

# LAND FOR WILDLIFE



Newsletter of the Land for Wildlife Scheme of Alice Springs, NT

February 2008

## Land for Wildlife Update

Welcome to the Summer 2008 edition of the Land For Wildlife newsletter for Alice Springs.

We now have 59 properties registered with LFW and 6 properties currently working towards registration. Please let your friends and neighbours know about LFW. Information is available at [www.lowecol.com.au](http://www.lowecol.com.au), or call Heidi on 8955 5222. Welcome to the largest (3500 hectares) Land for Wildlife property, the Alice Springs Airport. This is a very exciting registration as the airport land contains important vegetation communities and wildlife recordings.

A number of biodiversity surveys have been carried out over the years within the airport land. Paltridge & Latz (2003) recorded 181 plant species. Although none were of national conservation significance, 3 plant species were noted as having conservation significance within the Northern Territory - Climbing saltbush *Einadia nutans* ssp. *nutans*, *Ixiolamys nana* & Lobed Bluebush *Maireana lobiflora*. Six vegetation types were mapped & one uncommon plant community (Coolibah Ironwood community) was identified in the drainage depression passing diagonally through the airport. Fire sensitivity & disturbance by feral animals contribute to the threatening processes for the community. A more detailed study of the restricted Coolibah and Ironwood community was undertaken in 2005 within the airport land and ranked the occurrences of this plant community according to the value for conservation.

One Sandy Inland Mouse was caught during surveys by Paltridge and Latz (2003). Sandy Inland Mice are common and widespread across a broad range of habitats throughout the Australian arid zone (Cole and Woinarski 2002). Kultarr have also been recorded within the vicinity of the Alice Springs Airport, however no sign of current presence has been found in recent surveys. The kultarr is classified as 'near threatened' in the Northern Territory and is rare across the rest of its range.

### References

- Cole, J. and Woinarski, J. (2002). A field guide to the rodents and dasyurids of the Northern Territory. Surrey Beatty & Sons, Melbourne.
- Paltridge, R and Latz, P. (2003). Alice Springs Airport – Fauna and flora surveys. Desert Wildlife Services.

## MacDonnell Ranges HOTSPOTS Programme

Are you interested in income for taking care of significant sites on your land? If so, **Greening Australia** has a new programme that will provide income to maintain habitats of high conservation value within your property.

The **HOTSPOTS** programme is based in the MacDonnell Ranges Region, which is seen as a refuge for plants and animals, some of which are rare or found nowhere else in the world!

### What areas can be funded?

- Sites with high biodiversity
- Significant wetlands like waterholes, springs, rock holes, swamps
- Areas with rare or threatened plants & animals
- Areas with high quality native vegetation

### What activities can be funded?

- Fencing significant areas & water places
- Feral animal control
- Weed control
- Fire Management activities
- Sustainable grazing practices

A representative from Greening Australia will visit your property to assess the significance and quality of the site.

Simply call Glenis Mccburnie at Greening Australia on (08) 89 532 882 or 0427 158 961 or email at [glenis.mccburnie@nt.greeningaustralia.org.au](mailto:glenis.mccburnie@nt.greeningaustralia.org.au) and register an expression of interest.

Expressions of interest close 29<sup>th</sup> Feb 2008, so get in quick as this leaves limited time between now and the end of Feb to conduct the assessment.

### Happy reading!

Heidi Groffen and Bill Low  
Land for Wildlife Coordinators

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# Land for Wildlife Biodiversity Survey

## A Pilot Biodiversity Study aimed at enhancing Land for Wildlife member's knowledge in property self assessment methods.

This project was undertaken by Heidi Groffen as research toward her Masters Degree from Charles Sturt University.

### Introduction

The Land for Wildlife scheme in Alice Springs raises awareness about threatening processes effecting biodiversity of the local environment and conservation methods on private lands. A pilot study aimed to improve self assessment techniques that Land for Wildlife property owners could use to measure the beneficial impact of their conservation activities was undertaken for a Masters Degree by Heidi.

The biodiversity surveys compared species richness of native fauna and flora within properties with and without buffel grass. Buffel grass *Cenchrus ciliaris* is one of the significant threatening processes that Land for Wildlife members work towards controlling to protect native habitats within their properties and the municipality.

The project also aimed to determine whether the biodiversity surveys undertaken on individual Land for Wildlife properties influenced member plans for continuing biodiversity conservation within their properties.

At the time of the survey there were 56 properties registered with Land for Wildlife in the Alice Springs municipality, covering a total land area of 1891.55 hectares. This area contains 1696.15 hectares of remnant vegetation from 17 different vegetation types as described in Albrecht and Pitts (2004). Eighty percent of Land for Wildlife property owners in Alice Springs stated in their original environmental assessment that one reason for joining Land for Wildlife was to learn methods of controlling the

introduced buffel grass *Cenchrus ciliaris* within their properties and to protect local biodiversity. Property owners expressed interest in understanding conservation measures needed to retain remnant native vegetation on their properties. Buffel grass is aggressive in growth in the better semi-arid environments around Alice Springs and there are concerns about the impact it may have on the unique environmental values of the region (Humpheries *et al* 1991; Latz 1991; Griffin 1993).

Alice Springs is located in the MacDonnell Ranges Bioregion and is known for its diverse assemblage of relict and endemic plant species (Latz 1975, Morton *et al* 1995). In addition, 22 fauna species in the bioregion are listed as threatened under current national or Territory legislation (*Environmental Protection and Biodiversity Conservation Act* (EPBC) (1999) and *Territory Parks and Wildlife Conservation Act* (TPWC) (2000) respectively).

This research project aimed to survey fauna and flora on Land for Wildlife properties with and without buffel grass in the Alice Springs area in two main land types, the outwash slopes of the Ilparpa area and the drainage floors of the Heenan Road area. The aim of the survey was to engage member interest in biodiversity within their property and to assist members in self assessing future changes on their property.

The principle aims of the project were to:

1. Increase Land for Wildlife member knowledge in self assessment methods so that they can use the techniques learnt to measure the beneficial impact of their conservation activities.
2. Survey species richness of native fauna and flora within Land for Wildlife properties that have no buffel grass as a result of active management compared to properties that have buffel grass present or are in the early stages of managing buffel grass.
3. Determine whether the biodiversity surveys undertaken on individual Land for Wildlife properties influenced member plans for continuing biodiversity conservation within their property.

## Site Selection and Survey Methods

Eight Land for Wildlife property sites were identified, four sites from the Ilparpa Valley area and four from the Ross Highway area within the Alice Springs municipality as shown in Table 1.

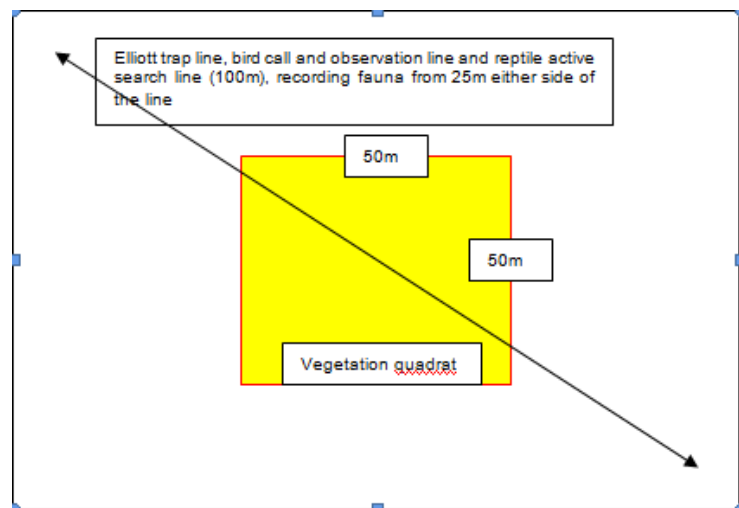
Treatment	Non buffel grass				buffel grass			
Area	Ilparpa Valley		Ross H/Way		Ilparpa Valley		Ross H/Way	
Replicate	1	2	1	2	1	2	1	2
Site	INB1	INB2	RNB1	RNB2	IB1	IB2	RB1	RB2

**Table 1** Location and presence/absence of buffel grass at the 8 study sites.

Within each of the two areas, two properties had removed all buffel grass and the other two properties were in early stages of clearing or managing the spread of buffel grass but still had buffel grass present within the selected sites.

Sites were selected due to their similarities in vegetation type and landforms, with a focus on selecting sites with *Acacia estrophiolata* and *Hakea divaricata* on alluvial flats (vegetation type 17). This is the most widely distributed vegetation type within the municipality of Alice Springs covering approximately eighteen percent of the area (Paltridge and Latz 2003) and displays considerable floristic and structural variation. This variation appears to be related to factors such as disturbance history, proximity to other vegetation types and proximity to watercourses and gaps in ranges (Albrecht and Pitts 2004). Vegetation type 17 has two or three floristic strata (ground, shrub/small tree,  $\pm$  tree) and occasionally intergrades or occurs in a mosaic with several other vegetation types. Despite this variability, ensuring that all the sites chosen for the study were classified as vegetation type 17 meant that the results would be more comparable across sites.

Fauna and flora sampling was conducted at each site. **Figure 1** shows the general layout of the Elliott trap line, bird call and observation line, reptile active search location and vegetation survey quadrat.



**Figure 1** Generalised layout of sampling quadrat for flora/fauna/bird/reptile monitoring sites. Not to scale.

Vegetation surveys were conducted within a 50m<sup>2</sup> quadrat along the transect line (see **Figure 1**). All vegetation species within the quadrat were identified and recorded. Species that could not be identified on site were sampled and vouchers identified by local botanist and Land for Wildlife member, Des Nelson. Dominant vegetation species were stratified into five height categories, i.e. emergent tree layer, upper shrub layer, lower shrub layer, ground cover, mistletoe and host species. Percentage projective foliage cover was estimated for each strata and for dominant species in accordance with the techniques developed by Specht *et al.* (1974). Percentage cover for each stratum was tallied together to provide an accumulative native vegetation density for each site. Bare ground, ground litter and aerial litter (dead standing vegetation) percentage cover were recorded.

Diurnal bird call and observations were conducted at the same time each afternoon along the 100m transect line (see **Figure 1**). Bird presence was identified by vocalisation and observations. All calls and observations beyond 25m from the transect line were recorded as incidental observations. Two experienced volunteer ornithologists from the Alice Springs Desert Park were chosen for the bird surveys, which ensured that observations were accurate and consistent.



**Burton's Legless Lizard *Lialis burtonis***

Active reptile searches were conducted each afternoon along the 100m transect. Reptile presence and abundance were recorded from 25m either side of the transect line. Reptiles were identified on site and released immediately if handled. Three experienced herpetologists from the Alice Springs Desert Park were chosen for the active reptile searches, which ensured that searches were accurate and consistent.



**The Albrecht children (INB1) were very keen to assist with baiting and checking the Elliott traps each day.**

Fauna surveying using Elliott trapping (25 traps) and release were conducted along the 100m transect over three nights. Traps were placed 10 metres apart, with the trap opening facing downwards to prevent the trap from filling with water in the event of

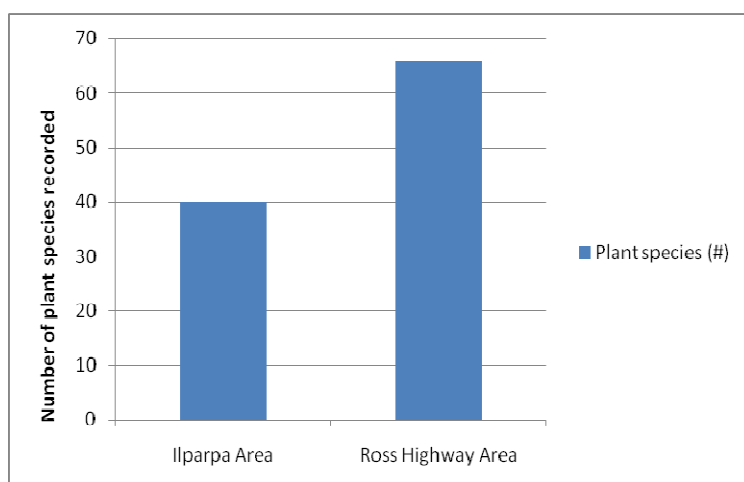
rain. Traps were baited with peanut butter and rolled oat mix. All traps were closed during the day to prevent long term capture and heat stress of animals. Mammals were identified on site and released immediately.

Incidental observations of all fauna observed during the survey period were recorded. Site surveys were carried out over three and a half days per site.

Property owners and other Land for Wildlife members whose properties were not involved in the surveys were encouraged to attend and assist with the biodiversity surveys.

## Results

The number of plant species recorded at the Ilparpa sites were significantly lower ( $F_{1,7}=21.353$ ;  $P=0.004$ ) than compared to the Ross Highway sites (**Figure 2**).



**Figure 2** Plant species records from the two survey areas.

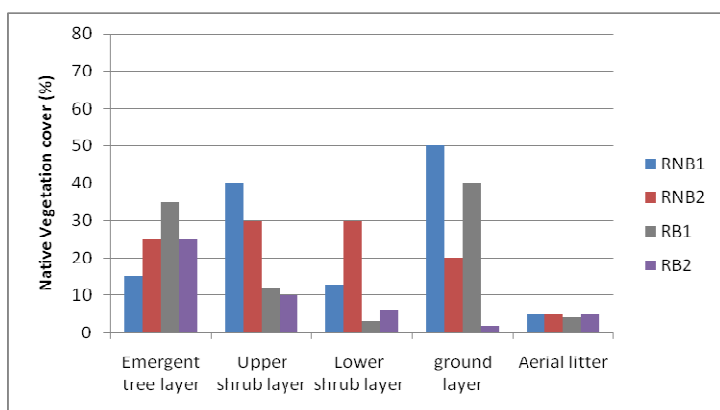
This is most likely due to the differences in drainage feature of land units, despite trying to select relatively uniform sites. Land unit 5.09 Relic Drainage Depressions as described by Lennartz (2000) was present within the Ross Highway area. Land unit 5.09 provides appropriate conditions for healthy vegetation growth (Paltridge and Latz 2003) due to better soil type based on the limestone, clayey soils mixed with heavitree quartzite sands and better soil moisture retention properties (Low pers. comm.). This land unit has depressions which form part of the



floodout system of drainage channels that flow only during infrequent large flooding episodes and allow water to be retained in the system for longer periods. They also retain a healthy vegetation cover due to the underlying palaeodrainage system.

However, the Ilparpa sites lie within the plains land units and all sites contain land unit 4.04 Floodout and 4.05 Remnant Flood Deposit Flats, which are sourced from the heavitree quartzite, sandstones and are inherently less able to retain water although may respond more quickly to rains. Land unit 4.04 has lower nutrient content and land unit 4.05 has a higher salt content (Low, pers.comm). These differences are possible explanations for the lower plant species richness found within the Ilparpa survey sites compared to the Ross Highway sites.

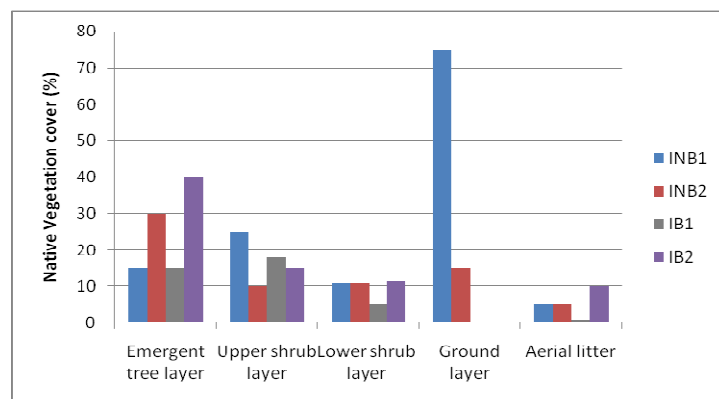
There was a significant ( $F_{1,3}=22.154$ ;  $P=0.042$ ) difference (**Figure 3**) in the percentage cover of the upper shrub layer when comparing strata from the Ross Highway sites (RNB1 and RNB2). The lower shrub layer for the Ross Highway non buffel grass sites (RNB1 and RNB2) was analysed, however there was no significant difference in the vegetation cover percentage when compared to the buffel grass sites despite one non-buffel site having higher cover.



**Figure 3** Native Vegetation stratum cover (%) for the Ross Highway Area.

The vegetation percentage cover of the ground layer at Ilparpa sites IB1 and IB2 (**Figure 4**) indicated that

the sites had minimal to no native ground layer vegetation, where as INB1 and INB2 sites had greater native vegetation presence at the ground layer strata. There was no significance when analysed.



**Figure 4** Native Vegetation stratum cover (%) for the Ilparpa Area.

Diurnal bird surveys at the eight sites recorded **327** individual birds from twenty one families with a total of forty seven different bird species. See **Table 2** for bird species list.

A single Grey Honeyeater *Conopophila whitei* was recorded at site RB2. This species is rarely observed (Morcombe 2000), little is known about them and they are thought to be nomadic. However, they are observed more frequently within the Mulga belt of Alice Springs (Pizzey & Knight 2003). Fork-leaved Corkwood *Hakea divaricata* had recently come into flower within site RB2, with five honeyeater species being recorded.

Mistletoebirds *Dicaeum hirundinaceum* were the only bird species recorded within all eight survey sites.

Rainbow Bee-eaters *Merops ornatus* were recorded within three of the eight sites. Rainbow Bee-eaters are regular summer migrants from the north to central Australia where they remain for the breeding season.

**Table 2** Bird species recorded within the eight Land for Wildlife survey sites.

Species	Sites							
	RNB1	RNB2	RB1	RB2	INB1	INB2	IB1	IB2
Australian Magpie <i>Gymnorhina tibicen</i>			■	■				
Australian Ringneck <i>Barnardius zonarius</i>	■	■	■	■	■	■		■
Black-breasted Buzzard <i>Hamirostra melanosternon</i>				■	■			
Black Kite <i>Milvus migrans</i>	■							■
Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>	■	■		■			■	
Black-faced Woodswallow <i>Artamus cinereus</i>	■	■		■				■
Brown Falcon <i>Falco subniger</i>	■							
Brown Goshawk <i>Accipiter fasciatus</i>								■
Brown Honeyeater <i>Lichmera indistincta</i>	■							■
Chestnut-rumped Thornbill <i>Acanthiza uropygialis</i>								■
Crested Pigeon <i>Ocyphaps lophotes</i>	■	■	■	■	■	■		■
Diamond Dove <i>Geopelia cuneata</i>	■			■				
Fairy Martin <i>Hirundo ariel</i>		■			■			
Galah <i>Cacatua roseicapilla</i>	■	■	■	■	■	■	■	
Grey Honeyeater <i>Conopophila whitei</i>				■				
Grey-crowned Babbler <i>Pomatostomus temporalis</i>	■		■			■		
Grey-headed Honeyeater <i>Lichenostomus keartlandi</i>				■			■	
Grey-shrike Thrush <i>Colluricincla harmonica</i>		■		■				
Little Corella <i>Cacatua sanguinea</i>				■				
Magpie Lark <i>Grallina cyanoleuca</i>		■	■	■				
Major Mitchell Cockatoo <i>Cacatua leadbeateri</i>					■	■	■	
Mistletoebird <i>Dicaeum hirundinaceum</i>	■	■	■	■	■	■	■	■
Mulga Parrot <i>Psephotus varius</i>		■	■					
Peaceful Doves <i>Geopelia striata</i>	■	■	■					
Pied Butcherbird <i>Cracticus nigrogularis</i>			■	■	■	■	■	■
Rainbow Bee-eater <i>Merops ornatus</i>	■	■						■
Red-backed Kingfisher <i>Todiramphus pyrrhopygia</i>	■			■				■
Red-browed Pardalote <i>Pardalotus rubricatus</i>		■	■	■				
Rufous Whistler <i>Pachycephala rufiventris</i>	■	■	■		■			
Singing Honeyeater <i>Lichenostomus virescens</i>	■	■		■	■	■	■	■
Spiny-cheeked Honeyeater <i>Acanthagenys rufogularis</i>	■	■		■			■	■
Spinifex Pigeon <i>Geophaps plumifera</i>		■						
Splendid Fairy-wren <i>Malurus splendens musgravei</i>	■							
Striated Pardalote <i>Pardalotus striatus</i>				■		■		■

Torresian Crow <i>Corvus orru</i>	■		■			■		
Variegated Fairy-wren <i>Malurus lamberti assimilis</i>				■				
Wedge-tailed Eagle <i>Aquila audax</i>					■		■	
Weebill <i>Smicrornis brevirostris</i>	■				■		■	■
Western Bowerbird <i>Chlamydera guttata</i>	■	■						
Western Gerygone <i>Gerygone fusca</i>				■	■			■
Whistling Kite <i>Haliastur sphenurus</i>		■						
White-backed Swallow <i>Cheramoeca leucosternus</i>					■			
White-plumed Honeyeater <i>Lichenostomus penicillatus</i>	■	■		■				■
Willie Wagtail <i>Rhipidura leucophrys</i>	■	■		■	■		■	■
Yellow-rumped Thornbill <i>Acanthiza chrysorrhoa</i>		■		■			■	
Yellow-throated Minor <i>Manorina flavigula</i>		■	■		■	■		
Zebra Finch <i>Taeniopygia guttata</i>	■	■		■	■			

**Table 3** Reptile species recorded within the eight Land for Wildlife survey sites.

Species	Sites							
	RNB1	RNB2	RB1	RB2	INB1	INB2	IB1	IB2
Arboreal Snake-eyed Skink <i>Cryptoblepharus plagioccephalus</i>			■					■
Burton's Legless Lizard <i>Lialis burtonis</i>		■			■			
Bynoe's Gecko <i>Heteronotia binoei</i>	■				■	■	■	
Central Netted Dragon <i>Ctenophorus nuchalis</i>				■				
Fat-tailed Diplodactylus <i>Diplodactylus conspicillatus</i>			■					
Frost's Lerista <i>Lerista frosti</i>		■						■
Grey's Menetia <i>Menetia greyii</i>			■					
Tree Dtella <i>Gehyra variagata</i>	■	■	■	■	■		■	■

Eight reptile species were recorded during the survey period (see **Table 3**). Tree Dtella *Gehyra variagata* were recorded at seven of the eight sites.

Six House Mouse *Mus musculus* were captured at one site but not others. No native mammal species were captured at any of the sites. Euro *Macropus robustus* were recorded at three sites and Rabbit *Oryctolagus cuniculus* at two sites.

### Discussion/Conclusion

The Land for Wildlife pilot biodiversity survey aimed to increase Land for Wildlife member knowledge in self assessment methods so that they could use the techniques learnt to measure the beneficial impact of their conservation activities. Individual property owners have since taken the time to conduct their own fauna and flora surveys along transect lines and have requested further identification of fauna and flora species so that they can continue monitoring the biodiversity within their property.

The study aimed to survey species richness of native fauna and flora within Land for Wildlife properties that have no buffel grass as a result of active management compared to properties that have buffel grass present or are in the early stages of managing buffel grass. The biodiversity survey did not find any significant differences between species richness of native fauna or flora on Land for Wildlife properties with and without buffel grass. This may be because it was a small pilot study and the small number of replicate properties made it difficult to detect any differences. It could also be due to relatively short time for the country to recover after buffel grass removal. Future biodiversity surveys are planned for 2008 through to 2010 and will include up to sixteen properties. This pilot study has enabled the Land for Wildlife scheme to initiate monitoring plans to assess conservation success of the program and has been an important step in securing and meeting funding requirements which will enable Land for Wildlife to increase the number of sites for future surveys.



**Site RNB2 Elliott trap line.**

The study also aimed to determine whether the biodiversity surveys undertaken on individual Land for Wildlife properties influenced member plans for continuing biodiversity conservation within their property. The process of engaging the members in the survey has been a valuable experience, enabling them to increase their understanding of the importance for protecting and enhancing their properties habitats. This has encouraged property owners to continue their on-ground activities for conservation of their local environment.

Land for Wildlife members whose properties were not included in the pilot study have inquired about future biodiversity surveys and have offered their land for inclusion. Members who were involved in the surveys provided feedback at the seminar and via emails and phone conversations since the completion of the study. The feedback has indicated that they have increased their enthusiasm toward biodiversity conservation and they are using the techniques learnt during the survey to conduct their own monitoring surveys.

Buffel grass has been associated with decreased native grass and forbs species richness in Australia (McIvor 1998; Fairfax and Fensham 2000; Franks 2002) and overseas (Daehler and Carino 1998). Central Australian studies also show that buffel grass



does have a long term impact on plant species richness (Clarke et al 2005). The Land for Wildlife scheme in Alice Springs is continually working towards raising awareness about the impacts of threatening processes to the environment and ways of controlling these threats. This study has reminded members of why they joined Land for Wildlife and that their aim was to be part of a voluntary conservation group which makes a reasonable effort to pursue the maintenance and enhancement of native flora and fauna and/or to integrate nature conservation with other land management objectives within their property. This survey has encouraged members to continue controlling threatening processes like buffel grass and it is hoped that in the future, Land for Wildlife properties will be buffel grass free, providing habitats for local flora and its dependant wildlife.



**Greg Fyfe conducting the active reptile search at site IB1**

### Acknowledgements

Thank you to the Land for Wildlife property owners, for allowing myself and the expert volunteers to survey the biodiversity within your property. Thank you to the Alice Springs Desert Park expert volunteers Patrick Hodgens, Gareth Catt, Pete Nunn, Jochem Van der Reijden, Nat Hoffman, Greg Fyfe and Anthony Molyneux for providing knowledge and time towards this pilot study, greatly appreciated.

Thank you to Christine Schlesinger for supervising me with this research project and Claire Ghee and Erin Moon from Low Ecological Services for teaching me the methods for and conducting the vegetation surveys within the Land for Wildlife properties. Thanks to Bill Low for editing my final draft and providing continued support for the duration of the research project, Alice Quarmby for statistical analysis assistance and Charles Sturt University for allowing me to branch away from the Captive Vertebrate Management stream into a biodiversity survey for my final research project.



**Jochem Van der Reijden (reptiles) and his little assistant and Anthony Molyneux (birds) assisting with the survey sessions at site RNB2**

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- Griffin, G. F. (1993). The spread of Buffel grass in inland Australia; land use conflicts. Pp. 501-504 in *Proceedings 1. 10<sup>th</sup> Australian Weeds Conference and 14<sup>th</sup> Asian Pacific Weed Science Society Conference*. Brisbane, Australia. 6-10<sup>th</sup> September 1993. The Weed Society of Queensland on behalf of the Council of Australian Weed Science Societies and the Asian-Pacific Weed Science Society.





# Australian Desert Ants: *Melophorus bagoti*

By Sebastian Schwarz  
PhD student, Macquarie University

Learning, memory and cognition are not usually considered to be the strongest element of insect behaviour. However, this is not true for many social *Hymenoptera*, like ants, bees, and wasps. They can perform many different tasks and show some remarkable abilities; for example the dance language of the honeybee or the fungus gardening skills of the leaf cutting ant.

Another impressive example is the Australian desert ant *Melophorus bagoti*.



*Melophorus bagoti*

Surprisingly, they are active during the hottest part of the day with daily foraging starting only when soil surface temperatures approach 50°C (Muser *et al.* 2005). This thermophilic (heat loving) behaviour is unique in Australian ant fauna. By doing this the ants avoid competition from other species which forage on the same food sources, mainly sun roasted dead insects and occasionally plant secretions.

These ants are central place foragers, which means the foraging animal must return to the nest when food has been found or when danger threatens (Cheng *et al.* 2006). In contrast to other ants, such as leaf cutting ants or wood ants, *M. bagoti* do not lay down or use any pheromone trails for navigation as the pheromones would evaporate in the heat of the day. Instead, Australian desert ants are solitary foragers finding their way back to the nest using celestial and terrestrial cues (Wehner *et al.* 1996).

In desert areas where landmarks are sparse, *M. bagoti* can compute the shortest return distance to their nest, by integrating the angles steered and the distance travelled on their outbound journey (Wehner 2003). This homing strategy, called path-integration or dead reckoning, is accomplished by using a sky

compass for directional cues and step counting to estimate distances. A small part of the ant's compound eye, called the dorsal rim area (DRA) is sensitive to polarised light (Wehner & Labhart 2006) and this is used by the ant to calculate their current heading. Path integration is an iterative process and is therefore subject to cumulative errors. When terrestrial landmarks are available ants can use these cues to correct any errors in their path integration.

Around Alice Springs the habitat of *M. bagoti* contains many possible landmarks e.g. grass tussocks, trees and even CSIRO buildings. These landmarks can be used by *M. bagoti* to navigate along their habitual foraging routes.

The current experiments on *M. bagoti* at CSIRO Alice Springs, focus on the influence and importance of visual landmarks for route navigation in *M. Bagoti*.

During their foraging trips ants pass by several nearby landmarks and beacons before they find their potential food items. The single outbound trips are usually different from each other because the food source, such as a dead insect, is not permanent or renewable. This means when the food item is carried to the nest, the feeding site is gone. Although ants often return to a preceding visited feeding site before searching elsewhere, the ants are exposed to different feeding places and therefore to different routes. However the nest is the final goal on every inbound run. Consequently the inbound run is usually more similar during each foraging trip than the outbound run. Therefore most of the training trials are conducted during the homebound trips of the foraging ants.

One current experiment is aimed at revealing the role of landmarks in plain and cluttered environments. Do ants living in landmark-poor areas rely more heavily on path integration than ants inhabiting landmark-rich areas? To address this question, ants were trained back and forth between their nest and a feeding site in the presence or absence of landmarks. In tests in a novel location with replica landmarks their search behaviour indicates which cues are or were preferred.

Another ongoing experiment is focused on the visual discrimination and memory capacity of ants. Here ants are trained to forage in an artificial channel network. On their return route they are confronted with a two-chamber decision box where they have to choose between two different visual stimuli; for instance black vs. white or horizontal gratings vs. vertical gratings. The nest can only be found if the ant chooses the correct pattern. This maze experiment will allow us to test whether choice of the correct stimulus is dependent on the order of the boxes or the distance walked by the ant. Additionally, we can assess how good *Melophorous* are at visual discrimination.

I hope you'll agree that the Australian desert ant, *M. bagoti*, is a fascinating and clever insect, yet the brains of these ants only weigh around 0.1 mg. It is very exciting to be working with these animals at a

time when they are revealing more and more of the mechanisms underpinning their navigational abilities.



*Melophorus bagoti*

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## Workshops

### Writing a Weed and Landscape Management Plan Workshop

**Thursday February 14<sup>th</sup> Power and Water  
Sadadeen Complex Training Room.  
5pm till 7pm**

We invite Land for Wildlife members (especially the new members) to this workshop. Do you want to improve habitat for wildlife on your property?

Do you know what this involves and what steps to take? Come along to this workshop and develop a Weed and Landscape Management Plan for your block. We will discuss tactics and strategies, and help you develop your own management plan, which will save you time and money at your place. Local experts will be on hand to answer your questions.

People who have attended previous workshops have been able to focus on their particular goals and problems so if you haven't attended a workshop yet, or would like a refresher, put the date for the next workshop in your diary.

Please RSVP as soon as you can so that we can print you your management plan and Google Earth property image for the workshop activities.

Call 8955 5222 or email Heidi at [LFW@lowecol.com.au](mailto:LFW@lowecol.com.au).

### Great turnout at the December 07 Bat Workshop

In early December 2007 a Bat Information session was held over two evenings. The first evening was held at the Telegraph Station with wildlife experts Michael Barritt and Chris Pavey from the NT Parks and Wildlife Service providing us with a great deal of information about the bats of the world, Australia and of course Alice Springs. We learnt about the different techniques used to survey bats, and the importance of their conservation.

The second evening saw our group of dedicated bat enthusiast travel south of Alice Springs to observe Michael and Chris surveying microbats in their natural habitat. We viewed a couple of species up close thanks to the success of the Harp Traps and we gained further information about microbats skills in echolocation.



Inland Cave Bat *Vespadelus finlaysoni*  
Photograph by Barritt/May 2007

Thankyou to Michael and Chris for sharing your Bat knowledge with us and for taking us on a fantastic bat adventure and thankyou to the Land for Wildlife members who attended the two evening, we had over 30 people on the first night and approximately 25 on the second, it was a great turn out!





Lesser Long-eared Bat *Nyctophilus geoffroyi*  
Photograph by Barritt/May 2007

We will all be looking out for bats in tree hollows from now on as we pass by the potential bat roost locations.

## Letters to the Editor

Dear Editor

Many thanks for the notification about the bat happenings. I'm sorry I can't make it, with other commitments that are on, December is a bit crazy. We have lots of bats in the area. So many that on a past occasion we had a resident python in the guttering, which used to hang out and catch a flying meal!

On recent occasions we have heard collisions with a window at night. Perhaps it is an owl, coming in to catch a gecko or other prey?

Saw a tawny frogmouth a couple of nights ago.

Also we have a resident pair of geckos, one being very pregnant, living on the veranda.

These are larger than the normal gecko, with a kind of dappled pattern on the body but horizontal stripes around the tail.

Enjoy the bats!

Cheers

Lesley

Morning Lesley,

Thanks for your email, the Bat workshop is booked out so this is great! And there have been many bats around all over town too, I am the bat contact for wildcare and have had 2 microbats this week, both have been fine for release and hopefully made it back to their roost in one piece.

If you can get close enough I would love to see a photo of the gecko's around your house and I am interested in the gravid (pregnant) gecko identification, sounds interesting.

I have looked in the Alice Springs frogs and reptiles book but am unsure of what it might be. We too have many geckos on our windows at home and a couple that are so pale in colour they are almost transparent, we are going to get our reptile expert friends to check it out.

Take care !

Cheers Heidi

PS I am still working on the council, they seem keen to install more permanent wildlife warning signs in the future.

Dear Editor

Thanks to you! I've been out this morning watering the *Eremophila* species as suggested by Bill. It was so good to gain some more understanding of the plants and their needs. I am interested in suggestions for further plantings so that I can encourage more lizards and birds to the block. I am going to plant some ironwoods as I am interested in the local trees that provide shade. Is it alright to plant trees at this hot time of year?

Re the rabbits - nothing in the cage trap - however I saw evidence of recent rabbit activity elsewhere.

Should I move the cage trap after a few days to near what I think is an active burrow?

All the best to you

Penelope M



**A water stressed Native Fuschia *Eremophila latrobei***

Hi Penelope,

That is great that you have been watering your water stressed plants, it will do them the world of good. It is probably best to wait till the weather cools down before planting as we would hate for them to die in the heat, however if you do want to plant sooner, place a protective shade cloth guard around the plants and ensure you give them water each evening. I planted some tube stock a month ago and have lost 2 already to heat, even with lots of water.

Greening Australia have released a fantastic book called "*Native Plants for Central Australian Gardens*", This is a great reference book, its clear and concise and provides valuable tips for creating and maintaining a garden in our local environment. The book profiles approximately 50 native plants in detail,



with information on trees, tall shrubs, shrubs, groundcovers and grasses. Information on habitat, salt and frost tolerance, lifespan, growth speed, specific uses and flowering is presented in an easy to follow table. The book is available by mail through Greening Australia, contact number: 8953-2882, Geoff Miers Garden Solutions and Red Kangaroo Books.

The *Land Resources of Alice Springs CD* By DIPE and National Landcare Program is a great resource providing information on the land and vegetation types of Alice Springs. You should be able to track down a copy in the NRETA map section. Remember that once I complete your membership folder, it will contain vegetation list for the land units your block is located in as well as information about controlling threatening processes like erosion, feral animals, and of course weeds.

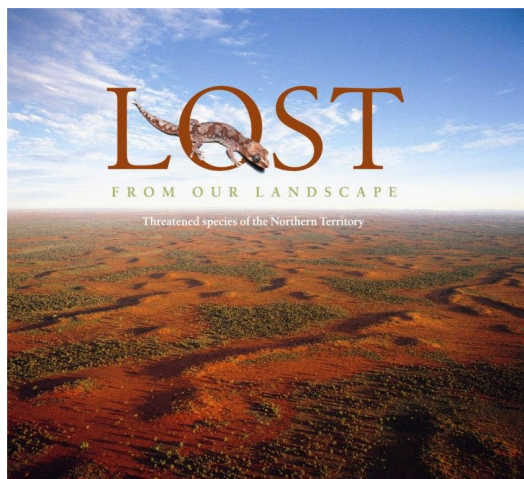
Its probably best to leave the rabbit trap were it is for now as we did identify the fresh rabbit tracks which ensures that they are using that burrow under the container. I will give you a call next week and check the activity status and maybe then we can think about moving it if your sure the new burrow is active with rabbits. I can easily pop by to check too, seems I am just around the corner.

Take care  
Cheers Heidi

## Books worth a Look

**Peter Latz's book – *Flaming Desert*** has been launched and is a fantastic book presented in full Latzii colour with some controversial but interesting statements and very good information on responses of plants to fire. The book is available from local book stores now!!!!

### Book on the Territory's threatened species



We are running this review again but in more detail as it is such a great reference book!

*Lost from our landscape: threatened species of the Northern Territory* is a useful resource for all those dealing with the management of natural resources and areas throughout the Territory; of interest to all those concerned with the Territory's environment more generally; and ideal for those who want to learn about our wildlife.

*Lost* lists and describes the 203 threatened plant and animal species that occur (or occurred) in the Territory, and collates information on their distribution and ecology, and the factors that cause them to be threatened. The book also features full colour photographs or illustrations of each of the species.

Included on the list of NT threatened species and featured in the book is the endangered desert sand-skipper, re-discovered in February 2007 inhabiting gorges in the Chewings Range, west of Alice Springs, after an absence of records for more than 30 years; Slater's skink (subspecies *E.s.slateri*), which appears to have been abundant around Alice Springs in the 1960s but is now classified as endangered; the black-footed rock-wallaby, reported in the Alice Springs Telegraph Station Historical Reserve and classified as near threatened; and the endangered central rock-rat which was rediscovered in the MacDonnell Ranges in 1996 after the species was presumed extinct, but has not been reported anywhere within its range since 2002.

Threatened species are critically important in the assessment of land-use decisions and development proposals, in the evaluation of sustainability, and in providing an early warning sign of environmental dysfunction. Most casual observers of the Territory will imagine that wildlife should be untroubled in the Territory's vast wild landscapes. But this book demonstrates that such is not the case – species are in decline across most of the Territory, in developed areas and remote deserts, in coastal seas and wetlands. A high proportion of the Territory's land mammals – 15 species – have disappeared to extinction sometime over the last century. Other species are now fast approaching that oblivion.

This book tells the story of these species, and offers guidance about how we can maintain the species that adorn our lands and seas. It offers some hope that we can retain our rich natural legacy.

*Lost from our landscape: threatened species of the Northern Territory* is available for \$24.95 from Parks and Wildlife, Tom Hare Building, Alice Springs, email [pwpermits.nreta@nt.gov.au](mailto:pwpermits.nreta@nt.gov.au), phone 8951 8226.

# Coming Events

## Field Naturalist Club

<b>Wed 13<sup>th</sup> Feb</b>	Field Naturalists Club meeting @ Olive Pink Botanic Garden 7.30 pm. Guest speaker Chris Palmer on Insects of Central Australia
<b>Sat 16<sup>th</sup> Feb</b>	Field Naturalists Club Visit to Intertexta Forest at Ilparpa. Meet at car park opposite Old Timers Nursing Home at 6.30 am. Contact Connie Spencer on 8952 4694
<b>Sat.1<sup>st</sup> March</b>	Field Nats Club Visit to Ian Archibald's museum 'Workshop of delights' behind the Aviation Museum, Araluen Precinct. Meet at 9am. Contact Bob Read on 8952 1935
<b>Sun 2<sup>nd</sup> March</b>	Field Nats Club Bird watching at the Alice Springs Sewage Ponds. Meet at the gate to the ponds at the southern end of the turnoff from Commonage Road. Contact Liz Carpenter 8953 6750.
<b>Wed 5<sup>th</sup> March</b>	APS AGM @ Olive Pink Botanic Garden 7.30 pm, followed by photo presentation by Jenny Purdie of plants of the Barkly region
<b>Sat 15<sup>th</sup> March</b>	Field Nats Club Trip to Mounds Springs in Ormiston Gorge, Glen Helen and 2 Mile Waterhole. Meet at Flynn's Monument 7am. Contact Bob Read 8952 1935
<b>Sat 15<sup>th</sup> - Sun 16<sup>th</sup> March</b>	<b>Monster native plant sale @ Olive Pink Botanic Garden 8am-11.30am. Be there to</b>

**grab some stunning shrubs and trees to revitalise your bush gardens.**

**Green Corp** teams will be assisting Land for Wildlife property owners with erosion control, irrigation repairs and fencing work in the week of the Mon 31<sup>st</sup> March and the week of the 14<sup>th</sup> April. If you have some on ground work that needs a little bit of man power behind it, please get in touch with Heidi as **Green Corp** maybe able to visit your property too. Additional weeks will be booked for more on ground works in the near future so please let us know asap.

This newsletter has been produced by  
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