

# INTERVIEW WITH A RESEARCHER - 2014



RESEARCH FUNDED BY NATURE FOUNDATION SA

RESEARCHER: MISS MELISSA JENSEN, UNIVERSITY OF ADELAIDE HONOURS STUDENT  
RESEARCH PROJECT: HABITAT USE OF THE WESTERN BARRED BANDICOOT (*PERAMELES BOUGAINVILLE*) WITHIN THE ARID RECOVERY RESERVE  
SUPERVISOR: ASS PROF DAVID PATON



Observing and recording western barred bandicoot nocturnal behaviour within the Arid Recovery Reserve.  
Photo: Caitlin Weatherstone

## What was the aim and purpose of your project?

The purpose of this study was to develop an understanding of the habitat use of the western barred bandicoot (*Perameles bougainville*) within the Arid Recovery Reserve. Specifically, this study aimed to: (1) investigate whether bandicoots are more prolific in areas containing high densities of leaf litter and whether these areas are used disproportionately more than areas with low litter; (2) determine whether bandicoots avoid areas used extensively by burrowing bettongs (*Bettongia lesueur*), whose digging activities are believed to be, in part, contributing to the dispersal of leaf litter; and (3) establish the home range location and sizes, diurnal nest site locations and patterns of use by the western barred bandicoot within the Arid Recovery Reserve. This study will contribute to the ongoing conservation and management of this endangered species, in both current and future reintroduction programs.

## Summarise the results of your project.

Despite substantial difference in burrowing betting activity between the Main Enclosure and the Second Expansion as the Arid Recovery Reserve, western barred bandicoot activity was consistent between the two exclosures and did not appear to be affected by the presence of burrowing

bettongs. In addition, based on the results of my track quadrats, western barred bandicoot activity within the Arid Recovery Reserve was not concentrated around, nor dependant on areas of high leaf litter.

The home ranges of the bandicoots studied within the reserve averaged ( $\pm$  s.e.)  $6.0 \pm 2.44$  ha for males and  $2.92 \pm 0.67$  ha for females, which were closer to range sizes observed on Dorre and Bernier Islands, than those of the reintroduced population at Heirisson Prong, Western Australia.

Bandicoot nests were smaller than those recorded at Heirisson Prong, but were constructed in a similar fashion. Bandicoots within the reserve showed a preference for nest site shrubs with greater litter depths, greater litter cover percentages and lower canopy heights. However, the positioning of nests in areas which are easily accessible to potential predators suggests that control of feral predator species may remain a high priority for the successful reintroduction of the western barred bandicoot to new locations in the future.



Releasing a western barred bandicoot are processing and radio transmitter attachment.  
Photo; Melissa Jensen

### What is the most exciting thing about this work?

- A lack of deep leaf litter did not affect the ability of western barred bandicoots to construct a nest as animals appeared to scrape up litter within a radius of up to 50cm around the nest, as was observed at three nest site locations.
- Western barred bandicoot nests constructed within the Arid Recovery Reserve were often situated within a short distance of the perimeter of the shrub canopy (mean= 35.5cm), and where constructed under shrubs with a height to canopy varying from immediately above the nest to 75cm above the nest. As a result, nests appeared to be easily accessible to potential predators. However bandicoots were well concealed inside their nests and were rarely flushed out.
- Males home ranges spanned across several sand dunes, where as female range appeared to be restricted to a single sand dune, within the reserve.
- A new, non invasive glue-on transmitter attachment method was successfully trialled for use on this species, during this study. Transmitters remained attached for up to nine days, making this a safe alternative to the use of radio collars in short term studies of this species.

“ There were many things about my research project that I found exciting. Prior to starting my Honours degree, I had never worked in the Arid Zone. Therefore it was a privilege to conduct my field work within the Arid Recovery Reserve, where I gained a great appreciation for the harsh but beautiful landscape.

I have learnt so much during this experience; I fine-tuned my radio tracking skills, learnt how to identify the tracks of a range of arid zone species, learnt how to safely capture, handle and process threatened and endangered species which I had not worked with before, and my time management and data collection and analysis skills improved immensely.

Most of all, I am excited and hopeful that my research has provided a preliminary understanding of how the western barred bandicoot uses its habitat within the Arid Recover Reserve, and may offer a sound base for

future research into carrying capacities of fenced reintroduction programs and for determining the location of any future reintroduction of this species.



**Recording western barred bandicoot tracks on one of 52 quadrats situated within the Main Exclosure and Second Expansion of the Arid Recovery Reserve.  
Photo: Melissa Jensen**



**Radio tracking western barred bandicoots within the Arid Recovery Reserve, South Australia. Radio tracking makes it possible to locate western barred bandicoot diurnal next sites, which are often too inconspicuous to locate any other way.  
Photo: Caitlin Weatherstone**