

Monthly Report

November 2016



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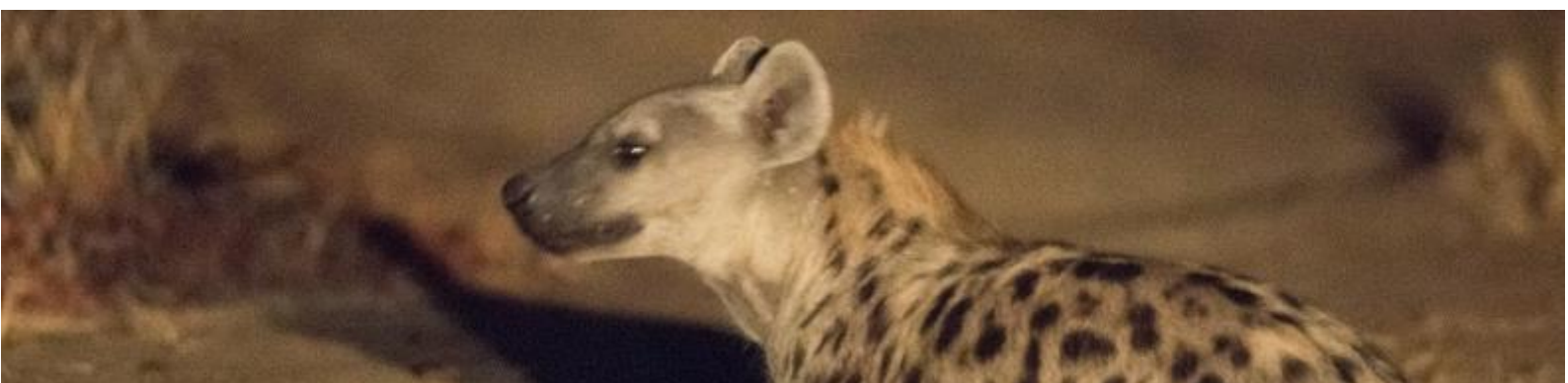
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Updates on Community Engagement

Potential carnivore attack on livestock in Ligwangwa village

On November 22nd 2016 our Liwonde NP team received a call regarding a potential carnivore attack on livestock in Ligwangwa village. Ligwangwa village is located on the Western boundary of Liwonde National Park, an area which has seen an increase of hyaena activity this past year. This call was received by Godwin Zimba, our community engagement officer who responded immediately to find tracks and hopefully remains of the livestock. Unfortunately, upon arrival in the community most of the tracks had been destroyed by village activity, and only one disturbed track was found, see Figure 1.



Figure 1. Potential hyaena track found while investigating a possible carnivore attack on livestock in Ligwangwa village.

While talking to the home owners our team learned that the goats were not put their kraal that evening and that they were roaming all night. Upon waking up it was clear to the owner that one of his goats was missing, as well as some chickens whose remains were found (Figure 2). Unfortunately, no carcass was found for the missing goat. Livestock attacks like these

are becoming more common on the Western boundary as it is an area which in the past has not seen many carnivores. Our



Figure 2. Feathers from chicken that were eaten in their pen.

team is now working hard to train facilitators in the area. These facilitators will be able to help report attacks, as well as teach people the importance of kraal use. This month, our outreach team trained two facilitators in this area (Figure 3).



Figure 3. Two newly trained facilitators in the Balaka district villages.

Each facilitator is given questionnaires, as well as carnivore ID sheets, leaflets and training. With this information they are able to help CRM collect accurate data about carnivore conflict in their communities.

CRM findings - Liwonde NP Field station

Lower Sanctuary Clan moves... Again

November saw the start of rains and birthing season in Liwonde National Park. With dried waterholes in the Southern section of the Sanctuary starting to fill and baby impala and warthog being found throughout the area, LSC01 and her cubs (LSC14 and LSC15) moved from waterhole 1 in the North of the Sanctuary, back to their original denning area in the South, around the Nangondo river. After a week long search, our team was able to observe these individuals twice on foot, as well as on camera trap playing (Figure 4).

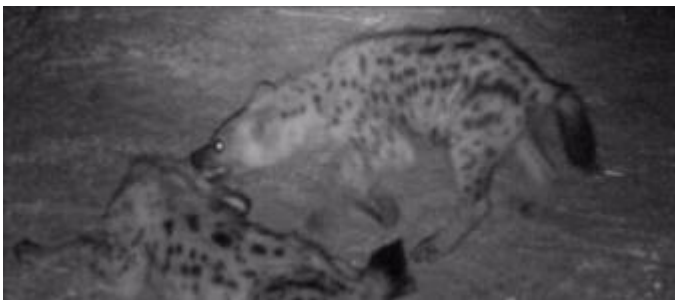


Figure 4. A still image taken from a video of cubs, LSC14 and LSC15 playing in the Nangondo river.

New den discoveries

By following the movements of the Lower Sanctuary Clan this month, our team was able to find not only a new active den site, but also a fresh kill. After a night time tracking session of LSC01, our team returned to investigate the area in which she was active. From this they were able to find a den with fresh tracks as well as a bushbuck kill from the previous evening (Figure 5). This is one of two bushbuck kills found this month in the Sanctuary, with the team finding one near another resting spot of LSC01 just a week later. Finding fresh kills of healthy

animals, such as these, is not a common occurrence in Liwonde NP and gives us great insight into the hunting behaviour of this clan.



Figure 5. The LNP team investigating a fresh bushbuck kill found at an active den site near the Nangondo river.

Furthermore, this month our team began measuring den sites, Figure 6, previously used by the Lower Sanctuary Clan. Measuring den sites allows us to look for patterns in den preference which, can later allow for comparisons across Malawi between parks and urban settings.



Figure 6. Volunteers conducting den measurements on abandoned den sites along the Nangondo river.

Diet analysis update

November was an especially busy month for our diet analysis study. With the start of the rains, our team began cutting the amount of time spent in the field and began focusing more on lab related work. As a result they were able to sort five hyaena scats this month. By washing and sorting the scats our team is able to get a better insight into the diet of the hyaenas in the park. Although the main focus of this project is the follicular patterns of fur found in the scats, we are also able to get an idea of diet based on other items found.



Figure 7. Bone fragment or potential tooth found within a hyaena scat from the Lower Sanctuary Clan.

Most interestingly this month our team found primate finger nails and a tooth in the scats (Figure 7).

On top of analysis, our team continues to search for carnivore scats in the park, this month nine hyaena scats and, two serval scats were collected.

Bait site updates

With dry season coming to an end, and food becoming more readily available for the herbivores, it is less common to find potential bait around the park. Nevertheless, this month we received two deceased animals to use as bait; impala (*Aepyceros melampus*) and buffalo (*Syncerus caffer*) as well as having having a buffalo bait site from October. Bait sites are important as they allow us to not only get

an idea of carnivore populations around the park, but also allow us to collect important information regarding intra-clan relationships and clan composition.

Buffalo near Livingston's Baobab (LNP_B04)

Bait site LNP_B05 was set up near the end of October and lasted through most of November which, is when most of the carnivore visits took place. LNP_B05 was visited by three hyaenas (LSC01, LSC09 and LSC04) as well as side-striped jackal,



Figure 8. Side-striped jackal (*Canis adustus*) seen at a buffalo bait site LNP_B04.

(Figure 8).

Buffalo and impala in Northern Sanctuary (LNP_B05/LNP_B06)

In an attempt to dart LSC01 two baits were set up in the same location within two weeks of each other. Unfortunately LSC01 left this area of the Sanctuary and stopped visiting this bait station. Regardless, our team was able to camera trap both LSC01 and LSC09 in this area, as well as an array of birds (Figure 9).



Figure 9. Palm-nut vulture, ground hornbill and African fish-eagle at buffalo bait site LNP_B05.

Opportunistic carnivore sightings for November 2016

Due to the movements of the Lower Sanctuary Clan in November, our research team conducted more radio tracking sessions than standard. This led to an increase in opportunistic carnivore sightings with 17 sightings recorded this month (Figure 10).

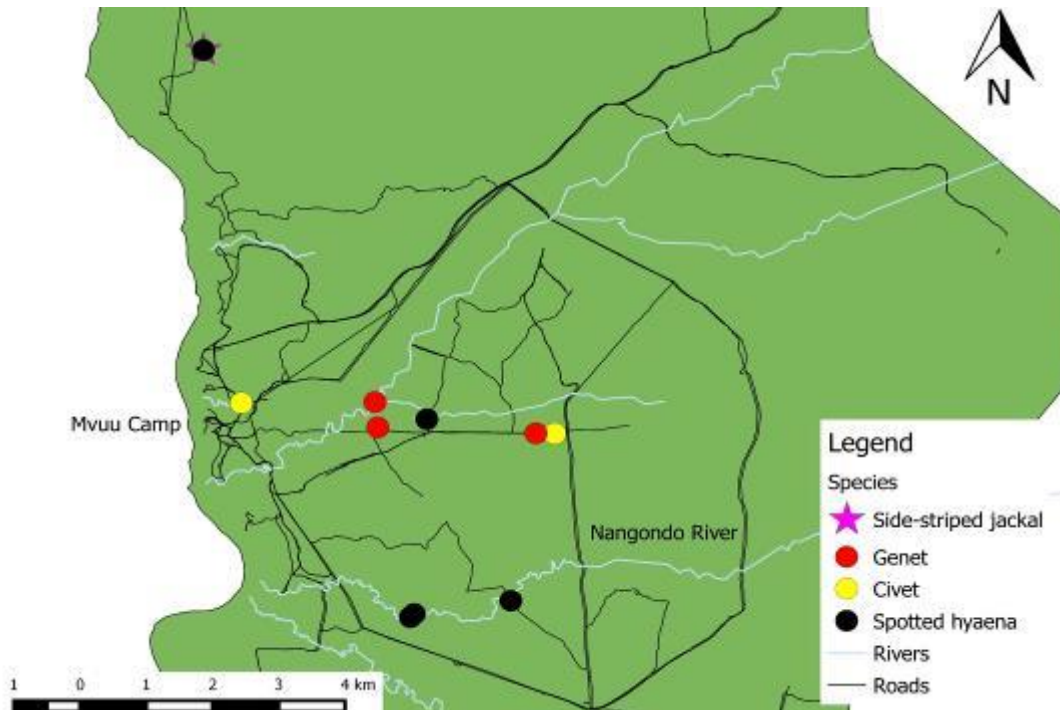


Figure 11. Opportunistic carnivore sightings in Liwonde NP for the month of November, 2016.

Camera trap findings

As well as camera trapping bait sites this month, we also camera trapped locations of potential hyaena activity (Figure 11). This included roads where hyaena tracks were seen, waterholes and, potential new den sites. We were able to record four different hyaenas LSC01, LSC09, LSC14 and LSC15.

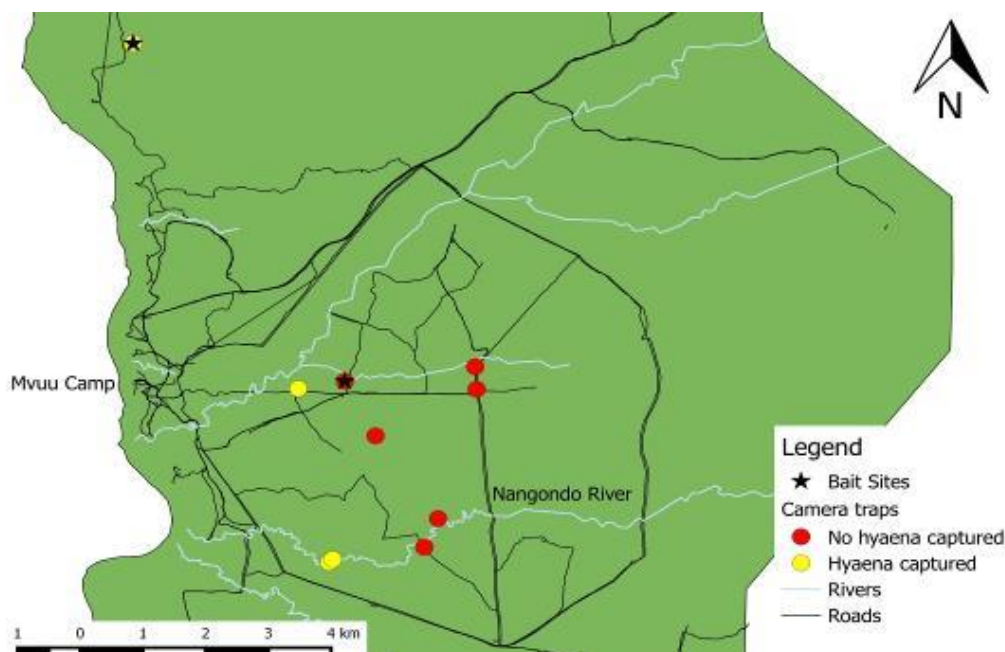


Figure 12. Locations of camera traps and bait sites placed in Liwonde NP for the month of November, 2016.

CRM findings - Kasungu NP Field station

First zorilla sighting for Kasungu

On the 19th November the CRM team was lucky enough to get a sighting of a zorilla (*Ictonyx striatus*) in the middle of the CRM camp. The zorilla (or striped polecat), is a widely distributed but rarely seen carnivore. Up until now the CRM team had no evidence of its presence in KNP, or Malawi, and so this sighting is incredibly exciting and adds another carnivore to the species list found in KNP.

Khalango carnivores

Whilst CRM staff were away from the park in October most of our camera trapping efforts were placed on the edges of the park to try and determine carnivore presence in edge habitats. Whilst captures were not as successful towards the Miondwe borders, the Khalango area on the Eastern boundary of the park proved to have a relatively high abundance of carnivores.



Figure 13. KNPLEOP022 captured near Khalango.

In just 50 camera trap nights one camera detected three individual leopards (*Panthera pardus*) (Figure 13), caracal (*Caracal caracal*) and serval (*Leptailurus serval*) (Figure 14). All three leopards identified were also new individuals for the park. This is very encouraging news for the park with large carnivores living along the boundary of the park and suggesting there is enough prey to support them in these edge habitats.



Figure 14. Serval captured near Khalango camp.

Caracal sightings continue...

Encouragingly caracal sightings on camera traps have increased over the past couple of months, with caracal also being captured in areas of the park where their presence was not yet known. Caracal have now been captured from Khalango to Miondwe in KNP and this suggests a healthy population, widely distributed across the park.

Camera Trapping

Thirty five camera traps were active during November 2016, mainly along major roads and trails monitoring carnivore activity (Figure 15). Unfortunately, during November several cameras were stolen and also destroyed by spotted hyaena.

Scat collection

This month, as part of CRM's diet analysis study, 62 carnivore scats were collected in Kasungu National Park (Figure 16). Fifty eight scats were from spotted hyaena (*Crocuta crocuta*), two from leopard and two from either caracal or serval that could not be determined which. Most spotted hyaena scats were taken from five latrine sites.

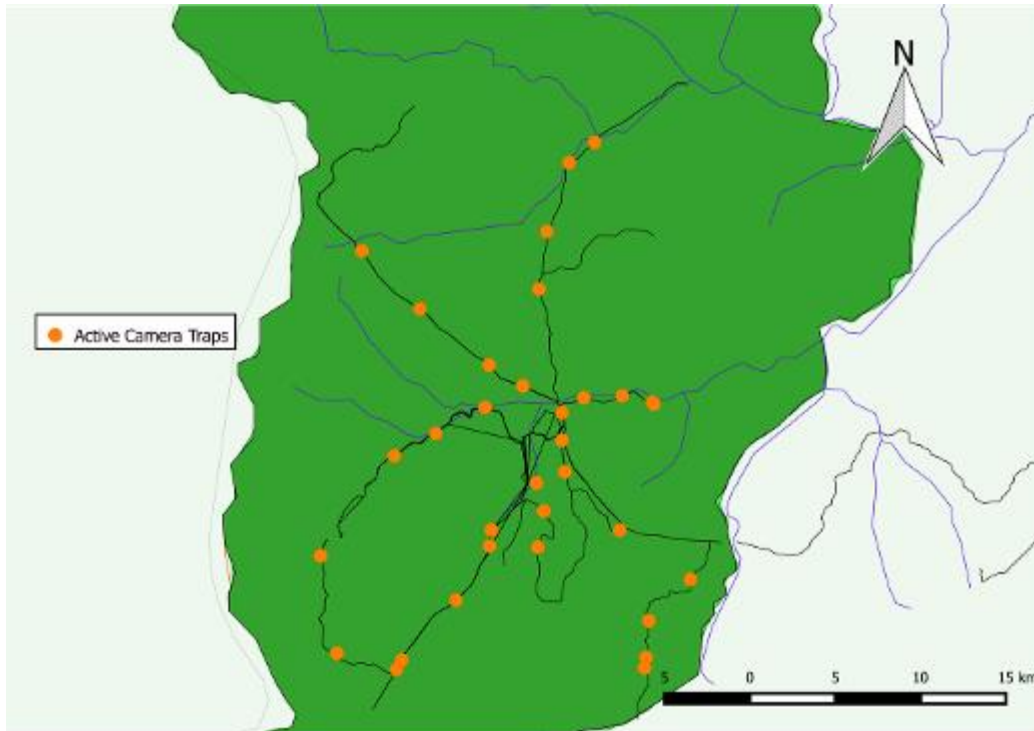


Figure 15. Active camera trap locations in November 2016

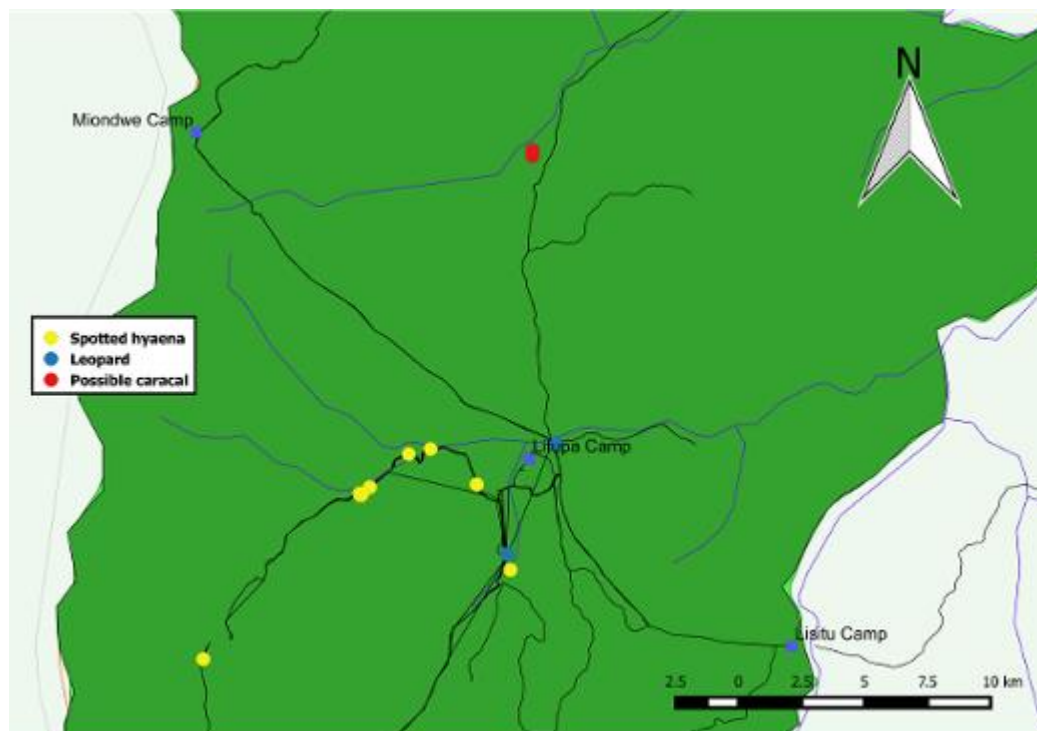


Figure 16. Scat collection sites in November 2016

Opportunistic sightings

There were 74 opportunistic sightings in November, including 48 spotted hyaena sightings (Figure 17) and 21 leopard sightings (Figure 18), with zorilla and honey badger (*Mellivora capensis*) being the highlights (Figure 19). Camera trapping provided 73 of the sightings with the one

sighting of a zorilla the only live carnivore sighting. Spotted hyaena and leopard sightings were widely distributed through the park with the first leopard images close to Miondwe being recorded. Caracal and serval were also recorded towards Miondwe for the first time.

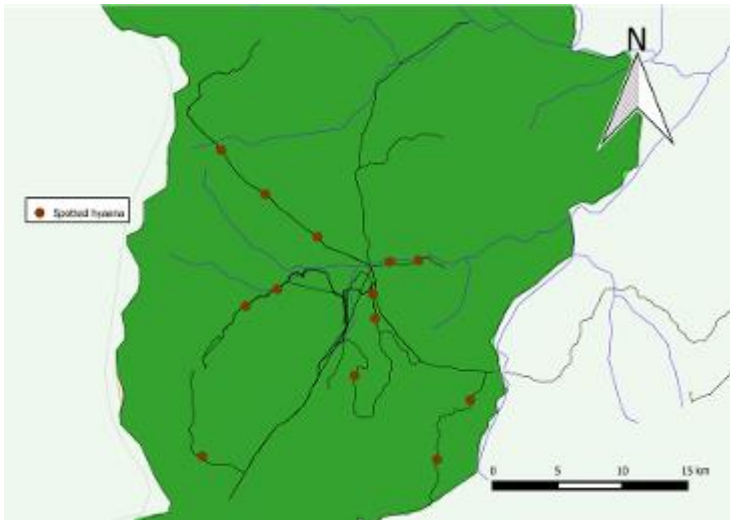


Figure 17. Spotted hyaena sightings in November for Kasungu NP.

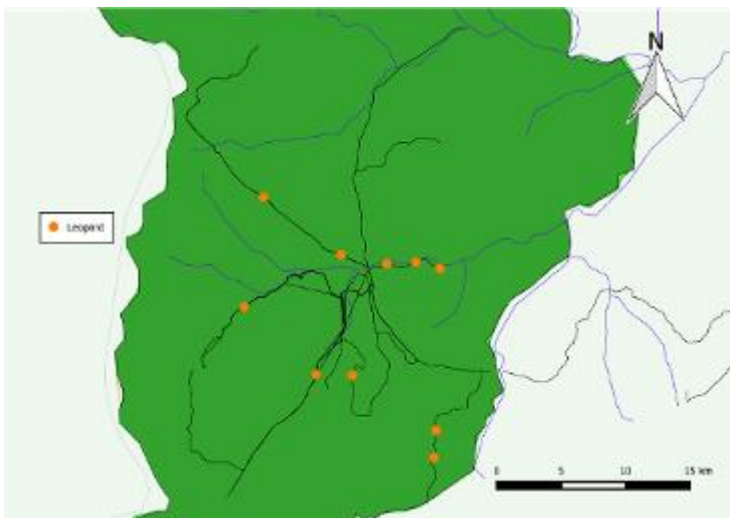


Figure 18. Leopard sightings in November for KNP.

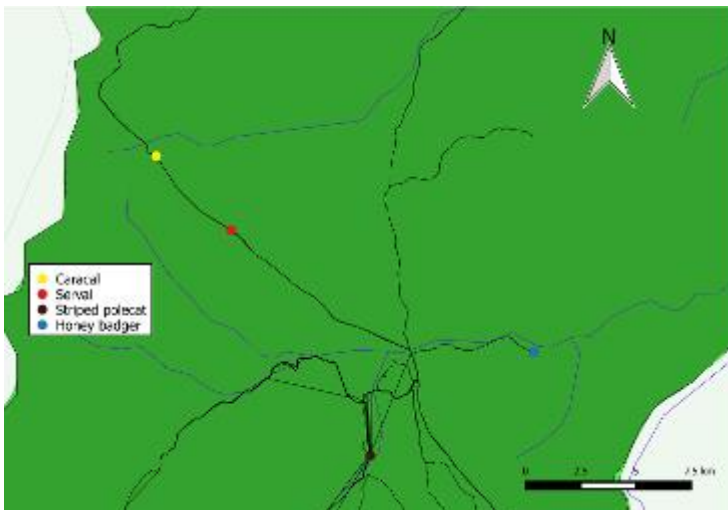


Figure 19. Caracal, serval, honey badger and striped polecat sightings in November for KNP.

CRM Funders and Supporters

CRM would like to thank all our funders and collaborators.



Bringing the wild back to life



Appendix I: Mammals of Liwonde National Park

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

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

| | | |
|-----------------------|---------------------------------|-----------------------|
| Artiodactyla | | |
| | Bovidae | |
| | <i>Sylviacapra grimmia</i> | Common duiker |
| | <i>Raphicerus sharpei</i> | Sharpe's Grysbok |
| | <i>Redunca arundinum</i> | Common reedbuck |
| | <i>Ourebia ourebi</i> | Oribi |
| | <i>Kobus ellipsiprymnus</i> | Common Waterbuck |
| | <i>Alcelaphus buselaphus</i> | Hertebeest |
| | <i>Hippotragus equinus</i> | Roan |
| | <i>H. niger</i> | Sable |
| | <i>Aepyceros melampus</i> | Impala |
| | <i>Tragelaphus scriptus</i> | Bushbuck |
| | <i>T. srepisceros</i> | Greater Kudu |
| | <i>Taurotragus oryx</i> | Common Eland |
| | <i>Syncerus caffer</i> | African Cape Buffalo |
| | Suidae | |
| | <i>Potamochoerus porcus</i> | Bushpig |
| | <i>Phacochoerus aethopicus</i> | Warthog |
| | Hippopotamidae | |
| | <i>Hippopotamus amphibius</i> | Hippopotamus |
| Perissodactyla | | |
| | Equidae | |
| | <i>Equus quagga</i> | Common zebra |
| | Rhinocerotidae | |
| | <i>Diceros bicornis</i> | Black rhinoceros |
| 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>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 |
| | Canidae | |
| | <i>Canis adustus</i> | Side-Striped Jackal |
| 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 |

Appendix II. Mammals of Kasungu National Park

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

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

| | | |
|-----------------------|---|---------------------------|
| Artiodactyla | | |
| | Bovidae | |
| | <i>Sylviacapra grimmia</i> | Common duiker |
| | <i>Raphicerus sharpei</i> | Sharpe's Grysbok |
| | <i>Oreotragus oreotragus</i> | Klipspringer |
| | <i>Redunca arundinum</i> | Common reedbuck |
| | <i>Neotragus moschatus</i> | Suni |
| | <i>Kobus vardoni</i> | Puku |
| | <i>Hippotragus equinus</i> | Roan |
| | <i>H. niger</i> | Sable |
| | <i>Aepyceros melampus</i> | Impala |
| | <i>Tragelaphus scriptus</i> | Bushbuck |
| | <i>Alcelaphus buselaphus lichtensteinii</i> | Lichtenstein's hartebeest |
| | <i>T. srepriceros</i> | Greater Kudu |
| | <i>Taurotragus oryx</i> | Common Eland* |
| | <i>Syncerus caffer</i> | African cape buffalo |
| | Suidae | |
| | <i>Potamochoerus porcus</i> | Bushpig |
| | <i>Phacochoerus aethopicus</i> | Warthog |
| | Hippopotamidae | |
| | <i>Hippopotamus amphibius</i> | Hippopotamus |
| 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>Felis caracal</i> | Caracal |
| | <i>Panthera leo</i> | Lion |
| | <i>P. pardus</i> | Leopard |
| | Canidae | |
| | <i>Lycaon pictus</i> | Wild dog* |
| | <i>Canis adustus</i> | Side striped jackal |
| | Mustelidae | |
| | <i>Aonyx capensis</i> | Cape clawless otter |
| | <i>Mellivora capensis</i> | Honey badger |
| | <i>Ictonyx striatus</i> | Striped polecat |
| 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 |