

Lowan Behold!

Newsletter of

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February 2011

Coming VMRG 2010 events

Little Desert Tracks search 2 - April 9&10
Reporting back meeting – April 30
National Malleefowl Forum – July 29–Aug 1
See www.malleefowlvictoria.org.au
or contact our Secretary Ann Stokie

Reporting Back meeting *from Ann Stokie*

This year we will be holding the meeting a little later than usual due to when Easter/Anzac Day fall in April, and the Little Desert Track Search on the weekend of 9/10 April.

The meeting will be held in Nhill on Saturday 30th April, probably in the Catholic Primary School Hall starting at noon with a light lunch. There will be an agenda a few weeks before the meeting with some more details, but the main reports will be the Annual Monitoring Report presented by Dr Joe Benshemesh, and an update Taneal Cope on her PhD Malleefowl Genetics project.

For those who stay overnight, Nhill has several motels, and a good sized Caravan Park and several En-suite Cabins. We will also organise a venue for an Saturday evening meal and an activity for Sunday morning for those who are interested.

Little Desert Tracks search 2 - April 9&10

from Ralph Patford

Following our first Tracks search last year we will be completing and enhancing the information collected with another search program. Last year we managed to cover 455 of the 755 km of designated tracks (about 60%). We now want to complete the task and the Mobile Landcare Group is keen to be involved.

Designated 4WD tracks are driven and the last 150 metres of each kilometre are walked and any animal signs recorded with gps location and photographs. Vegetation photographs are also taken for later research.

Our priorities this weekend will be to (1) cover the remaining tracks, (2) cover some additional tracks along the southern boundary of the park approximately north of Nurcoung, (3) have another look at Tracks 6 & 7 (in the Mt Turner area) and (4) have another sortie along McDonald's Highway.

Please let me know (by March 18) if you are definitely or possibly available to attend on 03 5275 3019 or 0402 009 391

Do you have any pictures of unusual Malleefowl mounds? Or stories about Malleefowl?
Or stories about 'Malleefowl people'?
Send them to Gil at giliz@laharum.vic.au



4th NATIONAL MALLEEFOWL FORUM

Renmark, South Australia
29th July - 1st Aug 2011

You are invited to register your interest for the 4th National Malleefowl Forum, to be held at the Renmark Hotel. Registration and pre-forum refreshments on Friday 29th July.

Themes of the Forum include:

- The role of community groups in Malleefowl conservation
- Adaptive Management
- The role of genetics in Malleefowl conservation
- The role of fire in Malleefowl conservation
- Malleefowl and remnants
- Landscape-scale restoration projects

The organisers are currently calling for abstracts for both spoken and poster presentations.

For registrations and/or further information contact:

Sharon Gillam, DENR, South Australia
on behalf of the National Malleefowl Forum Organising Committee
P: (08) 8222 9459 E: sharon.gillam@sa.gov.au

Monitoring at Broken Bucket *by Bernie Fox*



Harry, Angus & Brett Wheaton, Joseph & Richard Morphett

Since Broken Bucket was first monitored, Sue and I have encouraged locals we know, particularly the younger generation, to join in on the 'science-end' of VMRG business. This is with the double aim of 'education' and of fostering ownership of their local 'Bucket' Malleefowl. Although there were no mounds 'active' this year, the afternoon was very much enjoyed and the observations of the 'bush' (spiders, cocoons, coconut ants, dragons and even lerps) was amazing ... and there was no fuss with the technology: Joseph, Harry and Angus took to the GPS and MobileMapper with ease and the familiarity of the young.

Broken Bucket is a 'new' site in the south of the Big Desert, set up by VMRG, worked on by Friends of Simpson Desert, but yet to be completed, hopefully this year.

Malleefowl Monitoring on the Coorong, South

Australia by Peter Stokie

When you think of the Coorong, birds that readily come to mind are pelicans and terns, and migratory water birds and ducks, but never Malleefowl.

Yet in a small strip of mallee vegetation tucked between the eastern section of the Coorong and the Princess Highway just near Salt Creek, within earshot of crashing waves and large coastal dunes visible from a dusty corrugated track that skirts the waters of the Coorong, there is a well established Malleefowl monitoring site with 30 or so mounds, one of which is an active mound, where two birds were seen busily opening their mound early one December morning in 2010, oblivious to five intrepid South Australian and Victorian volunteer monitors.

This site has been in existence since the mid 1990's, and was monitored on an irregular basis, until Sharon and Michael Gillam and Graeme Tonkin, assisted by Dee Parkhurst, "adopted" the site five years ago. This year Ann & I invited ourselves along for the 2010 annual monitoring in late November, as we were intrigued to see this unusual spot where Malleefowl have been breeding for many years. There have been past records that indicate several active mounds in this site, but as in lots of places, numbers of birds have declined in the Coorong to just one breeding pair over the past four years. The drought conditions and declining habitat viability through degradation, as well a massive population of rabbits, the occasional deer, and the frequent traffic on the Princess Highway has taken a toll on Malleefowl numbers.

We visited 23 mounds that are still considered potential Malleefowl breeding sites and there are another 12 mounds that are so old they have been placed on the 5 year visit list. It was pleasing to find two mounds with obvious Malleefowl scratching, but nothing more than that other than the active mound.

The active mound is an amazing place, just 50 metres off a tourist driving track and near several well used camping sites. There is a small car parking space, a few seats to sit within 20 metres of the mound, an informative display board, and a sign asking people not to approach the mound. As an absolute bonus, there are two most cooperative Malleefowl who take no notice of spectators to their activities. This mound has been active for 11 years of the 14 years it has been monitored.



Two days after monitoring this mound, I returned in the morning at 7:00am to revisit this mound. On arrival I was totally surprised to find that both birds were at the mound for the second time in three days, and they had just started to remove the top layer of hilled up sand. Both birds worked for twenty minutes or so digging down into the centre of the mound, but one of the birds gradually lost interest, and

wandered off, never to return whilst I was there. The remaining bird worked alone for the next ten minutes slowly sinking deeper into the middle of the mound. This bird appeared to take fright at one stage and disappeared off the mound for five minutes. I was about to leave when it re-appeared, and at the top of the rim promptly put its head down on its chest and gave out a single loud and strong boom. For the next twenty minutes, it again worked itself into the base of the mound until I could no longer see it. Finally it seemed to be concentrating on a very small spot as I could see small puffs of dirt occasionally being scratched up from this spot.

All the time I was expecting the other bird to appear, and I was hoping to witness an egg being laid, but it was not to be. After spending about five minutes at the base of the mound, the bird walked up to the rim and started to fill in the mound again. I watched for a few more minutes, and decided that at 8:00am I had best return to camp for breakfast.

I decided that the bird working the mound alone was the male, but was it? I wonder what this bird was up to and presume that all the effort was to test the temperature of the egg chamber at a particular spot, but I'm not too sure.

If anybody has a theory, or has seen something like this before, I would love to hear from you at pstokie@iprimus.com.au

National Malleefowl Recovery Team News

(Prepared by Peter Stokie from NMRT meeting 25/11/10)

Current initiatives

An approach to the SA Zoo at Monarto is being made to seek available expertise for development of a Malleefowl husbandry manual.

A sub-committee with representatives from each state has been formed to deal with the national database development and protocols

A steering committee chaired by Sharon Gillam (DENR SA) was formed to commence planning for the next national Malleefowl forum. (Ann Stokie is Vic. Representative)

Monitoring Reports

South Australia (Sharon Gillam).

- Of the 30 monitoring sites, 17 completed (at 25/11/10)
- In the Murraylands there is a current investigation of the possible effects of locust spraying upon Malleefowl breeding success.

Western Australia (Stephen Davies / Sally Cail / Roger Hall).

- MPG conducted a monitoring workshop at Merredin in August which was well attended with training being provided to 32 volunteers by Carl Danzi
- MPG have completed monitoring at 12 sites
- Dalwallinu Shire recently celebrated its centenary with the construction of a new environmental centre which includes a Malleefowl display

New South Wales (Ray Dayman / Peter Ewin).

- For the second year in a row, the Fox Threat Abatement Plan (Fox TAP) has not provided funding to undertake aerial survey of Malleefowl breeding in NSW
- Last year Lachlan CMA funded a program to monitor the Malleefowl in Yathong, Nombinnie and Round Hill Nature Reserves in December, and it may be that this is repeated again this year
- The survey methodology for Mallee Cliffs has been modified such that 25 nests that have been historically active were sampled on the ground.

Victoria (Peter Stokie)

- Of the 35 monitoring sites, 19 completed (at 25/11/10)
- VMRG now in the 10th year of operation

- VMRG are concerned about the impact upon Malleefowl and Mallee vegetation by the adoption of the Victorian Bushfire recommendations for the Mallee Parks and Reserves.

Suggestion that NMRT become incorporated

Advice was sought by Peter Sandell from Dept of SEWPAC and they (Peter Latch) have advised that they do not have any guidelines currently but that these may be developed in the future.

Peter Sandell expressed reservations about the increased burden incorporation would place on the convenor of the Recovery Team.

Increased levels of burning in the Victorian Mallee parks

Peter Sandell tabled some advice provided by DSE with respect to decisions of the Victorian Government in response to the recommendations of the Victorian Bushfire Royal Commission (VBRC). The implication of these decisions is that a minimum of 5% of the flammable areas of public land in the Victorian mallee will be burned each year. This implies a fire return period of 20 years which would most likely render these areas unsuitable for Malleefowl and a range of other species.



Fire and Wildlife in the Mallee – insights for conservation and management - extracted from

www.latrobe.edu.au/zoology/research/mallee-fire/documents

Scientists from La Trobe and Deakin Universities, as part of the Mallee Fire and Biodiversity Project, recently investigated the effects of fire on plants and animals, birds, mammals, reptiles and invertebrates (termites, scorpions, centipedes, psyllids) in the Murray Mallee region of south-eastern Australia. We carefully selected 28 'landscapes', each 4 km in diameter (12.5 km²), which

varied in their composition of post-fire age-classes.

Plants, animals and habitat features were surveyed at multiple sites in each landscape, selected to sample different fire age-classes, as well as variation in vegetation types and topography (dunes, swales). The study addressed two main questions:

1. How does the flora and fauna change in relation to time since fire?
2. What are the properties of fire mosaics that are more (or less) suitable for conservation?

Ecological management-

The dynamic nature of mallee ecosystems poses particular challenges to the management of fire for ecological purposes.

Vegetation and habitats change in a predictable sequence following fire, over a time-scale of a century or more. A

combination of wildfire and planned fire needs to be managed to ensure all stages of succession continue to be present over time. Fires occurring now, for example, will provide high quality habitat for Spinifex-dependent species in 20-40 years time, and from 40 years hollows will increasingly form. Although large tracts of mallee remain, the system is fragmented and some reserves are small and isolated. Large fires (>100,000 ha) pose a risk because they create a single age-class, and may burn entire reserves. If there is no internal source for recolonisation, species may become locally extinct.

The large scale and long-term nature of post-fire changes mean that mallee ecosystems need to be managed as continuous blocks, ignoring state and reserve boundaries.

Key points from the study-

1. Mallee is a flammable ecosystem and fire is a natural component of the environment. Vegetation and habitats change in response to fire (and other factors). Fires will continue to occur in the mallee naturally from lightning strikes.
2. Large fires (>10,000 ha) occur somewhere in the region regularly (~10-20 years). However, fire mapping shows that long intervals occur between fires at any single point in the landscape (~ 40-100 years or more).
3. Habitat features, essential for fauna, change over long time-scales. Spinifex, for example, reaches maximum cover around 30 years post-fire, and the proportion of mallee stems with hollows increases for a century. This can far exceed the time for key plant species to grow, reproduce and set seed. Planning and management need to encompass similar time scales.
4. Most primary types of fuels for fire do not increase substantially beyond 30 years post-fire (e.g. Spinifex, litter, shrub-cover); some like loose bark on trees continue to accumulate, but tree density declines and gaps between trees increase.
5. Mallee wildlife show a range of responses to time since fire. Some species occur irrespective of fire age; others are more likely to occur at particular stages (early, mid or late succession). Few species occur only in one stage post-fire.
6. Animal responses to time since fire are primarily driven by changes in vegetation structure (which provides them with food, shelter and refuge). The goal is to manage for vegetation composition and structure, not just fire age-classes.
7. For effective fire management, focus on the requirements of species known to be sensitive to fire (rather than managing for overall species richness). Most other species are also likely to be accommodated by such an approach.
8. The total amount of suitable habitat (of a particular fire age-class or vegetation type) is a key influence on the status of wildlife (communities and many species) in the landscape. Older age-classes appear to be particularly important (e.g. 20-50 years post-fire for Spinifex-dependent species). While some species are most abundant in early stages of post-fire succession, few species depend on it.
9. There is little evidence that diversity of fire age-classes influences the fauna at the landscapes-scale studied.
10. Large wildfires that homogenise the landscape are detrimental to the fauna, particularly in small and fragmented reserves, since the capacity of species to recolonise from within the reserve could be lost.
11. The need for ecological burning to ensure an ongoing sequence of age-classes will depend on the extent of uncontrolled fire in each continuous tract of mallee vegetation. These tracts should be the landscape management unit, rather than individual reserves.
12. Fire is not the only factor influencing species in mallee ecosystems. Rainfall and species interactions (e.g. predation, competition) are important influences and may interact with fire. Long-term monitoring is critical to document the changing status of species.

Some of the details for this study-

- 104,000 sq km study area (3 times the size of Belgium)
- 70,000 survey trap-nights
- 44,184 mallee stems measured
- 21,348 birds recorded at point counts
- 7,200 individual reptiles captured
- 5,775 seeds germinated in seed trials
- 3,360 termite baits (toilet rolls) buried
- 1,490 mammals captured
- 1,120 km of bird survey walks
- >100 volunteers assisting
- 12 agencies involved

From the Training Weekend Oct 2010



Wyperfeld NP – a different sight after all the drought years, but isn't it great to see again!

National Malleefowl Recovery Team from Peter Sandell

Peter told us how important the National database is so we can see change in bird populations, and try and work out effects of habitat quality and size, including age of habitat since fire, size of habitat patch, and any ratios between size of unburnt patch and the length of burnt boundary.

In the Big Desert the plan is to have burnt or reduced north-south corridors in order to restrict the chance of very large wildfire. New Government burning plans are for a staged increase to 5% burnt/year, but this could increase.

The National database is being further developed for better reporting functions, and could include subscriptions to information.

Iluka mine-clearing offset funds (which has its own advisory committee) would be directed first to 3 projects – the database work, development and communication of an adaptive management program, and the fourth National Forum in the Riverland of South Australia.

Locust infestations would be large this year, with spraying of metarhizium biocontrol on ParksVic land, and advice to VMRG where locust control works may effect monitoring activities (but Malleefowl will have lots to eat!)

National Malleefowl database from Joe Benshemesh

Joe told us how the database is working very well and that there are more functions needed so help it be used fully. There are over 30000 records and 10000 photos. The database now needs systems to help take the workload from the data collectors (ie Peter Stokie) and make downloading the data more automatic.

Joe said a joint application had been made with Melbourne uni and ParksVictoria to develop an Adaptive Management program.

He discussed the MobileMapper, and later showed us how to use one. He also thanked Heather and Barry Harvey for donating batteries for the Mappers.

It's easy – just do like this!



I'm doing it like that but it ends up somewhere else!



You call that a nest? Well at least we got there!



Man and machine – they don't necessarily go together.

Genetics of Malleefowl –from Taneal Cope



It really was this big order to collect DNA and discover the relationships that exist between chicks from the same mound and birds from different mounds. She needed more help in collecting feathers and any carcass or Malleefowl parts suitable for DNA, so she can find out how inbred each population may be, and plans were made for members to help her collect more information.



Taneal demonstrating 7 different halotypes across the range, and the 'closeness' of their relationship.

Taneal described her PhD studies into

- Genetic variation across Australia
- Genetic variation over time
- Mating systems, and
- Principles for conservation

She used mitochondrial DNA to compare Malleefowl across Australia and found 2 different halotypes in Western Aus and 5 different types in Eastern Australia, but generally there wasn't that much variation between them. Because of this low variation she may not compare the variation over time.

In order to study mating systems (whether paternal or maternal) she had been collecting and incubating eggs and collecting feathers in

Malleefowl in SE SA from Vicki Nat

Vicki described the different rocky coastal Mallee near the Coorong with some hills and bluegum plantations further inland. Active nests varied from 4/46 mounds, 14/52, 5/42 and 1 known. There were lots of rabbits, and quite a few road kills of Malleefowl.

Fire and Mallee from Peter Sandell, and additions by Gil Hopkins



Ralph and Ron helping Peter show us the Big Desert

Peter described how the plan was to have North-South 'control lines' to prevent very large wildfire wiping out all the Malleefowl or their habitat. The aim is for a mosaic of different age classes of Mallee, so there are areas for breeding and areas for feeding, and to reduce the total risk of complete destruction. At the same time there is now a requirement for increased burning to 5%/year of public land, and this doesn't include areas burnt by wildfire.

DSE have a commitment to monitor but over the long time periods that recovery occurs the monitoring doesn't last long enough. There are long term studies undertaken by La Trobe and Deakin Unis (see earlier article) which will help with information for management.

The problem with a blanket 5%/year could mean in the future that the oldest Mallee will be only 20 years, which isn't enough for Malleefowl to survive and breed.

VMRG members need to respond to Fire Management Plans and Fire Operation Plans when they are published, usually in August each year. We should also write to our local members of Parliament and the 'responsible' Minister to show that these rules will mean that there will be no Malleefowl left in Victoria on public land.



Photo shows large burnt areas from fires in different years.