



HUMAN-CARNIVORE CONFLICT IN THE WATERBERG

PROJECT REPORT – RESULTS AS OF MAY 2011

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SUMMARY

- Aim: finding ways of limiting carnivore predation on game and livestock to acceptable levels, using methods that are cost-effective but do not require the removal/killing of carnivores.
- During March and April 2011 the first 46 surveys were completed in the Waterberg area of the Limpopo province.
- Serval and Wild Dogs were recorded the least frequently while Black-backed Jackals and Brown Hyenas were recorded on nearly all properties.
- During the last year, 89% of respondents reported that they experienced losses to carnivores with 56% reporting damage of <R20 000 in the last year.
- 43% of respondents had killed carnivores in the last year, 123 of which were Black-backed Jackals, making them the species most frequently killed.

INTRODUCTION

In February 2011, a new research project began in the Waterberg. The project is a collaboration between the Endangered Wildlife Trust (EWT) and the University of Pretoria (UP). The aim is to find ways of limiting carnivore predation on game and livestock to acceptable levels, using methods that are cost-effective but do not require the removal/killing of carnivores. Specifically, we will investigate:

- Carnivore diet and predation on game and livestock in farmland
- Natural and human factors that promote or inhibit predation
- The effect that co-existing people and carnivores have on one another
- Which anti-predation measures are most effective and affordable

The first year of field work will focus on collecting baseline data using a questionnaire interview. We will then re-visit participating farms every three months to collect detailed information about the predation incidents recorded by land owners. Together with dietary analysis of carnivore faecal samples, we will use this information to establish which carnivore species are preying on game and livestock. This will allow us to make sure that anti-predation measures are targeted at confirmed rather than suspected culprits. In the second year of field work, we will evaluate various non-lethal anti-predation methods (e.g. livestock guarding dogs,

diversionary feeding etc.). Predation levels will be monitored over a two-year period to assess the comparative and long-term effectiveness of each method.

RESULTS

Number of surveys

The first surveys were done during March and April 2011 in in the Waterberg area of Limpopo province (Fig 1.). The following overview summarises the results of the first 46 interviews.

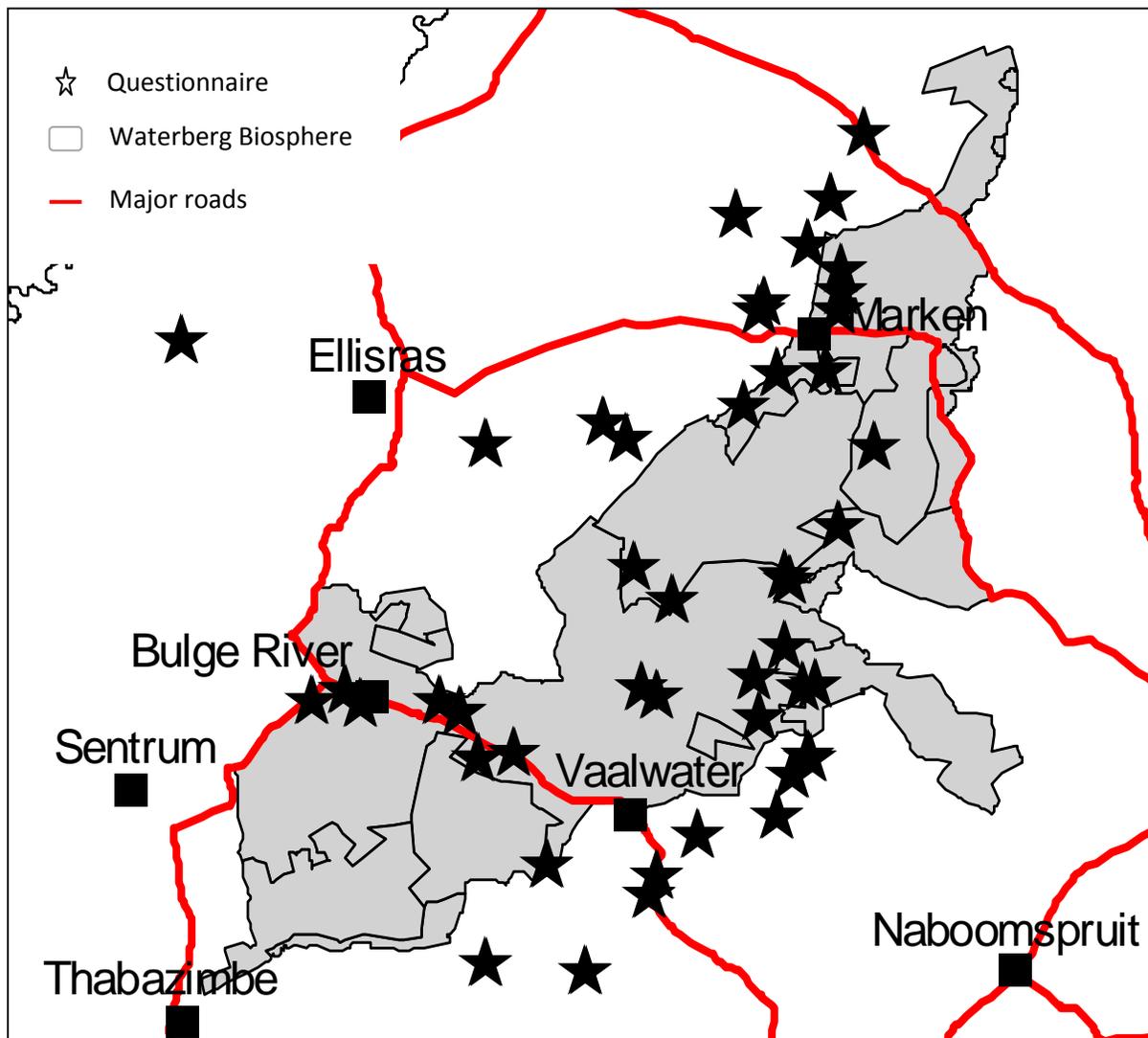


Figure 1. Locations of 46 interviews conducted in and around the Waterberg Biosphere Reserve in Limpopo province.

About half of those interviewed have said that they will participate in the next part of the project, which involves monitoring predation losses in detail. We still need a further 30-50 long term participants to complete the survey. We would be very grateful if you could put us in touch with anyone land owners, especially in the blank areas of Fig. 1.

Carnivore presence and distribution

Land owners (or managers) were asked which carnivore species had been detected at their farm in the last year, based on sightings of the animals themselves, or their spoor. The proportion of farms where presence was reported ranged from 39% for servals to 100% for black-backed jackals (Fig 2).

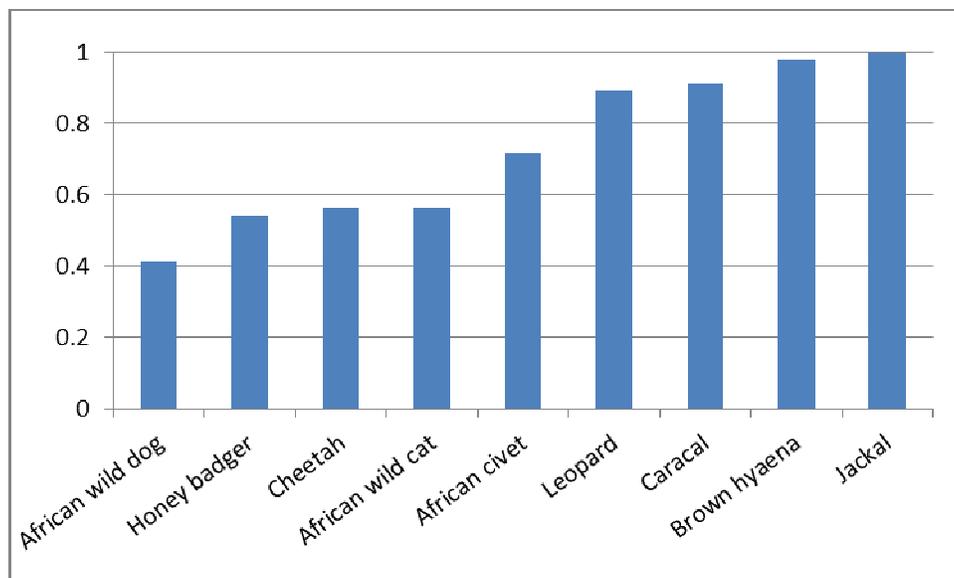


Figure 2. Proportion of farms reporting presence of various carnivore species.

We have not yet mapped the distribution of all species but sightings of Wild Dogs (Fig 3) have been coded by group size to give a rough idea of the areas used by different packs. Based on the group sizes reported, there seem to be three packs in the area of the following sizes:

- ✿ One of ≥ 10 individuals,
- ✿ 4/5 individuals
- ✿ 3 individuals
- ✿ There have also been occasional sightings of 1 or 2 (probably dispersing) individuals

It is difficult to be certain of exact Wild Dog numbers because group size changes due to births or mortality and when a group splits off to form a new pack. It is also difficult to see and count all members of the pack during a sighting. To try and improve our understanding of where the Wild Dogs are and how many of them there are in each group, the Bateleurs are helping us with monthly flights to track the positions of four collared individuals.

Very important!!

- ✿ We would like to assure land owners that the EWT has **never** relocated carnivores (including Wild Dogs) from other areas to the Waterberg
- ✿ We have no intention of introducing additional animals to this area.
- ✿ On the few occasions when we do collar animals, we catch them locally and release them in an appropriate place near where we found them.
- ✿ We only do this because it helps the farming and scientific communities gain a better understanding of carnivore behaviour and ecology in farmland.

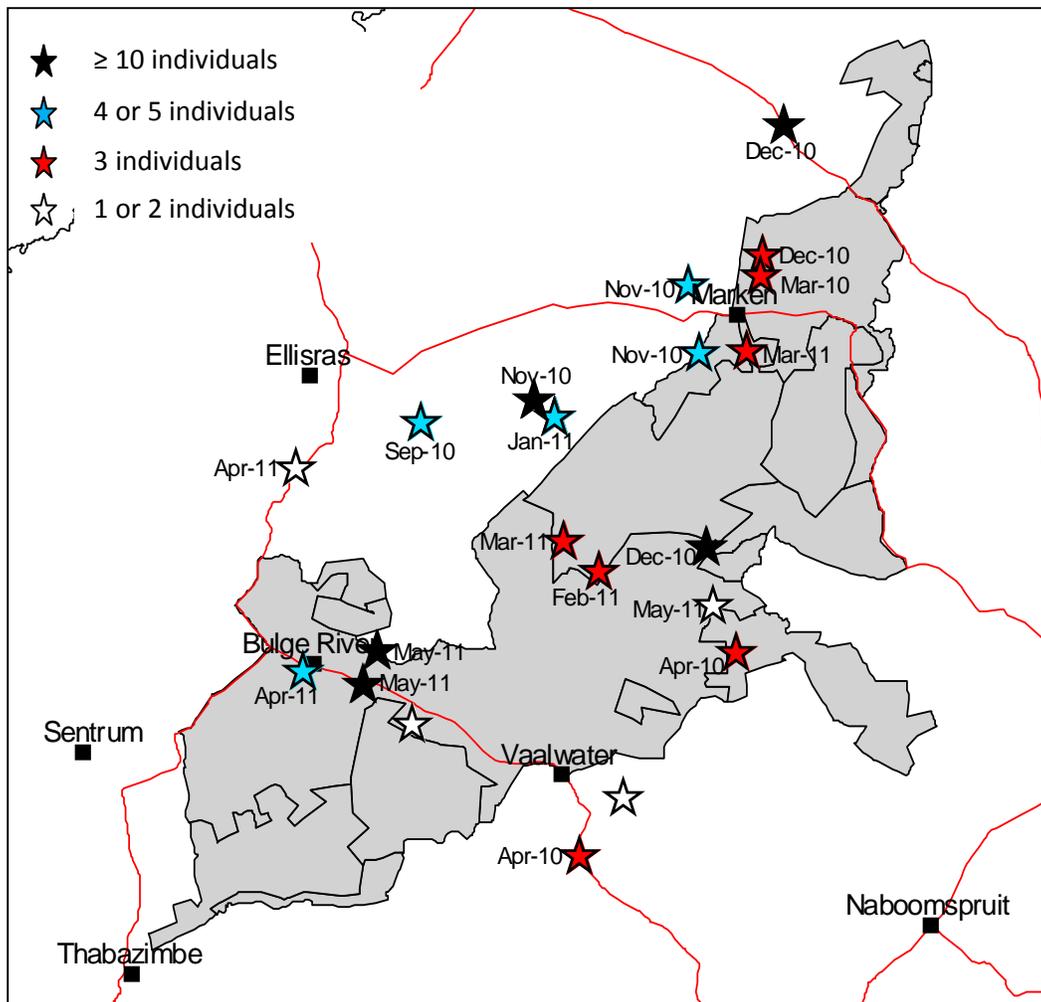


Figure 3. Locations, dates (2010-2011), and group size of African Wild Dog sightings in the Waterberg according to land owner reports.

Predation by carnivores

Eighty nine percent of land owners said that they had suffered losses due to predation. They reported a total of 546 animals killed by carnivores in the last year, representing 1.6% of total stock holdings. The estimated value of the predated animals was R1,487,470. Losses were unevenly distributed and most people lost amounts that were at the smaller end of the scale (Fig 4). For example, 25% of people lost \leq R975 and 56% of people experienced losses of \leq R20 000. Five people lost very large sums (R105,800 – R192,000), two of whom did not consider those predation levels to be a serious problem. The majority of predated animals were game species

(68%), followed by cattle (20%) and small stock (11%). As expected, that pattern roughly follows relative abundance of the respective prey categories. About half of the predated animals (47%) were calves/lambs.

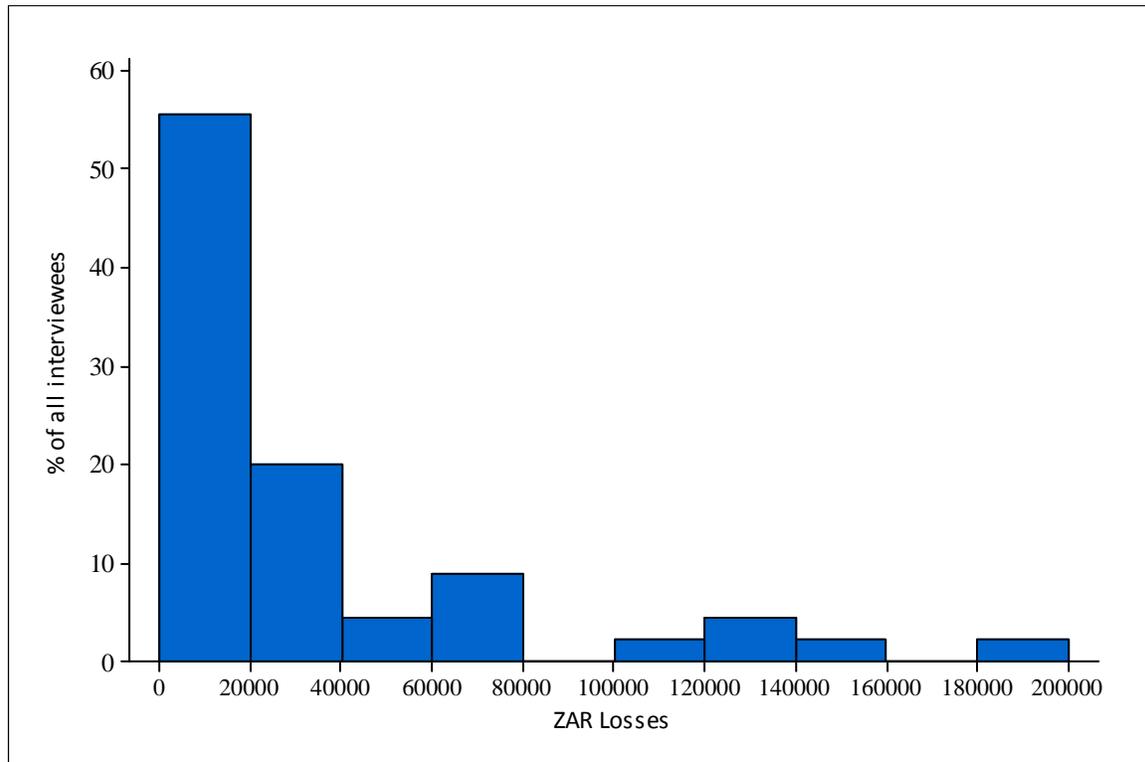


Figure 4. The distribution of losses arising from carnivore predation on game and livestock, in relation to the percentage of land owners interviewed.

Thirty nine percent of land owners said they had asked for help with predation problems. They contacted LEDET, De Wildt, Lapalala or the EWT. In most cases, they were seeking re-location of the carnivores they thought responsible for predation. From a practical point of view, re-locating carnivores is extremely costly and labour intensive and does not provide a long term solution to predation problems. Additionally, finding enough release sites where a problem animal would pose no threat to other farmers is very difficult. There are also ecological concerns about the impact of removing/inserting individuals into populations, both at capture

and release sites. For example, male leopards are known to be infanticidal, so introducing a new male leopard into a population could dramatically increase cub mortality.

Carnivores killed by land owners

Forty three percent of land owners said that they have killed carnivores in the last year. Thirty five percent of those who killed carnivores were trying to remove a specific animal thought to have attacked their game or livestock. Twenty five percent killed carnivores as a general precaution against future predation and 20% earned income from hunting carnivores. The following carnivores were reportedly killed:

- ✿ Black-backed Jackals - 123
- ✿ Honey Badgers - 1
- ✿ Brown Hyaenas - 2
- ✿ Caracals - 4
- ✿ Leopards - 6 (mostly permitted)
- ✿ Wild Dogs - 6

Several respondents said that they and/or their neighbours have trapped leopards illegally in the past and either shot them or offered them to hunting outfitters. It also seems that in some cases, Damage Causing Animal permits are used as a way around the need for a CITES permit.

Attitudes towards carnivores

The questionnaire contained ten statements that we used to evaluate attitudes to carnivores in general. Responses were mainly positive (Table 1) and it is encouraging that a large proportion of participants were interested in non-lethal anti-predation methods. However, most people perceived carnivores as having a negative financial impact, nearly a third are unwilling to tolerate even low levels of predation, and a similar proportion would like to see carnivore numbers reduced.

Table 1. Summarised land owner responses to 10 statements concerning attitudes to carnivores.

Statements	% agree	% disagree
This site cannot tolerate any carnivores	7	78
Carnivores cost me money	69	29
Carnivores are wasteful and take far more than they need	13	71
I would like to know more about non-lethal anti-predation methods	78	16
Carnivores should only live in fenced areas where they cannot get out	11	87
It does not matter if predators kill a few of my animals	62	29
If you remove/kill a predator it just gets replaced by another one	80	13
There is nothing good about carnivores	2	93
I would like to have less carnivores in this area	33	56
Killing carnivores is cheaper than protecting my stock by other means	22	62

We also investigated attitudes to individual carnivore species by asking land owners which species they would be prepared to tolerate if they were regularly present on their land. Wild Dogs and Cheetahs were least likely to be tolerated (Fig 5). Five species were tolerated by $\geq 93\%$ of interviewees. Those species were rarely implicated in predation on game and livestock, which may explain comparatively positive attitudes toward them.

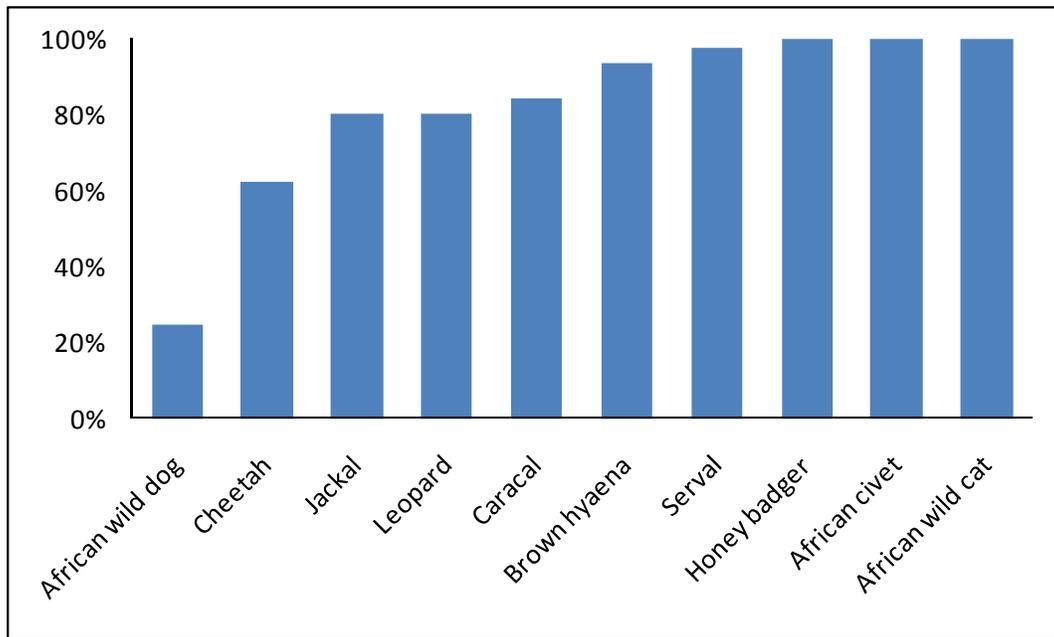


Figure 5. Proportion of land owners who would tolerate regular presence, by carnivore species.

The preliminary results presented in this document are basic, but they provide an initial outline of human-carnivore conflict in the Waterberg. We will carry out a more sophisticated analysis later this year when more interviews have been completed. That analysis will reveal the key natural (e.g. habitat, elevation etc.) and human variables (e.g. land use, anti-predation measures, etc.) that are influencing predation levels and carnivore distribution patterns. We will also circulate those results.

HOW YOU CAN HELP

- 🌸 Take part in the survey - if you have a property in the study area and would like to contribute, please contact us.
- 🌸 If you have any photographs of Wild Dogs in the Waterberg or if you see any Wild Dogs in the area, please let us know. This will help improve our understanding of Wild Dog numbers and movement patterns.
- 🌸 Who to contact: Michelle Thorn: michellet@ewt.org.za or 071-147-9049

ACKNOWLEDGEMENTS

We would like to thank all the landowners who have participated so far. We are also grateful to Deon Cilliers of the EWT Wildlife Conflict Mitigation Programme for sharing his knowledge of the area. The Bateleurs have agreed to fly monthly to help us locate collared Wild Dogs. Lapalala Wilderness have provided fantastic support and information. This project is funded by The EWT, the University of Pretoria, Knowsley Safari Park (UK), the Rufford Small Grants Foundation and Land Rover Centurion.



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Should you have any feedback or questions relating to this document, please contact

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