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14 May 2006/10 June 2006

CHAMELEON RELOCATION PROTOCOL
FOR PROPOSED HILLTOP DEVELOPMENT - 52 BEDFORD AVENUE,
BELLAIR, DURBAN

1. INTRODUCTION

An Environmental Scoping Report for the proposed development at 52 Bedford Avenue, Bellair, Durban was submitted to Ezemvelo KZN Wildlife. Upon review of the report Ezemvelo KZN Wildlife requested that an investigation be undertaken to determine whether the Blackheaded Dwarf Chameleon (*Bradypodion melanocephalum*) occurred on the site.

The investigation was undertaken by Mr John Craigie (Specialist) and Mr Richard Winn (Environmental planner & Rehabilitation Specialist). Twenty two Chameleons were discovered – an indication that the area and surrounds provide a habitat for the chameleons.

In view of this information a meeting was held with Ezemvelo KZN Wildlife. Ezemvelo KZN Wildlife stated that the chameleons must be relocated to another suitable site and the adjacent area be rehabilitated for future conservation as already proposed in the report. In term of this they requested a relocation protocol to be submitted to their office.

2. RELOCATION PROCESS

Project Team

Project Leaders:

John Craigie (KZN Wildlife)
Richard Winn (Indigenous Rehabilitation Specialist)

Team Members:

Wayne McFerran (Environmental Scientist)
Jean Lindsay (Natal Conservancies)
Natalie Leegwater (Rehabilitation Assistant)

Ezemvelo KZN Wildlife Liason:

Zoe Brocklehurst

Adrian Armstrong

John Craigie

Various other volunteers from WESSA and conservancies will be utilized.

Release Project Documentation

Records will be kept of:

- The number of chameleons relocated
- Sex
- Age
- Size
- Weather conditions
- Location found
- Release location
- Date of relocation.
- Number and names of team

Capture and Release Procedure

- The chameleons will be removed from an area of 3.4 hectares, in which 22 chameleons were found during the initial survey. These chameleons will be relocated to the **DMOSS SOUTHERN COASTAL PARK** area rehabilitated by SAPREF through Mr R Winn, which was surveyed on Wednesday 31 May 2006 by Mr Richard Winn and Mr John Craigie and was found to have the appropriate vegetation and surrounding habitat.
- The total area available comprises approximately 2.5 hectares of ideal habitat (including a wetland area) on the dune which in total comprises approximately 30 hectares on the leeward side - mosaic forest and grassland. In addition there is approximately 3 hectares of rehabilitated grassland marsh area available. They will be released in the most appropriate grassland areas linked to the two wetland areas.
- A small number will be released adjacent to the main wetland at **MARIANHILL LANDFILL CONSERVANCY** (approx. 30 hectares managed by Mr R Winn) as an experiment to see whether we can recolonise an area between 240 and 300m above sea level.
- As the relocation programme will be undertaken at night all members will be equipped with a strong torch and security provided.
- The relocation procedure will be undertaken over a period of consecutive nights until no more are found.
- Chameleons will be captured by hand and placed into separate cardboard boxes
- Chameleons normally occur in male-female pairs and every effort will be made to transport the pairs together.
- Males will not be transported together.
- The chameleons will be released on the capture night into the new environment (evenly distributed over the release areas).

Preparation of Release Area

- As the release areas mentioned above have already been rehabilitated they are ready to receive the chameleons.
- We will ensure that the ongoing rehabilitation of these areas will be based on grassland frameworks therefore changing some of the management strategies including ringbarking certain woody species and leaving them in situ as roosting material for the chameleons.

Preparation of Rescue/development Area

- Vegetation in the chameleon cleared area will be cut to an approximate height of 100mm to ensure that any suitable habitat is removed and the chameleons do not desire to return. This will ensure that if there is a delay between the relocation process and construction that the chameleons will be unlikely to recolonise the area and therefore will not be harmed in any way.
- At this time the rehabilitation of the 6.3 hectares (DMOSS) adjacent to the development will begin based on extending the grassland theme needed for an increase in habitat for the remaining Dwarf chameleons & other wildlife still linked to this area.
- A chameleon proof fence will be erected around the development during construction. The fence will comprise a plastic sheeting of 1m high attached to bottom of the fence – the chameleons will be unable to climb the fence.
- Upon completion of construction the plastic sheeting will be removed to allow the chameleons to recolonise the indigenous vegetation within the development area – as per the specification in the Environmental Scoping Assessment Report.

3. GRASSLAND REHABILITATION

The chameleons preferred habitat comprises indigenous grassland and wetland areas (although it appears that in the absence of grassland that the chameleons adapt to any suitable vegetation). The proposed relocation area although infested with alien plants does comprise remnants of indigenous grassland as well as drainage channels which will be rehabilitated. In addition the Petrotnet Pipeline servitude, which is continually kept free of woody species, already provides a grassland habitat. Within the development area two stormwater retention ponds in the form of wetlands will be constructed further increasing the potential habitat.

Additional grassland species and wetland species will be planted in the development area and within the conservation zone to provide the preferred habitat for the chameleon. A five year rehabilitation plan has been proposed for the conservation zone and only indigenous vegetation will be used for landscaping within the development.

The original five year plan which only involved the continual removal of alien plants and the passive facilitation of the area back to indigenous vegetation has been increased in its scope of work to include the active establishment of grassland and wetland for the chameleons. This will comprise:

- The removal and or relocation of woody indigenous species to increase the area of grassland.
- Planting of indigenous grassland and wetland species.
- Due to the sensitivity of the chameleons and other animals to disturbance no herbicides will be used.
- Removal of alien plants will be undertaken by hand.
- Woody species will be ring barked and left in situ (in order to allow the continued use of these plants for roosting by the chameleons at night.)

The following framework indigenous grass and wetland species will be used in addition to any other available or recommended species.

Grassland Species

Cynodon dactylon
Chloris gayana
Digitaria smutsii
Eragrostis curvula
Panicum maximum
Panicum repens
Setaria megaphylla
Hyparrhenia hirta
Cymbopogon excavartus
Cymbopogon validus
Sporobolus pyramidalis
Trachypogon spicatus

Wetland Species

Asystasia gangetica
Cyperus species
Juncus species
Kniphofia linearifolia
Kniphofia tysonii
Phaulopsis imbricata
Plectranthus ciliatus
Plectranthus fruticosus
Plectranthus laxiflorus
Typha capensis
Zantedeschia aethiopica

4. MONITORING

- The release sites will be monitored every 3 months for a period of 1 year as per the initial assessment methodology to ensure that the population has either increased or remained stable.
- Records will be kept of the monitoring process and forwarded to KZN Wildlife (as per the release project categories).
- In addition the indigenous zones within the developed area will be monitored to determine if the chameleons recolonise this area following the removal of the chameleon proof fence.
- The linkages over the canals will be looked at in the long term to improve their utilization by small reptiles once the numbers are sufficient as at present they are designed more towards larger, more agile species such as Vervet monkeys.
- This protocol will be assessed during the relocation process and changed if any shortcomings are identified or if any additional information becomes available.

5. CONCLUSION

The proposed development area comprises only 35% of the property. The remaining 65% (DMOSS) zoned to conservation will be rehabilitated. The development footprint comprises mainly alien invasive plant species and although the Blackheaded Dwarf Chameleon was identified within this area the relocation of chameleons to **DMOSS SOUTHERN COASTAL PARK** and **MARIANHILL LANDFILL CONSERVANCY** and rehabilitation of portions of the development's DMOSS area to grassland will constitute a significant improvement over the current situation and provide the opportunity to reintroduce chameleons and increase their numbers into managed habitats thereby increasing their habitat range and size for their long term survival.

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Wayne McFerran
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