



RCP UPDATE – MAY 2015

Dealing with human-carnivore conflict and poisoning in Muwira area

The entire RCP team has been successful at gradually reducing conflict across the core study area, and we have expanded our activities to some particularly challenging new areas such as Muwira. This area is known for high levels of wildlife poisoning and snaring, so is a priority for the project, but it always takes a lot of time to establish the problems in a new area and how best to move forwards. On a Sunday earlier this month, our Lion Guardians stationed in the Muwira area called us to report three dead lions. Our team immediately went to the site to investigate the incident and found out that the lions (an adult female and two sub-adults) had been killed in retaliation for attacking three cattle. The livestock owners poisoned the carcass with a pesticide used in rice cultivation' leading to the deaths of three lions as well as multiple vultures. These 'bycatch' killings of other species, particularly scavengers such as vultures and jackals, are common, and highlight the widespread impact that poisoning can have across the ecosystem.



One of the poisoned cattle carcasses

These incidents impose heavy costs on all sides – the livestock owners who lose cattle, and the lions and other wildlife who pay with their lives. We are working hard in Muwira, as elsewhere, to try to reduce carnivore attacks, provide benefits from wildlife presence, and use the Lion Guardians to try to prevent retaliatory or preventative carnivore killings. This will take time, but we are confident that there is a lot that can be done to prevent these situations occurring so frequently.



Dead and dying vultures are a common sight at retaliatory lion poisoning incidents

When we examined the carcasses, we found that the adult female was missing a front paw – a sign that lion was killed by a Barabaig person, as they usually cut off the paw to take a claw as evidence of the successful lion kill. In Barabaig tradition, demonstrating that you have killed a lion by presenting a body part like a claw raises your status in the community, and usually results in gifts (usually cattle) from the wider Barabaig community. Livestock is the backbone of Barabaig economy and any loss of it is hard to accept, so these lion killings serve two purposes – they prevent further losses and enable the killer to gain more cattle. In order to successfully reduce such killings, it is vital to use a two-pronged approach – helping to prevent any attacks in the first place, and developing benefit programmes which enable people to gain status and wealth from wildlife presence rather than killing. Therefore, we prevent attacks using strategies such as predator-proofing enclosures and placing guarding dogs, and provide community benefits from carnivore presence, including healthcare, education and veterinary medicines. In addition, our partnership with Lion Guardians and Panthera has enabled us to train and employ Lion Guardians in Ruaha – these are young Barabaig and Maasai men who can help influence others in their groups to stop lion killings.



The adult female, with the missing front right paw indicating a traditional kill

We try to learn as much as we can from any mortality incident, so we can think how to prevent similar incidents happening in the future. We have been working with the livestock keepers around Muwira to highlight the ways in which they can better protect their stock (for instance through building wire bomas), and some of the people locally are now considering those measures. In addition, we measure all the carcasses to collect basic data on age and morphology, as well as examining the whisker spots to see if the lion happens to be a known individual. After all the data are collected, we burn any poisoned carcasses to ensure that no further secondary poisoning of scavengers will occur.



Left - Mgogo measuring the lioness, and right – the lion carcasses are burned

Spotted hyaena killed in village

This month has seen quite a lot of conflict and associated killing, and one of our conflict officers reported an incident of a spotted hyaena being beaten to death in Malinzanga village. We work on all five large carnivores (lion, leopard, spotted hyaenas, cheetahs and African wild dogs), but hyaenas cause 65% of the depredation incidents reported to us. In this particular case, the owners of a boma in Malinzanga had experienced repeated attacks on their livestock by hyaenas. They suspected one problem animal, so gathered a group of people with sticks and dogs close to the boma. The hyaena approached, was chased and cornered, and then beaten to death by the villagers. Our conflict officer went to investigate and talked with the household concerned, explaining that killing a hyaena is unlikely to stop future losses if the boma is still weak. He explained to them how effective RCP's boma predator-proofing programme is (preventing over 95% of attacks), so the owner is considering having a wire boma in order to prevent more attacks and further hyaena killings. Spotted hyaenas have a very bad reputation, both locally (where they are associated with witchcraft) and internationally due to films and books portraying them as evil animals. In reality, though, spotted hyaenas are amazing animals which hunt as much as they scavenge, and they play a vital role in the ecosystem by consuming carcasses that would be impossible for other animals to break down. Changing attitudes about hyaenas will take a very long

time, but we are committed to improving awareness and views towards this incredible species, both around Ruaha and amongst the wider public.



Spotted hyaenas are wonderful animals and play a vital ecological role, but people often have negative views about them based on misconceptions © Lorenzo Rossi, Kwihala Camp

Conservation education in remote bush areas

One of the most important ways of providing education and improving attitudes towards hyaenas and other species is through wildlife DVD nights. These have now reached over 20,000 local people, and it is particularly important to visit those remote areas where depredation incidents are most common. The DVD presentations not only educate and enthuse people about carnivores, but also inform them about the best-practice methods of reducing livestock loss, and provide a platform for discussing the work of RCP and conservation in general.



The educational DVD nights are particularly popular amongst the next generation of pastoralists!

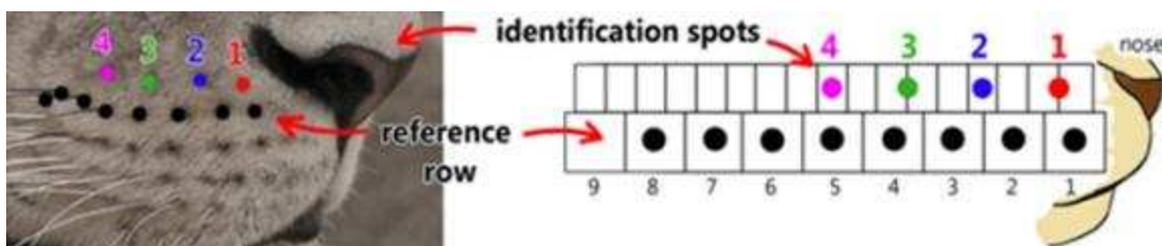
With our mobile DVD station (comprised of a car, a generator, a projector, a speaker, a microphone and a white sheet) we can bring these educational evenings even to very remote areas. People love attending DVD nights as it is a welcome change to their daily routine, and they have become popular social occasions. We have had DVD nights attended by over 400 people at a time, which is great, but it is also vital to go to small remote households, which might reach only a handful of people, but they are the pastoralists who are most affected by carnivore presence so most benefit by the information provided.



A DVD night at a remote household in the bush, with Stephano talking about the importance of lion conservation

Lion identification training started

We have worked with Park lodges and drivers for several years, who help us to collect vital sightings data on large carnivores. The guides are usually good in distinguishing prides, often due to their location, but now we want to take this a step further and train them on how to identify individual lions. Michael, one of our Senior Research Assistants, held the first training session at Ruaha River Lodge this month, where everyone participated enthusiastically. To identify lions, it is important to look out for distinguishing features like ear notches towards the top of the ear, broken or missing teeth, missing tail tips, permanent scars or other unusual features. Most important though are the whisker spot patterns, which are like an individual fingerprint on the muzzle and stay the same for life. This is why side-on muzzle shots are really valuable to us, and we ask both drivers and tourists to try to include them in any sightings photos they send us.



The location of whisker spots above (or sometimes below) the 'reference row' of whisker spots is one key way of identifying individual lions © Living with Lions



Guides with lion ID training material at Ruaha River Lodge

New devices for data collection

In order to save time in recording and entering data we want to change using forms to using devices. Eventually we want all the guides who collaborate with us on sightings data collection to use devices. This month we have received 14 new Nexus devices – handed over by Cybertracker expert Richard Bergl from North Carolina Zoo.



Michael receiving new devices from Richard ahead of guide training at Ruaha River Lodge

RCP represented at royal Tusk event at Windsor Castle

RCP is very proud to be one of Tusk's partner projects, and our Director, Amy Dickman, was honoured to be invited to the Tusk 25th anniversary dinner at Windsor Castle, which is the Queen's official residence. The dinner was a celebration of amazing conservation work done

by Tusk and its partners, and was attended by HRH Prince William as well as many Tusk members who have been extremely supportive of our work in Ruaha. It was a huge privilege to attend the event – and very different from being in a tent in Ruaha!



Amy and her husband Marcus attending the Tusk event at Windsor Castle

The partnership with Tusk has been extremely beneficial for the project, and through it Amy has been invited to give the prestigious 2015 American Express Conservation Lecture at the Royal Geographical Society (RGS) in London. Amy will give a talk entitled '*Money, Myths & Man-Eaters: Big Cat Conservation in Tanzania and Beyond*', and this will take place at the RGS headquarters at 6pm on Thursday 22nd October. There will also be a smaller reception afterwards – if people would like to attend this event then tickets can be purchased through this link: <https://www.eventbrite.co.uk/e/tusk-american-express-conservation-lecture-2015-tickets-17408211429>.

Lion Guardian news

Excitement is in the air among the Lion Guardians in Ruaha this month, the reason being the upcoming journey to Amboseli in southern Kenya for the annual Lion Guardian games. The games take place over a week where the Lion Guardians from all over east Africa assemble to share ideas and stories, receive extra training and celebrate the end another year of hard work.

As well as the impending games, we are excited to be in the process of certifying the Lion Guardians project here in Ruaha. In mid June, Directors Leela Hazzah and Stephanie Dolrenry, will visit Ruaha to carry out the certification process and ensure the project is abiding by the high standards that have been set in Kenya. The certification will include interviews with the Lion Guardians, time spent examining the Lion Guardians in the field, interviews with community members and review of the management system. We are excited at the prospect of being fully certified at the end of June!

Staff profile

Jack Kilongo – Lion Guardian



Jack is a young Barabaig man who and was born in the Idodi area in a small area called Lyangolo. He has two wives and three children - having multiple wives is common amongst the Barabaig.

Jack was a prolific hunter in the past, and has taken part in many lion and elephant hunts. However, he has now thankfully stopped killing wildlife after joining our team in February this year and has become a true conservationist.

Jack likes to play football and is a keen supporter of Tanzania's Simba football team. He loves working with, being part of and helping his community. Jack's father is called Mzee Kilongo and is a pillar of the pastoralist community in Idodi. Mzee Kilongo has had some basic formal education which has allowed him to help fellow community members in many ways. He regularly represents community members, who have had no education, in court cases and helps with tax issues and any other problems community members have. Jack has started to do a lot of this work with his father and hopes to continue and get better at this type of work. He has also begun to take a larger role in community meetings, as he also has some education, his opinion is heard and valued by the community at these meetings which makes him ideal for stopping hunts.

Jack plans to work with the community for the rest of his life like his father does. He would like to keep working with the project and continue to receive more responsibilities as the project continues to grow.

Camera-trapping

Our camera-trapping work has been ongoing, and we are maintaining a permanent grid close to the Park headquarters in the Msembe area of the Park, as well as additional grids both in the Park and on adjoining land. We have been working on this with Jeremy Cusack, a PhD student from the University of Oxford – Jeremy is now back in Oxford writing up his

thesis, but we are continuing to collect data from his grids in order to provide longer-term data on mammal dynamics in the Ruaha ecosystem. Jeremy's work with RCP has already led to several publications, and one was published this month in the open-access journal PLOS One, examining how different methods of camera-trap placement can affect how well different mammals are detected. This has implications for mammal monitoring, and the full article can be accessed here:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0126373>



RESEARCH ARTICLE

Random versus Game Trail-Based Camera Trap Placement Strategy for Monitoring Terrestrial Mammal Communities

Jeremy J. Cusack^{1,2*}, Amy J. Dickman³, J. Marcus Rowcliffe², Chris Carbone², David W. Macdonald³, Tim Coulson¹

¹ Department of Zoology, University of Oxford, Oxford, United Kingdom, ² Institute of Zoology, Zoological Society of London, London, United Kingdom, ³ Department of Zoology, The Recanati-Kaplan Centre, Wildlife Conservation Research Unit, University of Oxford, Oxford, United Kingdom

* jeremy.cusack@zoo.ox.ac.uk



Research article on camera-trap methodology, published using the Ruaha data

Below is a selection of our camera-trap images, which always provide a great snapshot of life in the bush!



A pride of lions moving off to hunt just after dark © Jeremy Cusack/Ruaha Carnivore Project



A spotted hyaena using a game trail – Jeremy’s paper demonstrated that placing camera-traps along these trails was a particularly efficient method for detecting large carnivores, especially during the dry season © Jeremy Cusack/Ruaha Carnivore Project



The Ruaha ecosystem is not only valuable for large carnivores, but it has important populations of smaller carnivores as well, such as the elusive caracal © Jeremy Cusack/Ruaha Carnivore Project

Carnivore sightings

We have been continuing and expanding our collection of carnivore sightings across the Park – we now have 25 drivers collecting images and data for us. May is a very low season for tourism in Ruaha and many of the lodges are closed during this period, so we don't tend to get as many sightings – which can be good as it provides some opportunity for catching up with data collection! The sightings have provided a huge amount of data on carnivore occurrence across Ruaha and have already led to several publications. We are now working with colleagues in the US to try to develop software for individual carnivore identification, and are hopeful that we will have some initial software developed by the end of the year. This will allow us to learn far more about individual movement, demography and population trends, and these data are urgently needed for conservation planning in the Ruaha landscape.



We are always particularly excited by African wild dog sightings, as they are one of the most endangered species in Africa, and Ruaha holds the third biggest population of this species in the world. Taken by Leverd Enock, Kwihala Camp



A pride of lions, including some young cubs, move along a road in the Park – lions and other carnivores often use roads to avoid trekking through thick bush in the wet season. Taken by Leverd Enock, Kwihala Camp



The tourists in the car at the back of this picture must have been thrilled to so closely observe a leopard. Taken by Whiteman John, Ruaha River Lodge



This shot would be useful for cheetah identification due to the clear visibility of the spot pattern on the fur. Taken by Ayoub Nyangango, Mdonya Old River Camp



This kind of photo provides all sorts of information which can be used for individual identification, including the scars on the nose and even the tongue colouration. Taken by Ayoub Nyangango, Mdonya Old River Camp



Visitors often get lovely sightings of large carnivores in Ruaha, such as this calm cheetah resting in the shade of a tree. Taken by Whiteman John, Ruaha River Lodge



The guides often also send us photos of smaller carnivores, such as these very endearing bat-eared foxes, which live in social groups and prey mainly upon termites. Taken by Whiteman John, Ruaha River Lodge