



around THE MOUNDS

NEWSLETTER OF THE NATIONAL MALLEEFOWL RECOVERY TEAM SPRING 2019 EDITION SIXTEEN

NATIONAL MALLEEFOWL RECOVERY TEAM BY DAVID KELLETT, CHAIRPERSON



DAVID KELLETT WITH TOM KARPLUS -
PRESIDENT OF BIRDING NSW

Hello everyone and welcome to edition number 16 and in this edition of Around the Mounds we say goodbye to Malleefowl legend Peter Stokie, a man who helped form the VMRG nearly 20 years ago and a member of the NMRT for almost the same amount of time. Peter will be sorely missed and on behalf of the NMRT I would just like to offer our sincere condolences to Peter's family. Please read the tributes to Peter next page.



PETER STOKIE IN THE FIELD NEAR WEST WYALONG
TEACHING THE FIRST NSWMRG VOLUNTEERS
EARLIER THIS YEAR

Another breeding season about to begin and lots of planning of the annual Mound Monitoring and Coordinator training events happening all across Australia. Please see page 12 for details of a training event near you.

So far this year I have been invited to speak to four voluntary groups to talk about the NMRT, the newly formed NSWMRG and general Malleefowl conservation projects that are happening throughout Australia. I was quite surprised when I was presenting to Birding NSW in Sydney in June to see a large percentage of the audience had seen Malleefowl in the wild but many reported that it was a long time ago. I also heard similar stories when speaking to a retirement group in Griffith with many retired farmers attending who had mentioned that they had Malleefowl on their properties or saw them on their travels regularly. It makes me wonder what we will be saying in another thirty or so years?

In August; five members of the NMRT including Joe Benshemesh, Tim Burnard, Darren Southwell, Melanie Bannerman and I attended a Saving our Species Malleefowl Workshop held in Sydney. It was an excellent collaboration of Malleefowl expertise covering the State of NSW in order to overcome some of the issues regarding the effective management of Malleefowl. The workshop was aimed at addressing the steps required for the management of Malleefowl in NSW, to meet the Saving our Species (SoS) project objective of securing the species from extinction in NSW for 100 years. It was a real highlight for me to meet Robert Wheeler and John Brickhill for the first time as their work and studies in NSW are very well known and I now look after their old

sites here in the Riverina. We are looking forward to seeing the outcomes of the workshop in the near future.

Joe Benshemesh is looking at working on gathering information on Malleefowl populations across Australia to attempt to get an accurate estimation of the entire Malleefowl population. We are all aware that we monitor over 3500 mounds annually and we can work out quite accurate breeding numbers, however, how many non-breeding Malleefowl are out there wandering around? I know I am very interested in Joe's results.

Last but not least, we officially welcomed Tim Burnard as a member to the NMRT earlier this year. Tim resigned from the Coordinator position which he held for the past six years and the Recovery Team are very lucky to retain Tim and his knowledge. We also welcome Jessica Stingemore to the team (page 11). Jessica is a Biodiversity Coordinator for NACC NRM and is a representative of WA.

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PETER STOKIE TRIBUTES

BY DAVID KELLETT

Peter Stokie was one of those people who as soon as you meet them you feel like you have known them for many years and welcomes you into the Malleefowl community. He was an absolute gentleman with a passion for Malleefowl conservation and I was very saddened to hear of Peter's passing. Peter assisted Joe and Graeme with the Malleefowl Mound Monitoring Training in West Wyalong in 2014/15 and early 2019 he ran the training with the help of a few of the VMRG guys and he was really looking forward to running the training again in November. He was always offering to help in any way he could and was very supportive of the formation of the New South Wales Malleefowl Recovery Group (NSWMRG) and will be a huge loss to the Malleefowl community.

BY ROSS MACFARLANE

I first met Peter Stokie at one of our first ever training weekends, at Wyperfeld National Park in 1999 or

perhaps 2000. From the first, he and Ann were so engaged and interested in what was going on, I remember saying to my father Neil Macfarlane that one way or another, we needed to get them involved.

How right I was! From 2002 when our committee formed, Ann served as secretary almost to her death in 2013, and Peter was never not on the committee, serving as a committee member and Vice President, and as President for 3 years from 2011-12 to 2013-14.

His contribution went much further than the committee meetings. Both Peter and Ann played a pivotal role in the campaign to prevent a waste containment facility from being built in prime mallee country at Nowingi. They were involved in negotiations with Iluka Mining that produced 7 years of Malleefowl Management Committee funding - and Peter served as VMRG's representative on the MMC throughout those years.

Even more than these has been Peter's contribution to the Malleefowl

community:- Presenting at forums. Helping to develop the upper primary education module on The Marvellous Malleefowl. Training new monitors across Australia, such as indigenous rangers in the APY lands of South Australia. Engaging with new faces at our training weekends and mentoring countless new volunteers in their first seasons in the bush.

After Ann's untimely death, Peter relocated from Geelong to Bright to be closer to his son and family, and promptly made many new friends in the Bright region local Landcare Group and croquet circles. But his contribution to Malleefowl work never slowed. In 2018, he was rewarded with an Order of Australia Medal in the Australia Day Honours list.

Over the past 20 years of my involvement with the Malleefowl community, there has been more than a handful of people whose loss I remember with sadness and fondness. None more so than my dear friend Peter Stokie. VALE.



PETER EXPLAINING THE INS AND OUTS OF MONITORING TO NEW NSW VOLUNTEERS- PHOTOS-D KELLETT

BY GIL HOPKINS

I met Peter and Ann in 2002 at Inglewood at the initial meeting and AGM of VMRG, when Ann became Secretary. Peter and Ann were a great team, and their strong committee and leadership background was very important to setting up VMRG and its Committee and organisation, and together with Joe, establishing the Malleefowl Monitoring system with Handbook and Database, starting the Forum program, seeking funding, starting University research programs, coordinating Training sessions (across Australia) and re-searching grids/sites, setting up cameras, trying new ideas as well as helping monitor many sites. An incredible job!

Peter took on many important roles over the years, and he gave them lots of energy, but the Equipment task also resulted in him storing all fox scats!

Some photos from 2002 to 2019 help us remember:-



WHAT HAVE WE LEARNT FROM THE VMRG CAMERA-TRAP PROJECT?

BY JOE BENSHEMESH NMRT

The camera-traps the VMRG placed at 6 sites in 2015 have been producing a bounty of photos, as our team of photo-sorters know too well - they have sorted nearly 200,000 photos over the first 3 years (the 2018 batch is still being worked on). Most photos are nulls (as we photo sorters also know too well!), but there have been over 12,000 photos with animals 'captured' and these provide a wealth of information on what goes on in the Mallee when we are not around.

We have learnt a lot from these cameras, and stand to learn much more as the camera-traps are now being rolled out in the Little Desert, and at Annuello in the Mallee, as part of the AM predator experiment (and similarly at many other monitoring sites around Australia): that's where things will get really interesting as we monitor the effects of baiting on the fauna communities.

But getting back to our non-baited sites, after three years I thought I should note what have been some of the most important findings:

1. Western grey kangaroos are the most commonly captured animal across our 6 sites and over the 3 years they consistently increased in the Mallee during winter early spring; a highly significant result that has surprised kangaroo experts. It's also important for Malleefowl because the influx of herbivores coincides with the lead up to the Malleefowl breeding season when the birds rely on green pick for food. In fact, our camera data suggests that herbivores such as kangaroos and goats might consume over 100 times as much green pick as

Malleefowl during this critical period, so even a small decrease in their numbers may greatly benefit Malleefowl.

2. After kangaroos, foxes are the most commonly detected animal, and their activity also goes through significant seasonal cycles. This finding has important implications for measuring the effectiveness of fox control, because it means that one can't just compare fox abundance at 2 points of time to measure the effect of baiting; we also need to take into account the underlying seasonal cycles. The way around this issue is to measure fox activity at both the baited site and a nearby unbaited site (the 'experimental control') and compare the results in such a way as to reveal the changes caused by baiting. This is how the AM Predator Experiment is structured and vindicates our approach. Cats, on the other hand, are rare, perhaps because none of these 6 sites were fox baited.

3. Young Malleefowl are also being detected, though not often which is not a great surprise because they are rarely seen by people. However, we have photos of two half grown Malleefowl together which suggests they are social and team up at an early age, corroborating findings of Jessica van der Waag who described captive-raised chicks doing this after release in a small habitat remnant (read her paper in the National Malleefowl Forum, September 2007). So it seems that young wild birds in large Mallee patches also team up at an early age. Over many years of camera-trapping, we hope to learn about the conditions

under which young Malleefowl survive best, thereby learning about the keys to recruitment.

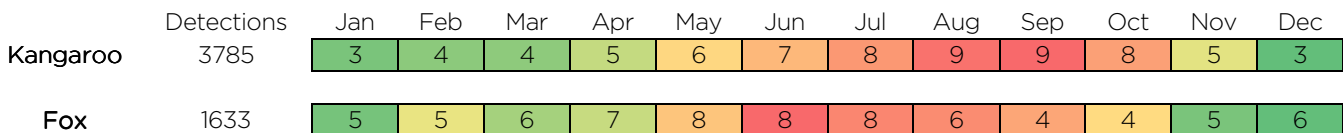
These insights have come from the VMRG camera traps which are just a small part of the camera-trap network being installed at Malleefowl monitoring sites, especially AM predator experiment sites, across Australia. The information they collect is crucial for improving Malleefowl conservation, but is also of enormous value for understanding the effectiveness and ramifications of management actions such as predator control, and for tracking the abundance of native and invasive species.

While we have collectively made great progress in designing the camera-trap system and processing images, our most pressing challenge now is to develop a national database for the results, which is being modelled on the rigorous system we have in place for monitoring mounds on the NMMD. Michael Gooch and Becky Alcorn are working to have this facility up and running in the next 6 months. This will make it easier to maintain our camera-traps in the field, validate and analyse results, and of course to report these results to the many stakeholders in the project including volunteers, land managers, and regional, state and federal government who require information on the trajectories of native and introduced species.



← A PAIR OF 3-6 MONTH OLD JUVENILES IN THE VICTORIAN MALLEE

CAMERA-TRAP PHOTOS OF A NEWLY HATCHED MALLEEFOWL CHICK →



'HEAT MAP' DIAGRAMS SHOWING THE TRENDS IN DETECTIONS OF WESTERN GREY KANGAROOS (A) AND FOXES (B) BY CAMERA TRAPS AT 6 SITES OVER 3 YEARS IN THE VICTORIAN MALLEE. WARMER COLOURS INDICATE AN INCREASE AND COOLER COLOURS A DECREASE, IN DETECTIONS PER CAMERA PER MONTH.

REVIVING RIVERINA'S MALLEEFOWL, NSW

BY DAVID KELLETT, RIVERINA LOCAL LAND SERVICES

The past six or so months has been quite busy securing funding and working on what direction the Riverina's Malleefowl Project will be heading and with the help of Joe Benshemesh (shown below) it is shaping up to be a very exciting project for the next four years. Never before have we received substantial funding allowing us to concentrate on a stand-alone Malleefowl project.



Back in the 80's John Brickhill wrote that historically Malleefowl occupied around 20% of the Riverina and this area has been reduced to a tiny fraction with the few Malleefowl populations remaining, being fragmented to small habitat remnants. With limited Malleefowl habitat remaining, our main focus for the next four years will be managing these remaining patches by offering landowners incentive payments to undertake Malleefowl conservation projects.

Annual Malleefowl Mound Monitoring Training will be held again in West Wyalong on November 2nd and will be a one-day event followed by our annual mound monitoring. Graeme Tonkin (NMRT Training Coordinator) will be running the training day this year with help from Mick Webster and Tony Murnane (VMRG).

The Minister for the Environment Sussan Ley was in the Riverina in August and dropped in to inspect one of our Malleefowl projects where we hope to reintroduce Malleefowl in the future. It was great to see Sussan visit the site and see the interest our Malleefowl projects are receiving. Landowners David Heath and Rodney Guest were both delighted to give Sussan a history lesson about Malleefowl and how they have been protecting several last remnant patches of Mallee in the area. And of course there was lots of name dropping such as John Brickhill and especially Harold Frith.

A special debt of gratitude is due to E. Heath of The Acres, Yenda, New South Wales, on whose property most of the work was done. In addition to allowing free run of his property and periodically supplying tractors to extricate my vehicle from the bottomless mallee mud in winter, he altered his clearing programme so as to preserve the study area and save it from becoming a field of wheat: less profitable perhaps but much more interesting.

Canberra, 1959

H.J.F.

PHOTOGRAPHED FROM THE PREFACE IN
'THE MALLEEFOWL' BY H.J.FRITH.



DAVID AND RODNEY TALKING TO MP SUSSAN LEY

This year we adopted the Adaptive Management Project techniques for camera trapping and deploying 80 cameras into the field (20 at each site). Even after just several months we are starting to have a better understanding of some of the issues at each of our sites. We have seen fallow deer for the first time at two of our sites and the staggering high number of kangaroos at all sites is quite alarming.

The search is on for new and historical mounds and I am determined to find every mound in the Riverina area within the next four years and have them mapped and monitored to the national standard.



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This may be the last edition of the newsletter due to lack of funding. Information for the NMRT/NMRG should be sent to the contact at the NMRT website.

Newsletter information is usually collected in mid-March and mid-September and NMRT Chairman Dave Kellett may send out requests for articles. For editing, articles are best sent by **email as attached** documents with photos also as **attachments**.

This Newsletter is available in colour at www.nationalmalleefowl.com.au alongside the National Malleefowl Database.

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

See Facebook for:
National Malleefowl Recovery Team
Malleefowl Victoria
WA Malleefowl Recovery Group

OCTOBER 2019 NEWS FLASH!

MALLEEFOWL AND MOUND IN VENUS BAY CONSERVATION PARK SA, AFTER 50 YEARS ABSENCE. RESULT OF PREDATOR-PROOF FENCING AND RECENT LIDAR AND CAMERA-TRAP PROGRAMS.

CITIZEN SCIENCE MONITORING MALLEEFOWL ON-LINE, NSW

MARC IRVIN, SENIOR THREATENED SPECIES OFFICER, DPIE

Citizen science is the core of the National Malleefowl Monitoring System, and in recent years new technologies have provided fantastic opportunities for further engagement with citizen scientists. New technologies such as camera traps and online data processing allow us to engage with a wide audience and have that audience contribute directly to our conservation projects. With these new tools we can begin to think about measuring what happens at Malleefowl mounds when we are not there, for example how many chicks emerge from each mound and does visitation by other animals interrupt the mound maintenance process? In New South Wales, the Saving our Species Malleefowl project has been trialling camera traps to look at these questions.

Our use of camera traps for Malleefowl conservation began as a test project that cost almost nothing. Cameras were set on poles aimed at active Malleefowl mounds to see if chicks emerging from the mound could be detected. This turned out to be very difficult, but it provided a lot of information about what, besides Malleefowl, visited the mounds over time.

We used information gathered during this testing to adapt our cameras to make them more sensitive in detecting chick emergence. This resulted in a greater number of chick detections but also many more images overall. The number of images collected became much more than could be processed for our very small team (myself and a fantastic volunteer who won a NSW volunteer award for her efforts), and while we spent hundreds of hours transcribing (or tagging) what species were captured in the images, we couldn't get through them all!

For this reason, we began to look around for other options to help with processing this vast amount of imagery and jumped into the world of online processing. In 2016 the Malleefowl team took part in the ABC's science week project called "Wildlife Spotter".

This amazing initiative held the promise of fast and cost-effective data processing, which quickly came to reality as in less than a fortnight we had 10,800 images processed, in a month 133,500 were done, and all 154,000 of our images were processed in around 6 weeks!! Across the six projects on Wildlife Spotter (of which Malleefowl was only one), more than 36,000 citizen science volunteers participated, including more than 250 schools.

This was an amazing effort by the citizen science community and meant

we could continue testing and developing mound-monitoring possibilities based around these methods.

While the response to Wildlife Spotter was unbelievable and we are indebted to the Australian community, there were a few difficulties when it came to using the data. One such difficulty was joining the date, time and temperature (that are imprinted in each image) to the species data captured by citizen scientists for each image. Even when we had the joining formula set up correctly in the software, the processing power required was too great and caused computer crashes. The other main issue was identification inaccuracies, as despite best intentions species were transcribed incorrectly resulting in rabbits being labelled as bilbies, echidnas called wombats and various other interesting results. This highlighted that while the citizen science community were very engaged and available, we needed to upgrade the tools to better support volunteers and their image processing work.

Fast forward to 2018 and the lessons we learned from Wildlife Spotter were used to improve Australian Museum's DigiVol, an online image-processing website. DigiVol was originally used by the Australian Museum to digitise their collections but has been expanded to be a diverse tool, engaging people nationally and internationally to transcribe information from a range of sources including historic documents, biological specimens and camera trap images among many others. The upgrades made to DigiVol were a collaboration between the NSW Department of Planning, Industry and Environment's (formally the Office of Environment and Heritage) Saving our Species program, the Australian Museum and CSIRO through its Atlas of Living Australia, which brought to life these key enhancements:

- Increasing DigiVol's capacity to upload images from 200 to more than 2000 images for each 'expedition.'
- Exif data (eg. date, time etc.) is extracted from each image on upload to the DigiVol site
- Choose up to 5 'transcriptions' per image (ie. each image is processed by 5 different people).
- Being able to choose auto validation thresholds (eg. 4 of 5 transcription are the same therefore valid)
- Download all exif and transcription data in the same export file.
- Improving look and feel of the site and adding resources to help citizen scientists accurately transcribe images.

- Access to DigiVol's complementary tools where citizen scientists can add comments against individual images, ask questions of experts or chat with others on a particular 'expedition'.

Following extensive testing the enhancements were completed and the 'Malleefowl on DigiVol' site went live in August 2019 and performed without a hitch; and again the citizen science community have jumped on board. In the first week, without any publicity, thousands of images were transcribed multiple times. This number has skyrocketed to more than 48,000 images processed by hundreds of volunteers to the end of September (only six weeks) which sounds quite impressive, however when you consider that as part of our quality control system each image gets transcribed five times, it's absolutely amazing and equates to 240,000 processing events from citizen science volunteers.

We were also very impressed with the data validation so far, as more than 96% of transcriptions have been auto validated and so far, none of those appear to have been incorrectly validated. Of the less than 4% of images that required expert validation, most have been quite difficult so it's understandable that there have been differences between volunteers as they figure out what is present in a particular image.

The challenge for people so far has not been around identifying the species present in the images but rather about the number of animals. Sometimes there are several echidnas in an image and if one is off to the side in the shadows, or the image is not clear due to rain obscuring the image, then there can be discrepancies in the number of animals seen in the same image by different people. Similarly, with Malleefowl, if one bird is not on the mound it can actually be quite difficult to see because they are so well camouflaged. Because of the low percentage of images requiring validated by experts, it is very manageable.

Our volunteers have also been lucky enough to see a range of animals (including the beautiful Malleefowl) visit the mounds, showing us some unique behaviour indeed! They have been able to watch a group of echidnas sneak into the Malleefowl mound under the cover of darkness and once discovered attempts have been made by the Malleefowl landlords to quickly dig them out, unsuccessfully.

CITIZEN SCIENCE MONITORING MALLEEFOWL ON-LINE - CONTINUED

CONTINUED NEXT PAGE

We have also discovered a goanna digging up and snacking on Malleefowl eggs while the Malleefowl flicks sand on in its face to deter it. Also, goats, wallabies and kangaroos have been found lounging around on the mound, with one goat being discovered in a very compromising position with its legs in the air while scratching its back! Feral cats and foxes have also been spotted slinking around the mound looking for their next feed.

Our Saving our Species Malleefowl project will continue to use DigiVol with our current batch of images to learn more about how animals

interact with Malleefowl and with the Malleefowl mound. Having all the image data connected directly with the transcriptions from DigiVol will allow us to analyse visitation by all fauna across the day and across the season and hopefully lead to new insights to better conserve Malleefowl.

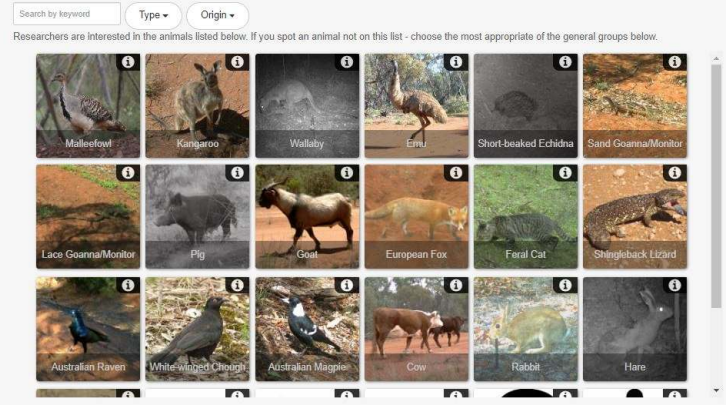
If you would like to log in and have a go at transcribing some of the images just click on the links below or do an internet search for 'Malleefowl on DigiVol.'

<https://volunteer.ala.org.au/institution/index/36275303>

<https://www.environment.nsw.gov.au/research-and-publications/your->



DIGIVOL Malleefowl Threat detector - Echidna attack! (B12) MF- MoundCams_YathongNR_Y087-Fr_2018-06-01-Fr_NT_103RECXX-ABC_DIV01-B12_IMG_8522.JPG
522 of 1,999



FROM THE MALLEEFOWL CAMERAS

BY MALCOLM CARNEGIE, PROJECTS MANAGER, LAKE COWAL FOUNDATION, NSW

A few recent photos from some of our camera traps monitoring the Malleefowl population west of West Wyalong.

During autumn at the end of the hatching season, the Malleefowl clean the mound out to a depth of approximately 1.5 metres and through the winter months backfill the mound with fresh mulch progressively scraped into the mound from a radius of up to 40 metres.

You see from our photos a whole range of species are interested in this process. The echidnas themselves nest within the mulch for the winter providing a very effective way of mixing and breaking down the mulch which is the substrate for the egg chamber. The echidnas all seem to settle into the mound/s here from mid-May through to early September with plenty of movement day and night. The numbers of echidnas in each mound does vary a little but you will find them all together buried in the mounds during the day. I expect the turning/mixing of the mulch in the mound is quite useful to the Malleefowl in their preparation process.



FOUL PLAY IN THE ROCKY RIDGES OF RANKINS SPRINGS, NSW

BY RON FINCH, RANKINS SPRINGS'

After moving in 1985 from the Mallee sandhill country west of Balranald, where Malleefowl were quite often encountered (in earlier years sometimes whilst aboard a D8 bulldozer, dragging a ship's anchor chain), I can remember being quite amazed to see a bird walk across my path amongst the rocky cypress-pine bushland of our newly acquired Rankins Springs property, where not a Mallee tree exists!

Various sightings over the next few years led to mound discoveries (old and new) over an extensive area. One nest had even been constructed on a fire trail I had bulldozed a couple of months previously, with the birds raking the litter of leaves and sticks to the disturbed earth on a rocky ridge. Over-clearing of Mallee country for farming in the region has *probably* forced the birds to seek refuge in a more rugged landscape. The property is farmed organically, so is chemical free, with respect to the natural ecosystems of both the agricultural production and bushland regeneration areas. Unfortunately, on the fringes of this co-existence, farming is difficult as the habitat supports not only ferals but intense numbers of kangaroos which compete heavily for pastures and crops, making holistic grazing systems impossible, lowering grain yields and damaging fences.

In 1990 we chose to commit a 640 hectare area of our property to a *Voluntary Conservation Agreement* for the protection of this unique Malleefowl population. This perpetual agreement has restricted any land development or grazing by livestock. Over the years we have undertaken fox baiting programs and constructed goat trap yards to control feral animal numbers whilst monitoring and recording sightings and mound activity. All was well, however a new threat to the existence of this Malleefowl population presented itself. Over the last 6 to 8 years feral pigs have dispersed through these ranges in prolific numbers and have desecrated active mounds. The birds have been resilient and rebuild as pigs watch on, ready to re-root, attracted by composted soil and freshly laid eggs. The habitat is ideal for pigs as they discover water, feed and grain sources such as stock feeders and silo bags nearby and easily return to harbour in the hills.

In 2018 in conjunction with the Lachlan Fold Wildlife Action Group (a local group of dedicated, conservation minded farmers and community members) funding was sourced through the *National Landcare Program - Environment Small Grants* for the building of a fence surrounding an active mound for the exclusion of feral pigs. This fence is designed to allow the birds to fly/traverse in and

out of the area. Although the birds have not yet returned to the site this season, we feel nothing is lost as this project is a 'trial' and following a recent LiDAR search organised by the LLS there are other disclosed active mounds nearby which will be monitored regularly.

Pig traps are routinely managed throughout the property with over 200 pigs caught during 2018 and already 112 so far this year, with a number of larger pigs too wary to enter the trap. This is an extremely time-consuming and unpleasant operation but needs to be ongoing to ensure the survival of the Malleefowl in this area.

For over 30 years we have nurtured the existence of this population of Malleefowl in our bushland and know that total eradication of feral pigs is probably impossible but management is critical if the birds are to survive. We feel there needs to be an integrated/regulated system between landholders, LLS and professional hunter/trappers to manage trapping stations etc and utilise the bush pig as a resource to encourage control, create employment and give the Malleefowl a chance.

Feral animal trapping, fire break/trail management, fence maintenance and Malleefowl conservation is all part of our farming program and will continue as long as we are living on this land.



MALLEEFOWL MOUND CAKE, SA

BY BRETT BACKHOUSE

To celebrate National Threatened Species Day, my five-year-old daughter and I decided to attempt to make a Malleefowl mound pavlova for the annual Threatened Species Bake-off. Pavlova is one of Matilda's favourite cakes, and Malleefowl one of my favourite birds!

We baked a normal round pavlova cake using a tin, and then cut away the edges to make a dome shape. We then scooped out the middle to make a nest chamber, and filled it with blueberries as eggs. The entire mound was then covered in whipped vanilla cream, and then a 'sand' of crushed ginger nut biscuits was spread over it. Leaf litter was added to the chamber, being the usual crushed chocolate Flake bar.

For the birds themselves, we used a Bliss Ball recipe of dates, cocoa powder, coconut oil and almonds, then covered this with shredded coconut and small bits of icing for the feathers.

MOUND CAKE WITH TWO 'CHICKS' BEFORE



AFTER PREDATION



MALLEEFOWL IN THE GREAT VICTORIA DESERT, WA

BY DR DORIAN MORO, GREAT VICTORIA DESERT BIODIVERSITY TRUST

The Great Victoria Desert (GVD) Biodiversity Trust is an environmental initiative focused on conserving and increasing knowledge of biodiversity in the Great Victoria Desert.

The Trust was established by the Tropicana Joint Venture as part of its environmental offset strategy for the Tropicana Gold Mine in Western Australia under the Environmental Protection and Conservation Act 1999. The Trust represents a new structure of environment offset delivery and operates as a unique not-for-profit partnership model between industry and government for the GVD's benefit.

The GVD is a remote, vast landscape and home to species of national environmental significance. There are few road networks, making access for surveys of Malleefowl challenging. In

recent months, the Trust has been focusing on learning more about the locations of Malleefowl that occur across the vastness of the GVD. It has used LIDAR remote sensing to scan corridors of the GVD to identify shapes that could represent Malleefowl mounds and the next steps are to ground-truth these to verify their presence on the ground.

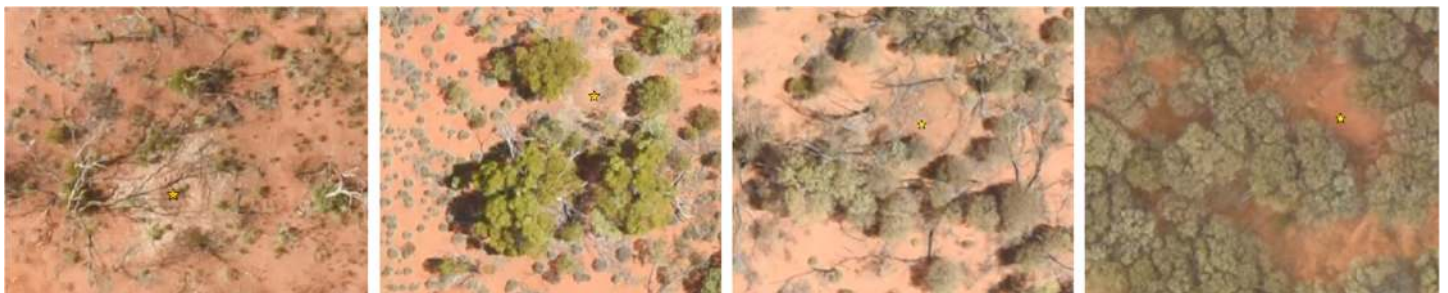
124 Class 1 and 2 matches were defined as likely to be Malleefowl mounds on verification with orthophotos. Ground-truthing will confirm whether they exist on the ground, and if so, their level of activity.

Data on mound locations is vital to allow the Trust to conduct targeted on-ground projects for Malleefowl conservation. The Trust plans to trial habitat management using fire and introduced predator control to

understand the benefits of implementing these activities annually to protect areas with high Malleefowl populations. Linking this project into the national Adaptive Management Malleefowl Monitoring Program will help to understand trends and to improve the interpretation of results observed.

The Trust is also working with the Department of Biodiversity, Conservation and Attractions to map out the fire scar history of the region. This information can then be spatially overlaid onto habitat features for Malleefowl mounds to further assess their distribution in relation to landform and fire history.

For more information, contact the Operations Manager, Dr Dorian Moro, operations.manager@gvdbiodiversitytrust.org.au.



LIDAR SENSING WAS USED TO TARGET AREAS FOR POTENTIAL MOUNDS. ORTHOPHOTOS WERE THEN USED TO VERIFY THE LIKELIHOOD OF A MATCH. THESE IMAGES SHOW ORTHOPHOTOS OF SOME CLASS 1 MATCHES. THE TINY YELLOW DOT INDICATES THE LIKELY MALLEEFOWL MOUND. GROUND TRUTHING WILL VERIFY IF THE MOUND IS AN ACTUAL MALLEEFOWL MOUND AND ITS ACTIVITY.

CROSS REGIONAL PARTNERSHIPS SUPPORTING THE MALLEEFOWL IN OUTBACK WA

BY MEZ CLUNIES-ROSS, RANGELANDS NRM OFFICER

Rangelands NRM and the Northern Agricultural Catchments Council (NACC) have been working together as part of a cross-regional partnership to help build a greater understanding of the nesting success of Malleefowl around the Mount Magnet area of Western Australia.

This partnership enables NACC investment into Malleefowl recovery within the WA rangelands. It also improves the connection with Rangelands NRM and the National Malleefowl Recovery Team through the specialisation found within NACC.

“Having better collaboration, distribution of resources and sharing of information has been vital to the success of this project” said Mez Clunies-Ross, Rangelands NRM Officer. “We have been able to successfully ground-truth a few areas where there have been known Malleefowl mounds and monitor these areas with very few resources.”

Local knowledge and landholder assistance have been vital in getting this project underway. The history of the Malleefowl in the area and ground-based site knowledge has been

invaluable in getting this project started.

“Camera trap monitoring at some of these sites have yielded some great results which will contribute to part of the National Malleefowl Recovery Team’s Adaptive Management Predator Control Experiment.”

This program is supported by Rangelands NRM through the Australian Government’s National Landcare Program.



TWO WAY SCIENCE IN BADIMIA COUNTRY, WA

DR JESS STINGEMORE, WAMRG, NMRT

Malleefowl monitoring has kicked off with a bang in Badimia Country in the mid-west of WA – with more than 321 mounds being monitored by a handful of dedicated volunteers during a week-long period.

During September the National Malleefowl Recovery Team (NMRT) partnered with the WA Malleefowl Recovery Group (WAMRG) to monitor mounds at Mt Gibson Mine, Charles Darwin Reserve and Ninghan Indigenous Protected Area (IPA).

The volunteers were well catered for at the mine site with communal meals being a great time to plan the days’ work ahead, share stories about the bush walking (or for some bush bashing) and join the mine staff for a friendly game of table tennis.



Over at Charles Darwin Reserve – managed by Bush Heritage Australia – the volunteers all got to kick back and enjoy the many fabulous sunrises over Mt Singleton. They also were able to enjoy the company of station dog Charlie, and to join Reserve Manager William Hansen and his young family to watch the AFL Grand Final!

The monitoring was rounded off with a special visit to Ninghan IPA and the rare chance to visit Wardagger Rock (see below) and learn more about the unique connection the local Traditional Owners the Badimia People have with the land.



Volunteer and budding ecologist Nik Gladigau attended the monitoring and was greatly impressed with the technology developed by the NMRT.

“This was my first year monitoring Malleefowl and I enjoyed the time spent on country searching for this threatened bird and recording active mounds. Technology like Cyber Tracker can make citizen science activities like this accessible to people of all ages and abilities. And from my experience studying environmental science at Murdoch University, I can also see how it will make management of large amounts of data more streamlined.”

WAMRG committee member Jessica Stingemore also attended the monitoring and had the privilege to join local Badimia men Ashley and Drew Bell at Ninghan IPA.

“IPAs have become a key part of the National Reserve System - the network of protected areas that stretch across Australia – and they now account about 46% of the total area of our National Reserve System.”

Dr Stingemore added “Aboriginal peoples have a special connection and relationship with Australia’s natural environments. And the role they play in caring for their country is a vital component in conserving Australia’s biodiversity.”

ASTRON RECOGNISED FOR THEIR GENEROUS SUPPORT, WA

BY GRAEME TONKIN, NMRT

The 2019 monitoring season is the 4th that Astron, an Environmental Consultancy & Services company in Perth WA, has donated the use of a 'mine spec' vehicle, a contract requirement, for the duration of the Mt Gibson Iron monitoring contract. Over the four years, the Astron donation has exceeded \$7,000.00, allowing that money to be re-invested into Malleefowl conservation in WA.

The National Malleefowl Recovery Team has awarded Astron a Certificate of Appreciation in recognition of their generous ongoing support.

We sincerely thank Astron for their kind support.

DR AARON GOVE FROM ASTRON RECEIVING THE 'CERTIFICATE OF APPRECIATION' FROM GRAEME TONKIN



IT'S A GIRL..... AND A BOY!

BY JESS STINGEMORE, NACC, WA

That's right – NACC NRM's Malleefowl naming competition has come to a close and we have decided that NACC NRM is big enough for not just one, but two Malleefowl.

We had some great suggestions via Facebook, Twitter and email but the winning idea came from local Geraldton resident Matthew Csermelyi.

Matthew said "I saw a post on Facebook about the naming competition and straight away thought, NACC NRM should get another bird and call one Mal and the other Lee."

"I then searched for Malleefowl on the internet and saw that both the male and female tend to the mound during breeding season, so it seems like a good idea that one be male and one female."

Thanks for the great idea Matthew and your prize – a WA Parks and Wildlife Annual Park Pass – is in the mail.

Mal and Lee will reside one in each of our offices – Perenjori and Geraldton. But don't despair, they will get plenty of opportunity to visit each other.

In fact, the team will be taking Mal and Lee out in the region with us as we get out and about visiting some of our partner organisations and community members while participating in workshops and field days.

We are confident they will be great travel partners – maybe not so talkative though!

Keep a watchful eye on Twitter for Mal and Lee, to see where we are headed to next. And follow the hashtag #MalleefowlMascot to stay up-to-date with their adventures!



LEE AT THE PINK LAKES AT PORT GREGORY



LEE AT COASTAL CLIFFS IN KALBARRI NATIONAL PARK



LEE AMONGST THE WILDFLOWERS NEAR YALGOO



LEE HELPING WITH A TRANSLOCATION PLANTING OF *VERTICORDIA SPICATA* SSP. *SQUAMOSA*.



THE MALLEE POST ATM HISTORICAL ARTICLE

ALL FOR GOLD - A STORY OF THE WYALONG RUSH, NSW

FROM THE BARRIER MINER, OCTOBER 30, 1908, EXCERPT PROVIDED BY MAL CARNEGIE-LAKE COWAL FOUNDATION

As a staunch friend and supporter of Reynell it became impossible for me to remain at work in the mine, and I once more started prospecting on my own account. I had saved £63 out of my wages, and I joined a party to prospect a "show" beyond Yalgogrin, a small settlement about 20 miles from West Wyalong. Unlike my previous experience of camp life in Wyalong, when we had been surrounded by thousands of diggers, we were now quite by ourselves, and in the dreary waste of primitive bush in which we now lived, cut off from all association with our fellow men, I realised the absurdity of the advice that is so frequently given to "go on the land." Except as regards the illusive search for gold, this land around Yalgogrin was about as productive as the Desert of Sahara. Even rabbits could not pick up a living on it, and we had to carry every drop of water that we needed seven miles from the nearest sheep tank over a wilderness of burnt clay, strewn with dead timber, and covered with mallee scrub.

Under these circumstances it was not to be expected that very much water would be used for washing, and we

soon became in appearance, what with sunburn, and dust, and cuts and scratches, more like Red Indians in appearance than civilised beings. I often wondered what a sensation I would have caused if I had suddenly appeared as I then was, with my torn clothes and bare brown limbs showing through the holes, in the great lawyer's office in Sydney where I had been employed before I started out for the diggings, and I could imagine the looks of surprise with which my wild appearance would have been greeted by the well-dressed crowd in George Street. But, for all its discomfort, the life was healthy enough, and if we weren't doing much good, we at all events had the satisfaction of knowing that we weren't doing any harm.

The only signs of animal life that we met with in this solitude was the mallee hen, which, for some reason best known to itself, chooses to make its home in these desolate places. It is a fine bird, about the size of a guinea fowl, and it lays its eggs, with other mallee hens, in a general nest, made of earth and twigs, so as to form, at the proper season for hatching, a natural incubator. The eggs are set by the hens in rows, end up, and,

when the nest is complete and all the eggs are laid, the mound is covered by a layer of gravel.

On one of my trips to Yalgogrin, for "tucker," I brought out a roll of fine wire-netting, and surrounded one of these nests with it, and, when the chickens were hatched, they came out of the nest quite capable of looking after themselves, and made a poultry yard. I kept them there for some days, but they began to pine and die, not liking the captivity, so I let them go, and they scuttled off into the mallee to find their natural food. But the mallee hens were a great source of amusement to us, cut off as we were from civilisation. We often shot one for the larder, and the eggs, which we found in great numbers, were quite as good as hen eggs and about three-times as big. But, so far as our prospecting was concerned, we did no good. We obtained what was known as "colors," and struck a small "leader," but that was all; so we came to the conclusion that "it was good enough to chuck it," and, shouldering our belongings, we tramped back to Wyalong, having put in six months' work, and spent good money for nothing.

NATIONAL MALLEEFOWL RECOVERY TEAM MEMBER

Jessica Stingemore WAMRG

I wake up every morning excited to go to work - sometimes it is because I am releasing Black-flanked Rock-wallabies in Kalbarri National Park, or flying Carnaby's Black-cockatoo kites with the Geraldton community, or meeting with Yamaji women to talk about two-way science, or developing grant applications to help support local farmers with feral predator control and even when I am writing Board reports. I am excited because every day I am making the world a better place.

From a young age my commitment and passion for the natural world has been apparent and has driven the course of my education and professional career to date. Having studied a Bachelor of Conservation Biology & Management at university, the ultimate goal, as always, is to make a meaningful contribution to Australian conservation efforts.

I am the Biodiversity Program Coordinator at NACC NRM - where (amongst other things) I manage our

threatened species projects, including 'Gnow or Never: Supporting Communities to Save Malleefowl' project - which aims to secure the Malleefowl in the wild, engage local communities in its conservation, and encourage the local community to identify with it as a flagship for threatened species conservation.

Sometimes I add even another feather to that hat - and call myself NACC's Media Officer. Yep I am the person who brings you NACC Notes, writes our social media posts, and (attempts) to keep our website current.

And every two years around spring, I organise the WA Threatened Species Forum in Geraldton - it's an event not to be missed if you're concerned about the state's precious but threatened species. **And I am very excited to say that in 2021 the forum will also include the Seventh National Malleefowl Forum** - watch this space!

Work keeps me rather busy, but I have more to give, and often jump at



volunteering opportunities that contribute to nature conservation in my region, and beyond. I am treasurer for both the WA Malleefowl Recovery Group and the Gunduwa Regional Conservation Association. I'm an active member of the Friends of the Chapman River Regional Park, and often lead guided wildlife tours through the park. I also share the Bush Heritage Australia vision of Healthy Country, protected forever, and volunteer with them to monitor Malleefowl mounds or act as a reserve caretaker.

'BUSHWALKING WITH A PURPOSE' 2019 MALLEEFOWL MONITORING AND TRAINING PROGRAM

Site	Date	Contact
Geraldton, WA	20 September 2019 Training day only	Graeme Tonkin 0427 824 228 graeme@nationalmalleefowl.com.au
Dalwallinu, WA	5-6 October 2019 Training weekend	Liz Kington 0417 996 719 lizk@nationalmalleefowl.com.au
Wyperfeld, VIC	12-13 October 2019 Training & Information weekend	To register http://www.malleefowlvictoria.org.au
Kalgoorlie area WA, (Menangina)	19-20 October 2019 OR 26-27 October 2019	Jennifer Nicholls (Goldfields Naturalists' Club) goldnats@westnet.com.au
Ongerup area, WA (Peniup & Corackerup)	26-27 October 2019 Training weekend	Liz Kington 0417 996 719 lizk@nationalmalleefowl.com.au
Ongerup area, WA (Foster Rd and Tieline Rd)	28 October 2019	Carl Danzi 0427 987 715 c.danzi@hotmail.com
West Wyalong, NSW	1-3 November 2019	David Kellett 0428 693 990 david.kellett@lfs.nsw.gov.au
Nyabing area, WA	2-3 November 2019 Training weekend	Liz Kington 0417 996 719 lizk@nationalmalleefowl.com.au
Buronga, NSW	9-10 November 2019 Training weekend	Marc Irvin 0427 835 330 Marc.irvin@environment.nsw.gov.au
Geraldton sites, WA (Hidden Valley)	TBC	Jessica Stingemore (NACC) 0437 928 136 jessica.stingemore@nacc.com.au
Dalwallinu - Latham area	TBC	Phil Lewis 0497 277 154 phil.lewis@westnet.com.au
Innes NP	TBC	Graeme Tonkin 0427 824 228 graeme@nationalmalleefowl.com.au

If you think you'd like to join one of these monitoring events, please email or call the contact person for more information.

Malleefowl monitoring involves bushwalking in rural and sometimes remote parts of Australia. A suitable level of physical fitness and appropriate clothing and footwear is a prerequisite for joining these monitoring events. Monitoring training and supervision is provided, supported by members from National Malleefowl Recovery Team, National Malleefowl Recovery Group, New South Wales MRG, Victorian MRG, West Australian MRG and other groups.

