdonya Old River Camp
Mwagusi Safari Camp
Tandala Tented Camp
TwoMoors Primary School

Other supporters

Sandy Ball
Helen Rankin
John Wilkes (Bearcreek and Sandcrab Trading)
Peter Jones (The Big Picture, Oxford)