



around THE MOUNDS

NEWSLETTER OF THE NATIONAL MALLEEFOWL RECOVERY TEAM AUTUMN 2018 EDITION THIRTEEN

NATIONAL MALLEEFOWL RECOVERY TEAM

BY SHARON GILLAM, CHAIRPERSON



Another Malleefowl breeding season has passed, with monitoring data from around the states collated and validated in the National Malleefowl Monitoring Database. Well done and thanks to all who have participated in and contributed to the gathering of these valuable data – an amazing effort from all of our ‘citizen scientists’.

In this edition, we bring you up to date on a whole range of recovery actions, initiatives and research that people are currently working on – the material that is needed to inform and improve management, advance community awareness, and drive on-ground actions – to keep us inspired and optimistic in our quest to give not only Malleefowl, but a hopefully a range of threatened species, the best chance of recovery. This includes feral deer control in the SE of SA, plus updates from PhD candidate Peri Stenhouse, Yongergnow Malleefowl Research Centre in WA, the Riverina Local Land Services in NSW, Northern Agricultural Catchment Council in WA, revegetation work through Murdoch Uni (WA), and more.

On behalf of the Recovery Team, heartfelt congratulations to Peter Stokie, long time VMRG and Recovery Team member, for receiving the prestigious Order of Australia Medal in recognition of his extraordinary contribution and commitment to Malleefowl recovery. Well done and well-deserved Peter!

The Forum Subcommittee are working hard to facilitate the upcoming 6th National Malleefowl Forum with an array of interesting speakers and presentations – if you can make it, mark August 17 to 20 in your calendars. We are delighted that our new Threatened Species Commissioner, Dr Sally Box, has agreed to speak at this Forum. See the ads inside for more details and check out the latest information on our website. While you’re there, you can view what our beloved Malleefowl are up to in the Adelaide Zoo, with a new webcam set up by recovery team members Graeme Tonkin and Mal Norman (see p 3).

We have reproduced an article written by the late Ann Stokie reminding us of the days of collecting the data on paper; navigating through thick scrub with a compass and looking for reflectors...Well! We’ve certainly come a long way since then – although the thick scrub hasn’t changed, the methodology has, making the whole monitoring experience easier for all concerned, and enabling an up-to-date and sophisticated database to be used to store and analyse these data. Joy McGilvray, Vicki Natt, Libby Hunt, Joe Benshemesh and Peter Stokie share their news on how the monitoring went in their regions this season, while Tim and Joe provide further information on how these data are used today. A

warm welcome to the new Western Australian Malleefowl Recovery Group (WAMRG), which marks the beginning of a new era in Malleefowl recovery in WA, bringing together old and new ‘Malleefowlers’ with a renewed enthusiasm for the cause. Joy and Joe reveal more inside, on this good news story. And Recovery Team member and researcher, Darren Southwell, shares his story plus an Adaptive Management Project update. I hope you enjoy the read!

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NATIONAL MALLEEFOWL RECOVERY TEAM COORDINATOR UPDATE

BY TIM BURNARD

Gosh, there's been a lot going on in the Malleefowl world the last six months. There has been the 'normal' massive volunteer effort to monitor over 3500 mounds over spring/summer, plus the 'normal' compilation of all that work onto the National Database by even more volunteer workers. I have started bandying around the description that our Malleefowl monitoring effort is the largest single species monitoring in Australia...if I'm wrong, please let me know, but our inclusion in the recent CSIRO publication 'Monitoring Threatened Species and Ecological Communities' certainly helps cement our position as an Australian leader in threatened species monitoring.

However!! Monitoring is not going to save Malleefowl. Whilst monitoring is now understood to be a critical element in saving threatened species, all it can do is alert us if things are heading downhill and where special attention may be needed.

The next most important thing for us all to understand is what the priority threats are to Malleefowl. For years we have put a lot of money (think millions) into fox control but we are not sure if it helps Malleefowl (there are a number of papers related to this on the library page of our website). And so, we have the Adaptive Management (AM) Predator Experiment to test the value of predator control for Malleefowl.

Our colleagues at Melbourne University have determined (using a mathematical power analysis) that if we are to answer this nagging question, we need to do some serious monitoring of Malleefowl and predators at no less than twenty, 10,000ha predator Treatment sites, for a period of possibly five years. And each site needs a corresponding nearby site as a Control where no predator control is done. All the sites need to be searched (often by LiDAR) to establish all existing mounds and

then we train and coordinate volunteers to do annual monitoring. Then we have to put 10 remote cameras at each treatment and control site and gather their images annually. All of this information gets sent to Darren Southwell at Melbourne University for some clever number crunching.

The AM partners (people managing the 20 sites) meet each year in Perth or Mildura to discuss problems and solutions to involvement in the largest predator control experiment in Australia. This year will be the first time that we will have some of the predator data (Malleefowl data has been coming in for years). Darren will be presenting this at the upcoming meetings but warns that it is far too early to draw any conclusions. Rather, it's an opportunity to see how the data will flow and what we can expect in the future.

The AM project (which includes existing monitoring...called passive AM) has received a big boost in the recent National Landcare Partnerships funding round. This funding will keep all the NRM agencies (LLS in NSW, CMA in Vic and NRMs in SA/WA) afloat for the next five years. Importantly they will be required to spend 30% of funds on threatened species.

Over the past three months we have been in close discussion with 16 of the 56 NRMs in Australia. These conversations have been extremely positive with about \$3.7M being considered across the country to fund Malleefowl monitoring and the AM experiments. We also supported a range of other proposals put forward by the NRMs for actions like habitat restoration.

Even if we don't realise the full potential of this funding, we have made some very strong new relationships while strengthening existing partnerships. We will have a

better understanding of how the funding will be distributed in coming months, but it does look very positive for Malleefowl.



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Submissions for Edition 14 of Around the Mounds Newsletter close on **Friday 7/9/18**.

For editing, articles are best sent by **email** to Sharon or Gil as **attached** documents with photos also as **attachments**.

This Newsletter is available in colour at www.nationalmalleefowl.com.au along with the National Malleefowl Database and August 2018 Forum information and registration.

Other important websites for news, information and photos include www.malleefowlvictoria.org.au www.malleefowl.net.au

SIXTH NATIONAL MALLEEFOWL FORUM

REGISTRATIONS NOW OPEN!

The Victorian Malleefowl Recovery Group and the National Malleefowl Recovery Team invite you to attend the Sixth National Malleefowl Forum at the **Grand Hotel Mildura** on **August 17-20, 2018**.

In recognition of the 1000's of volunteer hours devoted to Malleefowl each year, a major focus for this Forum is the importance of Citizen Science to Malleefowl.

The National Malleefowl Forum will bring together community groups,

individuals, agencies and corporations working with Malleefowl in Australia to share information and experiences. This includes reviewing progress in improving the conservation status of Malleefowl and exchanging new information about its biology and management and the application of most recent research findings to management.

More information on page 16.

Please go to the Forum page of our website to register:

www.nationalmalleefowl.com.au



UPDATE ON THE ADAPTIVE MANAGEMENT PROJECT BY DARREN SOUTHWELL

The Malleefowl Adaptive Management (AM) experiment continues to roll along, with the annual stakeholder workshops to be held in Perth on May 10, 11 and Mildura on May 17, 18.

For those of you who haven't heard of the AM project before, it aims to better understand about the effectiveness of predator control as a conservation strategy for Malleefowl by setting up a series of 'control' and 'treatment' sites across Australia. Predators, such as foxes and cats, are managed in **treatment** sites, while **control** sites are left unmanaged so that we can learn whether predator control is a cost-effective management strategy for the species.

The upcoming workshops look to be the most popular yet, with more than 30 people from dozens of organisations having already registered their attendance. For example, there will be representatives from NRM groups, the Mallee Catchment Authority, Parks Victoria, the NSW Office of Environment and

Heritage, Bush Heritage Australia, Ninghan Indigenous Protected Area, the University of Canberra, the University of Melbourne, Department of Environment and Water SA, Parks and Wildlife WA. Of course, the workshops will also be attended by Joe Benshemesh, Tim Burnard, Liz Kington and myself from the Malleefowl Recovery Team.

A large focus of the workshops will be discussing results from motion-triggered cameras that have been deployed at 6 AM sites in Western Australia and 4 sites in South Australia for the last year. Motion-triggered cameras are incredibly valuable because they can be left at sites continuously to capture images of species utilising the area. This provides valuable information about what species are present at a site, how active they are and what time of day they're most likely to be active. In our case, we're particularly interested in how many photos are taken of cats and foxes because the number of photos can indicate the activity level of these

predators and therefore the threat to Malleefowl. We hope that predator activity levels will be lower in AM sites that are treated (i.e. with predator control).

In other news, the Malleefowl AM project also featured prominently in a new book titled 'Monitoring threatened species and ecological communities'. The book assesses the adequacy of threatened species monitoring in Australia and draws together the experiences of over 70 scientists and managers to provide real case studies on how best to design and carry out threatened species monitoring programs. One of the chapters describes the contribution of citizen scientists towards Malleefowl monitoring in Australia, and the role of the National Malleefowl Monitoring Database in housing this data. It really demonstrates that Malleefowl monitoring is one of the most impressive and well-coordinated threatened species monitoring programs in Australia!



SOME SPECIES CAPTURED IN MOTION-TRIGGERED CAMERAS AT AN AM SITE

ADELAIDE ZOO MALLEEFOWL WEBCAM BY MAL NORMAN, GRAEME TONKIN

ZOOSSA in collaboration with the National Malleefowl Recovery Team have set up a Malleefowl 'nest cam' in the Mallee Habitat exhibit at Adelaide Zoo. The webcam is situated directly above the mound presenting an aerial view, and images are streamed live to the NMRT website through the link below.

<http://www.nationalmalleefowl.com.au/camera.html>

Malleefowl can be viewed working their mound and laying eggs. The birds have access to an ample supply of good food and are able lay about every fourth day. This all sounds very normal but the surprising thing is that these birds are both female and of course are unable to produce young.

You may see other species of Mallee birds interacting with the nest - Regent Parrots, kingfishers, woodswallows and Peaceful Doves.

A couple of interesting video clips from the camera can be viewed on Youtube at:

<https://www.youtube.com/watch?v=LLqfPtmp9GJ>

<https://www.youtube.com/watch?v=SvmFTGFAnhU>



NSW RIVERINA LLS MALLEEFOWL PROJECT BY DAVE KELLETT

As I write this article I am on holidays with my family in Taiwan, in a very busy suburb totally surrounded by concrete and steel, with very little wildlife to be seen.

I realise how lucky I am to work with Malleefowl as I don't know too many people who can take 'selfies' on the edge of a mound while the Malleefowl are so close behind me working away. We have really built up a nice working relationship based on trust and it makes you appreciate how special these crazy birds are!



You can also check this mound at <https://riverina.lls.nsw.gov.au/our-region/projects-and-programs/malleefowl-protection-and-habitat-management-project>

At the end of this financial year our three-year National Landcare Program (NLP) funding comes to an end and it's been a very busy start to the year preparing our next funding application that, if successful, will take us through to mid 2023. Projects that are currently happening in the Riverina and a few that we hope to start in July (pending funding) are: **LiDAR**

Hopefully by the time you are reading this newsletter, LiDAR will have taken place and the data

analysed so we can begin the epic task of ground-truthing all mounds that have been detected and begin the first annual mound monitoring in order to upload data into the National Malleefowl Database.

NSW Malleefowl Meeting

Maybe the first time this has happened here in NSW, three Local Land Services regions met in Wagga Wagga along with Joe Benshemesh and Tim Burnard (NMRT) to see how we could align our Malleefowl projects and to discuss past, present and future projects. Riverina Local Land Services hosted the meeting with representatives from Central West and Western Local Land Services attending, along with the Office of Environment & Heritage and Bland Shire Council. It was a very productive meeting and very exciting to see some great future projects covering such a large part of the state.

Feral Pigs



I know we talk a lot about feral animals and how they impact the Malleefowl, their mounds and their habitat and how we best manage these pest animals. Recently I called a landholder in the Rankins Springs area here in the Riverina to see how they were doing and how we could assist them with future projects. Unfortunately, I had a

very distressed person on the other end of the line who went on to explain that they had caught on the motion camera they set up on an active mound, a mob of feral pigs making themselves quite at home and obviously making quite a mess. Even with ongoing trapping, destroying and burying the feral pigs, (that is now becoming quite expensive for some landholders) it appears the number of feral pigs in the area is quite staggering. Riverina Local Land Services is looking into a pest animal aerial survey covering around 100,000ha to get background data for a feral animal culling project and our aim is to reduce feral animal numbers by 70% by 2023 in the Rankins Springs area.

Stay tuned for future projects

Our four known Riverina sites that are home to Malleefowl are situated on private land and the habitat is surrounded by mixed farming practices. This, along with requirements from the Federal Government that a large proportion of funding is to be based around feral animal control, steers Riverina Local Land Services future projects to include the following future projects:

Pest animal aerial survey (100,000ha) followed by aerial cull and trapping;

Fox & cat monitoring, cat grooming trap trial; **revegetation corridors**; exclusion **fencing**, **breeding viability/genetics** study, promotional **videos** and mound monitoring **training** days.

All in all, we are looking forward to some great projects that will assist Malleefowl conservation.

FERAL DEER FOUL MALLEEFOWL SITES, SE SA

BY KYM HAEBICH, TEAM LEADER - PEST MANAGEMENT, DEWNR SE

Malleefowl populations in Conservation Parks such as Mount Boothby, Messant, Gum Lagoon, Desert camp and Coorong National Park have benefitted from the aerial deer control program conducted by Natural Resources South East in 2017. Supported by the SE NRM Board through funding from the Australian Government's National Landcare Program, a landscape-scale feral deer control program removed a total of 1793 feral deer, including 673 on private land.

Feral deer contribute to the degradation of Malleefowl nesting sites and compete for food sources as well as impacting on the biodiversity in the region.

The program covered 106,500ha and included deer control by land

managers on private land adjacent to the Conservation Parks. Land Managers are acknowledged for their permission to work on their land and active collaboration, and other managers are encouraged to get involved in future years.

The SE NRM Board is committed to feral deer animal control in the South East.

PHOTO: LEE WILLIAMS



SIGHTINGS AND DRONE TRIAL BOOST WESTERN EYRE PENINSULA MALLEEFOWL FINDINGS

BY LIBBY HUNT, NATURAL RESOURCES, SA

Two newly located Malleefowl mounds in Pinkawillinie Conservation Park provided a glimmer of hope in an otherwise challenging year for Malleefowl survey and conservation on western Eyre Peninsula. An exceptionally dry start to 2017, followed by a lack of winter rains, led to unfavourable breeding conditions for Malleefowl across the majority of western Eyre Peninsula.

Interestingly however we've still received seven recent Malleefowl sightings from community, even though we've recorded low levels of Malleefowl activity within our grid surveys. This lack of recorded mound activity observed in our area is consistent with survey results from the National Malleefowl Database for 2017, with the overall breeding season below average due to seasonal conditions with only a few small areas receiving rain at the right time. The sightings from community include Malleefowl observed within a roadside corridor near Witera Silos, as well as repeated sightings from two well-known Malleefowl spotting areas.



NADINE BROWN, MONITORING AT LOCK

In January this year, we trialed the use of a drone to survey one transect of the Lock annual grid survey, as part of continual improvements to Natural Resources Eyre Peninsula biodiversity monitoring programs. We were keen to investigate whether drone technology could be used to complement existing survey techniques in this Mallee woodland within heathy understorey vegetation and relatively flat landscape arrangement. Whilst the drone could detect some mounds from the air further trials are required to

determine if an entire survey area can be aerially monitored. This was due largely to the windy weather conditions which presented a challenge particularly for maintaining a consistent flight path.

Senior Natural Resources Management Officer, Liz McTaggart says considerations for Malleefowl conservation, amongst other threatened species, have been integral to protecting over 9000 hectares in the Kulliparu to Venus Bay landscape linkage area. "It's been exciting to facilitate funding from Australian Government Targeted Area Grant, Natural Resources Eyre Peninsula and local landholders in-kind support and efforts into on-ground actions which all work toward providing long-term movement options for a range of species, including Malleefowl, with possible future climate change impacts'.

For further information contact Liz McTaggart, Senior Natural Resources Officer West on 0437 297 992.



DIRK HOLMAN AND BRETT BACKHOUSE, DEWNR STAFF WITH THE DRONE



LOCK SURVEY MONITORS (FROM LEFT): PAT WALSH, DARRYL DOLPHIN, NADINE BROWN, TAS FITZGERALD AND IAN QUINN

MALLEEFOWL IN A CHANGING CLIMATE - CAN WE HELP A THREATENED SPECIES ADAPT TO A DRIER AND HOTTER ENVIRONMENT?

BY PERI STENHOUSE, SA

Hi again everyone! My PhD is in full swing by now and I'm just over half way to completion. Here is a little update on what I've been up to.

So far, in the 2016/2017 and 2017/18 seasons I have checked a total of about 600 mounds, set up and/or relocated 44 camera traps and trapped 7 Malleefowl. During this time, I collected blood samples, 700 feathers, 230 scats, and various other samples (eg. tissue and bones).

Continuous GPS 'fixes' are providing valuable Malleefowl movement data

and I'm currently analysing this data for movement, remnant habitat use, roosting and home range information of the Eyre Peninsula Malleefowl. We have extracted DNA from blood and feather samples to determine the quality of DNA through different extraction methods. I have also completed all the microscopic and most of the genetic analysis of blood samples for the presence of blood parasites.

Hopefully I can give you more interesting information in the next newsletter.



TAGGED MALLEEFOWL WITH MATE, TENDING THE MOUND

2017 MONITORING SEASON SOUTH EAST SA

BY VICKI NATT

Monitoring of South East sites for season 2017 started on October 9 at Mount Boothby Conservation Park and finished at Desert Camp Conservation Park on November 11. Sites covered were Mount Boothby to the north, Coola Coola and Naen Naen sites in Gum Lagoon Conservation Park, the Coorong South of Salt Creek, Desert Camp near Padthaway, and Mount Scott Conservation Park to the south.

A total 174 (of a possible 225 mounds) were monitored, including three mounds outside the Coorong site. Across all sites 28 mounds were found to be active, consistent with the number active in 2016 season. One of the two active mounds in the Coorong was off-site. Mounds 9 and 43 at Mount Boothby were declared 'ambiguous', requiring further investigation. Most of the 'five year' mounds were not visited as they are not required to be monitored again until 2020. Three mounds were missed. Reasonable winter and spring rainfall occurred again this year across the region.

The results of the mound activity for 2017 are: Mount Scott had 4 active mounds from 36 visited (2 more than last year); Gum Lagoon Coola Coola had 10 active mounds from 48 visited (2 more than last year); the Coorong had 2 active mounds from 23 visited the same as last year; Naen Naen had 3 active mounds from a total of 15; Mount Boothby had 9 active mounds from 41 visited (one more than last year) and at Desert Camp there were no active mounds from 11 visited.

Monitoring of the South East sites took 422 hours in total, including preparation, training and travel. (344 volunteer hours and 78 staff hours). 28 individual volunteers and eight individual staff members participated

this season, a marked increase in the number of volunteers with a decrease in the number of paid staff involved. Various organisations, were represented including, Coorong Tatiara Local Action Plan, Coonara Scout Group, River Murray Youth Council, Aboriginal Cultural Rangers, Nature Glenelg Trust, DENWR, Friends of Coorong, Friends of Butcher Gap and the National Malleefowl Recovery Team.

Most encouraging for the Mount Boothby site was the participation of two groups of young people participating for the first time. What they lacked in experience they made up for in enthusiasm. Some members of the Scout group came from a nearby property and were keen to use their newly acquired monitoring techniques collecting mound data on their own place. They would like to help again next season. Due to the large numbers of people involved, Sam Rothe and Sam Blight were 'thrown in at the deep end' taking on team leadership roles. New volunteer Monika Balcan came on the second day assisting me to finish the remaining mounds.

Participants at Gum Lagoon Coola Coola were down this year but thanks to Janet Copping, Margi Emery, Chris Brien and Bryan Haywood who came to the rescue, enough people were available to form two monitoring teams. Tim Burnard and his family camped overnight at Naen Naen. He completed monitoring of that site in three hours.

First time participants Laura Schroder and her dad Graeme from Keith joined regulars James Ferguson and Janet Copping at Mount Scott, enabling two teams to visit all mounds in one day.

Wendy Easson from Friends of the Coorong, along with cultural rangers

Brian Goldsmith and Clive Rigney, teamed up with me to complete all the mounds at the Coorong site in a day, a good effort for a single team.

Sam Rothe led a team from Nature Glenelg Trust to cover the Desert Camp site. Though the results were disappointing we remain hopeful that Malleefowl will return to the site in future.

A training day for potential monitors to learn the monitoring process was held in Kingston South East, including a trip to Mount Scott in mid September led by Graeme Tonkin. It was enjoyed by those who attended.

Two of the remote cameras purchased for placement in Malleefowl monitoring sites were set up in Mount Boothby this season as a trial to learn how to set up and use them for best results. We need to do more work on this during the winter. Hopefully advice can be sought from Tim and the Recovery Team on the most appropriate way to approach the placement of the cameras.

Funding for Malleefowl monitoring in the South East ran out in 2017. There are grant applications in the pipeline so the availability of funding for next year will depend on their success.

Special thanks to Samantha Blight of Coorong Tatiara LAP as she not only made herself available to help with the monitoring but organised teams of people to join in as well. Graeme Tonkin, as well as fixing the usual problems that occur with the equipment, spent some time teaching me how to process and upload data onto the National database. Thanks Graeme.

Once again a very big thank you to everyone who participated this season, it was much appreciated. I hope it was an enjoyable experience!



AT THE COORONG



MT BOOTHBY PARTICIPANTS

BUSHFIRE AND MALLEEFOWL BY DAMON EZIS, DEWNR, SA

Bushfire is an integral natural process that contributes to the health and diversity of Malleefowl habitat. Appropriate fire regimes are critical in managing both the long-term health of Malleefowl habitat and Malleefowl populations.

Fire can also impact on Malleefowl populations directly through radiant heat, smoke and flame due to their poor flying ability and escape strategies. Indirect impacts stemming from the loss of habitat are likely to have severe long-term implications for populations. These impacts include reduced food, shelter, litter material for nesting, and movement corridors. The effect on Malleefowl is severe, with breeding in burnt areas usually reduced for at least 30 years.

In long-unburnt Mallee heath communities, when habitat is no longer suitable for Malleefowl, fire plays an important role in resetting the habitat structure and setting up the ecological community to become Malleefowl habitat within 30-40 years.



To address the above fire impacts and benefits to Malleefowl populations, the South Australian (SA)

Department for Environment, Water and Natural Resources (DEWNR) Fire and Flood Management Unit has drafted an Ecological Fire Management Strategy for Malleefowl. The Strategy focuses on managing the risk from fire to Malleefowl and supports the delivery of best practice fire management across Malleefowl habitat through its ecologically sustainable fire management objectives. The Strategy will also guide Malleefowl management and fire suppression strategies during bushfire incidents.

The Strategy will enable Fire Planners, Operations Officers and Incident Management Teams in SA to prioritise fire management activities to protect key Malleefowl populations and those identified as being at greatest risk from bushfire; develop fire plans for landscapes to benefit Malleefowl; and where necessary undertake post-fire rehabilitation planning.

DEWNR will be seeking comment from the Malleefowl Recovery Team before submitting the finalised draft for approval.



MALLEEFOWL IN RECENTLY BURNT MALLEE, HEGGATON CP, EYRE PENINSULA 2006

MALLEEFOWL MURALS AND COMMUNITY CONNECTIONS, WA

BY JESS STINGEMORE, NACC, WA

Earlier this month, NACC collaborated with the Shire of Perenjori and Greening Australia to celebrate the magic of the Malleefowl with a unique art activity in the streets of Perenjori. A dozen or so Midwest locals together with Badimaya artist Delys Fraser, brought out their creative sides to paint a Malleefowl Mural in the heart of the town.

The plan for the artwork – set in the local playground – was to paint a Malleefowl on one of the central rocks already located there, and then have tracks leading towards the bird. This would mean that when the shrubs which surround the rock are fully grown, people will still be able to follow the tracks and find the elusive bird.

The eager workshop participants also had the chance to build a model Malleefowl mound (which was soon taken over by the local native bees),

to colour in NACC's new Malleefowl colouring-in sheet, eat some delicious fresh damper, and learn more about the threats to the Malleefowl and how they can help save this threatened species.

NACC Biodiversity Coordinator Jessica Stingemore attended the event and said one of the many highlights from the day was talking to Delys about her experience with Malleefowl, and how the local Badimaya people have been conserving their habitat. "It was interesting to hear that having lived in the area for most to her life, Delys has only ever seen two birds in the wild," she said. "This just shows just how rare and cryptic these birds really are."

Shire of Perenjori President Laurie Butler congratulated all who were involved in the project, and said it was great to have the workshop in the centre of the town. "It was a great mix of art, education, conservation and learning about our rich indigenous culture".

Next time you are passing through Perenjori, why not make a stop-over in the Geoff Trott Memorial Park and search for the Malleefowl yourself.

This project is supported by the Northern Agricultural Catchments Council, the Shire of Perenjori, and Greening Australia – through funding from the National Landcare Program 20 Million Trees Program.



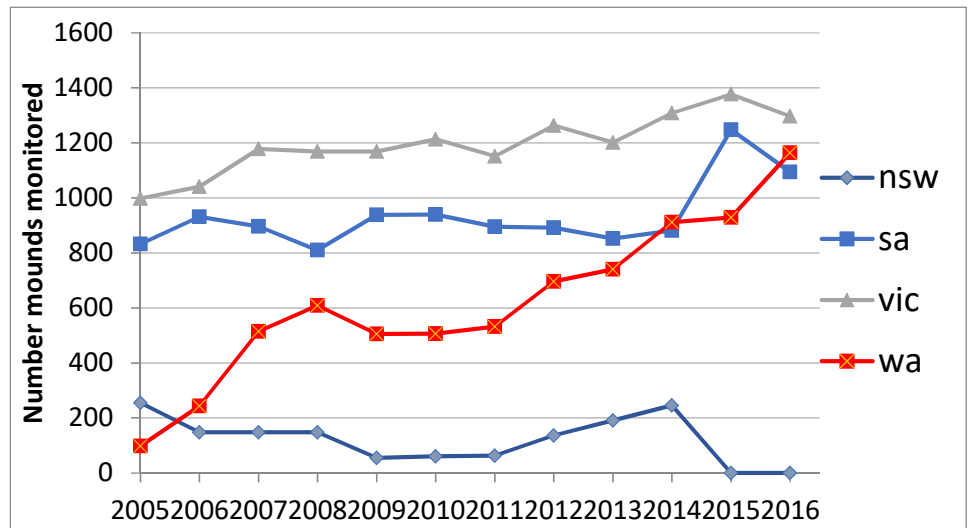
BADIMAYA ARTIST DELYS FRASER WITH THE MURAL

WA'S AWESOME ACHIEVEMENT BY JOE BENSHEMESH

They say a picture is worth a thousand words, well here's one that tells 35 thousand Malleefowl stories. The graph on the right shows the number of mounds monitored in each state since 2005 (excluding the season just passed) and represents the data stored on the National Malleefowl Monitoring Database (NMMD).

2005 was a pivotal year for Malleefowl monitoring as it is when we collectively agreed on standardised techniques across Australia and started building the NMMD. It is also when we last collated data for a national analysis on Malleefowl trends and examined the factors influencing those trends.

As you can see on the chart, most states have shown steady increases in the number of mounds monitored and recorded on the NMMD since 2005, which is wonderful, but look at the extraordinary increase in monitoring in WA! From a relatively modest base (prior to 2005 an average 65 mounds were monitored in WA, 200 being the most in any one year), monitoring has grown steadily and is now nudging 1200 mounds in 25 sites. But what I find really remarkable about this growth is that it occurred over a very tumultuous time in the WA Malleefowl community. The period started positively with WA groups adopting the National standards, but challenging times followed. The MPG changed leadership and moved away



from Malleefowl, ultimately morphing into the (late) Nest Egg Foundation. Meanwhile, the WA Malleefowl Network went through its own troubles: started in 2004, it was inactive by 2009. Yet the monitoring data not only kept flowing into the database during these difficult times, it increased enormously in both numbers and quality!

This is a great testament to the principles of the many grassroots volunteers and others who organise the monitoring, visit mounds, record and upload data, and finally check through the data. I think it's the truest representation of people-power in conservation, that even when the organisations that represent them falter, the volunteers, agencies and companies just keep doing what they know is right and important. I take my

Akubra off to you all, especially Joy McGilvray, Carl Danzi, Gordon and Glenda McNeill, and all the others who kept wheels turning. A really impressive decade!

And now in the aftermath of all that turmoil a new group has emerged like a phoenix from the ashes, comprising all the people who have been involved in monitoring and kept it happening over the years. With a vibrant and very capable committee, the WAMRG is looking strong and focussed. New monitoring and AM Predator experiment sites are planned so even more growth in monitoring is on the cards. Having come through such a difficult decade so brilliantly, culminating with the formation of the WAMRG, the future of monitoring and adaptively managing the remaining Malleefowl populations looks very bright indeed.

WA MALLEEFOWL MONITORING IN 2017 BY JOY MCGILVRAY

Monitoring commenced in mid-September 2017 with five training sessions held at the towns of Dalwallinu north of Perth; Merredin and Kalgoorlie east of Perth; Norseman SE of Perth and Ongerup south of Perth. During these training sessions volunteers were introduced to the objectives of the National Malleefowl Recovery Team (NMRT) and its annual monitoring programme. Following the theory sessions people journeyed to nearby sites and carried out on-the-job training. Each person was assigned to a team of three or four led by an experienced data collector, with each person using the GPS to track to a mound, learning how to record the data both electronically and handwritten, and measuring a mound.

45 sites are registered in WA with the NMRT. 25 of these sites were monitored during the 2017 season. Approximately 18 sites have either been suspended or not monitored

since registration. One new site was added this season at Kalbarri National Park and one site that was registered a few years ago but never monitored, was monitored this season for the first time. One more site will be monitored in mid-March following a request from the landholder to delay monitoring this season, bringing the total to 26 sites monitored in the 2017 season.

Validation has not been completed for three sites but based on validating to date, of the 1,917 mounds registered on the database in WA, results are as follows:

- 85 active mounds;
- 765 inactive mounds;
- 645 mounds were either not found or not monitored; and
- 34 volunteers contributed 950 hours (estimated).

Other people participated in the monitoring as part of their employment- i.e. Bush Heritage staff and mining companies whose hours are not included in the above figure.

The volunteers are registered with the Department of Biodiversity, Conservation and Attractions (DBCA), Parks and Wildlife Service who cover them for insurance (travel and fieldwork). A 'Code of Conduct for Volunteers' and a 'Volunteers Induction for Health and Safety' are pre-requisite reading prior to registering.

The number of active mounds was down from 135 in 2016 to 85 in 2017. Rains came later in the season after a long dry spell in some areas which may have had an impact on the number of active mounds.

It has been what could be described as a milestone event in Western Australia, with the formation of the WA Malleefowl Recovery Group (WAMRG) during 2017. This follows the wind-up of the North Central Malleefowl Preservation Group and now encompasses interested parties from the Malleefowl Network Group.

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WA MONITORING CONTINUED BY JOY MCGILVRAY

The AGM of WAMRG was held in November with an 11 member committee being formed from a diverse and knowledgeable group of people who have gained a wide experience in conservation and preservation of fauna and their habitat, including Malleefowl, over a number of years.

The WAMRG office bearers are:
Chairperson - Harriet Davie;
Vice Chairperson - Joy McGilvray;
Secretary - Jess Sackman;
Treasurer - Jessica Stingemore.

The objectives of the WA Malleefowl Recovery Group are to:

1. promote Malleefowl conservation;
2. promote the retention and management of habitat for Malleefowl;

3. promote community awareness of Malleefowl and its need for protection through media, schools, forums and any other appropriate means; and
4. promote and implement the goals and objectives of the National Malleefowl Recovery Plan by supporting the management of monitoring, research activities and other conservation projects relating to Malleefowl.

The formation of this group would not have happened without the diligence of Liz Kington who guided the interim committee through the legalities and Gordon and Glenda McNeill from the NCMPG who initiated the process.



MONITORS - LIZ KINGTON, JOY MCGILVRAY, CARL DANZI, JUNE MEREDITH, BETH BOASE, ROB BOASE



MALLEEFOWL PRINTS PHOTOS: CARL DANZI

YONGERGNOW MALLEEFOWL CENTRE WELCOME 17 CHICKS BY HAYLEY DOY



At the time of going to press, Yongergnow had a staggering 17 chicks accounted for!

The two Malleefowl in our smaller aviary, Maggie and Drei, have been residing together since mid 2016. With Drei only being around 3 years old, we were not expecting them to pair right away. However, we noticed that a mound was forming and in 2017 three unfertilised eggs were discovered.

Upon returning to the Centre after a couple of days off for the Christmas break, we were shocked to discover there were 3 chicks running around the aviary. Since then, we have had another 14 appear. We initially moved 13 of the chicks into our chick pens, leaving 2 of the youngest in the aviary.

Once the official report came from Vicky Bilney, we were all thrilled to find

that all our chicks seem to be happy and healthy. Vicky reported that there are "no obvious deformities visible and the birds felt right at handling".

At this time our 15 chicks had an age range of one or two days old to approximately one month old.

In the two weeks since, two more chicks have in fact appeared and all are still getting on tremendously.

Our recent additions bring Yongergnow's Malleefowl tally to a staggering 19! A far cry from the original pair we started with, a credit to

all the hard work Yongergnow's team and all it's supporters have put in. Incidentally, it was perhaps the perfect end to the year in which Yongergnow celebrated its 10th Anniversary and saw Country music star John Williamson declare his patronage to the organisation.

Vicky is currently in talks with various organisations to determine the future of our little miracles, while the team at Yongergnow ensure they are getting the best possible start to life.



NANDA WOMEN PROTECT MALLEEFOWL ON COUNTRY, WA

BY BIANCA MCNEAIR, NORTHERN AGRICULTURAL CATCHMENTS COUNCIL

NACC recently partnered with Bush Heritage Australia to engage Aboriginal women with Malleefowl monitoring on country – as part of the training and capacity-building components of NACC’s Midwest Aboriginal Ranger Program. The program was created late last year to provide opportunities for Aboriginal people across the Midwest to engage in Natural Resource Management activities.

Bush Heritage Reserve Ecologist, Ben Parkhurst invited Traditional Custodian Irene Kelly and family to attend this year’s program, alongside the volunteer workers at the regular Malleefowl monitoring on Eurardy Reserve. Thanks to Bush Heritage and the Midwest Aboriginal Ranger Program, the group of Nanda women, along with NACC Aboriginal Program Coordinator Bianca McNeair, were able to venture on-country for several days.

Ben Parkhurst led the group of women in collecting Malleefowl data including recording Malleefowl mounds’ depth, width and circumference. They also recorded whether the observed mounds had been active or not in 2017. There was a lot of bush walking involved through country to record all the mounds, and Ben split up the team up into small groups to cover a wider area. “The group discussed how endangered the Malleefowl actually is, and the ever-growing need to protect their environment and the surrounding



JULIE DWYER, IRENE, JACKLYN AND CLURRISSA KELLY, MONIQUE DARCY AND SAMARA MARTIN

landscape,” said Bianca. “The women all learnt a lot and were amazed that such a little bird could build such a huge dirt-mound all by itself.”

“Our children are the future, therefore we need to encourage more family outings on country like this – to teach them the importance of working together to protect all animals and wildlife in our natural environment,” said Nanda Traditional Custodian Irene Kelly. “Working on-country helps reinforce our sense of belonging and shows our children that this is our

traditional cultural heritage, our language and that we have a responsibility to look after our land,” she said.

On the outing, the group enjoyed photographing various animal bush tracks and trying to identify what species they belonged to. Everyone involved agreed that they would like to see programs like the Midwest Aboriginal Ranger Program developed for regions all across Australia, and for women to be given opportunities in ranger roles as well.

REVEGETATION FOR MALLEEFOWL HABITAT, WA

BY TINA SCHROEDER, MURDOCH UNIVERSITY

In recent years, revegetation projects have aimed to recreate habitat for wildlife, including species like the Malleefowl. In Western Australia, for example, the federal 20 million trees program has provided funds for revegetation projects specifically aimed at restoring Malleefowl habitat.

In addition, privately funded projects, such as the Yarra Yarra Biodiversity Corridor plantings in the mid-west of WA aim to contribute to habitat restoration in a fragmented landscape. Carbon Neutral, a privately-owned company, has replanted several thousand hectares with native trees and shrubs across the mid-west of WA, with many of the planting sites located in Malleefowl habitat. Carbon Neutral’s business model is to plant native and indigenous trees for carbon sequestration, earning credits on the international carbon market. Customers can then purchase those carbon credits to offset their own emission. In addition, the biodiverse plantings are designed to match the



MALLEEFOWL IN REVEGETATED HABITAT. PHOTO: CARBON NEUTRAL

surrounding native vegetation and provide habitat for fauna. Up to 30 flora species are included in the restoration planting mix.

To find out whether Malleefowl are actually using the restored sites, a survey using motion-sensing cameras was conducted in the autumn of 2017

at one of Carbon Neutral’s properties approximately 150 km east of Geraldton. The property forms part of the Yarra Yarra Biodiversity Corridor, linking remnant habitat patches to facilitate movement of fauna through a highly fragmented landscape.

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REVEGETATION FOR MALLEEFOWL HABITAT, WA, CONTINUED BY TINA SCHROEDER

The property had been mostly cleared and used for cropping and sheep grazing. Small patches of remnant vegetation largely consist of melaleuca and acacia shrub.

Malleefowl had been anecdotally reported in the area, but no definite sighting had been recorded. In 2010 Carbon Neutral direct seeded 800ha with 20 native species, using York gum (*Eucalyptus loxophleba*) as the main overstorey species, and various shrubs, predominantly acacia species as understorey.

At the time of the camera trap survey, the revegetation was 7 years

old. Equal amounts of camera traps were placed in the remnant and revegetated area and deployed for 2 months. To everyone's delight, Malleefowl were recorded both in the remnant and in the revegetated areas on several occasions (photo page 10). It is still unclear if Malleefowl also have mounds on the property, but a foot survey for mounds will hopefully provide answers.

Several Malleefowl mounds have also been recorded at restoration sites in the south-west of Western Australia, ranging from 5-13 years old (photos below). The properties form part of the

Gondwana link restoration program, aiming to reconnect bushland across the south-west region. Restoration sites often include many acacia species and their seeds provide a rich protein source for Malleefowl.

Both connectivity projects showcase great examples of revegetation providing foraging and nesting habitat for Malleefowl, however more evidence is needed to understand which restoration techniques are most suitable for Malleefowl.

To find out more about Carbon Neutral and Bush Heritage Australia, please visit their websites.



MALLEEFOWL MOUND IN 6-YEAR-OLD REVEGETATION



MOUND IN 5-YEAR-OLD REVEGETATION
PHOTOS: BUSH HERITAGE AUSTRALIA



MOUND IN 13-YEAR-OLD REVEGETATION

MEDAL FOR A MALLEEFOWL MAN BY JOHN OLSEN, VMRG PRESIDENT



Former president of the Victorian Malleefowl Recovery Group, Peter Stokie was awarded a medal in the Order of Australia on Australia Day this year.

This honour was richly deserved as Peter has been fundamental to the success of the organisation for many years - he has been a prime mover in making the VMRG the respected organisation it is today.

Peter's credibility in the conservation of Malleefowl stems from his grass roots involvement in collecting data in

the field. He enjoys being in the Mallee and often accompanies other members who may need support to complete their tasks. He genuinely looks forward to being in the Mallee and seeks opportunities to be in the field. His enthusiasm is an important motivator and his example is reassuring to people when they first become involved. Most importantly Peter's intellect and his preparedness to roll up his sleeves make him an outstanding leader who can be justly proud of the organisation to which he has contributed so much.

Peter Stokie's contribution to the VMRG has been both sustained and outstanding. His influence on every member has been profound whether we realise it or not, because he has trained volunteers, organised the rosters, prepared and sent equipment, been a safety officer and a coordinator who downloaded the data and made it ready for the scientists. In doing all of these jobs, Peter came in contact with all of us; he encouraged us, solved our problems and celebrated our successes with us.

Peter has held many positions within the organisation and has provided the impetus and the inspiration to ensure that each member felt a sense of achievement at completing the monitoring task each year. Peter is still

important to the operation of the VMRG and his legacy of a healthy organisation with a clear purpose will continue to be enjoyed by members for many years to come.

Whether Peter is demanding something of someone or arguing a point at a meeting he does it with all his heart and his intellect. He is a great role model for anyone who operates within an organisation as he sets goals and works diligently towards achieving them. Together with his late wife Anne he worked with a small group to formalise the VMRG and to lay the ground-work so it could become the proud organisation it is today. More than that - they both recognised the need for a national organisation and Peter has been a major player on the National Team since its inception.

Peter's nomination and his award have been warmly received by all those who know him and know of his work. We are all immensely proud of Peter personally and delighted that his honour reflects well on the organisation. We are especially pleased that it helps train the spotlight on the conservation of Malleefowl across the whole country.

We wish Peter well and look forward to congratulating him at the National Forum in Mildura in August.

MALLEEFOWL MONITORING REPORT AND UPDATE, VIC

BY JOE BENSHEMESH, PETER STOKIE

1. Monitoring effectiveness: how did we do?

The VMRG visited 1349 Malleefowl mounds during the 2017 (2017/18) breeding season including 4 newly listed mounds. This result is more than last year due to the Little Desert LiDAR project adding a total of 55 newly found mounds to 5 sites (v28 Nurcough, v36 Broughtons, v38 Tooan, v42 Thorpes and v43 Coack) and because more optional (5yr) mounds were visited in 2017. Overall, we managed to find 98.5% of the mounds that we set out to monitor.

2. Malleefowl Breeding numbers: how did the birds do?

Of the 1349 mounds that were monitored, 148 were active compared with 150 last season, and 118 in 2014/15. These numbers are much lower than the record of 218 set in 2012/13.

For 7 sites mostly in the eastern Big Desert region monitored since 1986 it is clear that at these sites breeding numbers were well down. This decline is partly due to wildfires that thoroughly burnt Bronzewing v04 in 2014 which typically had 12-15 active mounds. (Surprisingly, 5 mounds were active in 2017 and last season). However, when data from this site is excluded the poor breeding numbers at other sites is apparent. In fact, breeding numbers for this set of 6 sites was one of the lowest recorded over the past 30 years.

In the Victorian Mallee (Eastern Big Desert and North East), the trend with a larger set of 23 sites (monitored since 1996 and scattered over a much greater geographical area), breeding numbers have improved slightly compared to the very low numbers over the previous couple of seasons, but they were less than half that recorded in 2012. There are worrying signs of continuing decline in the North East and breeding numbers are well below historical averages in the Eastern Big Desert.

Elsewhere, in the 8 main sites in and around the Little Desert breeding numbers were higher than last season, and about average for previous years, although the addition of mounds found by LiDAR and extension of some sites may have inflated the 2017 numbers.

On a site by site basis, breeding numbers across Victoria in the 2017 season were much the same as last year, but nonetheless lower than most other seasons since monitoring began. 2017 was the 7th worst of the 27 breeding seasons on record, much the same ranking as last year, but a little better than 2015 which was one of the worst seasons on record. **This is the**

third season in a row where results have been much lower than the long-term average.

Rainfall profiles in 2017

2017 was characterised by very dry conditions during June and July in NW Victoria. Over the past few years, rainfall patterns seem to have shifted from winter (when Malleefowl need rain) to summer, when they have evolved to need it less. Whether these patterns explain the poor breeding results over the past few years is unclear but is being examined in the national trend analysis currently underway.

3. Changes to data records

There were no major changes to the Cybertracker sequence this season and most people used the LG and Samsung smartphones successfully. The automatic backup feature is working well.

4. Lerp

Lerp abundance on mounds was low: only about 5% of mounds had lerp on them in 2017 when monitored (mostly October-December). In the Sunset Country 19% of mounds showed lerp.

5. Fox scats

Fox scats were collected at 325 mounds in 2017 and weighed a total of 4.9 kg, a result that is lower than last season.

A comparison across the years shows that there was a steep decline in fox scat weights between 1996 and 2000 which coincides with and probably reflects the decline of rabbits due to RHD and consequent adjustments to fox populations. Since 2000, there was an increasing trend peaking in 2012, after which the amount of fox scat collected has steadily declined to about half of that of 2012. It is possible that the generally dry conditions over the past few years which have inhibited Malleefowl breeding have also deleteriously affected foxes.

May we remind everyone once again of the importance of being very systematic with fox scat collection. We must search the mound surface very carefully for a full minute to be to absolutely sure that we get all the scats, as emphasised in the Manual and during the training.

6. Participation and in-kind contribution

This year VMRG members and non-members participated in the monitoring and totalled about 1429 monitoring hours in the field. In addition, VMRG members totalled at least 673 hours driving to and from monitoring sites (including passenger time). Assuming the time spent by VMRG members is worth \$34.86/hr, we estimate the field component of the

monitoring represents at least \$73,272 in-kind support. We haven't included fuel costs!

We estimate that an additional 120 hours were contributed in managing the monitoring effort (preparing data and equipment, posting, uploading and managing data on the NMMMD), and at least 120 hours were contributed freely by VMRG members to the motion camera project (installing, checking and downloading camera traps and processing photos). Other large unpaid contributions in 2017 include committee meetings, training weekends or reporting back meetings, which collectively involved well over 160 unpaid hours. Together, these activities totalled about 400 hours and were worth at least another \$13,944.

Thus, we conservatively estimate the in-kind value of the VMRG activities in 2017/18 to be at least \$87,216.

Update on the motion-sensitive camera project

Our 48 camera traps (with solar panels, batteries and stakes) installed in 2015 at six sites, are scattered through the Mallee (not at mounds) and take photos of any animal or other object that passes in front of them, day and night, 365 days a year. We only visit them once a year during the monitoring to swap memory cards, so the effort in the field is small, but the rewards are substantial in terms of estimating the populations of various animals such as foxes, cats, goats, pigs, rabbits and kangaroos, all of which might affect Malleefowl numbers.

In the past year VMRG members processed the photos collected during the 2016 monitoring, and in the field swapped the memory cards at all cameras during monitoring. Overall, things went very smoothly. One problem was that quite a few cameras failed, mostly because exposed cables had been chewed (probably by goats), especially at Lowan v20 and at Paradise v34. We hope to repair or replace all damaged camera traps at all sites before the next monitoring season. Tim Burnard has redesigned the camera stands to avoid some of our early mistakes and these will be used at all new installations.

The photo processing by VMRG members went very well and the 15 people who volunteered their services did a really great job. About 80,000 photos were sorted with several people sorting more than one set of 10,000 photos. To ensure accuracy, our new process involves two independent people inspecting each photo; where both people don't agree on the

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VIC MONITORING CONTINUED BY JOE BENSHEMESH, PETER STOKIE

contents of a photo, a third independent person is consulted for an opinion. The new process worked very well.

Initial results from the program are very interesting. There were 1185 photos of kangaroos, 665 of emus, 567 of foxes, and 488 of Malleefowl, as well as 964 photos of other birds. Echidnas, goats, pigs, rabbits, hares, and Swamp (Black) wallabies were also represented, and deer and a dog at Lowan. Surprisingly, there was only one photo of a cat. There were no clear patterns between species abundances, but it was interesting that the two best performing sites in terms of mound activity, Paradise and Wandown, were characterised by relatively low proportions of kangaroo photos, and higher numbers of fox photos.

VMRG has commissioned Becky Alcorn to develop the NMMD to store camera trap data, facilitate the processing, and report on the results (funds provided by the Iluka Malleefowl Management Committee).

Thank you to the members who offered their services for this project! Measuring these trends is vital for understanding the threats to Malleefowl

and also for measuring the effectiveness of management (eg. whether baiting foxes actually reduces their numbers appreciably, and whether this increases cat numbers). These are important issues, and our methods are especially relevant to the AM project across the continent that also uses camera-traps.

Update on LiDAR and AM in the Little Desert project

Belinda Cant (DELWP) organised a LiDAR scan of parts of the Little Desert in 2016, and VMRG members assisted by taking on the huge effort of ground-truthing hundreds of potential mounds that were detected. Iestyn Hosking (VMRG) led this ground-truthing project which has now been completed. Belinda will use the results to gain a better idea of the habitats inhabited by Malleefowl in this large landscape, and particularly the response of Malleefowl to different stages of habitat recovery after fire. Belinda also has funds to continue the project by scanning the remaining parts of the Little Desert this year.

This is very important and exciting work through which we are learning a

great deal about the distribution of Malleefowl in the Little Desert. The scans added a number of new mounds in our existing monitoring sites this season, have extended some sites (such as Boughtons v36), and created a new site Cooack v43 (incorporating the old 'Nurcoung Farmers' mounds). Following meetings organised by Liz Fenwick between Parks Victoria, DELWP, Wimmera CMA, VMRG and the Adaptive Management (AM) team, we have agreed to establish an AM predator experiment cluster incorporating Nurcoung, Tooan and Cooack sites. We hope to install camera-traps at all three sites this winter.



ACTIVE MOUND FOUND THROUGH LIDAR
PHOTO: IESTYN HOSKING

VMRG TRAINING WEEKEND AND MONITORING, 2017 BY ROBYN RATTRAY-WOOD

The VMRG held its AGM and Training Weekend for monitors at Wyperfeld National Park in October as usual, last year.

With over 75 people attending, it was a social and informative event. All monitors reviewed monitoring procedures, use of equipment and safety protocols for working in the field.

The camp oven meal on Saturday evening was its usual success, thanks to Cory Smith and his partner who cooked up a storm in the coals, and to Myf Macfarlane and her helpers who organised desserts.



PHOTO: MARIA RIEDL

Over the last two years we have had around 30 new monitors attend the

Training Weekend. This is a wonderful situation as it allows new people to be trained and mentored by the experienced (and older - usually!) monitors. New monitors are paired with experienced monitors when they go into the field for their first season.

Last year Robyn Rattray-Wood and John Fraser were pleased to have Manole Ioannou and Brian Tanis as willing apprentices at the Mopoke site, which we monitored immediately after the training weekend.

After a refreshing shower at Underbool on the Monday, we headed out along the Mount Jess track. This track required negotiation of some fairly substantial sand dunes along the

way, so it was very reassuring to have two vehicles in our party – not that a tow was needed, but one large dune took us 3 or 4 runs to get over it!

It was very hot over the two days of monitoring at Mopoke, so we monitored in the early morning or evening and sat out the heat in the middle of the day. Unfortunately, there were no active mounds found. The Mallee was looking good though, with many acacias, Mallee eucalypts and herbs all in flower. It was a bonus to be out in the Mallee with Brian, as he is a bee-keeper and was able to identify the various Mallee eucalypts species. So all in all a great sojourn in the Mallee Sunset Country.

ROBYN, MANOLE & BRIAN
CHECKING SCATS AND
TRACKS
PHOTO: JOHN FRASER





THE MALLEE POST ATM HISTORICAL ARTICLE

Extracted from the magazine 'Volunteer' September 2003

MALLEEFOWL

We did it!

By ANNE STOKIE, volunteer with the Victorian Malleefowl Recovery Group.



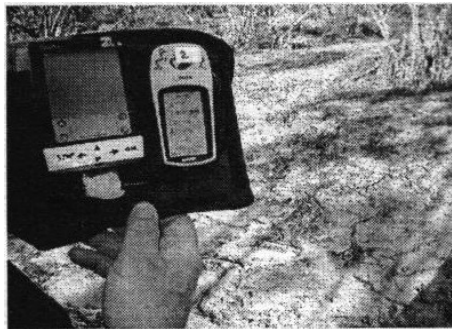
Malleefowl

In the spring and summer of 2002/3 volunteer members of the Victorian Malleefowl Recovery Group Inc. (VMRG) monitored almost 900 mounds in 24 grids scattered across Victoria's north-west. What made this an unusual year is that we did it using hand-held computers cabled to GPS instruments, which were individually programmed for each grid. This is a story of the skill of volunteers and the extraordinary achievements of people faced with rather daunting technology.

When I first monitored a Malleefowl grid, the most complicated piece of equipment used was a compass. Mounds were sought by following a grid line marked with red reflectors in trees then counting steps off the line until the approximate area was reached. This was at times a challenging activity particularly in thick scrub. We recorded our data on paper and approximately 36,000 pieces of information were collected and then typed into a database.

How times have changed! In 2001 we took a GPS with us into the field and location data for each mound on our data

sheets. In October 2002 at our training weekend, we were introduced to a palm computer loaded with software that led us step-by-step through the information which was to be collected. The computer literate were delighted. The computer illiterate, including some who were still coming to terms with a GPS, were not so sure. But we all had a go and everyone agreed to at least try the system out in the field. We dispensed with red reflectors and went high tech!

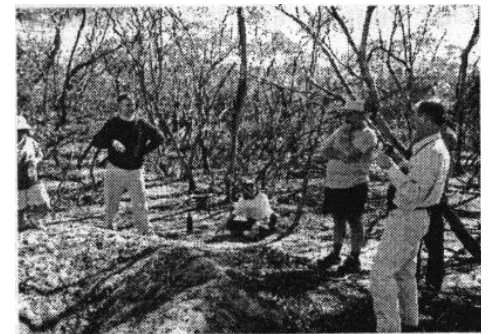


Interestingly, while the data for every grid was entered electronically, no one was game to dispense with pen and paper so we collected our data twice. It was back home that the real advantages of this collection system became clear. It takes ages to type in 36,000 pieces of information and the chance that some will be entered incorrectly is inevitable. We electronically transferred the data from the GPS and palm computer to the database. Information that may have taken three days to enter was stored in thirty seconds.

So, what did we find in this past season? It was a drought year so we were not too

hopeful. Almost 900 mounds were checked and only 8 were considered active. This is by far the fewest on record. The number of nests prepared by Malleefowl but not proceeded with was larger than normal, so the birds may have been waiting for rain, which did not eventuate. The nests considered active were located in a band in the south of Wyperfeld National Park and in Wathe Flora and Fauna Reserve.

The VMRG holds a two-day training weekend in Wyperfeld National Park each year. Volunteers learn not only how to use equipment but how to ensure that data is gathered accurately. Since many of the grids are in remote places and volunteers work on foot away from roads, safety is a major concern. Trunk radios were used for the first time this past season so that Parks Victoria people could make contact in the case of fire in the areas where monitoring was occurring. Indeed, this proved important as in early November fires occurred when volunteers were monitoring.



Malleefowl Training weekend for volunteer monitors is at Wyperfeld National Park, October 11-12, 2003.

IS THIS THE FIRST RECORD OF MALLEEFOWL? BY TIM BURNARD

I found this reference in the journals of Matthew Flinders 1801 in King George's Sound near Albany, WA.

"Near Point Possession were found two nests of extraordinary magnitude. They were built upon the ground, from which they rose about two feet; and were of vast circumference and great interior capacity, the branches of trees and other matter, of which each nest was composed, being enough to fill a small cart. Captain Cook found one of these enormous nests upon Eagle Island, on the East Coast; and if the magnitude of the constructor be proportionate to the size of the nest,

Terra Australis must be inhabited by a species of bird little inferior to the condor of the Andes."

How disappointed would Matthew have been if he saw our 'chook' wander up and move a tonne of soil (the size of a cart)?



ALBANY FROM POINT POSSESSION

Editor's note:

Eagle island is a small island in the Lizard Island National Park group of islands in the Great Barrier Reef in North Queensland. Cook's men may have found Australian Brush-turkey nests!



WHERE DID AUSTRALIAN CATS COME FROM? RESEARCH ARTICLE

The following 2015 press release refers to research published in the open access journal *BMC Evolutionary Biology*. The original research article can be found at: <https://bmcevolbiol.biomedcentral.com/articles/10.1186/s12862-015-0542-7>

Researchers have found that cats in Australia are most likely descended from those brought by European settlers. Feral cats found on the islands surrounding Australia may represent founding populations from Europe, introduced in the 19th century, according to research published in open access journal *BMC Evolutionary Biology*. Identifying the timing of the founding of these cat populations increases our knowledge of the effects this invasive species had when introduced to Australia.

Feral cats (cats that are free-living and independent of humans but are descended from those that did rely on humans) have established invasive populations over large geographic areas of Australia. There has been much debate about how they arrived in Australia. Cats were often transported on sailing vessels as a means of controlling rodents or as pets, initially on board and then in new settlements. One theory suggests that

cats arrived in Australia with European explorers in the late 18th century. Another hypothesis is that cats accompanied Malaysian trepangers – fishers of sea cucumbers – to Northern Australia in around 1650. Researchers from the Senckenberg Biodiversity and Climate Research Centre (BiK-F) and the University of Koblenz-Landau, Germany analysed mitochondrial DNA and microsatellites – short repeating sequences of DNA – from 266 Australian feral cats to explore their evolutionary history and dispersal patterns. Samples were analysed from six mainland and seven island locations (details of islands listed in paper). The analysis found that the most probable primary source of feral cats in Australia is from cats arriving from Europe in the 19th century. There was evidence of a secondary introduction from Southeast Asia, although there was no evidence of a stable feral cat population originating solely from Asia, which discounts the theory on Malaysian trepangers.

The transportation of a species from their native habitat to a new location can have a damaging effect on the new environment, impacting on native species by predation, competition for

food, or spreading disease. Two of the 22 invasive mammalian species found in Australia – European red fox and domestic cat – are predators. Over 100 native species of Australia are currently threatened by feral cats and previous efforts to reintroduce threatened species into parts of Australia have often been unsuccessful due to predation by these cats.

Katrin Koch, lead author from BiK-F, said: “The analysis of genetic structure and diversity of Australian feral cat populations answered the question of the time of feral cat introduction to Australia and revealed that remnants of the historically introduced cat genotypes are still discernible on isolated islands. These findings have implications for invasive species management, since our study determined a specific time frame for the arrival of cats to Australia, allowing us to link the time of introduction with the decline and extinction of several native species.”

A voyage to Terra Australis: human-mediated dispersal of cats
Katrin Koch, Dave Algar, Jeremy B Searle, Markus Pfenninger, Klaus Schwenk,
BMC Evolutionary Biology



NATIONAL RECOVERY TEAM MEMBER



DARREN SOUTHWELL

Hi, I'm a researcher at the University of Melbourne, funded by the National Environmental Science Program (NESP). I've had an interest in the environment from an early age, choosing to explore the local bushlands of Canberra as a kid rather than stay inside playing computer games or watching TV.

When I finished school, I decided to pursue this interest by doing a Science degree in Canberra. I enjoyed this time, but I wasn't motivated by a career in science until I moved to Melbourne to do honours on the Southern Brown Bandicoot. This involved searching for bandicoots in the outskirts of Melbourne and building population models to predict

their response to management alternatives. It was a great introduction to how fieldwork, ecology, statistics and maths can be combined to inform conservation decision-making.

Following honours, I moved back to Canberra to join the Department of Agriculture, Fisheries and Forestry (DAFF) graduate program. This was a fantastic experience and a great place to make new friends while gaining experience working in policy. I was lucky enough to work in many different teams, including Climate Impact Sciences, the Invasive Species Section and Biosecurity Australia. Eventually, I settled down in the Quantitative Science Team, which once again allowed me to combine maths and statistics to help solve natural resource management problems.

However, I didn't last long! Sick of the office, I moved to Hobart to start a position at the Australian Antarctic Division. This allowed me to visit Antarctica twice for 6 months to study the population dynamics of penguins and flying seabirds. One requirement of this job was to live on an island with one other person for 2 months recording the breeding success of an Adelie Penguin colony. I was incredibly lucky to be given this

opportunity to live in isolation with these birds and one I will never forget.

I then moved back to Melbourne to do a PhD on population modelling and conservation decision-making. I didn't study one species in particular, but instead developed case studies for the Growling Grass frog, the Southern Emu-wren and the invasive Cane toad, which included some field work up in the Pilbara. I became especially interested in how to manage species and ecosystems when there is considerable uncertainty in how they work and whether we can learn about these uncertainties while we manage for them (ie. adaptive management).

My PhD led to my current research position at the University of Melbourne. I split my time between the Malleefowl Adaptive Management project and a project designing monitoring programs for birds, mammals and reptiles across the Top End of Australia. I'm particularly interested in how we can better understand what management strategies are most cost-effective for Malleefowl conservation and how best to manage such a species across large spatial scales. I'm constantly amazed by the dedication and passion of volunteers towards Malleefowl monitoring and hope to meet you all soon.



SIXTH NATIONAL MALLEEFOWL FORUM

AUGUST 17 -20, 2018 MILDURA

PROGRAM OUTLINE



Friday 17th August (5-7pm)

Registration opens 5pm
Pre-forum canapés 5.30-6.30pm

Saturday 18th August (9am-5pm,

Registrations available 8-9am
Official Conference Opening and welcome

Regional and group reports
Invited speakers and oral presentations
Poster presentations

Conference Dinner 7pm on the Mundoo Paddle steamer.

Sunday 19th August (9am-5pm)

Invited speakers and oral presentations
Poster presentations
Official close of conference

Monday 20th August

Tours!!! A private travel consultant is currently compiling a selection of

options especially for us. We will be in contact soon to inform what options are available. **A full program will be available at www.nationalmalleefowl.com.au**

REGISTRATION FEES

We have been able to attract several sponsors allowing us to offer very low fees, especially for community members. Your registration fees include: Saturday night Forum Dinner, Canapés Friday night, participation in all Sat / Sun sessions, Morning and afternoon teas (Saturday & Sunday), Lunch (Saturday & Sunday), Forum Proceedings (USB).

\$150 per person standard registration (all agency staff)
\$75 per person community members

Additional tickets are available for social functions;
Pre-Forum canapés Friday night \$25
Conference Dinner on the Mundoo Paddle steamer. Saturday night \$65

Registrations should be received by Friday June 30, 2018

For more information and a copy of the registration form please go to the Forum page of our website www.nationalmalleefowl.com.au