

Monthly Report

February/March 2017



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Contents

Carnivore Research Malawi News	3-4
Staff updates	3
QGIS workshop	4
Nyika National Park Research Camp	5-7
Nyika research camp	5
First carnivore sightings	5
Opportunistic carnivore sightings update	6
Camera trapping findings	6
Spotlight transect summary	7
Lilongwe Research Station	8-10
URBHY01 is back	8
State House research	8-9
Diet analysis update	9
Camera trapping update	9-10
Opportunistic carnivore sightings update	10
Appendix I - Species list for NNP	12
Appendix II – Species list for Lilongwe	13



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Carnivore Research Malawi news

Goodbye and thanks Olivia!

This month saw a turn over in staff for CRM with our Liwonde Research Assistant, Olivia Sievert, leaving the project. Olivia began working with CRM in August 2016 and has been positioned at our Liwonde field station since then. Olivia will now be working for African Parks and the Endangered Wildlife Trust on their cheetah reintroduction project in Liwonde National Park. CRM would like to thank Olivia for all her hard work over the past few months and wishes her the best of luck with her new and exciting project!

Welcoming Maddie to the Urban team!



CRM would like to welcome Maddie Melton to the urban carnivore team.

She will be leading our urban carnivore research project and started with us in January. Maddie graduated from the University of Illinois with a degree in Animal Sciences in May 2016 and in 2015 spent three months in Botswana working on a human-wildlife conflict project and conducting biodiversity research in the Okavango Delta. After graduating, she moved to Costa Rica for six months to help release hand-raised sloths back into the wild and study sloth behaviour. Right before joining CRM, she worked in Illinois trapping and collaring bobcats.

Welcoming Katrina to the Nyika team!

March also saw the arrival of Dr Katrina Fernandez to the newly formed Nyika National Park research team. Katrina will be running the Nyika carnivore project and brings with her a wealth of research experience. Katrina has been a member of the IUCN-SSC Otter Specialist Group since 2012 and has played an active role in the Asian Otter Recovery Initiative.

Welcoming Kelsey to the Kasungu team!

Kelsey arrived in February and was immediately thrown into our QGIS workshops. Kelsey recently graduated from Nelson Mandela Metropolitan University with a degree in Nature Conservation and joins CRM with many years of experience working with wildlife in Africa. Kelsey worked for two years in Tswalu Kalahari Reserve, firstly as a Conservation Student conducting work on a variety of species from African wild dog to pangolin and then as a Research Assistant for the Brown Hyena Research Project's camera trapping study.



Before this Kelsey volunteered for the Zambia Carnivore Project in Liuwa Plain National Park. Kelsey is also FGASA trained and spent her internship in the Kg a l a g a d i Transfrontier Park.

Capacity Building— QGIS Workshops

QGIS Training Workshops

Between the 21st and 24th February the CRM team organised two workshops aimed at increasing capacity within DNPW for QGIS software and mapping. The first workshop took place in at the Lilongwe Nature Sanctuary and the second workshop in Kasungu National Park at the DNPW offices. The workshops were well attended, with 21 Malawian staff successfully completing the two day workshop.



Figure 2. Participants from the Lilongwe workshop during a practical exercise.

of completion and a copy of the QGIS handbook.

Key to the success of this course was Les Dillard, a consultant and GIS specialist for Conservation Research Africa. Conservation Research Africa would like to thank Les for running both workshops and DNPW staff for their attendance and assistance in organising the workshops.



Figure 1. The Lilongwe workshop in full swing with Les Dillard taking the participants through the many uses of GIS software.

Throughout the two day workshop participants were taught the application of GIS software in natural resource management and went through several practical exercises, ranging from editing shapefiles to producing their own maps.

The Kasungu workshop brought together DNPW staff from across the country, with participants from Kasungu National Park, Vwaza Marsh Wildlife Reserve and Nyika National Park all in attendance.

At the end of the workshop each participant was presented with a certificate



Figure 3. Successful participants from the Kasungu National Park workshop pose for a photo outside DNPW headquarters after completing the course.

CRM findings—Nyika field station

Nyika Research Camp is up and running!

March was a very exciting month for CRM as we established our new research station in Nyika National Park and welcomed our first volunteers. Our base is a stunning log cabin based at Chelinda Camp, right in the heart of the Nyika Plateau. We are very grateful to the Nyika Vwaza Trust for allowing us access to their cabin. The cabin is now set up for staff and volunteers and we look forward to showing people all the beauty and secrets that the Nyika has to offer.



Figure 4. The new CRM research cabin in Nyika National Park.

First carnivore sightings in Nyika

With the setting up of a new camp comes the chance to explore new and unfamiliar surroundings and this also means the chance to spot some new and elusive carnivores. Nyika is renowned for its high densities of carnivore species and the first week on site was no exception. In one week the team managed to spot two leopards (*Panthera pardus*), three spotted

hyaenas (*Crocuta crocuta*) and two servals (*Leptailurus serval*). The highlight of this had to be a stunning sighting of a male leopard at 8am when the team was driving out of Nyika on a resupply run.

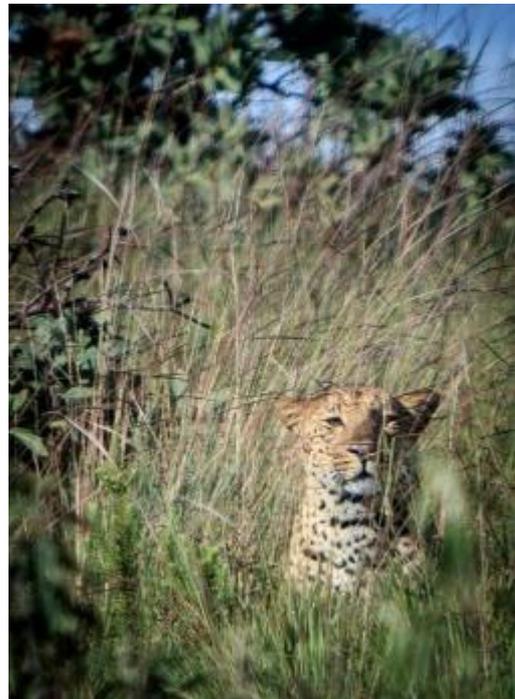


Figure 5. Male leopard spotted whilst leaving Nyika NP.

These early sightings have given us a chance to start our ID databases for carnivores in Nyika and start identifying individual leopards and hyaenas.



Figure 6. NNPHY002, a newly identified spotted hyaena.

Opportunistic carnivore sightings for March 2017

Despite only having one week in Nyika during March the team still recorded the presence of several carnivore species (Figure 7). The team had two direct sightings of leopard, three direct hyaena sightings and one camera trap sighting and one sighting of two servals.

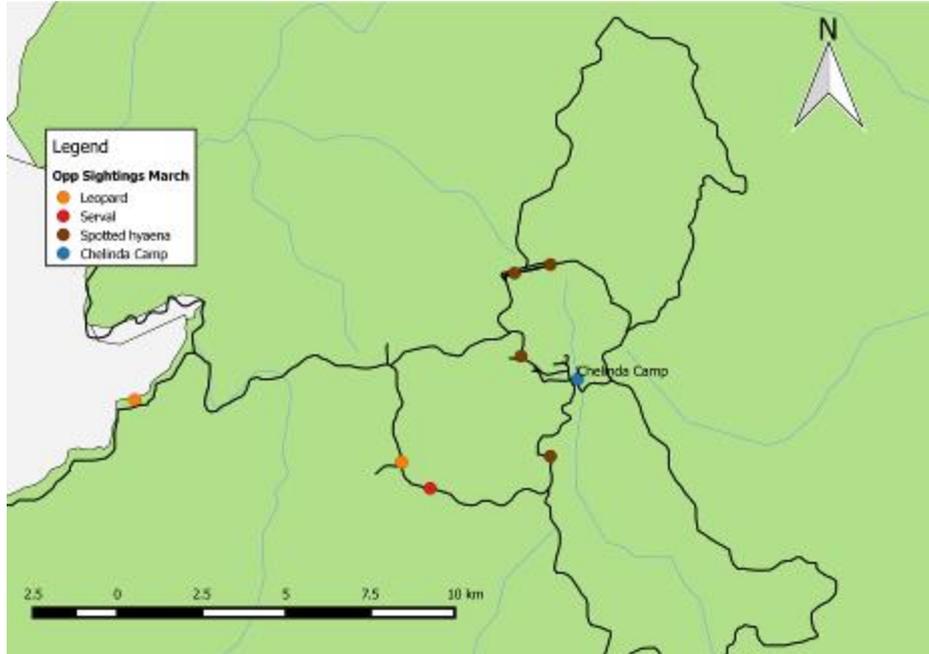


Figure 7. Opportunistic carnivore sightings for March 2017 in Nyika National Park.

Camera trap findings

Camera trapping was completed sporadically for one week in Nyika at the end of March (Figure 8). Cameras were placed initially to assist with ID databases for leopard and spotted hyaena. One spotted hyaena was captured.

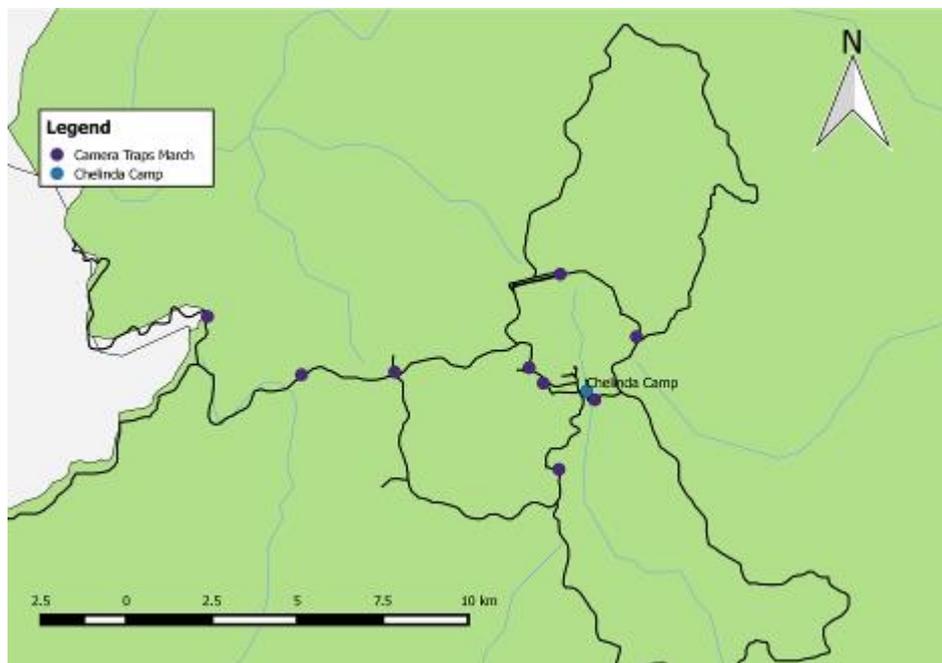


Figure 8. Camera trap placement for March 2017 in Nyika National Park.

Spotlighting transects for March 2017

During the one week the CRM team was in Nyika three spotlighting transects were conducted (Figure 9). The transects had mixed results for carnivore sightings, with serval the only carnivore species seen. The transects were however useful for assessing density rates for nocturnal species, such as scrub hare (*Lepus saxatilis*), that will no doubt also be an important part of leopard diet in Nyika.

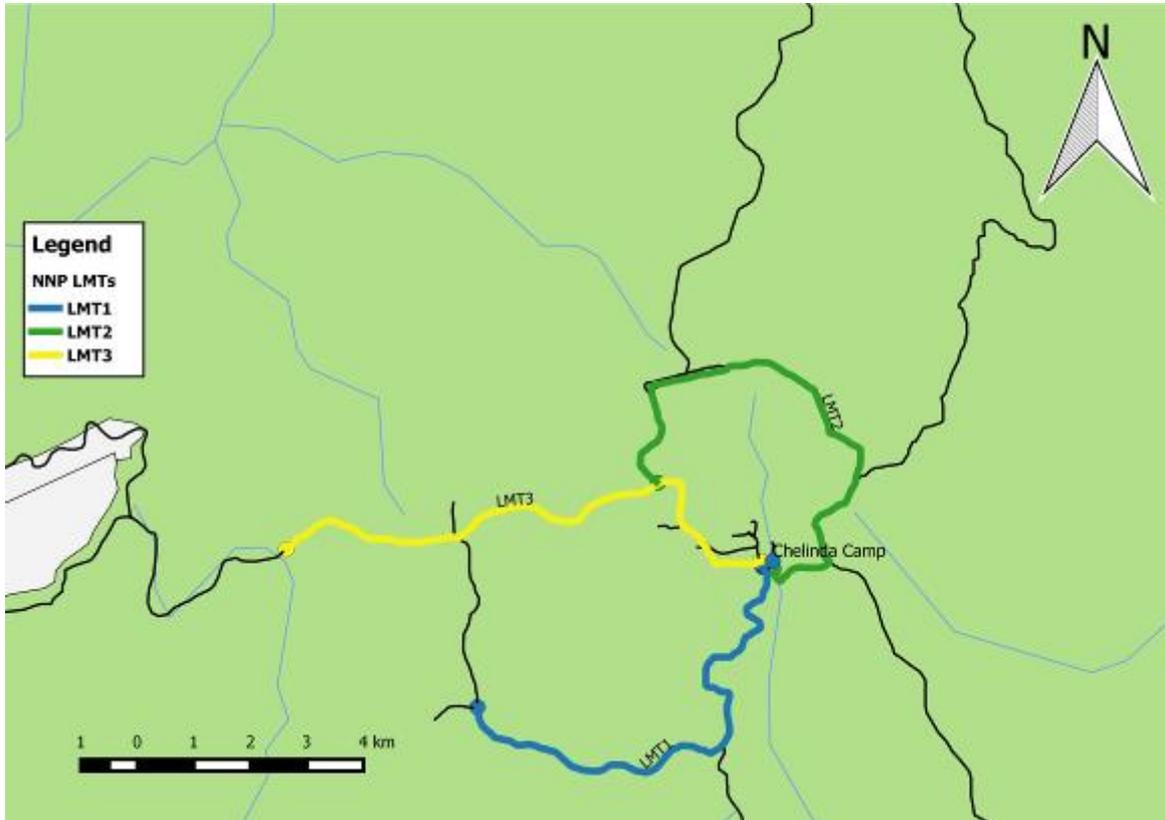


Figure 7. Spotlighting transects conducted in Nyika National Park during March 2017.

CRM findings - Lilongwe Field Station

URBHY01 is Back!

At the end of March, our camera trapping efforts proved successful by capturing URBHY01, the dominant female of the urban clan, after two months of no sightings. She was seen on the State House camera investigating the bait site LIL_B07 (Figure 8). Sometime between the end of December 2016 and early January 2017, URBHY01 gave birth to two cubs, which were primarily based at URB_DEN_03 in the Nature Sanctuary. She decided to move her cubs into the middle of a dense shrub land due to higher human traffic around the den site in the beginning of February. Sightings were reduced due to the necessity of caring for young cubs, until we recorded her on March 29th.



Figure 8. URBHY01 investigating the bait site (LIL_B07) at State House.

The increased movement could indicate her cubs did not survive, as survival rate to adulthood is only 50%. We are extremely happy to see her looking healthy and hope to detect her at other camera stations.



Figure 9. The first image of URBHY01 and her cubs at den site (URB_DEN_03) in Nature Sanctuary.

State House Research

Most of our work this month has been focused within the Presidential State House estate. We are fortunate enough to camera trap, place bait sites, and spotlight inside the presidential compound, which boasts a multitude of species including spotted hyaena (*Crocuta crocuta*), side-striped jackal (*Canis adustus*), bushbuck (*Tragelaphus scriptus*), bushpig (*Potamochoerus larvatus*), and common duiker (*Sylvicapra grimmia*). The habitat shifts from grass land to miombo woodland which provides ample food sources for wildlife. Camera trapping started on March 7th and continued throughout the month. On the same day, a bait site was placed next to the camera to increase the potential for carnivore sightings. The bait site first consisted of assorted livestock meat and organs, and then bones were added

mid-month. The station is situated on the edge of the woodland to produce identification photos of the urban clan used for clan composition details. Overall, the camera captured 653 images over the course of 23 trap nights. Our team performed two spotlight transects inside the property, consisting of a 7km drive.

scats from Liwonde National Park and Lilongwe. Weighing minute components (< 100g) requires a microscale to obtain accurate measurements. The next step for these scats will be to move onto the hair analysis section. As we move into the dry season, scat collection will become easier and our team hopes to find many specimens to analyse, particularly from our new sites in Northern Malawi.

Camera Trapping Update

During the months of February and March, 26 camera trapping events were completed, with one camera still deployed. (Figure 11). Camera trapping in an urban area can prove difficult at times due to a high population of people living near the camera locations. To minimize the loss of data due to theft, cameras on public lands are set up thirty minutes before sunset and collected between 6:00-6:30 each morning.

Most trapping stations are accompanied with a bait site to maximize the potential for carnivore sightings. The chosen locations are typically near or inside a known den or an area of high activity based off information from the satellite collar on URBHY08. Four separate hyaenas were recorded in these months: URBHY01, URBHY02, URBHY08, and an unknown adult.

As we move into April, we are actively looking for new camera trapping locations in the hopes of detecting the hyaenas and other carnivores.



Figure 10. An image used to analyse which individuals congregate with other clan members. Two spotted hyaenas, URBHY02(right) and URBHY08, are seen here.

Diet Analysis Update

This month, we've focused on processing carnivore scats for the diet analysis study from the various field sites. Our team decided to sort four scats collected in Kasungu National Park which included three spotted hyaena and one leopard (*Panthera pardus*). The focal point of the study is the follicular pattern of fur found in scats to determine the species of animal consumed. An interesting observation made during the lab work was the high amount of hair found in the leopard scat compared to hyaena, which was around four times the weight of hair. We also completed weighing contents of 15 sorted

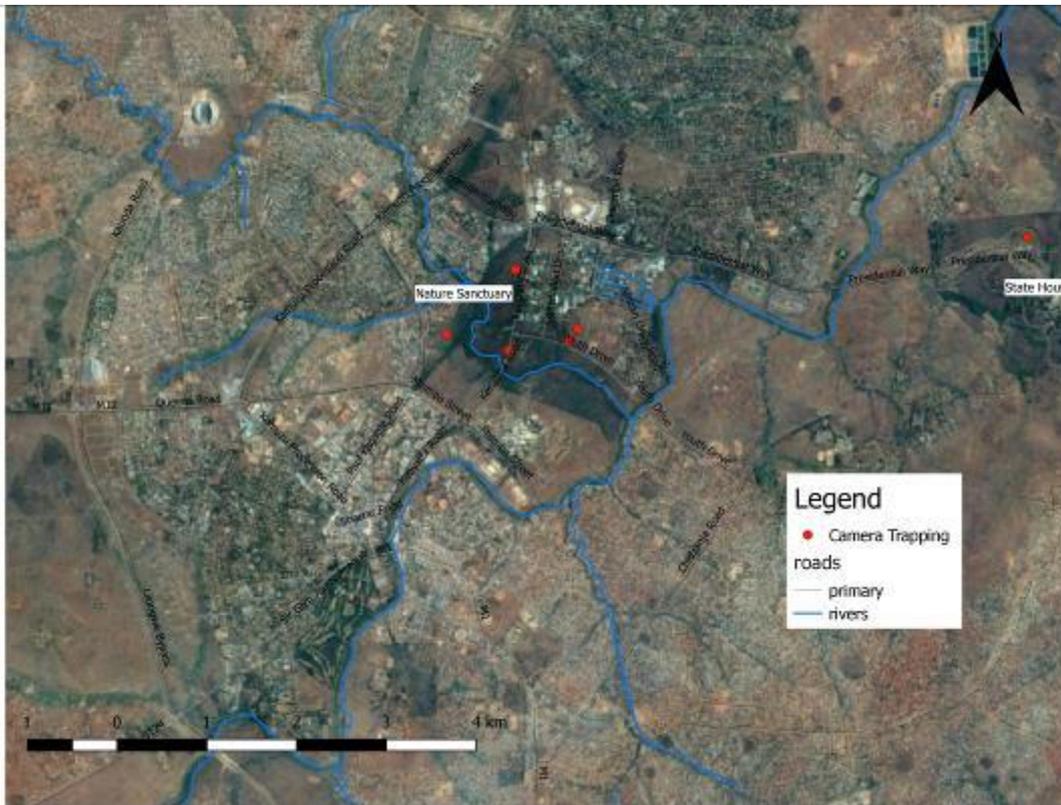


Figure 11. Locations of camera traps placed in Lilongwe for the months of February and March 2017.

Carnivore Sightings Update

Opportunistic carnivore sightings for February and March, Figure 12, include both camera trap images and observed. Three hyaenas and a side-striped jackal were observed.

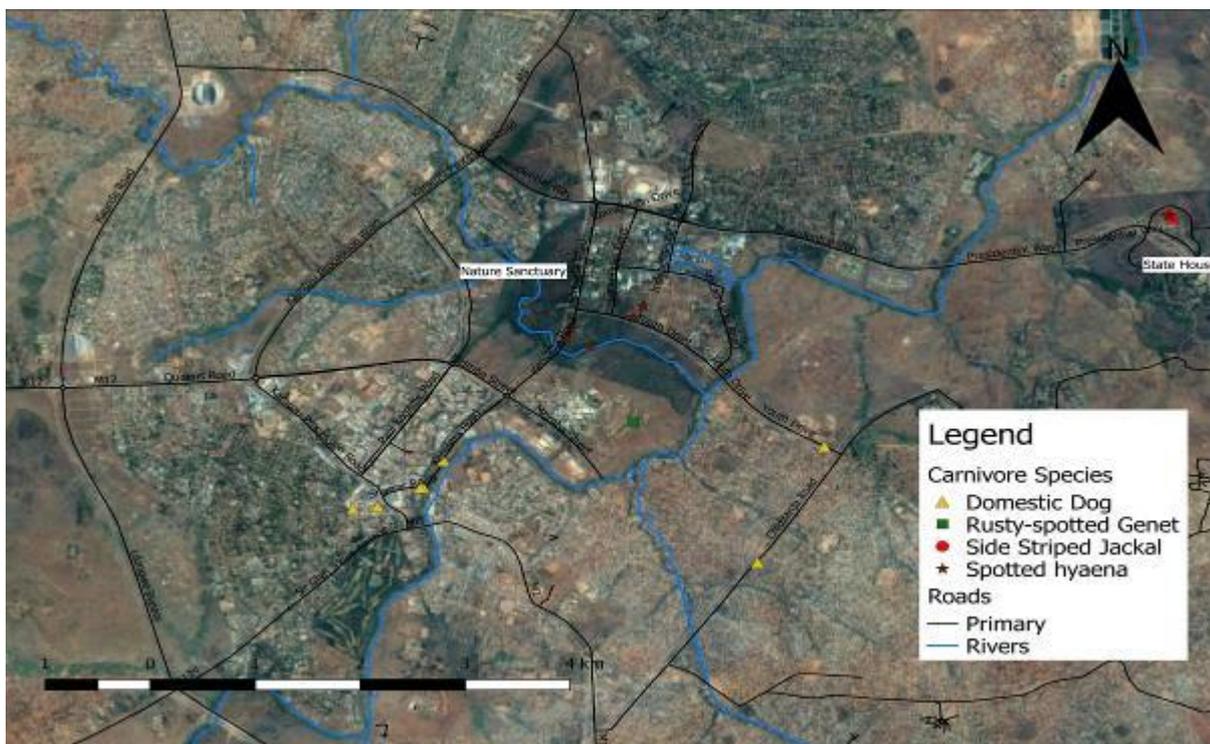


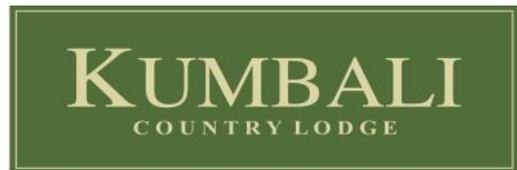
Figure 12. Locations of carnivore sightings in Lilongwe for the months of February and March 2017.

CRM Funders and Supporters

CRM would like to thank all our funders and collaborators.



Bringing the wild back to life



Appendix I: Mammals of Nyika National Park

All mammals seen on transects, camera traps, acoustic surveys or opportunistic surveys.

Animals reported by a DNPW Parks staff member or CAWS representative and reported to CRM are marked with an asterisk (*).

Artiodactyla		
	Bovidae	
	<i>Sylviacapra grimmia</i>	Common duiker
	<i>Oreotragus oreotragus</i>	Klipspringer
	<i>Redunca arundinum</i>	Common reedbuck
	<i>Hippotragus equinus</i>	Roan
	<i>Tragelaphus scriptus</i>	Bushbuck
	<i>Taurotragus oryx</i>	Common Eland
	Suidae	
	<i>Potamochoerus porcus</i>	Bushpig
	<i>Phacochoerus aethopicus</i>	Warthog
Perissodactyla		
	Equidae	
	<i>Equus quagga</i>	Common zebra
Proboscidae		
Elephantidae		
	<i>Loxodonta africana</i>	African elephant
Carnivora		
	Viverridae	
	<i>Gennetta tigrina</i>	Large spotted genet
	<i>Genetta genetta</i>	Small spotted genet
	<i>Civettictis civetta</i>	African civet
	<i>Mungos mungos</i>	Banded mongoose
	<i>Ichneumia albicauda</i>	White-tailed mongoose
	<i>Atilax paludinosus</i>	Water mongoose
	<i>Herpestes sanguinea</i>	Slender mongoose
	Hyaenidae	
	<i>Crocuta crocuta</i>	Spotted hyaena
	Felidae	
	<i>Leptailurus serval</i>	Serval
	<i>Panthera pardus</i>	Leopard
	Canidae	
	<i>Canis adustus</i>	Side striped jackal
	Mustelidae	
	<i>Aonyx capensis</i>	Cape clawless otter
	<i>Mellivora capensis</i>	Honey badger*
Primates		
	Cercopithecoidea	
	<i>Papio cynocapalus</i>	Yellow baboon
	<i>Cercopithecus aethiops</i>	Vervet monkey
	<i>Cercopithecus mitis</i>	Samango monkey
Rodentia		
	Hystricidae	
	<i>Hystrix africaeaustralis</i>	Porcupine
	Leporidae	
	<i>Lepus saxatilis</i>	Scrub hare

Appendix II: Mammals of Lilongwe

All mammals seen on transects, camera traps, acoustic surveys or opportunistic surveys.

Artiodactyla		
	Bovidae	
	<i>Sylviacapra grimmia</i>	Common duiker
	<i>Tragelaphus scriptus</i>	Bushbuck
	Suidae	
	<i>Potamochoerus porcus</i>	Bushpig
Carnivora		
	Viverridae	
	<i>Gennetta maculata</i>	Rusty-spotted genet
	<i>Civettictis civetta</i>	African civet
	<i>Bdeogale crassicauda</i>	Bushy-tailed mongoose
	<i>Herpestes sanguinea</i>	Slender mongoose
	Hyaenidae	
	<i>Crocuta crocuta</i>	Spotted hyaena
	Felidae	
	<i>Leptailurus serval</i>	Serval
	<i>Felis catus</i>	Domestic Cat
	Canidae	
	<i>Canis adustus</i>	Side striped jackal
	<i>Canis lupus familiaris</i>	Domestic Dog
Primates		
	Cercopithecidae	
	<i>Papio cynocephalus</i>	Yellow baboon
	<i>Cercopithecus aethiops</i>	Vervet monkey
Rodentia		
	Hystricidae	
	<i>Hystrix africaeaustralis</i>	Porcupine
	Leporidae	
	<i>Lepus saxatilis</i>	Scrub hare