

Elephant Status Report

Tembe Elephant Park



2010



Tembe Elephant Park; Elephant Status Report

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Summary

Currently there are 156 identified elephants on Tembe, of which 76 are free roaming bulls and 80 individuals in 9 known family groups with the park having around 14 family groups based on the aerial surveys. This report summarises the structural breakdown of each of the known family group sighted throughout the year as well as the areas in which they were sighted. This report also gives a break down on the nine recognized "tuskers" of Tembe.

I. INTRODUCTION

This is the 8th year that the elephant monitoring program has been running since 2002 in Tembe Elephant Park. The monitoring program is run throughout the year. The aim of the program is to have a better understanding on the numbers of elephants in Tembe Elephant Park. As of 2007 an elephant contraception program was begun, and a much more detailed understanding of the elephant structure of the population was needed. This is necessary for future management of the elephant population as well as the success of the contraception program currently employed.

The known group estimates were derived from information gathered and reported on from the elephant monitoring program.

II. METHODS

An intensive elephant monitoring programme is been undertaken so as to establish the numbers and population structure of the elephants in Tembe Elephant Park; this is based on an individual elephant ID database. Each known free roaming bull has an individual id. Family groups (herds) have an ID for the herd, which is based on id's for individual cows known to be in that specific herd. This is important for monitoring the effect of the contraception program and future management of this program.

The data collection for the elephants in Tembe is done from a vehicle and is mainly done during midday and focus is around water bodies.

III. RESULTS

Elephant Population

There is a 156 individual identified elephants in the park, of which 76 are free roaming bulls that can be identified from individual photo id's and 80 elephants in 9 known family groups that can be identified by individual or family group id's. There are a total of 14 to 15 family groups in the park as gathered from the contraception program and aerial counts, which bring the estimated population of elephants in the park to approximately 250 animals. Mortalities for the year were 10 of which 1 was a female and 9 were males of which one was a "big Tusker".

Known group estimates and population breakdown

It is possible that the family unit figure, from contraception program, is very close to the actual number of family units in Tembe, which are probably around 14. Morley *et al* 2002, in an intensive survey program in 2002 recognised 10 breeding groups. The Maximum number of animals recorded in family groups during this year’s contraception operation and aerial survey was 146 and 79 free roaming bulls.

Table 1: Population structure breakdown for known elephants in Tembe Elephant Park. [*Max Estimates refers to max number from all estimates {nl Aerial total count & contraception program} from Matthews 2010]

Count	Total	Free roaming Bulls	Family group Total	Young (<2 yrs)	Sub-adults & Unclassified *	Family units
ID Kits	156	76	80	5	47	10
Max Estimates*	225	79	146	5	84	12
%		32%	68%	9%	28%	

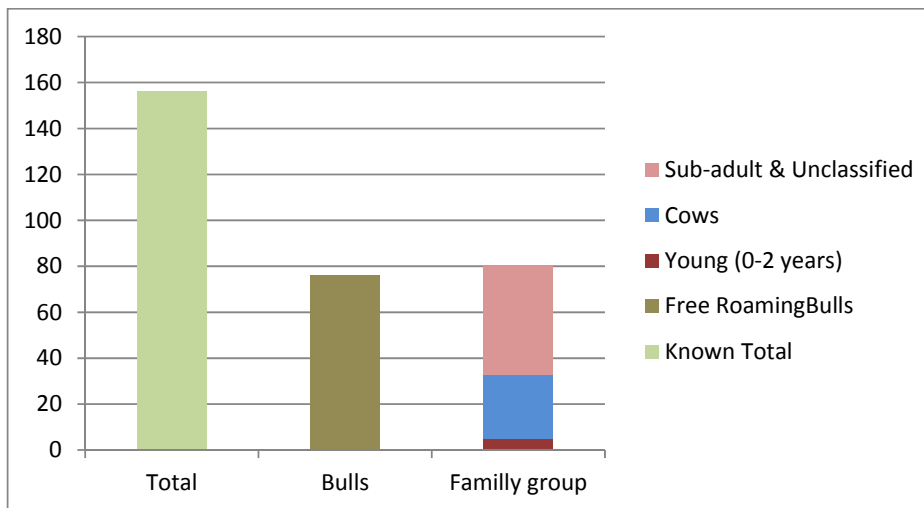


Figure 1: Population structure of the known (ID’s database) elephants in Tembe Elephant Park.

Monthly Sightings

Sighting rates vary from month to month (see figure 2 & 3); this most likely can be attributed to rainfall and pan conditions (shown in figures 6 & 7) which changes water abundance in the park and also to seasonal vegetation cover changes.

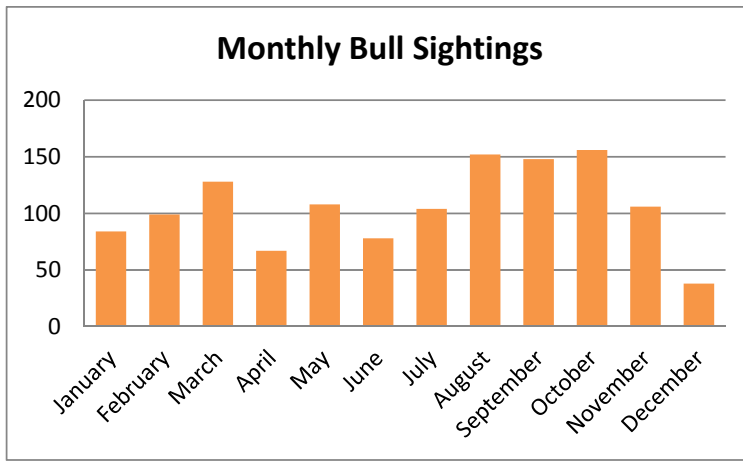


Figure 2: Monthly bull sightings 2010.

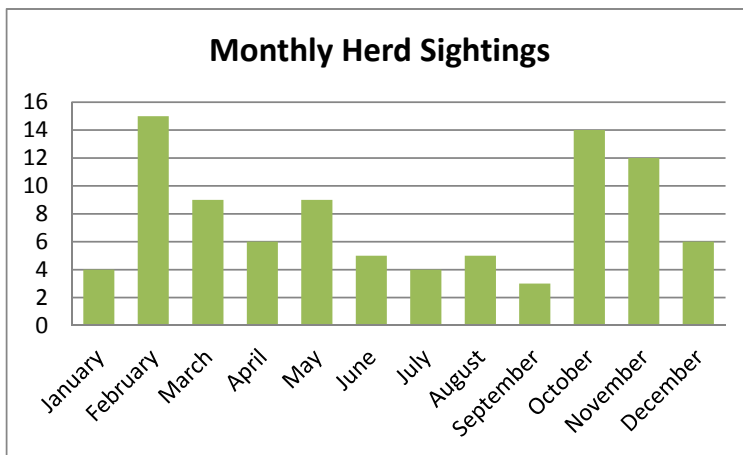


Figure 3: Monthly herd sightings 2010.

Monthly Hide Sightings

Figure 4 & 5 indicate the difference in sighting rates for the two Hides in the park Mahlasela pan in the south and Ponweni pan in the north east in the Musi swamp. It can clearly be seen that free roaming bulls and herds prefer different areas in the park, with bulls favouring the south and herds the Musi swamp and surrounding areas.

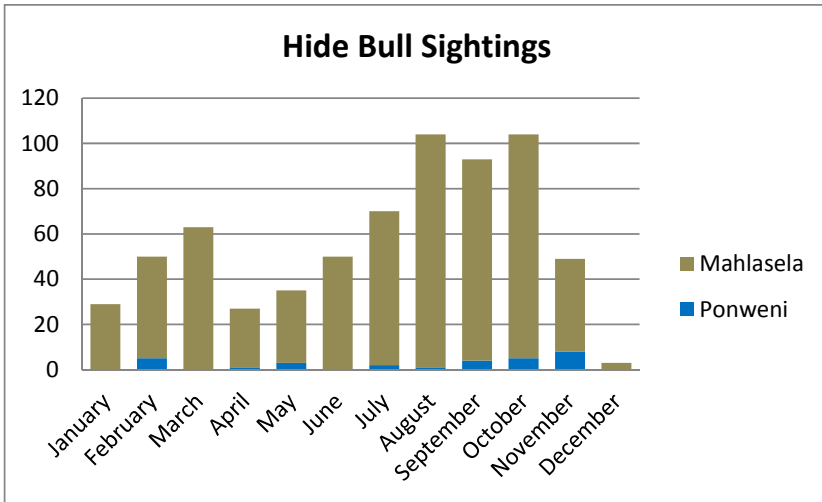


Figure 4: Monthly bull sightings at Mahlasela and Ponweni hide.

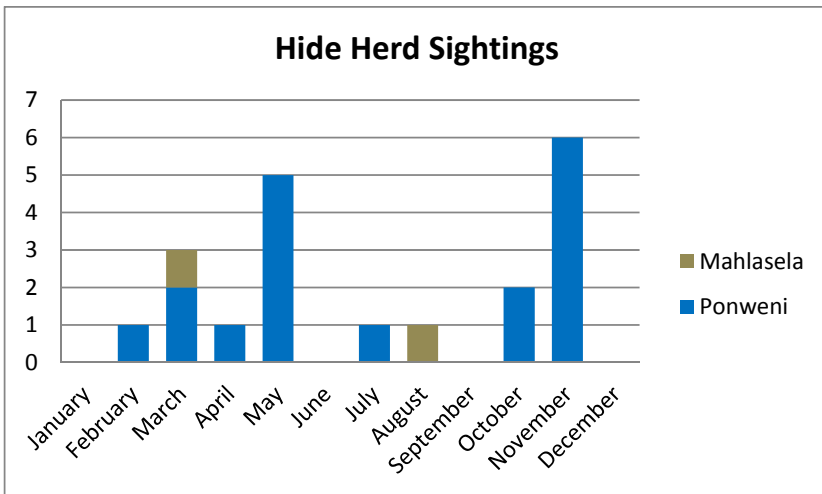


Figure 5: Monthly breeding herd sightings at Mahlasela and Ponweni hide.

Rainfall and Pan Conditions

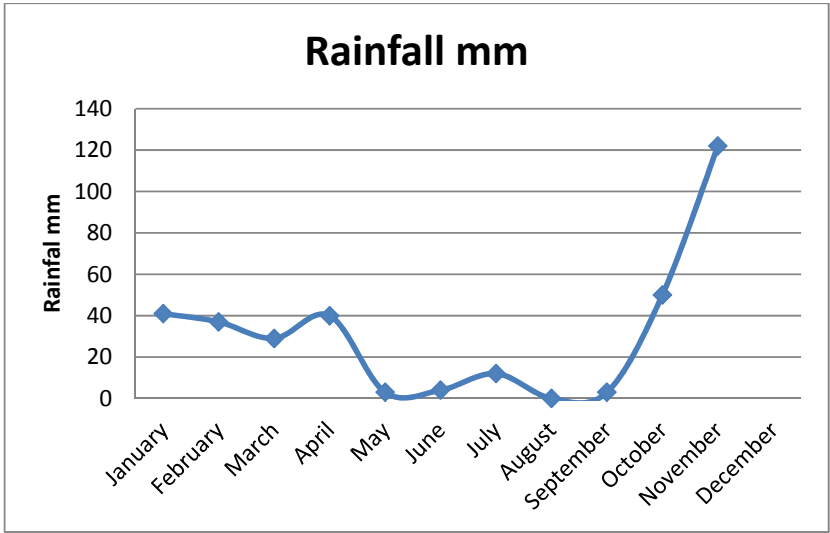


Figure 6: Monthly rainfall for Tembe Elephant Park 2010.

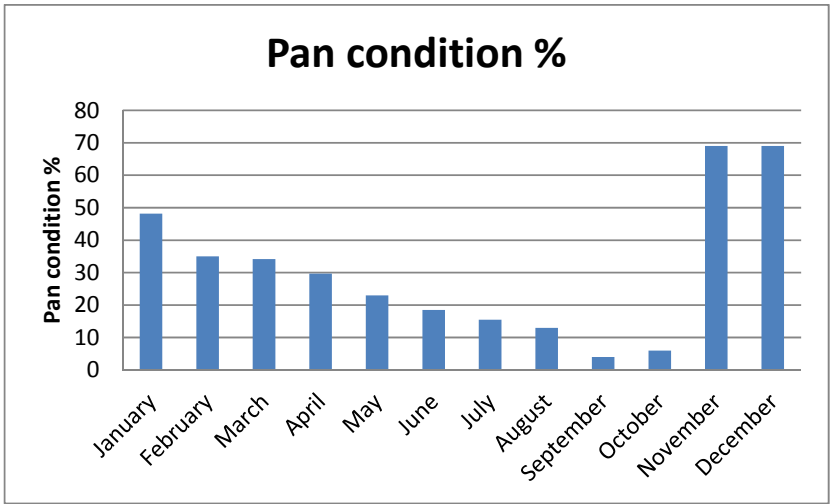


Figure 7: Monthly pan conditions as an average of all pans conditions.

Breeding Herds

Amakhosazane 2 – Breeding group

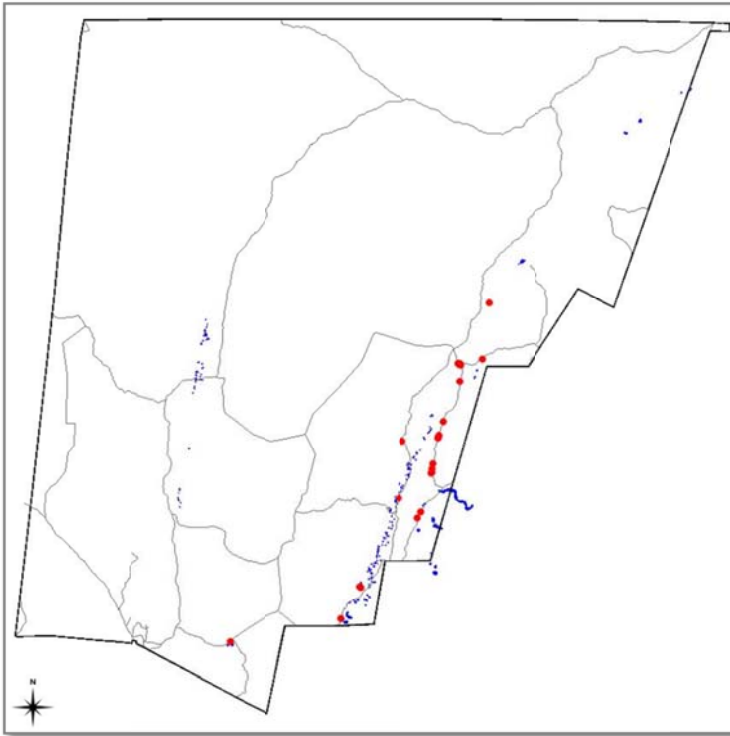


Figure 8: Sightings map for the Amakhosazane 2 herd

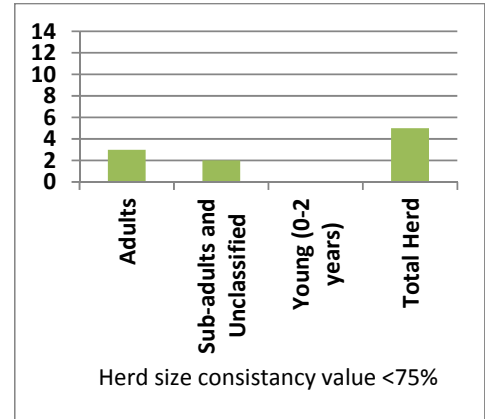


Figure 9: Graph of herd structure breakdown for Amakhosazane 2 herd.

Associated herds: This herd is frequently sighted with the Amakholwa herd and will often walk as one herd for a long time before breaking into two herds again, occasionally sighted with Nzimeni herd.

Amakholwa – Breeding group

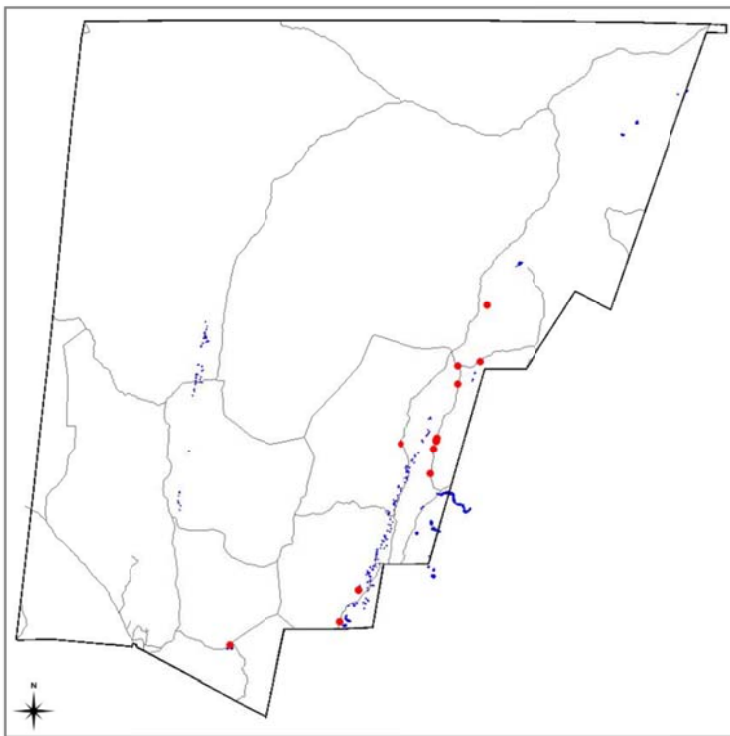


Figure 10: Sightings map for the Amakholwa herd.

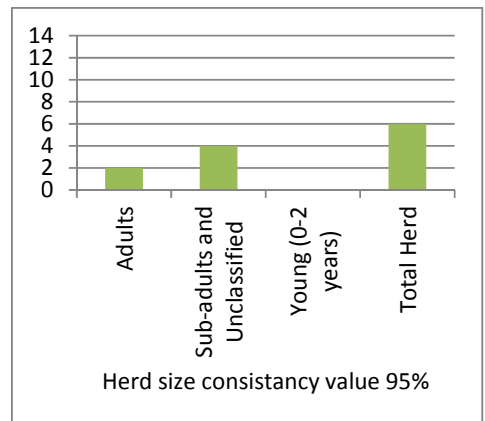


Figure 11: Graph of herd structure breakdown for Amakholwa herd.

Associated herds: This herd is frequently sighted with the Amakhosazane 2 herd and will often walk as one herd for a long time before breaking into two herds again.

Mpumalanga – Breeding group

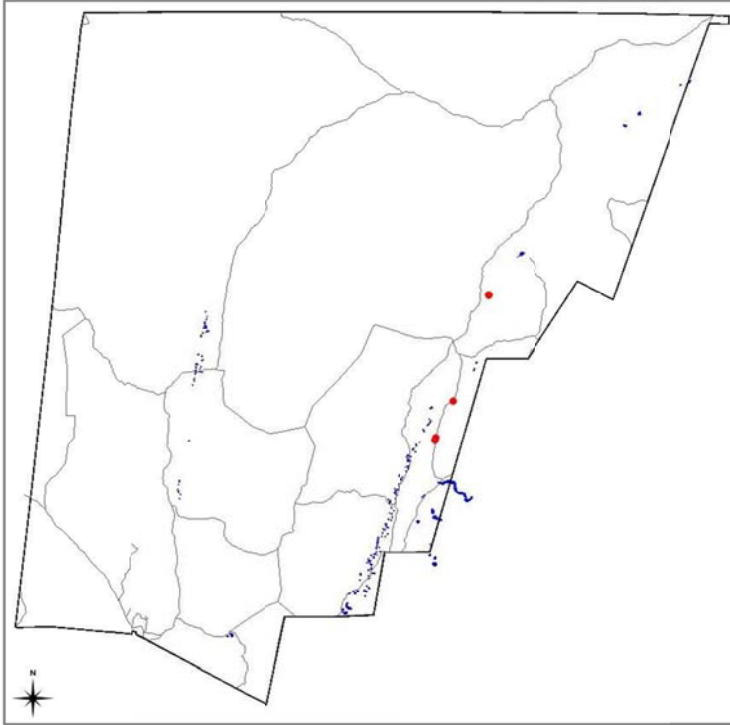


Figure 12: Sightings map for the Mpumalanga herd

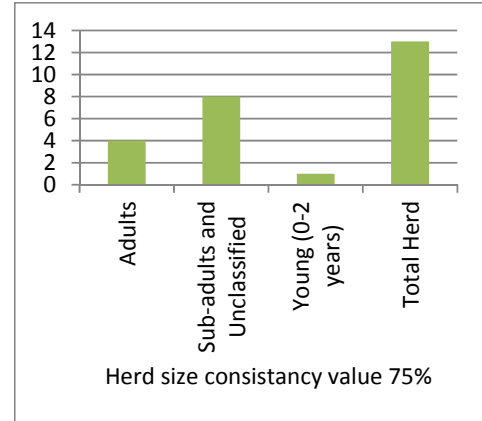


Figure 13: Graph of herd structure breakdown for Amakhosazane 2 herd.

Associated herds: This herd is occasionally sighted with the Ubuhle herd.

Nzimeni – Breeding group

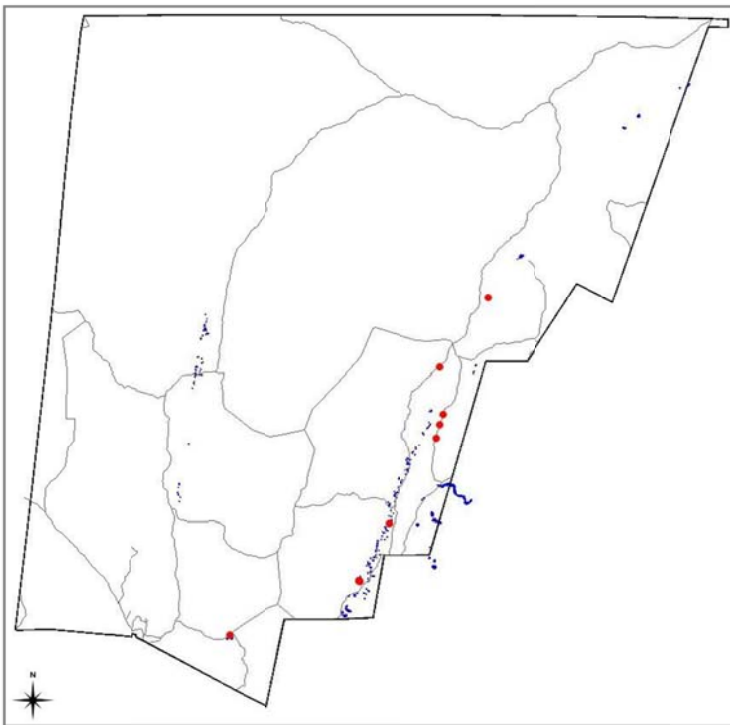


Figure 14: Sightings map for the Nzimeni herd

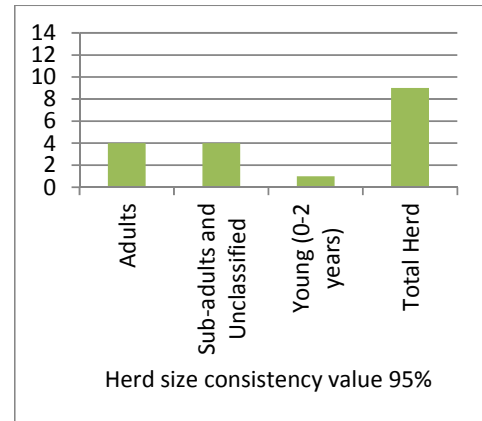


Figure 15: Graph of herd structure breakdown for Nzimeni herd.

Associated herds: This herd is occasionally sighted with the Amakhosazane 2 herd.

T.C – Breeding group

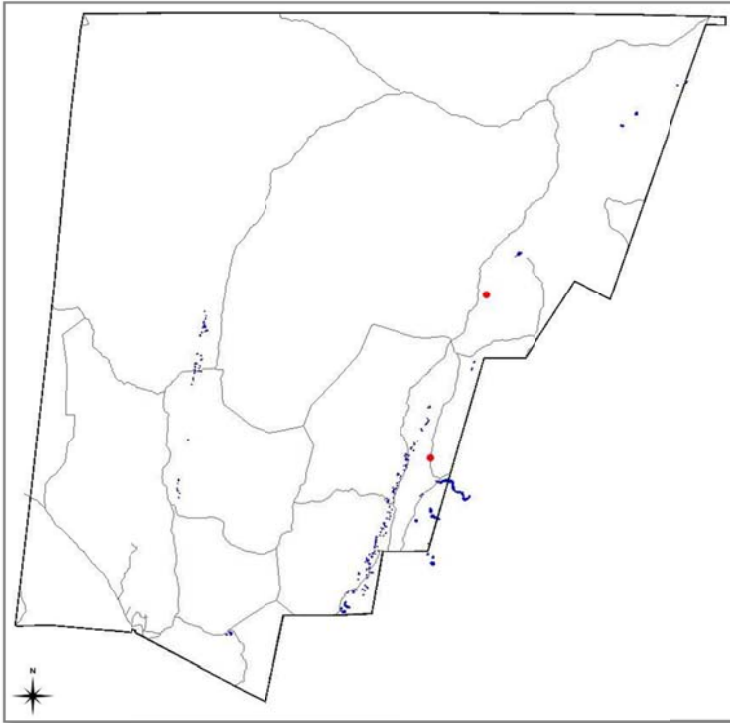


Figure 16: Sightings map for the T.C herd

Ubuhle – Breeding group

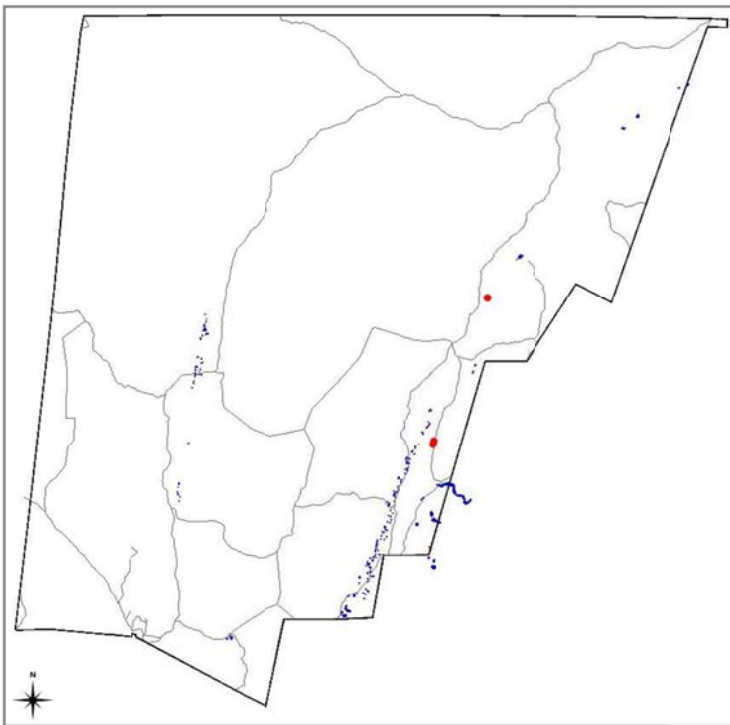


Figure 18: Sightings map for the Ubuhle herd

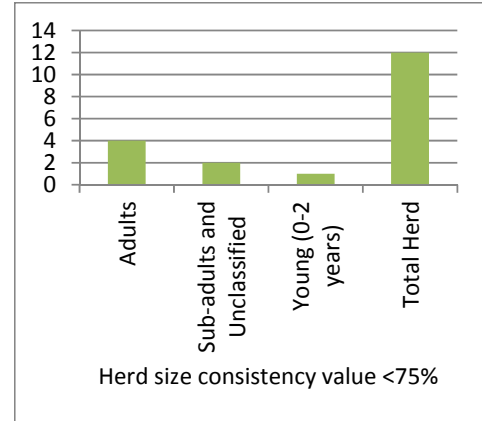


Figure 17: Graph of herd structure breakdown for T.C herd.

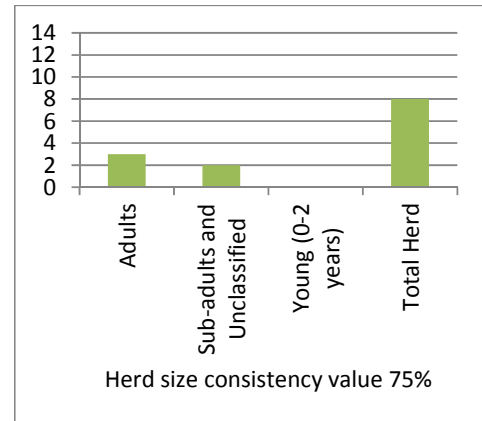


Figure 19: Graph of herd structure breakdown for Ubuhle herd.

Associated herds: This herd is occasionally sighted with the Mpumalanga herd.

Zine – Breeding group

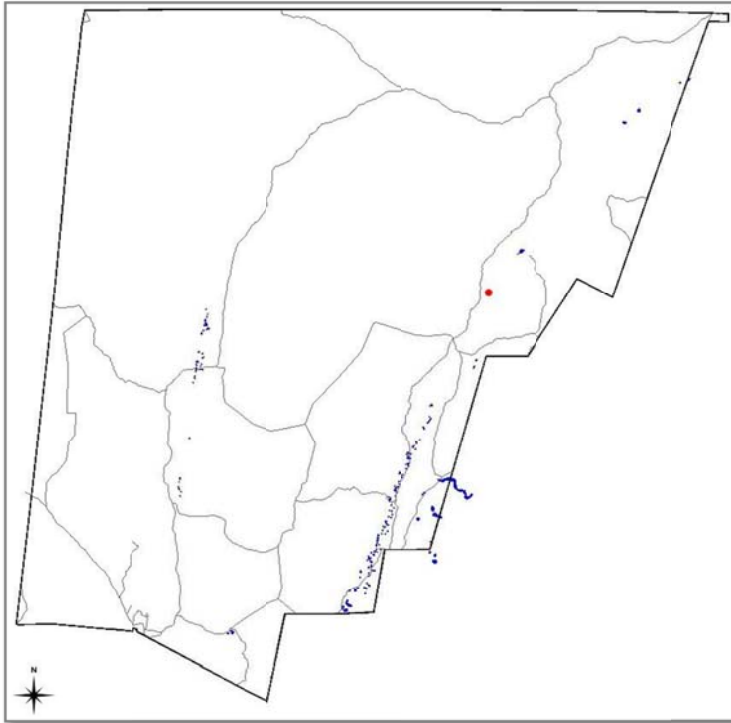


Figure 20: Sightings map for the Zine herd

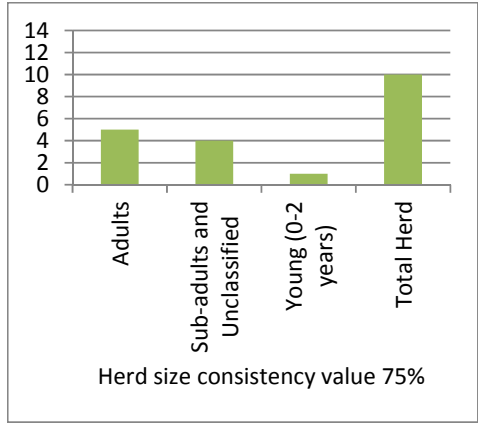
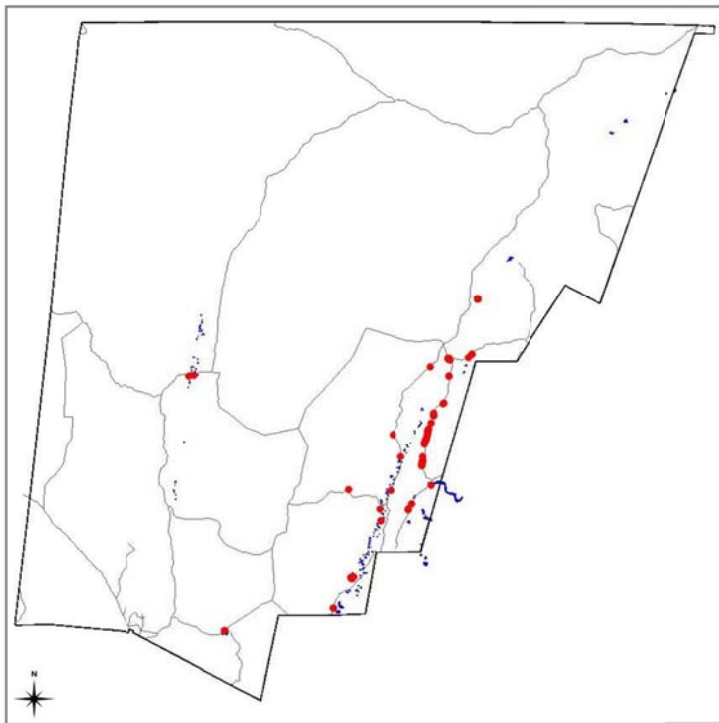


Figure 21: Graph of herd structure breakdown for Zine herd.

All breeding herd Sightings



As seen from figure 22, breeding herds are sighted more frequently in the east of Tembe Elephant Park.

Figure 22: Sightings map for all herds

Elephant young and contraception

As part of the elephant contraception program that started in 2007, the monitoring of breeding groups became more important, especially the collection of data on weaning calves (young 0-2 years of age) as this is an indication to effectiveness of the contraception. The number of young and the trend is shown in figure 23.

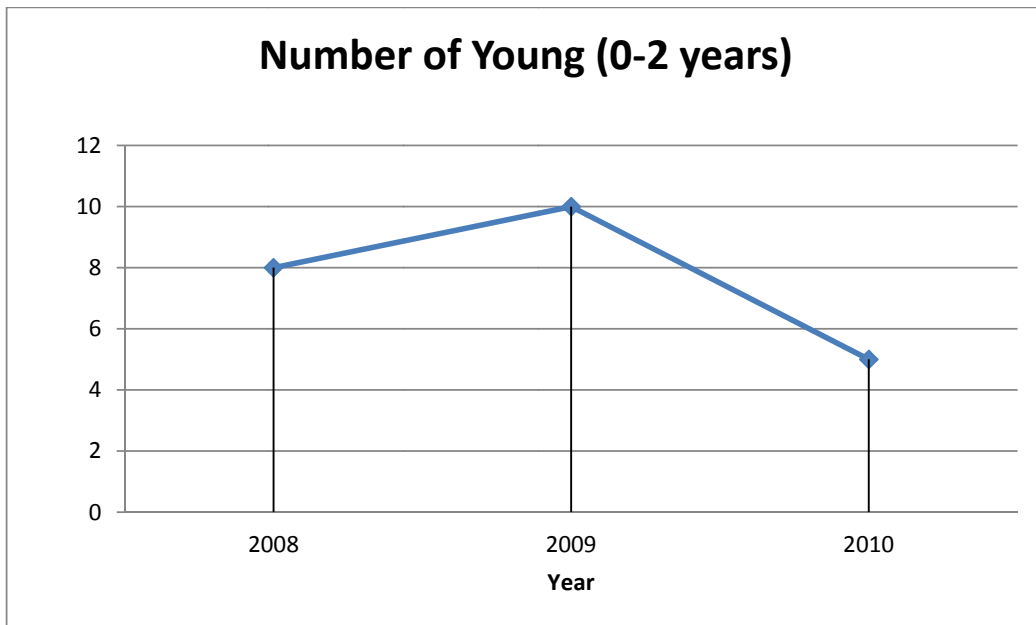


Figure 23: Graph showing the trend in weaning calve numbers.

Big tuskers

Tembe is home to some very impressive bulls some with tusks larger than 45kg (per tusk) these males are so called “big tuskers”, there is also a few bulls in the park on their way to reaching this status.

Current elephant classified as “Big tuckers”

Approximate Age: 55
Field estimated Tusks
Size –
Right 65 kg 2.8m
Left 62 kg 2.7m



Isilo

Approximate Age: 45
Field estimated Tusks
Size –
Right 60 kg 2.55m
Left 60 kg 2.55m



Mkadebona

Approximate Age: 50
Field estimated Tusks
Size –
Right 55 kg 2.65m
Left 52 kg 2.55m



Induna

Approximate Age: 55
Field estimated Tusks
Size –
Right 38 kg 2.35m
Left 60 kg 2.7m



Phukile

Upcoming Tuskers

Approximate Age: 45
Field estimated Tusks
Size –
Right 42 kg 2.4m
Left 42 kg 2.4m



Mvuk

Approximate Age: 40
Field estimated Tusks
Size –
Right 42 kg 2.35m
Left 40 kg 2.3m



Siqualo

Tuskers that Died

Died: October 2010
Tusks – Right 50 kg
2.46m
Left 53.5 kg 2.58m



Madiba

Died: December 2010

Tusks – Right 42.5 kg
2.52m

Left 41.5 kg 2.41m



Sika

Died: October 2010

Tusks – Right (no tusk)

Left 42 kg 2.62m



Sasha

Carcases found in December of two unidentifiable (due to age of carcasses) bulls:

1) Tusks – Right 35.5 kg 2.07m

Left 40 kg 2.2m

2) Tusks – Right 43 kg 2.58m

Left 38.5 kg 2.4m



V. Conclusions

The results obtained from the monitoring program were satisfactory for the population breakdown and population estimate based on ID kits for the elephants in Tembe Elephant Park.

VI. Recommendations

It was felt that the 2010 monitoring effort was a success, although some recommendations can be made and should be incorporated into the 2011 monitoring programme.

1. The elephant monitoring program should continue to be undertaken and reported on a monthly basis, using the current methods.
2. More effort needs to be put in to monitor the northern areas of the park in the Musi swamp system.
3. Graphical analyses of the population structure trends of the elephants in Tembe should continue to be refined.

VII. References

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