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POSTER

Ecology and conservation biology of the Cape Parrot *Poicephalus robustus* in afromontane forests of South Africa

MIKE PERRIN
Research Centre for African Parrot Conservation, School of Life Sciences, University of KwaZulu-Natal, Private Bag X01, Scottsville, 3201, KZ, South Africa
Email: Perrin@ukzn.ac.za

The taxonomic status of the Cape Parrot *Poicephalus robustus* has been questioned (Clancey 1997, Wirminghaus *et al.* 2002b, Perrin 2005) although its conservation status is not in dispute (Wirminghaus *et al.* 1999). According to the provisions of the International Committee on Zoological Nomenclature it is a good species (Perrin 2005) distinct from the Brown-necked Parrot *P. fuscicollis fuscicollis* and the Grey-headed Parrot *P. f. suahelicus*.

In the wild there are approximately 1500 individuals globally (Fig. 1) but this does not mean 750 breeding pairs because some birds are pre- or post-breeding age, the sex ratio is skewed towards males and not all pairs are compatible for breeding. The Cape Parrot is listed as internationally as CITES II species because (a) BirdLife International and hence the IUCN and does not accept the species status of the bird, and (b) it is not threatened by proven illegal trade. However, in South Africa, it is Critically Endangered according to TOPS legislation, and in the KwaZulu-Natal province (its stronghold), it is 'Specially Protected'. However, it is threatened by many factors.

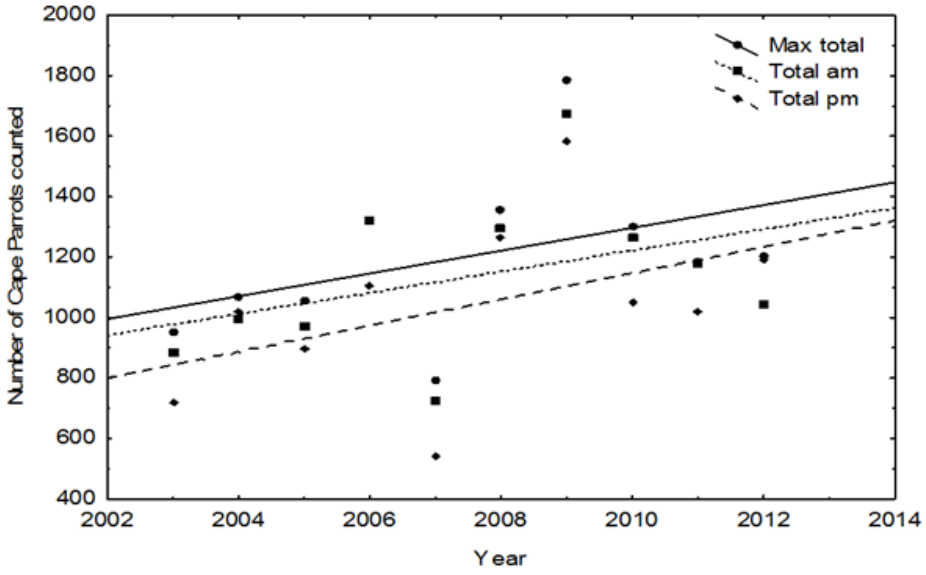

Figure 1. Abundance estimates for the Cape Parrot. The maximum or total estimates are derived from afternoon (near dusk, pm) and early morning (near dawn, am) estimates, using more than 100 counters across the distribution of the species (Downs 2014).

It has a restricted (Fig. 2), endemic distribution in the Eastern Cape, KwaZulu-Natal and Limpopo provinces of South Africa. It is also a habitat specialist dependent on Yellowwood (*Podocarpus* and *Afrocarpus*) Afromontane Forest for its diet and breeding (Wirminghaus *et al.* 2001b, 2002a). This habitat is itself threatened and fragmented. The Cape Parrot is a nomadic, dietary specialist feeding predominantly on the natural fruit kernels of yellowwood trees (Wirminghaus 1997, 2000). The outer fruit is discarded as the stone/pit is cracked open to extract the kernel which is then ingested (Wirminghaus *et al.* 2002a). Yellowwoods are mast-fruiting species and do not fruit each year, and when the crop fails, the Parrots may be forced to feed in pecan nut orchards, where they are susceptible to persecution (Perrin 2012).

Figure 2. Distribution map of the endemic Cape Parrot in South Africa.

The Cape Parrot has a low reproductive rate including both fertility and fecundity. In the wild the Parrots mature and breed when about 5 years old, but not each year, with a clutch of 3–5 eggs although only 1–2 chicks may fledge (Wirminghaus *et al*. 2001b). Mortality is probably high in the first year after fledging; avian predators probably include the Lanner Falcon *Falco biarmicus* and the Black Sparrow Hawk *Accipiter melanoleucus* (Wirminghaus 1997, 2000).

Major threats include habitat loss and fragmentation and yellowwood trees are illegally felled for lumber (Perrin

2005). Nest cavities, often occurring in dead trees, are devastated by storms. It is likely that Cape Parrots are poached from the nest and illegally traded for collectors and breeders, owing to their rarity and greatly increased financial value. Whilst in trade, the birds may be mutilated, and subject to disease. They are infected with psittacine beak and feather disease (PBFD) in the wild (Heath *et al*. 2004) and captivity (Perrin 2005). There is a high prevalence of the disease in the southern sub-population which causes (heavy) mortality which adversely affects their demography. There is no vaccine available to treat infected Cape Parrots or any other psittascines.

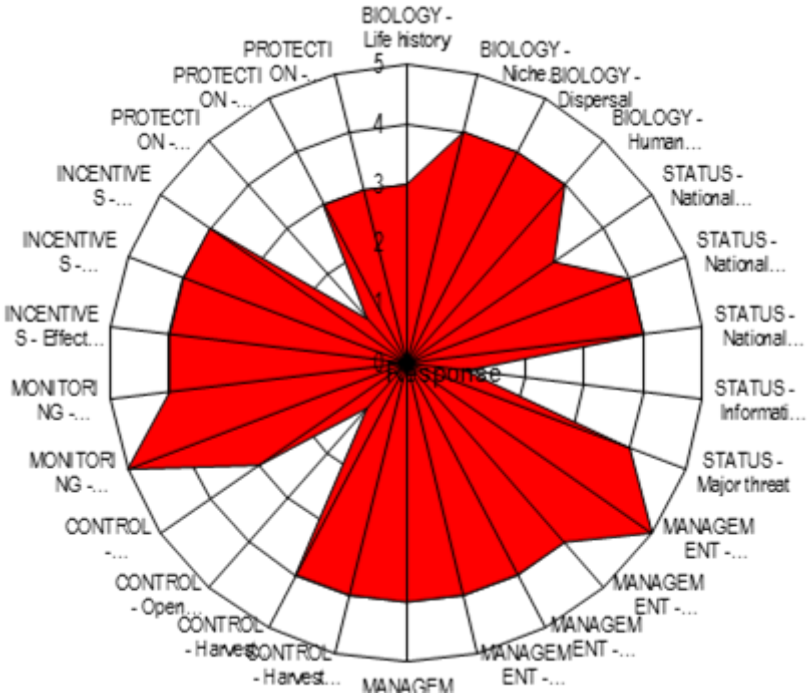

Figure 3 Threats prioritized as a pie diagram. Shading, from1 to 5, indicates increasing threat to conservation (Scientific Authority of South Africa 2014).

Conclusions

A comprehensive ecological and demographic study has been completed (Wirminghaus *et al*. 2001a, 2001b, 2002a). Limiting factors have been identified as habitat loss and fragmentation, low abundance, seasonal food scarcity, and disease (Fig. 3). Many pecan nut (as an artificial food source) and natural trees (for regeneration) have been planted, and artificial nestboxes have been erected (although their success has been very low).

A trade ban has been introduced by the SA National Biodiversity Institute, and Department of Environmental Affairs. An effective captive breeding programme and a PAAZAB (Pan African Association of Zoological and Botanical collections) stud book have been established to record pairings, inbreeding and breeding success. Field researchers provide blood samples to aid the development of a vaccine against the PBFD virus. An education

programme has been operational for many years and is well advanced. The species status of the Cape Parrot has been confirmed using DNA microsatellites (W.G. Coetzer unpublished data).

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