

# CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

## I. BASIC DATA

**Organization Legal Name:** Sanbona Game Reserve Pty. Ltd.

**Project Title (as stated in the grant agreement):** Vegetation Classification, Mapping, Condition Assessment and Monitoring of Sanbona Wildlife Reserve....

**Implementation Partners for This Project:** CEPF

**Project Dates (as stated in the grant agreement):** January 1, 2005 – December 31, 2007

**Date of Report :** June 2008

## II. OPENING REMARKS

Sanbona Wildlife Reserve is a new reserve that started in 2002. The reserve aims to recreate an ecosystem in the Little Karoo that has been lost for the past 250 years. In the process of managing the reserve it is important to obtain as much information as possible. It is with this information gathering that CEPF played a vitally important role.

## III. NARRATIVE QUESTIONS

1. What was the initial objective of this project?

The objectives of the project was to :

- Create a vegetation map for the reserve
- Determine the condition of the vegetation on the reserve
- Determine a carrying capacity for the reserve
- Create a long term vegetation monitoring system for the reserve
- Determine the impact of large herbivores (elephants) on the vegetation of the reserve.

2. Did the objectives of your project change during implementation? If so, please explain why and how.

No.

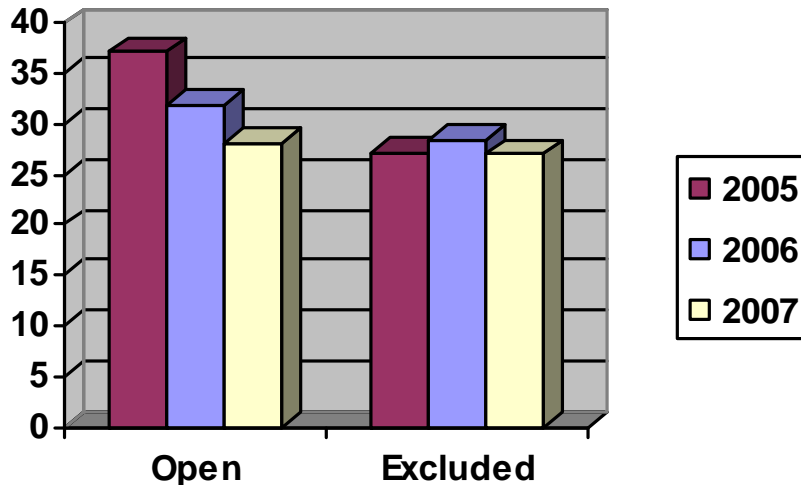
3. How was your project successful in achieving the expected objectives?

- **Create a vegetation map for the reserve**

Fortunately Jan Vlok produced an extensive vegetation map for the Little Karoo which was also funded by CEPF. This map was subsequently obtained and is used for the management of Sanbona Wildlife Reserve.

- **Determine the condition of the vegetation on the reserve**

With the assistance and guidance from various experts (Cape Nature, U.C.T., Department of Agriculture and Mantis Collection), 34 paired exclusion plots (One fenced off as a control and one left open to be browsed) were erected. These plots are scattered throughout the reserve in order to obtain as much information as possible. These plots are surveyed every year in September with assistance from the Department of Agriculture. The information gathered are then compared with that of the previous year to determine vegetation changes with the survey of 2004 used as the benchmark. The carrying capacity formula of Bruce Beyers is used for the calculations.



### Carrying capacity as hectares/large animal unit

The above figure show how well the vegetation is recovering when exposed to low levels of browsing. The plots that were fenced off seems to become stagnant with no changes whereas the open plots show signs of recovery.

- **Determine a carrying capacity for the reserve**

The information gathered from the assessment described above is then used in a formula developed by Bruce Beyers to determine a carrying capacity for what is available in the veld at that specific time. From the 2004 survey it calculated that Sanbona can carry 1500 large animal units. This value increased to almost 2000 in 2007. This yearly calculation of carrying capacities will be used in order to determine a long term sustainable stocking rate for Sanbona.

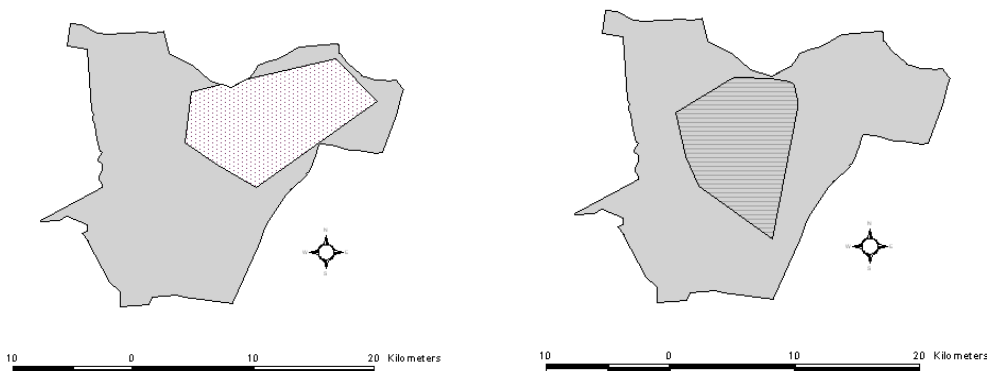
- **Create a long term vegetation monitoring system for the reserve**

In conjunction with the exclusion plots it was also decided to monitor the vegetation on a landscape scale with fixed point photographs. Panoramic photos were taken from several high points on the property. These will be compared every four years in order to pick up changes in vegetation structure. The first set of photos were taken in 2003. This database has been expanded in 2007 and will continue to be updated every second year. It was for this study as well as the formation of a digital herbarium that the camera was purchased.

- **Determine the impact of large herbivores (elephants) on the vegetation of the reserve.**

As part of the permit grant to introduce elephants, Cape Nature requested a full academic study to determine the impact that elephants may have on Sanbona Wildlife Reserve. The information gathered over the past four years will be submitted as part of a M.Sc. study at the University of Cape Town in 2008.

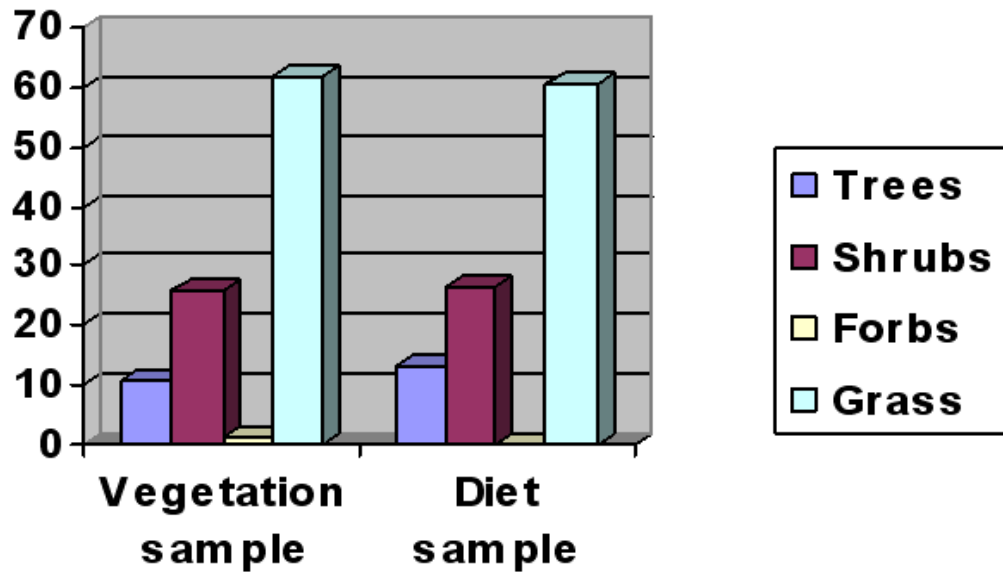
The results of this study in short is that the elephants show a distinct difference in home range size and space use between winter and summer.



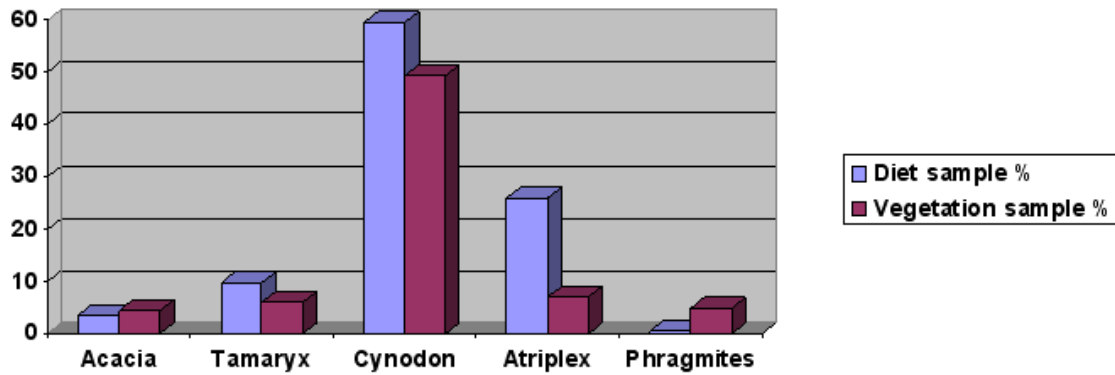
The above figure shows the difference in special distribution for elephants during summer(on the left) and winter(on the right) months.

They seem to prefer the area around the Bellair Dam in summer, but then move into the mountainous wilderness area during the winter. They show no particular preference towards a specific food type in that they have more or less the same percentages of browsing and grasing in their diet to what is available in the veld.

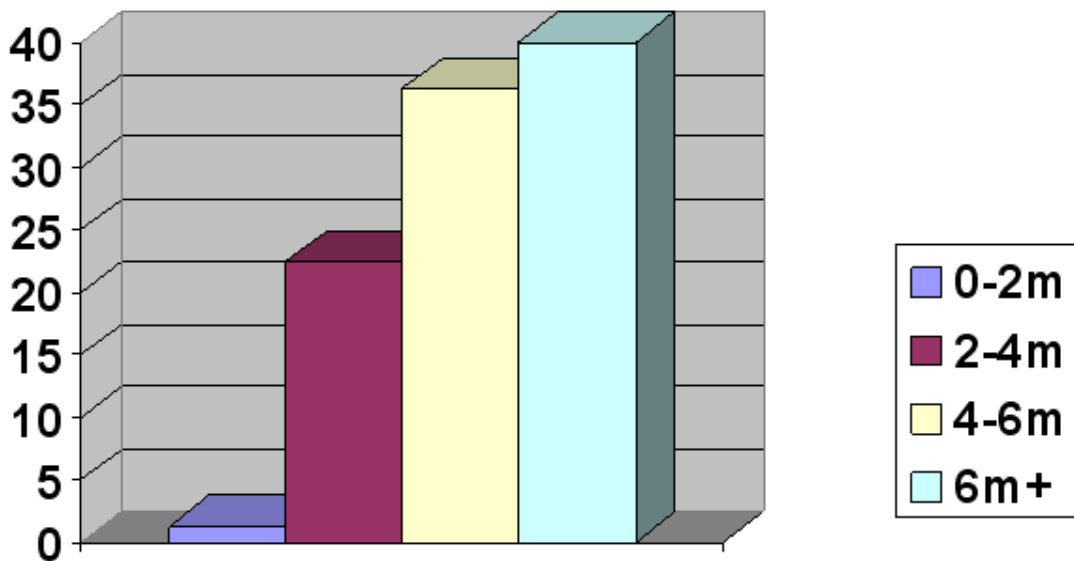
## Diet composition versus available vegetation



If one however looks at it on a species level a slight preference is shown towards *Cynodon dactylon* and *tamaryx usneoides*, with other edible species being used more or less in the same percentages as is available.



The impact on the trees is found to be minimal since the population of elephant now stands on 6 individuals. They however seem to target *Acacia karoo* trees larger than 6 meters and in so doing are opening the river systems so that other species can get a foothold.



**Height classes of *Acacia karoo* utilized by elephants.**

4. Did your team experience any disappointments or failures during implementation? If so, please explain and comment on how the team addressed these disappointments and/or failures.

No.

5. Describe any positive or negative lessons learned from this project that would be useful to share with other organizations interested in implementing a similar project.

Proper planning for any project will always be useful. This will allow little room for errors. In our case involving several experts in the planning process proved to be extremely valuable.

6. Describe any follow-up activities related to this project.

This project is a never ending management tool. The vegetation plots will be monitored every year in September and the fixed point photography will be carried out every second year in December. The tree monitoring in order to determine elephant impacts will take place every alternate year in November when the fixed point photographs are not taken.

7. Please provide any additional information to assist CEPF in understanding any other aspects of your completed project.

The only thing outstanding is the M.Sc. report. This report will be submitted in August or September this year. The marked and approved theseis will then be made available to Sanbona where it can be obtained hopefully at the beginning of next year.

#### **IV. ADDITIONAL FUNDING**

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

All funding for the project not provided for by CEPF was carried by Sanbona Wildlife Reserve. All additional funds that may be needed in order to keep the project going will be funded by Sanbona Wildlife Reserve.

#### **V. ADDITIONAL COMMENTS AND RECOMMENDATIONS**

## VI. INFORMATION SHARING

CEPF aims to increase sharing of experiences, lessons learned and results among our grant recipients and the wider conservation and donor communities. One way we do this is by making the text of final project completion reports available on our Web site, [www.cepf.net](http://www.cepf.net), and by marketing these reports in our newsletter and other communications. Please indicate whether you would agree to publicly sharing your final project report with others in this way.

Yes  \_\_\_\_\_

If yes, please also complete the following:

**For more information about this project, please contact:**

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These details will change since I have resigned from Sanbona. If I have left please refer any questions to the wildlife department at

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