

# PARUNA WILDLIFE SANCTUARY ANNUAL REPORT 2008

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## INTRODUCTION

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Paruna Wildlife Sanctuary is located in the Avon Valley east of Perth, and was established by the Australian Wildlife Conservancy (AWC) in 1998 to create a 2,000 ha wildlife corridor between two regionally significant National Parks: Walyunga National Park to the southwest and Avon Valley National Park to the northeast. The majority of the Paruna Sanctuary is dominated by Wandoo and Powderbark woodlands though some areas been grazed in the past. There is a great diversity of habitats present within the sanctuary due to the complex geology and topography.

One of the primary aims was to link the two National Parks. AWC consolidated a number of properties to provide an unbroken corridor that extends 14 km between the two National Parks. The 2,000 ha Paruna Wildlife Sanctuary, in conjunction with the adjacent government conservation reserves, has created a combined area of approximately 19,500 ha, which is dedicated to nature conservation. AWC proposed to re-establish the mammal fauna that had once flourished in the region, and in cooperation with the Department of Environment and Conservation (DEC), the entire area is now managed for this purpose. This is being achieved through ongoing extensive feral animal control and the reintroduction of four mammal species: Woylie (2000), Quenda (2000), Tamar Wallaby (2001) and Black-flanked Rock Wallaby (2001). These populations have been supplemented several times since the initial releases. The existing population of Brushtail Possums was also supplemented and Chuditch have recolonised the area.

The purpose of this report is to summarise monitoring and research activity undertaken on Paruna Wildlife Sanctuary during 2008. This includes monitoring of translocated species to satisfy agreed reporting commitments between AWC and DEC

## METHODS AND RESULTS: FAUNA

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### SPOTLIGHTING

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On four occasions per year (approximately every 3 months) a 7km / 1hr spotlighting drive transect is conducted incorporating some of the different habitats within the sanctuary (see 2006 report for a map of the route). On each occasion, spotlighting was undertaken for three consecutive nights and the results to date are reported as mean ( $\pm$ SE) number of animals recorded per night (figure 1). The results indicate the recent decline of the Woylie at Paruna (also see next section), but clearly show the success of Tamar Wallabies. Other species spotted in 2008 include Rabbits, Chuditch and Brushtail Possum but these species are generally only seen in very small numbers.

Frogs recorded calling during the wetter months during spotlighting transects included: *Crinia georgiana*, *C. glauerti*, *C. pseudinsignifera*, *Litoria moorei*, *L. adelaidensis* and *Limnodynastes dorsalis*. *Helioporus barycragus* was also noted during autumn.

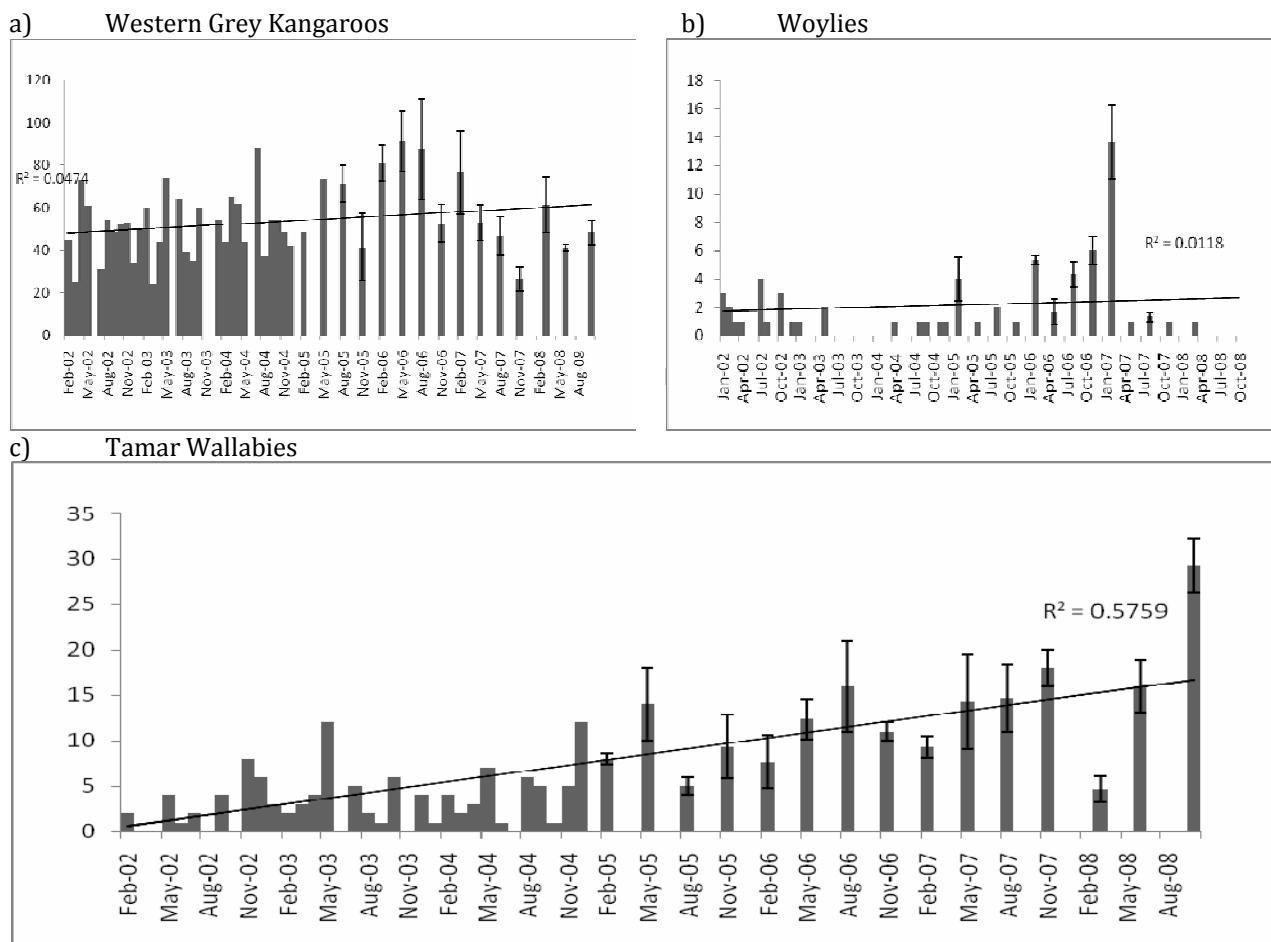


Figure 1: Mean ( $\pm$ SE) number of animals per night recorded during spotlighting transects (2005-2008) for a) Western Grey Kangaroos, b) Woylies, and c) Tamar Wallabies (the trendline is a simple linear regression).

## TRAPPING AND TRANSLOCATIONS

Two cage trapping sessions were undertaken during 2008; April and October. During each session 140 Sheffield cage traps, 52 large and 52 medium Elliott traps were set along a permanently marked transect. Each site is trapped for three consecutive nights. Table 1 presents the number of mammals captured during each of these sessions in 2008. The number of all species has decreased in comparison to 2007 trapping data.

Table 1: Number of mammals captured during trapping sessions held in April and October 2008

| Species          | # Trapped April | # Trapped October |
|------------------|-----------------|-------------------|
| Brushtail Possum | 2               | 3                 |
| Chuditch         | 6               | 1                 |
| House Mouse      | 7               | 1                 |
| Quenda           | 10              | 1                 |
| Rabbit           | 0               | 1                 |
| Woylie           | 0               | 1                 |

In 2006, 96 Woylies were translocated from Karakamia Wildlife Sanctuary to Paruna. Unfortunately there has been a steady decline in the number of Woylies trapped since then with only one Woylie trapped in 2008 (figure 2). This data was the basis for the decision to postpone any further Woylie translocation plans to Paruna until we can better quantify the abundance of feral animals and the effectiveness of our control methods (see next section).

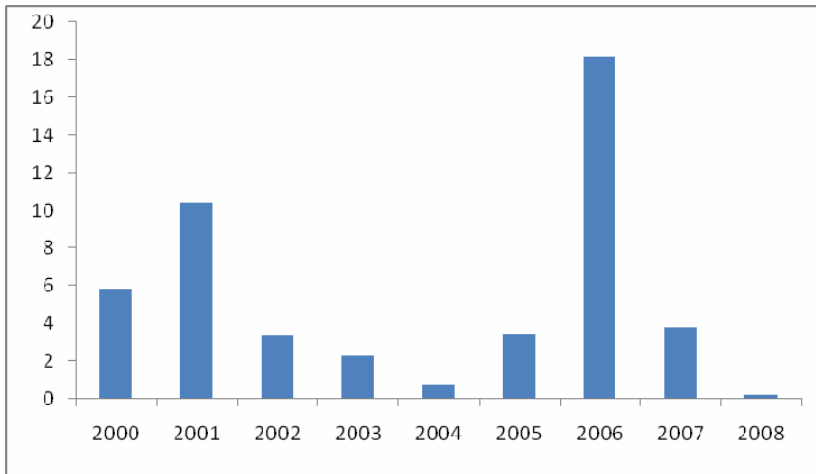


Figure 2: Trap rate of Woylies trapped at Paruna since 2000

### FERAL ANIMAL CONTROL

There have been three projects relating to feral predator control undertaken in Paruna in 2008: honours project on bait take, Rhodamine B trial and a targeted cat control trial.

David Keirle from UWA undertook a project investigating target and non-target bait uptake at Paruna using sand plots and remote cameras. Though sample sizes were limited the results indicate that most bait was taken by birds and that bait uptake decreased with increasing height, especially by birds and foxes.

The Rhodamine B trial was undertaken in conjunction with DEC. Non-toxic Rhodamine B was encapsulated in non-toxic 'eradicat' baits to determine if native wildlife that took bait would reject the capsule. This baiting was undertaken two weeks prior to the May trapping survey and target mammals caught during the trapping session were tested. Whisker samples were taken to DEC's Science Division laboratory at Woodvale in Perth for analysis. None of the whiskers from any trapped mammal contained evidence of the Rhodamine B biomarker when viewed under ultra violet light. If any of the native animals did consume Eradicat sausage bait, then they did not consume the plastic capsule containing the Rhodamine B. This was a pilot study and DEC is planning on undertaking further trials.

The targeted cat control trial uses Victor soft-jaw traps and lures to control feral cats. In 2008 only 4 cats were caught using this method.

Other feral animal control includes shooting rabbits and trapping pigs. Over 100 rabbits were shot in 2008 and 24 feral pigs.

### BIRD SURVEYS (BAWA)

Annually Birds Australia WA undertakes surveys at Paruna. In 2008 this was undertaken in September. No new species were recorded.

### OTHER OBSERVATIONS

Passive observation is the main monitoring technique for Black Flanked Rock Wallabies in Paruna. Timed observation periods are undertaken four times a year for three consecutive days at known sites. In 2008 a total of 42 Rock Wallabies (mean of 5.42 sightings per day) were observed at the site with 21 sightings being observed on a single event in October, more than ever before. In addition, searches for evidence of Rock Wallabies (i.e. fresh scats) have recently been initiated to determine the distribution across Paruna.

## METHODS AND RESULTS: FLORA

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Monitoring of vegetation has been undertaken by photopoints at 5 vegetation sites plus an additional 12 rehabilitation sites at six monthly intervals since 1999. These photographs are stored at Karakamia. Intensive species counts in all quadrats are undertaken every five years. An extensive field herbarium is maintained with over 270 completed specimens.

## CONCLUSION

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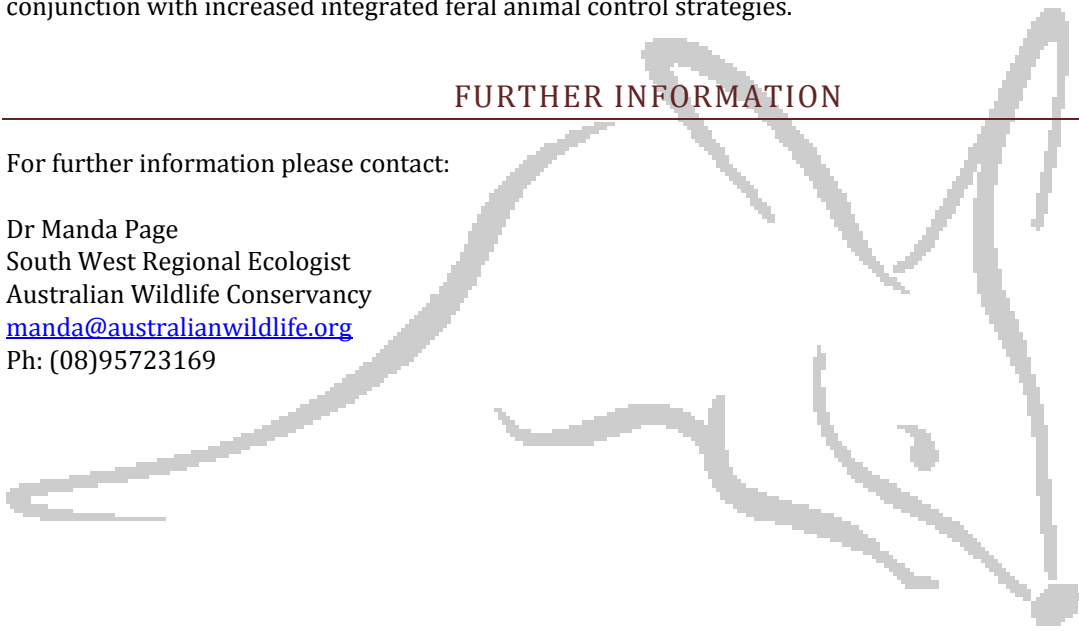
Data collecting in 2008 support the hypothesis that the translocated Woylie population in Paruna is in decline and not sustainable. In comparison, populations of Tamar Wallabies and Black Flanked Rock Wallabies are showing healthy signs but this requires further investigations in 2009, including wider searches and increased trapping efforts. Other trapping results were also disappointing in 2008 and as a result a new project to better monitor predator populations and the impacts on native wildlife will begin in 2009. This will be undertaken in conjunction with increased integrated feral animal control strategies.

## FURTHER INFORMATION

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