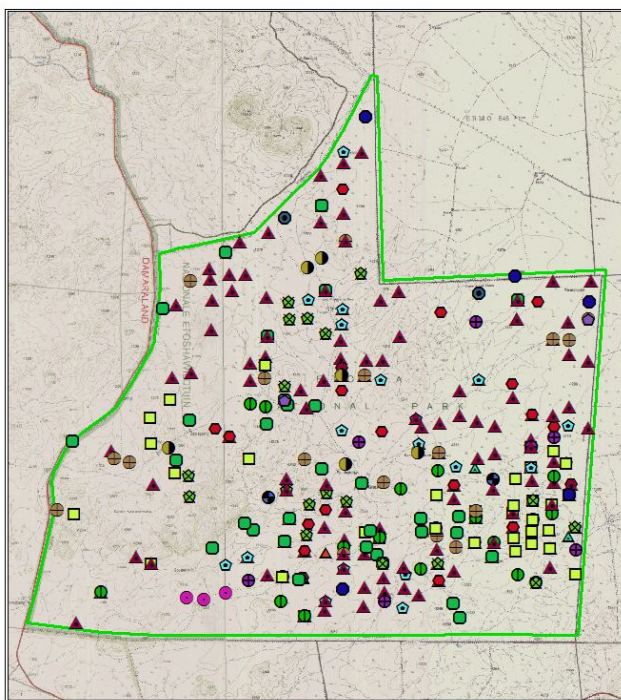


TECHNICAL REPORTS OF SCIENTIFIC SERVICES

Report on an aerial game count of Kaross, Etosha National Park, 14 December 2009

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Number ?

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1. Introduction

The Kaross game camp is situated in the south-westernmost corner of the Etosha National Park and is used as a rare species breeding facility. For this reason the camp needs to be intensively managed and the numbers of animals within the camp need to be accurately known.

2. Method

The camp was counted on 14 December 2009 using a hired Bell Jet Ranger 206 helicopter V5-HEM. Custom software was used to create transects, 500m apart, that cover the entire camp in a north-south direction. The resulting thirty transects covered a distance of 285 km (Figure 1). The transects were loaded onto a Garmin GPS 12XL and this was used by the pilot to navigate accurately along the transects. The doors were removed from the helicopter for better visibility and the observers wore ski masks to protect their eyes from the wind. All sightings were recorded on the GPS and the waypoint number, species and number seen was recorded on a data sheet. All elephants seen were photographed for age and sex determination and black rhino were photographed for identification.

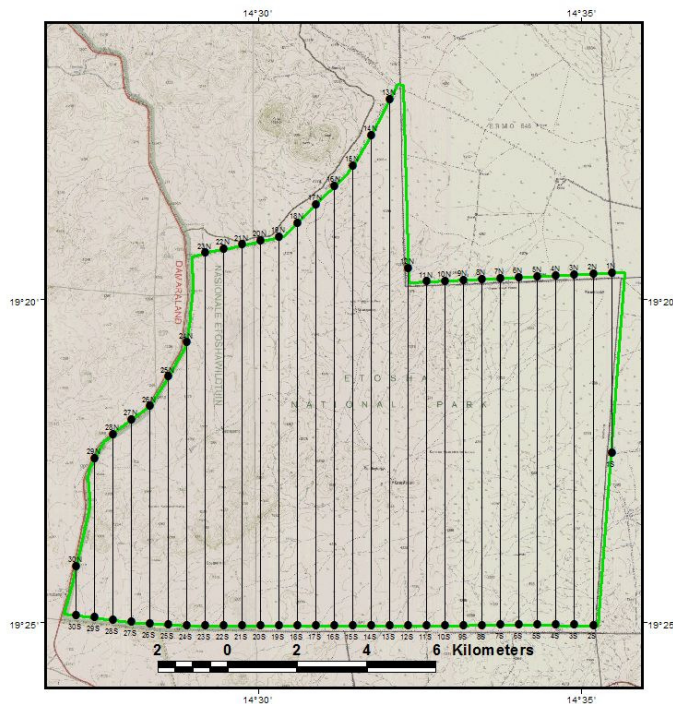


Figure 1: Kaross game camp showing layout of transects.

3. Results

The survey took two hours 54 minutes, which translates into a search rate of 1.6 km/min. The flight path was recorded on the GPS tracklog and is shown in Figure 2 (deviations from the transects are where rhino, elephant or large herds of animals were encountered). A total of 253 sightings were recorded during this time (Figure 3) which comprised 1539 animals of seventeen species (Table 1). Kaross game camp is 144 km² in size so the density of animals calculates to 10.7 animals/km². The distribution and herd size for selected species is shown in Figure 4 to Figure 11.

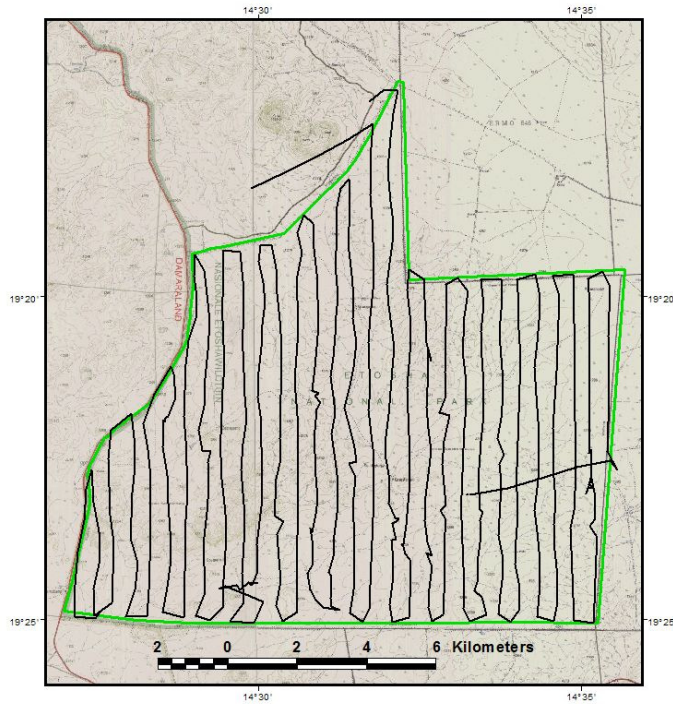


Figure 2: Actual flight path during the count.

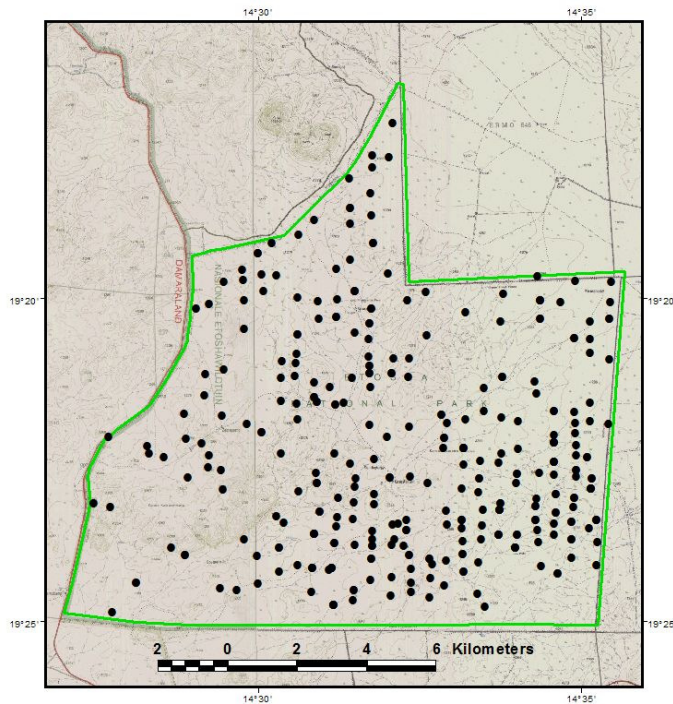


Figure 3: All sightings recorded during the survey.

Table 1: Species and number of each seen.

Species	No
Black Rhino	6
Black-faced Impala	227
Blue Wildebeest	77
Eland	148

Elephant	33
Giraffe	110
Kudu	85
Mountain Zebra	244
Oryx	441
Ostrich	18
Plains Zebra	16
Red Hartebeest	63
Roan	25
Sable	2
Spotted Hyaena	3
Steenbok	6
Warthog	35
	1539

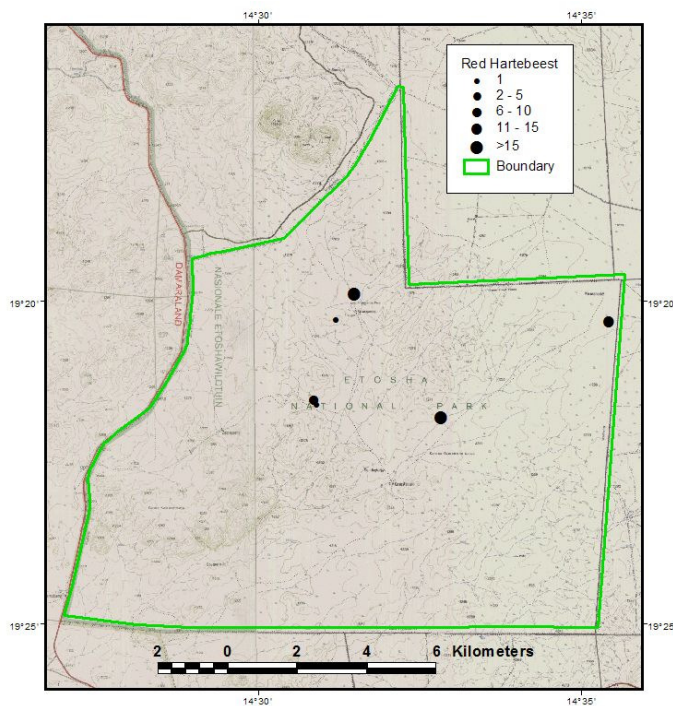


Figure 4: Distribution and herd size of red hartebeest.

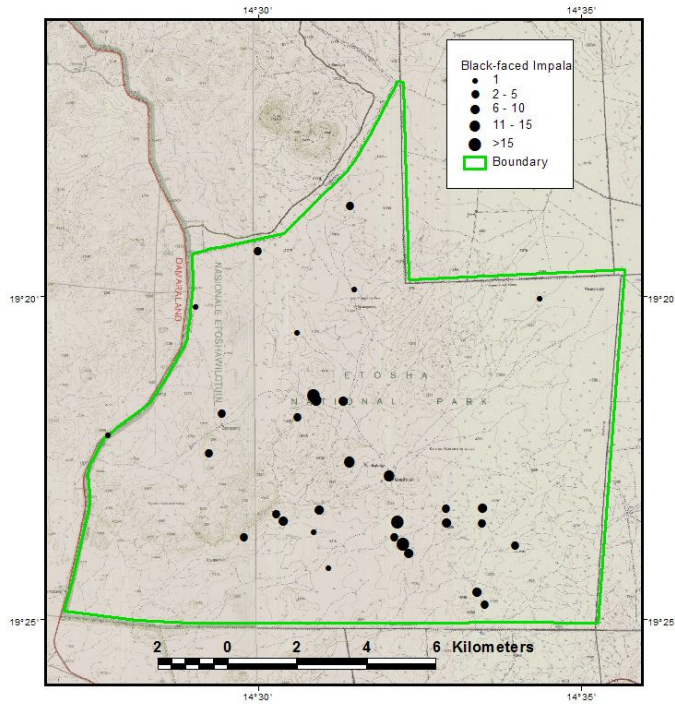


Figure 5: Distribution and herd size of black-faced impala.

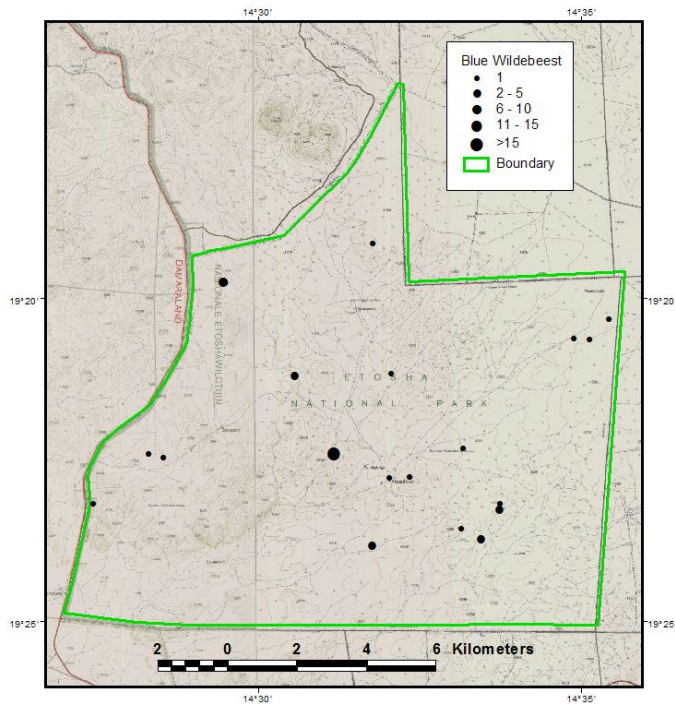


Figure 6: Distribution and herd size of blue wildebeest.

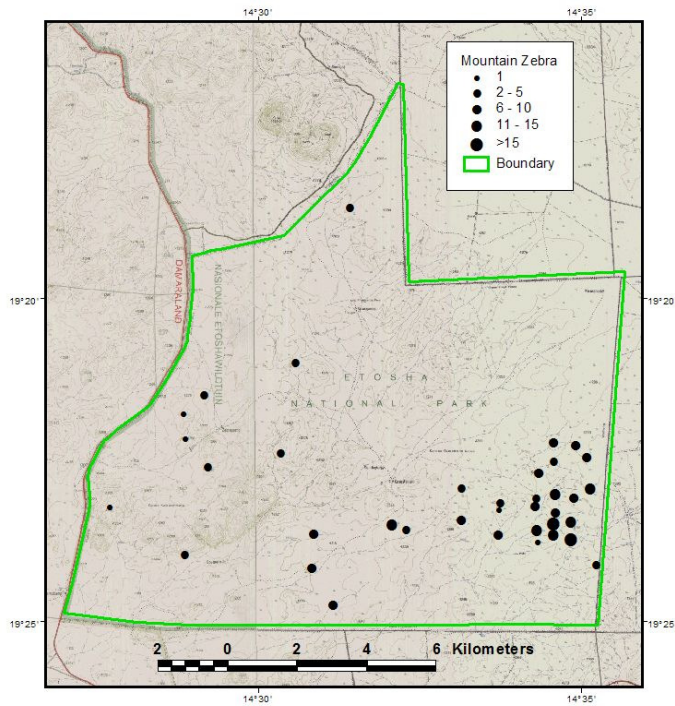


Figure 7: Distribution and herd size of mountain zebra.

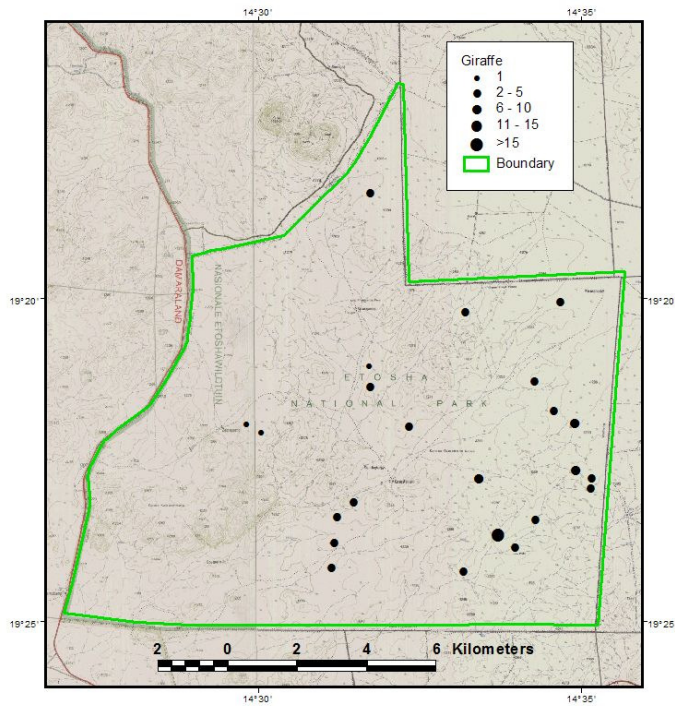


Figure 8: Distribution and herd size of giraffe.

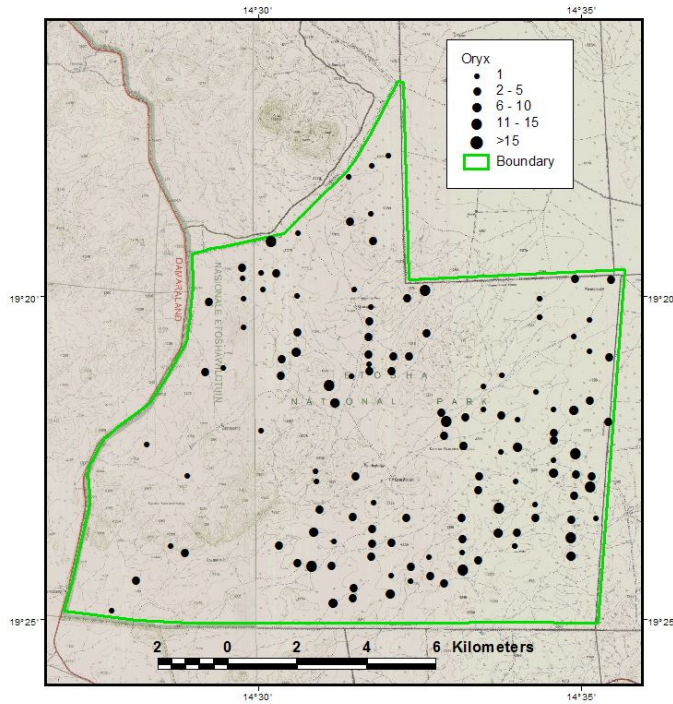


Figure 9: Distribution and herd size of oryx.

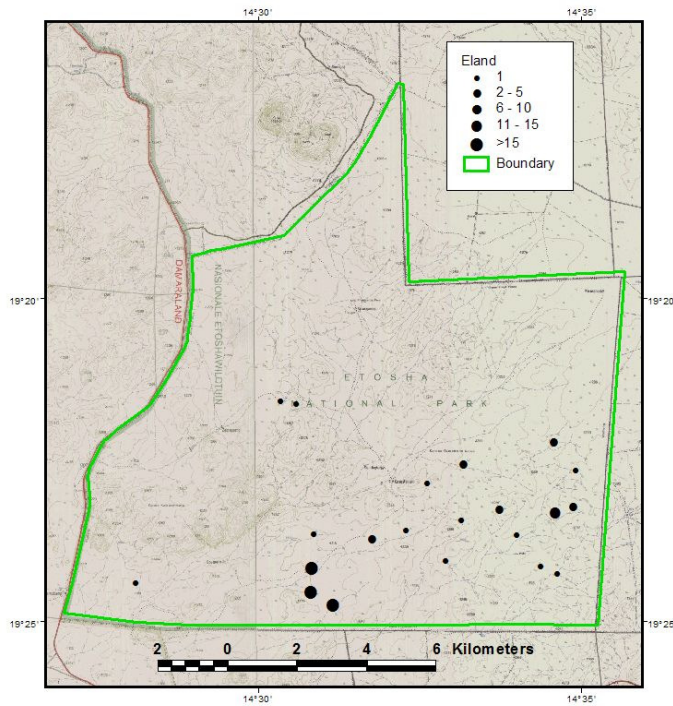


Figure 10: Distribution and herd size of eland.

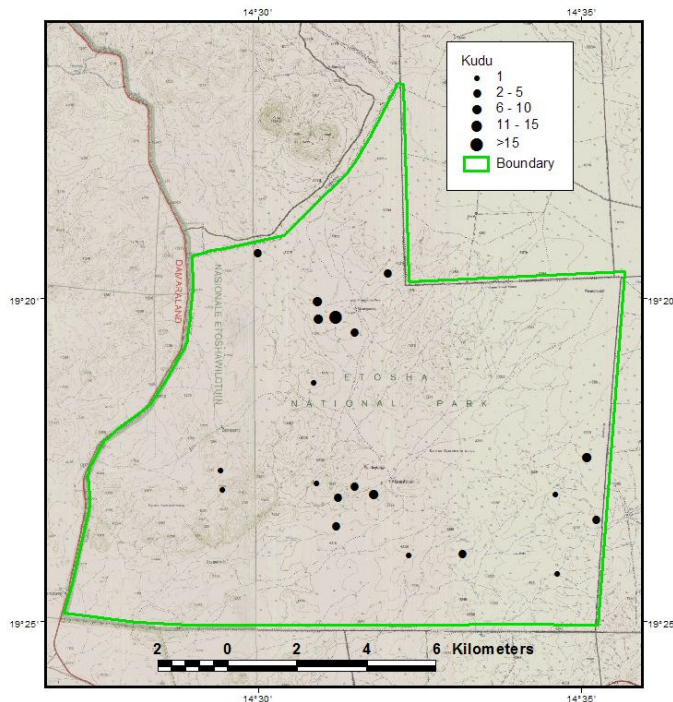


Figure 11: Distribution and herd size of kudu.

4. Discussion

The presence of 33 elephants within the camp is reason for concern. Three breeding herds of thirteen, ten and eight individuals respectively and two bulls were encountered and it appears that they entered the camp through the southern boundary fence. The breaks in the fence allow the rare game to escape to neighbouring farms and also severely jeopardise the plans to have the camp declared disease free.

Although it does not make much sense to compare the figures from this count to any previous counts because of the number of animals removed from the camp each year, figures for 2005 and 1999 are given in Table 2.

Table 2: Numbers of animals counted in Kaross in 2009, 2005 and 1999.

Species	2009	2005	1999
Black Rhino	6	11	32
Black-faced Impala	227	239	484
Blue Wildebeest	77	165	222
Eland	148	25	108
Elephant	33	9	0
Giraffe	110	48	94
Kudu	85	35	72
Mountain Zebra	244	187	414
Oryx	441	303	944
Ostrich	18	43	44
Plains Zebra	16	0	136
Red Hartebeest	63	17	94
Roan	25	56	160
Sable	2	0	0
Spotted Hyaena	3	2	0

Springbok	0	46	6
Steenbok	6	0	2
Warthog	35	32	68

5. Acknowledgement

I would like to thank Jan du Preez for piloting the helicopter safely and Werner Kilian and Johannes Kapner for their services as observers.