



Ruaha Carnivore Project Progress Report



May 2011

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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 Monitoring 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 conducted, and progress so far, for both these aims will be reported below, and updates on other project activities are also provided.



An African wild dog sighting in Ruaha National Park, provided by Mdonya Old River Lodge. Ruaha is an extremely important area for African wild dogs and other large carnivores.

Collecting baseline information on carnivore ecology

Considering its global importance for large carnivores, relatively little is known about the abundance, distribution, population trends and ecology of carnivores in the Ruaha landscape. The RCP is working with partners to provide important baseline information on large carnivores in this area, and hope that over time, we will be able to determine population trends as well. We are using various methods to collect ecological data, including camera-trapping, scat collection and individual carnivore identification from sightings.

Camera-trapping

We have now established several camera-trapping transects in different areas of the Pawaga-Idodi Wildlife Management Area (WMA) and on village land. The next priority will be to conduct more camera-trapping within Ruaha National Park, both in the tourist area and in the less-visited areas further north. The resulting data on carnivore presence will be shared with the Tanzania Wildlife Research Institute (TAWIRI) and other stakeholders, while our current senior research assistant, Monty Kalyahe, also hopes to use the camera-trapping data to help him complete his Masters degree at Manchester Metropolitan University. We are very committed to building scientific capacity amongst our staff, so helping Monty to complete his Masters is very exciting for the project.



RCP's Marcus Gwivaha and Msafiri Mgumba setting up a camera-trap

We currently have 20 camera-traps in operation, and we were thrilled to receive grants from SeaWorld Busch Gardens, Cincinnati Zoo's Angel Fund and Badreyyah Ali-Reza, which together will allow us to buy another 40 camera-traps. This takes us much closer to our ultimate aim of 80 camera-traps, and means we will be able to conduct scientifically valid camera-trapping surveys in the Ruaha landscape, and help inform future conservation and management strategies in this important area. Some of the lodges in the Park, such as Mwangusi and Mdonya Old River camps, also have their own camera-traps and they have been very generous in sharing their images and data on wildlife presence with us. We would eventually like to place camera-traps with all willing lodges, so that we can continue getting good carnivore sightings from the camps, to help provide more data on the abundance and ecology of carnivores within Ruaha.



Clockwise from top left: a lion pride camera-trapped at Mwangusi camp, a leopard from Mdenya Old River Camp, and a leopard and a spotted hyaena from Mwangusi Camp

To date, our camera-traps have photographed 25 wild mammal species during the transects on village land, including 11 carnivore species. The transects on the WMA land revealed photographs of 27 wild mammal species, including 12 carnivore species. We have photographed all large carnivore species aside from cheetahs, as well as other carnivores such as caracals, jackals, honey badgers, civets and genets. Over time, the camera-trapping data will allow us to examine how carnivore distribution, abundance and ecology varies between different land use zones, and the data will be provided to stakeholders to help inform future conservation and management strategies.



Camera-trap photographs of a leopard and a lion on Wildlife Management Area land

Carnivore sightings

We are keen to collect details (and ideally photographs) of any large carnivores seen in and around Ruaha National Park, and we have been very pleased with how much interest people have shown in this. The Park lodges in particular have been extremely helpful, and have been collecting GPS locations and details of as many of their sightings as possible. Mwangusi Camp allowed us to equip one of their guides, Moses Nkwera, with a digital camera, and he is providing great photos to accompany their sightings, which is extremely helpful in terms of identifying which individual carnivores have been seen. We have managed to buy another two small digital cameras and GPS units, and will provide those to guides in two other lodges as well. Eventually, we would like to have at least 10 guides equipped with both GPS units and digital cameras, as this would provide invaluable data for the project.

Increasingly, independent visitors to Ruaha are also contacting us with carnivore sightings and photographs, which is great – for instance, a photo submitted by Nick Beal and taken by Pauline Salta is on this report cover. We have now set up a specific email address for people to send photos and sightings data to – it is carnivoresightings@gmail.com Thank you very much to everyone who has submitted sightings – it makes a huge difference to our work.



Excellent cheetah and hyaena identification photographs, by Moses Nkweta of Mwangusi

By the end of April 2010, we had received 877 completed sightings forms, including 2 from private individuals, 8 from Ruaha Hilltop Lodge, 9 from Jongomeru, 22 from Tandala Tented Camp, 40 from Kwihala, 41 from RCP staff, 128 from Ruaha River Lodge, 143 from Mdonya Old River Camp, and a huge 484 from Mwangusi Safari Camp. Within Mwangusi, Moses Nkweta did an outstanding job, filling in a massive 386 forms! These 877 forms provide data on 620 lion sightings, 115 leopard sightings, 66 cheetah sightings, 54 spotted hyaena sightings and 22 wild dog sightings. This information has been invaluable in helping us establish where large carnivores are most commonly being seen, and individually identifying as many large carnivores in the Ruaha landscape as possible. All of our sightings are shared with our colleagues at TAWIRI – they produce maps of carnivore sightings across the country, so all the information received will quite literally ‘put Ruaha on the map’, and highlight its importance for carnivore conservation, as well as its value for tourists.

Reducing human-carnivore conflict around Ruaha National Park

Understanding and reducing depredation

This wet season has been very busy in terms of responding to carnivore attacks, particularly spotted hyaena attacks. From September 2010 – April 2011, project staff and conflict monitors investigated 69 carnivore attacks reported from 8 villages. The largest number of reports came from Kitisi village (27 reports), followed by Malinzanga (21 reports), Idodi (8), Makifu (4), Tungamalenga (3), while Mapogoro, Magozi and Isele villages all reported 2 incidents. The majority of the attacks (78%) were due to spotted hyaenas, while 19% were due to lions, 1.5% were due to leopards and 1.5% were possibly cheetah. No attacks upon livestock by African wild dogs were reported to us during this period. Unfortunately, people commonly kill carnivores in response to these kinds of attacks, and we found evidence of carnivores being poisoned and snared following depredation events.



A young male lion that appeared to have been poisoned on village land

This kind of retaliatory killing, especially when it involves methods such as poison, can have devastating effects on carnivores and other wildlife such as vultures, so it is critically important to reduce carnivore attacks and remove the need for such retaliation. Many of the attacks reported to us occur during the night, when hyaenas, leopards and lions attack livestock within the traditional enclosures known as ‘bomas’. Therefore, we initiated a pilot scheme to help predator-proof those bomas which our records showed were hardest hit by carnivore attacks at night. We subsidise 50% of the costs, while the owner provides the rest, and enclose the boma in sturdy mesh fencing. This is still only the start of this scheme, but so far it has been extremely effective – no attacks have occurred in fortified bomas - so we intend to continue and extend the scheme over the next year.



A Maasai herder in front of a boma predator-proofed by the RCP

Providing benefits linked to carnivore presence

Clearly, it is not enough to simply reduce the attacks caused by predators – people must actually recognise tangible benefits from carnivore presence on village land in order to conserve them. Extensive community meetings showed that villagers wanted improvements in local education and healthcare, and these would be the benefits they would most appreciate as a result of carnivore presence.

Therefore, we established the ‘Kids 4 Cats’ school twinning scheme, where international schools raise funds for a local village school to buy vital supplies. These supplies are marked with the project logo, to demonstrate that the benefits result directly from the presence of the project – and therefore carnivores – on village land. So far, four of the 24 local schools have been twinned – Idodi Secondary School with Exmouth Community College, Pawaga Secondary School with Honiton Community College, Kitesi Primary School with Two Moors Primary School, and Malinzanga Primary School with Steuart Weller Elementary School. The international schools have been amazingly dedicated and enthusiastic about raising funds, and the first orders for school books and other supplies have now been placed. The first delivery of school books, as well as materials to cook school dinners for pupils, has already been distributed to Kitesi Primary School, and we hope to distribute the remaining supplies within the next month. This scheme is extremely important to local communities, and we intend to develop it further and involve more schools over the next year.



Books provided through the Kids 4 Cats scheme – each one is marked with the project logo and the name of the school providing them

As healthcare was cited as another priority that people would appreciate help with as a result of carnivore presence, we have been working with Exmouth Rotary Club to fund-raise for much-needed equipment for a clinic in Kitisi village. Thanks to Exmouth Rotary Club, Exmouth Raleigh Rotary Club, and a Rotary Club District grant, we have now raised over £4000 for the clinic, which is wonderful. We are now having meetings with village officials and local healthcare professionals to decide which equipment should be purchased first, and hope to continue to develop healthcare initiatives in the study area in the future.

Thanks to help from John Wilkes, the Ruaha Carnivore Project has also been able to start providing sports equipment to local football teams in this study area. Football is extremely popular around Ruaha, and sponsoring teams is one of the best ways of engaging with young men and helping them seeing a direct benefit from the presence of the carnivore project, and therefore carnivores, on village land. Our surveys show that people are increasingly recognising benefits of the project, and linking it to carnivore presence, which is very promising. However, we are still only working with a small number of villages and households, so we really need to continue and expand the work we have started.



The Kitisi village football team, who will soon receive RCP sports equipment

Outreach and education activities

Our outreach work, including conducting DVD nights, household visits and community meetings, has been continuing across the study area. This is an extremely important part of our work, as it allows us to explain to local people exactly what the project is doing (for instance providing benefits because of carnivore presence), and to discuss its progress and any suggestions for changes. The DVD nights in particular remain extremely popular, and they have now been shown in 16 sub-villages of 9 villages, reaching a total of 4173 people, including 1295 adult men, 984 adult women, 1051 boys and 843 girls. We have also conducted school DVD shows in 4 villages, reaching 1143 children (628 boys and 515 girls). So far, we have mainly shown 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, and the BBC Planet Earth series, which has been very popular even though it is in English. We are very keen to find more Swahili-language DVDs – particularly those on lions and other carnivores – so if anyone can help, please let us know! To increase awareness of our project outside the study area, we now have a Ruaha Carnivore Project Facebook page – it is only updated intermittently when we are all in the field, but please have a look and see all the latest news on there.

Other RCP news and activities

There have been some staff changes recently – we are now sponsoring Alphonse Msigwa to complete his degree in wildlife management at Sokoine University of Agriculture in Morogoro, Tanzania, so Monty Kalyahe has taken over as our new Senior Research Assistant. We have also taken on Msafiri Mgumba as our other Research Assistant, and they are both doing a brilliant job. Also – thanks to grants from the Handsel Foundation and the St Louis Wildcare Initiative – our vehicle situation is finally improving! We have bought a second-hand car from colleagues in Tanzania, and the Johnson Group in Iringa is currently building us a LandRover, which is a great development for the project.



A LandRover being built for RCP by Johnson Group in Iringa – we are very excited!

We have also borrowed some solar equipment from colleagues at WCS, and Msago, our Camp Manager and Community Liaison officer, performed electrical wizardry to set it all up so that we now have continuous power through the day at camp. This has made a huge difference to our work, and has also had important community outreach benefits, as all the pastoralists now bring us their mobile phones to charge, which gives us a great opportunity to interact with them. We are now hoping to raise funds to buy two more solar panels and batteries, so that we can extend the power to the kitchen and office area of the camp.

Amy has been busy promoting the project and providing feedback to existing sponsors – she attended the Wildlife Conservation Network in California in October 2010, which was very productive, so she plans to attend again this year. In addition, she gave talks at Cincinnati Zoo, Exmouth Rotary Club, National Geographic, the National Zoo, Oregon Zoo, Oxford University, Phoenix Zoo, Riverbanks Zoo, St Louis Zoo and Steuart Weller Primary School, and met with collaborators from Chester Zoo, Cleveland Zoo, Columbus Metroparks Zoo and various other institutions at the Zoos and Aquariums Committing to Conservation (ZACC) conference in Seattle. We very much hope that we can continue to strengthen the links with our existing supporters, as they have been invaluable to our work, and bring new ones on board over the next year. Thank you so much to everyone who has helped us!

Another update will be produced in August/September 2011. 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

University of Oxford Kaplan Fellowship

BBC Wildlife Fund

The Handsel Foundation

Mike and Susan Pillsbury

National Geographic Big Cats Initiative

SeaWorld Busch Gardens Conservation Fund

Peoples' Trust for Endangered Species

Taronga Conservation Society of Australia

Rufford Small Grants for Nature Conservation

St Louis WildCare Institute

The Angel Fund, Cincinnati Zoo

Exmouth Rotary Club & Exmouth Raleigh Rotary Club

Riverbanks Zoo and Garden

Columbus Zoo

Wildlife Conservation Network

Chester Zoo

Cleveland Metroparks Zoo

Oregon Zoo

Phoenix Zoo

Lynn Hall

Badreyyah Ali-Reza

ZACC Conservation Fund

Fieldwork and education partners

African Environmental Film Foundation

Clinton Epps, Oregon State University

David, Jon, Pat and Jon Erickson

Exmouth Community College

Foxes African Safaris and Ruaha River Lodge

Friends of Ruaha

Honiton Community College

Jongomero Camp

Justin Brashares and Chantal Stoner, University of California, Berkeley

Kwihala Camp

Living with Lions

Mdonya Old River Camp

Mwagusi Safari Camp

Steuart Weller Elementary School
Tandala Tented Camp
TwoMoors Primary School

Other supporters

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Gareth Johnson and the Johnson Group, Iringa
Helen Rankin
John Wilkes, Bearcreek and Sandcrab Trading
Norma Chapman
Peter Jones, The Big Picture, Oxford
Ro Dickman
Sandy Ball



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