# KARAKAMIA WILDLIFE SANCTUARY ANNUAL REPORT 2008

## INTRODUCTION

Karakamia Wildlife Sanctuary was established in 1992 by the Australian Wildlife Conservancy (AWC) and covers 275 ha of Jarrah forest in the southwest of Western Australia, east of Perth. The primary goal of the sanctuary was to re-establish the medium-sized mammals that had either declined significantly in the region, or had become regionally extinct. The key to the success of this project was the protection and effective management of critical habitat, and the exclusion of feral animals with a 9 km vermin-proof fence surrounding the entire property. After initial surveys to determine species present, six mammal species were re-introduced to Karakamia between1994-1998. These included the Quenda (September 1994), Numbat (December 1994), Woylie (January 1995), Western Ringtail Possum (August 1995), Quokka (October 1996) and Tammar Wallaby, and the supplementation of some species already present (Western Brush Wallaby and Brushtail Possum).

Monitoring of flora and fauna has been ongoing since 1992. One indicator of the success of the program is that 771 mammals (including 603 Woylies) have been translocated from Karakamia to other suitable locations such as Paruna Wildlife Sanctuary (AWC), Avon Valley and Kalbarri National Parks and Cervantes (Department of Environment and Conservation).

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

## METHODS AND RESULTS: FAUNA

### SPOTLIGHTING

On four occasions (approximately every 3 months) a 9km / 1hr spotlighting drive transect was conducted incorporating the different habitats within the sanctuary (see 2005 report for a map of the route). On each occasion, spotlighting was undertaken for consecutive nights and the results are reported as mean (±SE) number of animals recorded per night (figure 1- next page). The results since 2005 indicate an increasing trend for all species except Western Grey Kangaroos which show a slight declining trend (though highly variable).

Six species of frog were recorded on the spotlight transect in 2008: Slender Tree Frog (*Litoria adelaidensis*), Banjo Frog (*Limnodynastes dorsalis*), Quacking Frog (*Crinia georgiana*), Glauert's Froglet (*Crinia glauerti*), Bleating Froglet (*Crinia pseudinsignifera*) and Motorbike Frog (*Litoria moorei*). While Lea's frog (*Geocrinia leai*) and Western Marsh Frog (*Heleioporus barycragus*) were not detected during the transects they were opportunistically heard by staff during winter calling near the creek.

### TRAPPING AND TRANSLOCATIONS

As a result of the dramatic decline detected in many Woylie populations in the south-west of WA, AWC is involved in Woylie Decline Research co-ordinated by Dr Adrian Wayne (DEC Manjimup). This involved the establishment of a grid of 5 x 6 cage traps (total 30), each 50 m apart. These grids were trapped in January and March in 2008 for four consecutive nights. Figure 2 presents the results of this entire trapping program from September 2006 to March 2008. The results indicate that, based on trap rate, that the Woylie population in Karakamia is relatively stable.

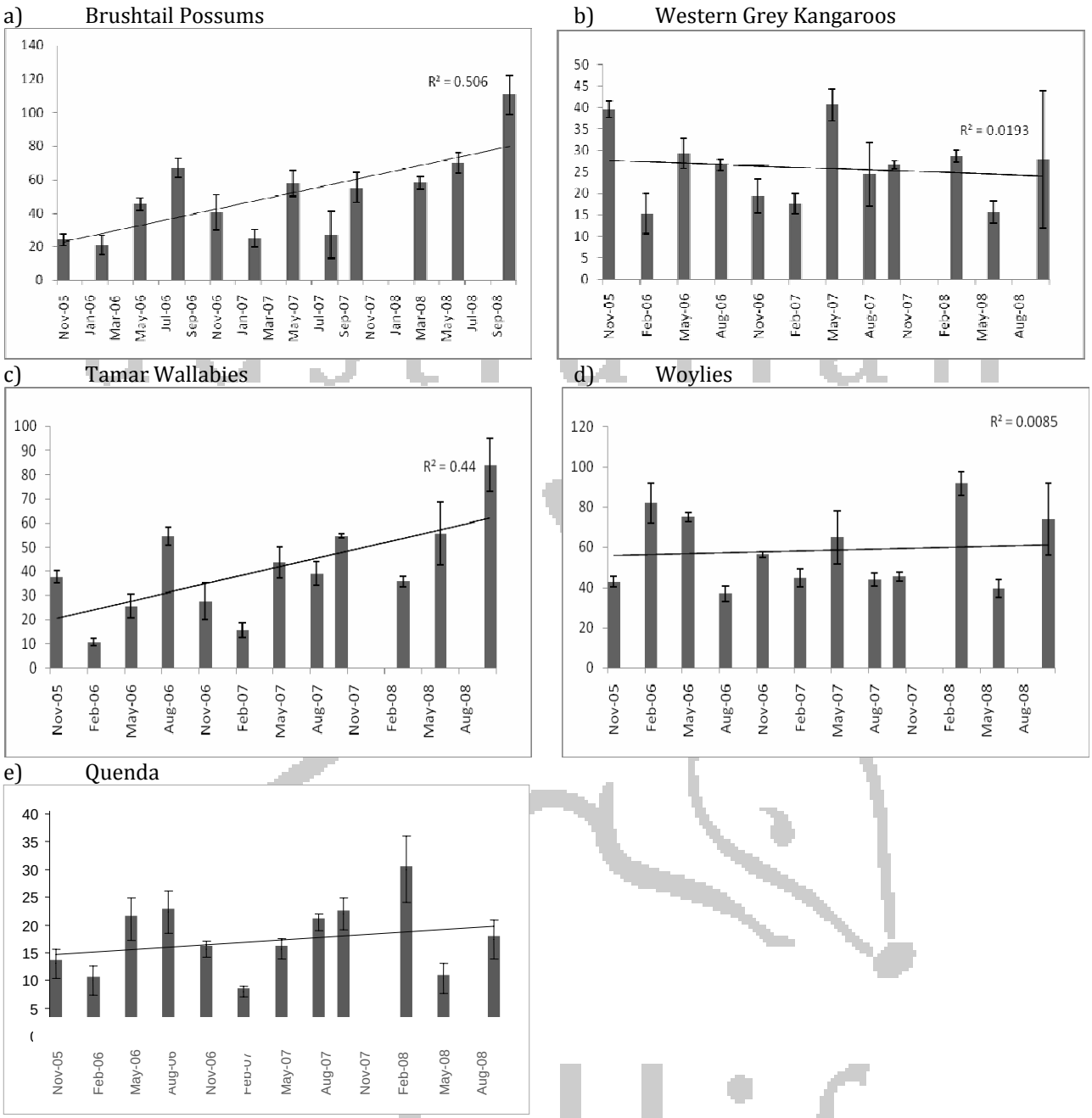


Figure 1: Mean (±SE) number of animals per night recorded during spotlighting transects (2005-2008) for a) Brushtail Possums, b) Western Grey Kangaroos, c) Tamar Wallabies, d) Woylies and e) Quenda (the trendline is a simple linear regression).

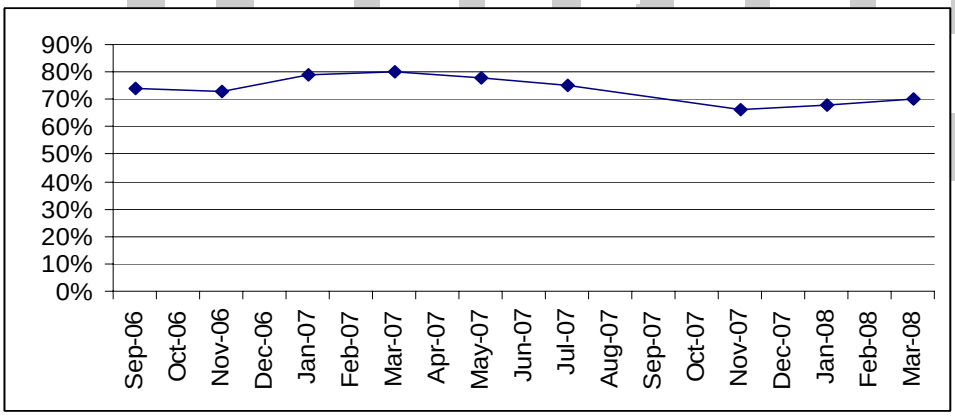


Figure 2: Trap rate from Woylie grid trapping program (September 2006 – March 2008).

In September 2008, 57 Woylies were translocated from Karakamia Wildlife Sanctuary to Scotia Wildlife Sanctuary in NSW. As part of that process, 100 cage traps were set along major roads and reset as often as required to get the target number of Woylies (and equal sex ratio) for the translocation. On arrival all 57 Woylies were found to be in good health. Seventeen days later the females were released from the quarantine area, all were within 100g of original weight (with some increasing in weight and others decreasing) however 3 of the 20 females originally recorded with EPY lost their young. After 25 days the males were released and all were healthy and within 100g of their original weight.

In May 2008, 36 Brushtail Possums were translocated from Karakamia to Lorna Glen. According to a DEC progress report, 79% of the animals released in May 2008 are known to have survived to the end of June, however only 50% of these animals were sourced from Karakamia.

Pit trapping was also undertaken at Karakamia. At 10 sites across the sanctuary between two and six pits (with drift fences) were placed approxmimately 50m apart. These pits were opened in December 2008 for four consecutive nights. Table 1 presents the results of this pit trapping event. Of particular note is the high number of Mardo (*Antechinus flavipes*) recorded this year in comparison to previous years.

Table 1: Results of pit trapping at Karakamia in December 2008

| Species | # Individuals |
|---|---|
| *Antechinus flavipes* | 20 |
| *Crinia georgiana* | 9 |
| *Cryptoblepharus buchananii* | 1 |
| *Ctenotus labilliardeiri* | 1 |
| *Heleioporus barycragus* | 1 |
| *Hemiergis initialis* | 1 |
| *Lerista distinguenda* | 26 |
| *Menetia greyii* | 5 |
| *Morethia obscura* | 1 |
| *Mus mus* | 1 |
| *Tiliqua rugosa* | 1 |

## BIRD SURVEYS

Birds Australia WA undertake surveys at Karakamia annually. In 2008 this was undertaken in October. No new species were recorded.

## OPPORTUNISTIC OBSERVATIONS

In addition to formal monitoring, opportunistic observations are recorded during routine sanctuary work, including evening spotlight tours. This includes unusual sightings, calls, scats, tracks and breeding events that might not be detected by other monitoring techniques. Some important observations are noted here.

Three Quokkas were sighted during 2008. This is down from incidental sightings of 10 in 2007. As mentioned in previous reports, this population would benefit from the addition of mainland Quokkas. Eleven Ringtail Possums were sighted during this period; three were caught and processed and a further eight were sighted opportunistically.

## METHODS AND RESULTS: FLORA

Monitoring of vegetation is undertaken by photographic record of 11 established photo points at six monthly intervals, which have been conducted since 1992. These photographs are archived by AWC at Karakamia. An extensive field herbarium is maintained with over 300 specimens.

## CONCLUSION

Monitoring and research undertaken on Karakamia Wildlife in 2008 indicates that the populations of most translocated species are healthy. This is particularly important for the Woylie which is in decline in other areas of Western Australia. The Karakamia Woylie population is a key component for the recovery of this species and in 2009 we will undertake close monitoring of the population and collaborate with other organizations to assist in understanding the widespread decline. Further translocations are planned for 2009 and we will work toward gaining a better understanding of population densities, interspecies competition and resource depletion in Karakamia.

## FURTHER INFORMATION

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