MALLEEFOWL
Preservation Group Inc.

Malleefowl Matter

Edition: No. 45 March 2008

AUSTRALIA DAY AWARD FOR JESSICA

Jessica gives her acceptance speech

Breakfast in a bushland setting with a backdrop being the Stirling Ranges was the start of a very special occasion on Australia Day this year. The Stirling Range Retreat was the chosen venue for The Gnowangerup Shire Council's Annual Community Awards and celebration of Australia Day and was an ideal setting for someone who has dedicated her life to the survival of our environment.

Jessica van der Waag was presented with a framed certificate by Shire President, Ken Pech, stating that she was voted as Young Citizen of the Year for her outstanding contribution to the Ongerup community.

Over four years ago, Jessica came to Ongerup to study malleefowl behaviour and conservation for her degree in Natural Science. Jessica succeeded in achieving her degree, and along the way has given all her spare time to helping the MPG and Yongergnow Malleefowl Centre members complete their projects and events. Listed are some of the projects in which Jessica has been involved, earning this prestigious award: *Volunteer* Presentations- For schools and seminars. Fundraising – "Life in the Mallee" and "A Night Under the Stars" – acquiring sponsors, printing and general organising. Publications – "Side by Side" booklet to help farmers identify Malleefowl habitat and requirements. Jessica has also written many helpful hints on malleefowl for MPG and Yongergnow members and various articles for "Malleefowl Matter" and conservation magazines.

Grant Applications: Jessica spent many hours to complete successful grant applications, which have resulted in funds for bushland fencing, malleefowl surveys and general MPG activities.

Yongergnow Malleefowl Centre committee and volunteers have received generous support from Jessica in many ways, especially looking after the pair of malleefowl in the Aviary and assisting with information in the Interpretive Display in the centre.

Jessica is a valued community member of Ongerup, is working with the Fitzgerald Biosphere Group in Jerramungup, and is completing her PhD studies.

CONGRATULATIONS TO JESSICA AND THANKYOU. OUR BEST WISHES FOR A SUCCESSFUL FUTURE.

Below: Community Award Recipients

Right: Young Citizen of the Year Nominees

Fire in Malleefowl Habitat in the Western Australian Wheatbelt

By Blair Parsons

The malleefowl is a species that occurs primarily in mallee and semi-arid shrublands - both habitats that are considered highly prone to fire, and even fire-promoting. Inappropriate fire regimes are identified in the National Recovery Plan as one of the primary threats to the species' persistence. In Victoria, malleefowl prefer long unburnt habitat (at least 40 to 60 years), and the creation of a mosaic of various fire ages, including long unburnt areas, is commonly recommended for management.

There is a lack of knowledge of contemporary fire regimes and their effects on Malleefowl habitat within the Western Australian wheatbelt. It is not clear how Malleefowl habitat responds to fire or whether fire is operating at a frequency that may threaten the species.

I conducted a study to address these issues by:

- describing the post-fire response of malleefowl habitats; and
- assessing the frequency and extent of fire in malleefowl habitat in the Western Australian wheatbelt.

Regeneration of key habitats after fire

This study focused on understanding the effect of fire on the two key malleefowl habitats in the Western Australian wheatbelt - mallee and *Acacia* shrublands. Vegetation surveys were based at two study sites:

1. Charles Darwin Reserve and Mt Gibson in the north (350 km north-east of Perth). This site was primarily *Acacia* shrubland.
2. Lake Magenta and Dunn Rock Nature Reserves in the south. This site was predominantly mallee.

These sites possess rich and varied fire histories and vegetation typical of malleefowl habitat within the wheatbelt. Habitat attributes were assessed along transects placed within comparable vegetation communities in each of the fire age classes available, ranging from last burnt prior to 1968 through to last burnt in2004). At each transect, vegetation complexity, cover, and litter cover were measured.

The post-fire response of these two malleefowl habitats differed. Mallee developed a complex understorey and generous litter layer after about 15 years post-fire and these important features were

Below: A malleefowl mound in Acacia shrubland last burnt in 2001 (Charles Darwin Reserve)

Malleefowl Matter

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Above: A malleefowl mound in mallee last burnt in 1977 (Lake Magenta Nature Reserve)

maintained beyond 45 years. *Acacia* shrublands took longer to develop a litter layer and this layer tended to diminish after about 25-30 years post-fire. Similarly, the shrubby understorey of *Acacia* shrubland diminished after approximately 25 years.

Frequency and extent of fire

I mapped the frequency and extent of fires in malleefowl habitat in the Western Australian wheatbelt using remote sensing. The mapping provided me with a measure of the how much and how often malleefowl habitat has burnt over the last 15 years (i.e. 1988-2004) for three groups: 1) in small remnants (100 – 500 ha); 2) large reserves (> 500 ha); and 3) pastoral areas.

Frequency of fire was related to the size of the remnant in which it occurred. Fire was infrequent in small remnants with the frequency of fires between 1988 and 2004 leading to an average fire interval of approximately 340 years, assuming the fire regime was to remain constant. In larger remnants and reserves, fire was moderately common (average interval ≈ 67 years) and greater proportions of such remnants were burnt. Fires in the pastoral zone and in vacant crown land adjacent to the wheatbelt were most common (average interval ≈ 40 years). Often fires observed in large remnants and uncleared landscapes were much larger (mean area = 26 900 ha, range = 7 – 393 000 ha), whereas those for small remnants were all minor (mean area = 80 ha, range = 10 – 264 ha).

The results of this study suggest that the vulnerability of malleefowl to fire differs depending on the type of habitat and the size of the remnant. In mallee, resources for malleefowl appear to increase with time since fire whereas in *Acacia* shrublands, resources for malleefowl will likely decrease. Long fire intervals (60 yrs +) suggested by previous studies are likely to be suitable for mallee habitat but may lead to a diminishment of resources in *Acacia* shrubland.

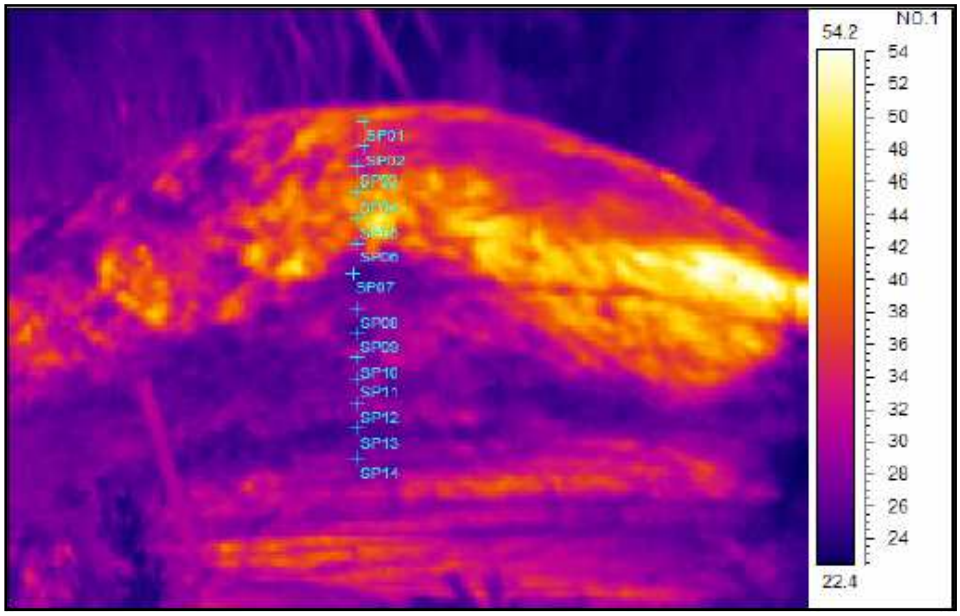
The results also suggest that the current fire frequency in large remnants may be acceptable for malleefowl but in uncleared landscapes the frequency may be too high. Irrespective of frequency, management actions should aim to reduce the scale of wildfires in these areas. Malleefowl habitat in small remnants does not appear to be at risk from too frequent fire. However, controlled burns or some similar disturbance may need to be introduced to stimulate regeneration if resources begin to diminish due to a lack of fire.

If you wish to know more about Blair's project, please contact him on ph: (08) 9333 6451 or email: blair.parsons@csiro.au.

Monitoring Malleefowl mounds using their thermal profile

Mt Gibson Mining Ltd propose to mine and process iron ore at Extension Hill, Mt Gibson, which is approximately 350 kilometres (km) north-east of Perth, near the Great Northern Highway. During a fauna assessment all habitat that potentially contained Malleefowl mounds was grid searched looking for active and inactive mounds. Sixteen inactive Malleefowl mounds were found within the project area during the March 2004 fauna survey. An additional 41 mounds (five active and 36 inactive) were found within the targeted search areas in September 2004 and another 56 mounds (10 active and 46 inactive) were found in January 2005. Mt Gibson Mining will monitor the impact that its mining has on Malleefowl. Grid searching the area is both time consuming and expensive. As a consequence, a program has been developed to investigate the possibility of using aerial thermal scanning for open Malleefowl mounds to assess the number of Malleefowl in an area. Active Malleefowl mounds will be used as a proxy for the number of Malleefowl in the area. The temperature differential between an open mound and the surrounding area early in the morning is what is being detected by the

(Continued on page 6)

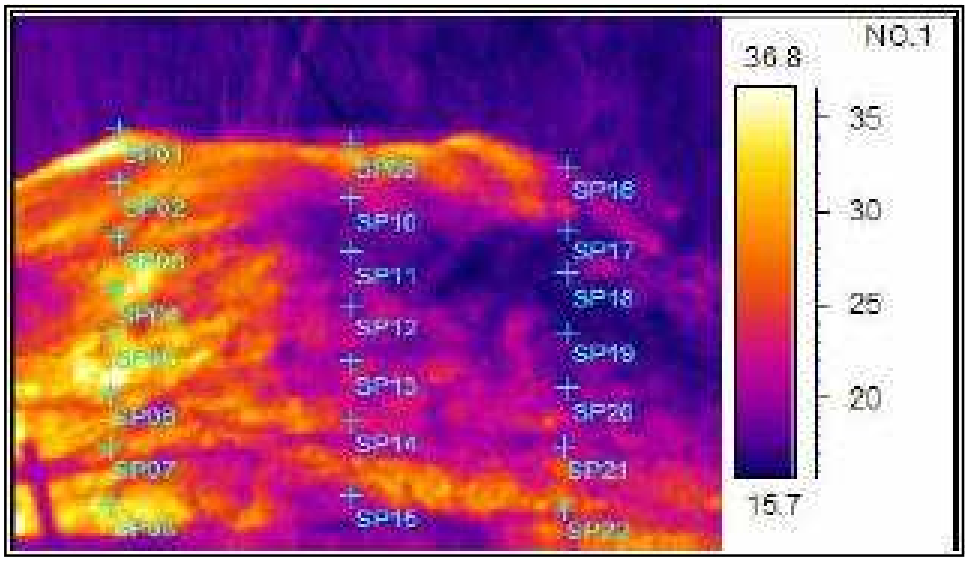


Day time thermal image of a Malleefowl mound that is closed

Spot analysis	Temperature
SP01Temperature	38.7℃
SP02Temperature	33.3℃
SP03Temperature	33.4℃
SP04Temperature	43.3℃
SP05Temperature	44.3℃
SP06Temperature	32.9℃
SP07Temperature	26.0℃
SP08Temperature	29.4℃
SP09Temperature	25.8℃
SP10Temperature	28.7℃
SP11Temperature	29.0℃
SP12Temperature	29.3℃
SP13Temperature	26.3℃
SP14Temperature	27.6℃

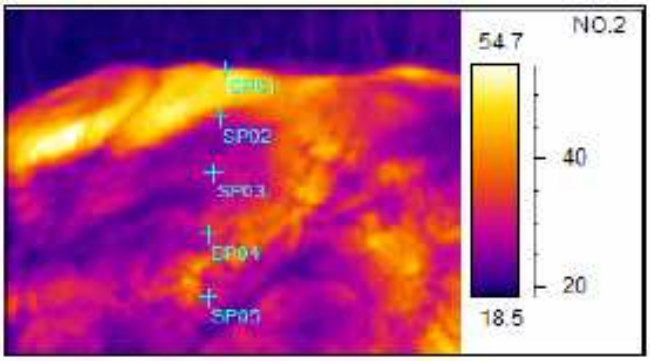
Above: Photographic image of Mound #2 when closed

Below: Photographic image of Mound #2 when open and being closed



Spot analysis for No 1	Value
SP01Temperature	19.4℃
SP02Temperature	26.1℃
SP03Temperature	26.4℃
SP04Temperature	29.9℃
SP05Temperature	31.5℃
SP06Temperature	30.5℃
SP07Temperature	28.4℃
SP08Temperature	33.0℃
SP09Temperature	21.1℃
SP10Temperature	21.5℃
SP11Temperature	19.0℃
SP12Temperature	19.6℃
SP13Temperature	20.6℃
SP14Temperature	23.8℃
SP15Temperature	20.8℃
SP16Temperature	19.8℃
SP17Temperature	18.5℃
SP18Temperature	18.0℃
SP19Temperature	16.8℃
SP20Temperature	17.9℃
SP21Temperature	19.9℃
SP22Temperature	29.2℃

Mound open, and Malleefowl are starting to close it. Note, it is hotter on the sunny side.

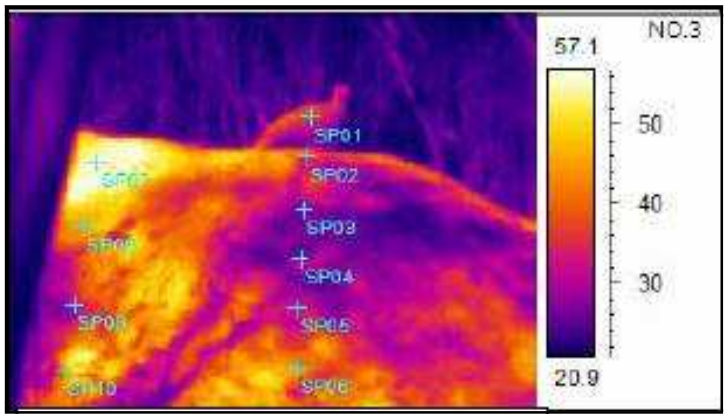


Close up of the mound when open.

Spot analysis for No 2	Value
SP01Temperature	39.3℃
SP02Temperature	31.6℃
SP03Temperature	29.8℃
SP04Temperature	32.4℃
SP05Temperature	28.7℃

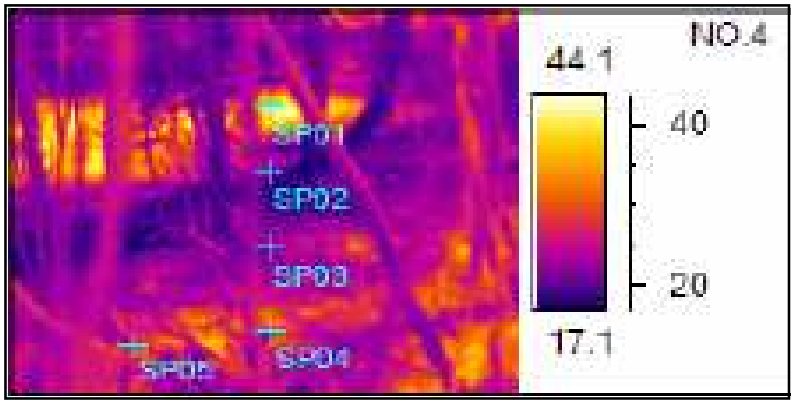
Spot analysis for No 3	Value
SP01Temperature	38.5℃
SP02Temperature	38.8℃
SP03Temperature	28.0℃
SP04Temperature	30.5℃
SP05Temperature	34.2℃
SP06Temperature	45.7℃
SP07Temperature	55.8℃
SP08Temperature	47.1℃
SP09Temperature	33.6℃

Malleefowl is closing the mound

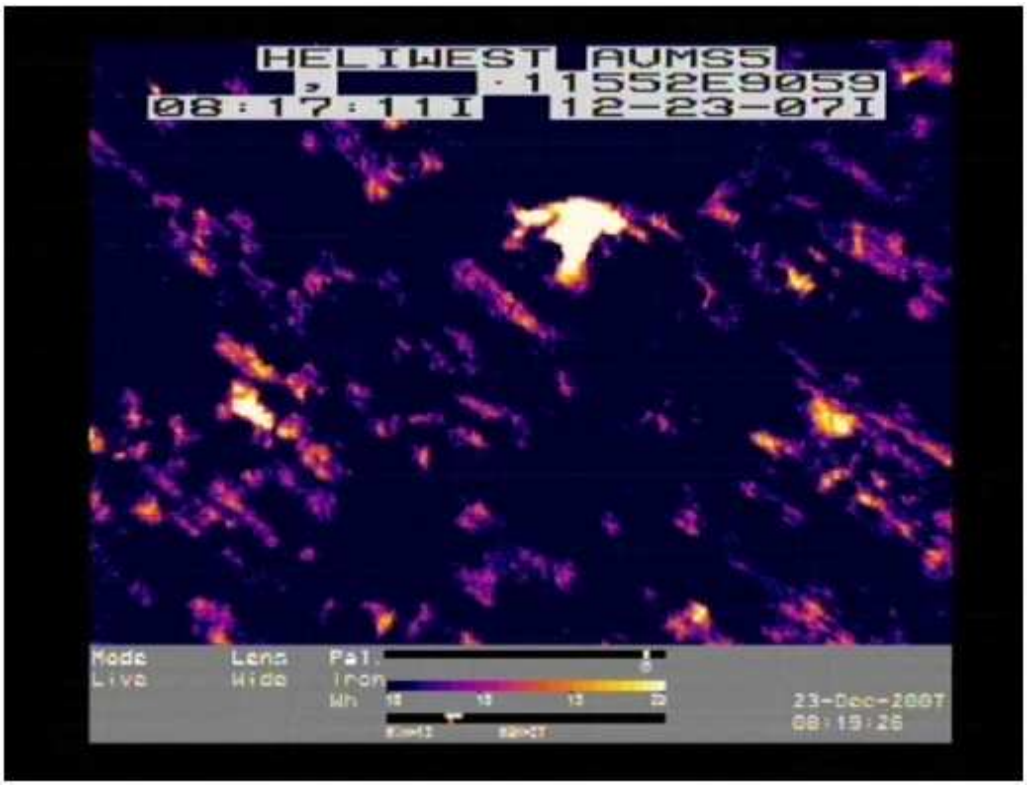


Spot analysis for No 4	Value
SP01Temperature	41.1℃
SP02Temperature	21.6℃
SP03Temperature	23.0℃
SP04Temperature	26.0℃
SP05Temperature	29.4℃

An active mound showing surrounding vegetation temperatures. Note, it is getting hot in the sun.



The thermal image of an open Malleefowl mound taken from thermal imaging camera mounted in a helicopter at 8:17 am on 23/12/2007



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thermal image camera. A two stage program has been developed. Stage 1 is to develop a thermal profile of a typical open mound early in the morning and compare this with the surrounding area. Stage 2 is to determine whether it is feasible to detect open mounds using this thermal image from a helicopter or a small plane flying over the area to be surveyed. As there were very few active Malleefowl mounds in the northern wheatbelt this year, Stages 1 and 2 were undertaken around Ongerup in November and December 2007. Attached are three data sheets from Stages 1 and 2. Data sheet 1 shows the thermal profile of an active Malleefowl mound at about 4:32pm. External temperatures of the mound are not able to be distinguished from the surrounding area because the mound is acting as an excellent thermal insulator. Data sheet 2 shows the thermal profile of an active Malleefowl mound at about 6:30am when the birds have opened the mound. Mound temperatures are appreciably hotter than adjacent areas. Data sheet 3 shows the thermal profile of an active Malleefowl mound that has been opened at about 8:17 am. This image was taken with a thermal imaging camera from a helicopter. It is therefore technically possible to detect open Malleefowl mound using their thermal profile. More work is required before this technique can be used to survey for active Malleefowl mounds over a wide area.

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COMING EVENTS

Date	Activity	Where
31 March—11 April	"Malleefowl Magic" deliveries	Primary Schools in Manjimup area Contact Susanne Dennings @ sdennings@bigpond.com
29 April	Committee meeting	MPG Offices
4-9 May	Malleefowl Surveys	Lake Muir Contact Susanne Dennings @ sdennings@bigpond.com
27 May	Committee meeting	MPG Offices
1-7 June	Malleefowl Surveys	Mt Jackson Contact Susanne Dennings @ sdennings@bigpond.com
24 June	Committee meeting	MPG Offices
26 July	***MPG AGM***	***Ongerup—Yongergnow Centre*** ***Contact Claudine Deering*** ***malleefowl.wa@wn.com.au***

HIDDEN TREASURES REVEALED AT CARAVAN AND CAMPING SHOW

Yongergnow Malleefowl Centre and the Hidden Treasures Trail shared an information booth at the recent Caravan and Camping Show at Claremont Show Grounds in Perth.

Over the five days of the show thousands of people came to find out about camping equipment and where they could visit once set up for their special holiday. This proved to be a great publicity exercise for both groups and now there are many more people out there that know about our precious Malleefowl.

Visitors were amazed when shown the photo of the chick and the huge mound in which it was incubated, and how the bird dug its way out. Many remembered them from past associations with farming, and if re-action to the pictures and DVD is anything to go on, many more visitors will be showing up to find out more about the Mallee and this amazing bird.

The Hidden Treasures trail is a new advertising concept to let people know of the special things that can be found in the little country towns. A booklet has been produced to help with information, and the logo – The Bobtail Lizard, can be seen on roadside verges within our area.

Judy, Zarha & Di

'Malleefowl Matter' Newsletter

Our members have the opportunity to receive their *Malleefowl Matter* newsletter via e-mail at no cost.
A yearly $ 10.00 charge applies to receive a printed copy by mail.
Thank you to those of you who responded to our earlier notice, we appreciate your support !

YONGERGNOW CELEBRATES 1st Anniversary

Visitors from far and wide joined the locals at Ongerup to celebrate the First Birthday of Yongergnow, Australian Malleefowl Centre, Ongerup, on Friday 15th February 2008.

Centre manager, Melissa Savage, introduced Noongar representative of the local indigenous families, Eugene Eades, who gave a warm welcome to the visitors their behalf. A stirring performance on the didgeridoo by Ken Haywood followed, which brought a hush over the crowd gathered under the moort trees, creating a feeling appreciation of this special place.

The Ongerup school children performed "Who Cares" with Ross Strahan. Ross wrote this song about the future of the environment, which was performed at the opening of Yongergnow. On singer/ songwriter John Williamson's recommendation, this song is now recognised by the Education Department for its value as an environmental education tool.

The Ongerup children and Ross will be doing another performance for the W.A. Parliament's Cabinet meeting in Albany early March.

Yongergnow Board Chairperson, Leslie Briscoe, thanked the Noongar representatives, and Ross plus Ongerup school children, then added her words of welcome. Leslie extended her thanks to staff and volunteers for the great job in running and improving the centre over the last year, also the Gnowangerup Shire Council and other funders for their continued support. So impressed by the performers, Leslie requested a repeat of the song and didgeridoo item, heartily endorsed by the crowd.

Afternoon tea followed, which was a casual affair allowing people to catch up and wander through the centre or visit the malleefowls. "Merv the Malleefowl" also entertained the crowd and was particularly popular with the children still present. The birthday celebrations came to a close with a barbeque on the patio, and listening to songs from Ross Strahan and Neil Morgan as the sun set over the mallee bush.

2008 MPG
Annual General Meeting
at
Yongergnow Malleefowl Centre
on 26th July
4.00pm
See flyer for details

If undelivered, return to:
Malleefowl Preservation Group
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Ongerup WA 6336

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