

2. Introduction to the National Forum

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Abstract

Malleefowl are special birds: universally loved and admired for unique and bizarre habits and their unexpectedly confiding nature. This fifth Forum attendance demonstrates the enduring interest from community, industry and government that has driven great advances in Malleefowl conservation over the past decade or so. Also evident is how far we have come. We have seen a shift from looking at data from small scale studies with little knowledge of how most populations were going, to a large scale monitoring program with over 120 sites scattered across the nation, annually 'taking the pulse' of the Malleefowl populations. Monitoring is now core business for the recovery team and the large and committed army of volunteers that undertake this essential activity.

Monitoring a threatened species is fundamental to recovery but our monitoring is also now forming a basis for our Adaptive Management Project, making the best use of the data in what is essentially annual analysis of the highest order. This is a grand undertaking in evidence-based citizen-science that we should be proud of, and the surest way to build our understanding of how to conserve Malleefowl.

Presentations to this forum will of course cover various aspects of monitoring: its achievements, tools, and value-adding fruits, such as the Adaptive Management Project. But even more is on offer at this forum. The organisers have assembled a stimulating and varied program covering genetics, evolution, aboriginal involvement, new survey techniques and threats to Malleefowl survival.

A quick glance at the program will show a variety of subjects and issues from across Australia, sometimes as seemingly disconnected actions. The National Recovery Team is guided by the National Recovery Plan. It is the task of the Recovery Team to ensure (wherever possible) that actions taken are guided by the Recovery Plan. We believe that all delegates here will see how the presentations delivered tie in to a grand plan for species survival.

Indeed, the program shows that great advances are underway in Malleefowl conservation and understanding. While we can't guarantee that every threat will be removed (such as climate change) we can, and demonstrably are, organising ourselves to be in the best position to identify and mitigate threats wherever they occur.

Introduction

Malleefowl are special

Malleefowl are special birds: universally loved and admired for unique and bizarre habits and their unexpectedly confiding nature. Many of us here today have a good understanding of what makes Malleefowl particularly special, but there are some newcomers to the Malleefowl family that may benefit from a quick recap.

Perhaps the most striking thing about our birds is their nests; the mounds. While there are three megapodes in Australia that use mounds to incubate eggs (rather than sitting on eggs), only the Malleefowl does this in the arid zones. This makes the job particularly complicated because the rotting of moist compost that creates the warmth required to hatch an egg, cannot be relied upon in the drier areas of Australia. This means that Malleefowl have to constantly measure the temperature inside the mound and make adjustments to keep the mounds at around 35 degrees.

In the early stages of incubation heat from the compost is too great for incubation and mounds are opened to allow heat to disperse but as the compost dries, the birds must use heat from the sun to warm the nest. This requires the movement of about a cubic metre of matter some days, amounting to the movement of maybe one or two hundred tonnes of material each breeding season. Because of this, Malleefowl are considered to be the hardest working birds in existence.

This leads to the next remarkable thing; Malleefowl are loved by humans. Perhaps this was emphasised in the early European pioneering days when new settlers to the mallee saw a bird working as hard as themselves.

Added to this already strong impression of how special Malleefowl are, we will hear from **Walter Boles** later today with a talk titled 'A brief history of megapodes through time'. This insight is bound to impress that Malleefowl are from truly amazing stock and definitely warrant the interest they garner.

Updates on the activities by the Victorian Malleefowl Recovery Group (VMRG), Malleefowl Preservation Group (MPG), North Central Malleefowl Preservation Group (NCMPG), Western Australian Malleefowl Network, NSW Office of Environment and Heritage (OEH) and South Australian Department of Environment, Water and Natural Resources (DEWNR) and attendance at this forum demonstrates the enduring interest from community, industry and government that has driven great advances in Malleefowl conservation over the past decades. **Sally Cail, John DeJose, Melanie Bannerman, Sharon Gillam, Peter Stokie and Blair Parsons** will each be presenting summaries of progress by their organisations after morning tea. We'll also be hearing from **Stephanie Mitchell** from Iluka mining about how her organisation has provided funds for Malleefowl recovery and conservation and set a high bar and a valuable model for offset programs.

Malleefowl as a threatened species

There are many classifications for threatened species used in Australia's states and territories. Malleefowl are listed nationally as Vulnerable; Endangered in New South Wales and Victoria; Critically Endangered in Northern Territory; Vulnerable in South Australia and 'Fauna That Is Rare or Is Likely to Become Extinct' in Western Australia.

Malleefowl are found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee and/or acacias. A sandy soil and abundance of leaf litter are required for breeding. Densities of the birds are generally greatest in areas of higher rainfall and on more fertile soils where habitats tend to be thicker and there is an abundance of food plants. Much of the best habitat for Malleefowl has already been cleared or has been modified by grazing by sheep, cattle, rabbits and goats.

The species has been shown to be highly sensitive to grazing by sheep, and is probably similarly sensitive to grazing by other introduced herbivores. The effect of fire on Malleefowl is severe, and breeding in burnt areas is usually reduced for at least 30 years. Predation, especially by the introduced fox, may also be limiting the abundance of Malleefowl and in many areas might be a cause of decline. The degree of fragmentation of the remaining Malleefowl habitat is of particular concern and presents a major limiting factor to halting and reversing the decline of the species.

We will be hearing from several speakers over the next two days with information on threats to Malleefowl and how we best deal with them. **Marc Irvin** will talk about the Save Our Species program in NSW. **Jemima Connell** from Latrobe University will present on outcomes from the Mallee Hawkeye Project on the relationship to fire, a threat that jeopardises a range of species and habitats and requires skilful management and politics. **Alison Towerton** will present on Malleefowl conservation work in Goonoo forest, **Milton Lewis** is talking about the impressive work on goat control in the Mount Hope (NSW) region. We will also hear from **Geoff Allen** who will look at ways of identifying where linkages in the landscape may be most cost effective and beneficial to Malleefowl.

The National Malleefowl Recovery Team and the Recovery Plan

While there has been strong interest in Malleefowl for a century or more, this was limited to various individual studies and an uncoordinated approach to their survival. The National Malleefowl Recovery Team was convened in 1989 to address this problem.

The National Malleefowl Recovery Team has members representing a wide range of interests. This includes farmers, scientists, community groups and government agencies. There are members from the Australian Capital Territory, New South Wales, South Australia, Victoria and Western Australia. The Recovery Team's main role is to coordinate and prioritise actions across the range of the species.

It is important to recognise that the National Recovery Team is not alone in the fight to save Malleefowl. As can be seen here today, there are many players involved. What the National Recovery Team seeks is to ensure there is a unified approach. Our main tool in achieving this is the National Recovery Plan.

The Recovery Plan sets out the actions necessary to stop the decline of, and support the recovery of Malleefowl and aims to maximise the long term survival in the wild of the species. A little later in the forum **Tim Burnard** will look more closely at the Recovery Plan and how we are progressing toward achieving our objectives.

It is fair to say that the National Recovery Team doesn't play a hands-on role with a lot of the work that is undertaken to protect Malleefowl: the Recovery Team has neither the authority nor the means to undertake land management. What the Recovery Team can do is advise on what actions are needed using the most reliable information available. This includes actions like habitat protection and restoration, predator and pest animal control and much more. There are so many on-ground actions needed across so many land management jurisdictions that the Recovery Team can only provide general guidance.

Over the next two days we will hear of some of these on-ground actions. They will provide an idea of how much is being done by so many agencies and individuals, while noting that this is just the tip of the iceberg. This raises another important issue and role of the Recovery Team, which is in bringing together the many people involved in on-ground actions so that we can all learn from each other to reap the benefits of cooperation in obtaining, testing and distributing knowledge, and maintaining high standards in management and research.

Another basic function of the Recovery Team is to communicate the national effort to the Malleefowl family at a national level. Our two main instruments in achieving this are the national newsletter, 'Around the Mounds' which is produced and distributed twice a year and the national website. You will find the web address on the magnet in your forum 'show bag' and you can be included on the mailing list for 'Around the Mounds' via the website or for people without web access by forwarding your details to Tim or Sharon.

Monitoring Malleefowl and the Adaptive Management Project

With any threatened species we want to know how they are going. Are numbers increasing or declining? What are the long term trends in populations? Are we approaching a crisis point? Do we need to take emergency actions?

In the case of the Malleefowl, the best way of doing this is to monitor mounds. If mounds are active then we expect breeding to be occurring and this is a good sign. If no mounds are active we become particularly concerned and look for reasons why. Without monitoring we have no idea how the birds are faring in the wild. Nor can we measure the success or otherwise of management actions, or hope to understand where or why populations in one area may decline whereas others increase. In short, without monitoring we would be running blind.

Monitoring may not seem as 'proactive' as getting out there and killing ferals or revegetating scrub, but it is essential.

So regardless of anything else...we must monitor! With a species that crosses state and territory boundaries, an activity such as monitoring needs to be undertaken on a national scale. Monitoring is now core business for the Recovery Team and the large and committed army of volunteers that undertake this essential activity. Without you, we simply would not be able to do it! Your collective efforts are essential to the steady stream of monitoring data we rely on.

Technology moves at a rapid pace and there have been a number of great steps toward improving Malleefowl monitoring since the last forum. This includes exciting new search methods like LiDAR, which will be discussed by **Vi Saffer** from Umwelt Pty Ltd, and photogrammetry which will be introduced by **Julia Spark** from Aerometrex. These are stunning technologies that offer great promise in Malleefowl conservation: they have the potential of not only locating mounds, but also of describing the structure of habitats that are important to Malleefowl. **John Read** will also talk about a comparison of survey techniques such as LiDAR and ground searches on the Eyre Peninsula.

Joe Benshemesh will be talking on new use of cameras in the field and **Rosanna van Hespen** will talk about how we analyse this data.

And it's not all about improved technology. Our methodology for monitoring is also improving and evolving, as is our reach into arid Australia where Malleefowl occur over vast areas but at very low densities. **Adam Pennington** and **Liam Mulcahey** will talk about the significance of Malleefowl to the Spinifex People of the Great Victoria Desert and how work on the species has benefited local communities while providing valuable insights into the distribution of Malleefowl in the arid zone. **Joe Benshemesh** and his Aboriginal colleagues from the Maralinga Lands will talk about new understanding in methods for gathering information on indigenous lands.

Another example of how monitoring can be used to better understand Malleefowl survival will be presented by **Chris Hedger** in a comparison of breeding success and monitoring results in the Murray–Darling Basin.

The National Malleefowl Monitoring Database is evidence of how far we have come in the last few years. We have seen a shift from looking at data from small scale studies with little knowledge of how most populations were going, to a large scale monitoring program with over 120 sites measuring over 3000 mounds scattered across the nation, annually 'taking the pulse' of the Malleefowl populations.

Monitoring is all recorded in the national database and managed on a national level however, input into the national database is not an end to the process. When information is fed into the database, it doesn't just sit there as a lovely set of numbers. It is accessible to all contributors and now forms the foundation to the Adaptive Management Project.

The Adaptive Management Project is being conducted by a team from Melbourne University in conjunction with the National Recovery Team and Parks Victoria with the assistance of land managers from all states. As the Adaptive Management Project starts to deliver answers, these will be shared with land managers across Australia as guidance for on ground works.

While the building of the national database is an example of a really impressive collaboration it will be surpassed in scale by the Adaptive Management Project. This is a massive undertaking. In order to truly understand which of the threats to Malleefowl are most important to address, the Adaptive Management Project has set a goal of establishing some twenty sites across Australia to conduct experiments. Each of these sites requires land managers to identify sites of around several thousand hectares with nearby control sites of similar size and then record outcomes for several years for each experiment. The first of this round of experiments are already being organised and will be using outcomes from fox control programs. The project is likely to be continuing for many years to come.

We will hear a lot more detail on the national database and the Adaptive Management Project in tomorrow's presentations by **Michael Bode** and **Cindy Hauser** from Melbourne University.

Aims of this Forum

Another activity defined in the Recovery Plan is to conduct a national forum every three years. One of the greatest challenges for a threatened species with a range that extends across the nation is to unify the actions that are taken by four state governments, several non-government agencies and hundreds of individuals. The national forum is considered an important step in obtaining the unified approach needed.

The forum is also the perfect time to introduce new information that is of interest to all of us working with Malleefowl. **Taneal Cope's** presentation on genetics of Malleefowl is a great example of this. This sort of research is essential to our overall understanding of Malleefowl and is relevant to all future discussion on Malleefowl conservation. Taneal has a fascinating story to tell, the result of many years of research in the field and in the lab. Understanding the genetic structure of Malleefowl populations is essential for management, especially for considerations of supplementing populations with birds from other areas and from captive breeding programs, actions that could do more harm than good if genetics is not understood.

While breed-for-release programs involving captive Malleefowl are less popular now than they were in the past, the issues of translocation are still relevant. **Paul Andrew** will be leading a discussion later today on a legacy issue facing the Taronga Western Plains Zoo: what to do with offspring from the 16 Malleefowl that remain at the zoo?

The forum program shows that great advances are underway in Malleefowl conservation and understanding. While we can't guarantee that every threat will be removed (such as climate change) we can, and demonstrably are, organising ourselves to be in the best position to identify and mitigate threats wherever they occur.

Finally, this forum is the once in a three year opportunity for everyone who cares about Malleefowl to come together, catch up with old friends, make new ones and enjoy the camaraderie of a group with a unified concern.