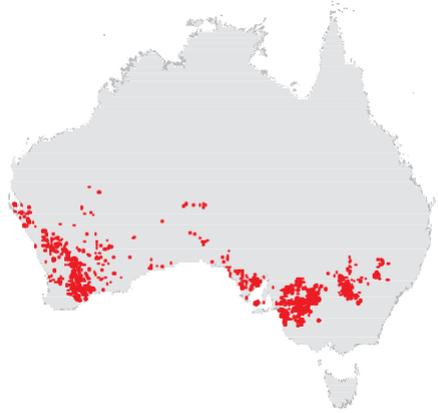


Malleefowl: answering the big questions that guide all malleefowl management



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Summary

The problem

1. Malleefowl habitat has been cleared and fragmented and widespread declines have occurred.
2. There are many threats, but not yet sure which is the most important.

Actions taken to manage the problem

1. Coordinated monitoring across the species' range.
2. Timely analysis of monitoring results.
3. Adaptive management trials building on existing dataset.
4. Respect and support for champions and volunteers.

Markers of success

1. Recovery Plan developed and implemented.
2. Recovery Team enduring and well managed.
3. Enhanced community involvement and support.
4. Statistically robust systems in place to track populations and evaluate management interventions.

Reasons for success

1. Dedicated champions and citizen scientist support.

2. A fascinating species.
3. A sophisticated monitoring system that engages volunteers at many levels.
4. A well-managed recovery process.

Introduction

Malleefowl (*Leipoa ocellata*) belong to one of the most unusual of bird families (Megapodiidae). Rather than sitting on eggs in a nest, as most birds do, the malleefowl are megapodes, which use compost, solar energy and sometimes volcanic heat to incubate their eggs. Unlike other megapodes, which are found in tropical and subtropical forests, the malleefowl is adapted to the drier environments of southern Australia – the species is typically found in semi-arid to arid shrublands and low woodlands, particularly those dominated by mallee and/or acacias. Malleefowl once occurred across the more arid parts of New South Wales, Victoria, South Australia, Western Australia and the southern Northern Territory. However, within the past century, much of the best habitat for malleefowl has been cleared for cropping or severely modified by grazing, causing contraction and fragmentation of the species' range and a decline in numbers.

As a consequence, malleefowl are listed nationally under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as Vulnerable, and as threatened in each state and territory within their range; the species may already be extinct in the Northern Territory. The malleefowl is one of 20 bird species identified in the Australian Government's Threatened Species Strategy for priority attention (Australian Government 2015).

Although there is evidence of ongoing continental-scale decline (Benshemesh *et al.* 2007), significant improvements in malleefowl conservation and understanding are under way. In particular, our ability to identify trends, respond to threats and assess the effectiveness of management actions aimed at benefiting malleefowl has increased enormously. Building on knowledge of trends gathered over decades, the Recovery Team and the many volunteers who have supported the bird have every hope of lifting the species' conservation status within the foreseeable future.

The future

We are optimistic that in the coming years there will be significant improvements in our approaches to malleefowl management, leading to improvement in the conservation status of malleefowl. Although uncertainty remains about the effectiveness of management actions in reversing the decline of malleefowl across Australia, the Adaptive Management Project will help demonstrate which actions work for malleefowl. However, predictions of higher temperatures and lower winter rainfall in southern Australia may lead to substantial reductions in malleefowl abundance and distribution (Parsons 2008), highlighting the need for both ongoing monitoring of malleefowl and continued adaptive management.

Although we are constantly looking to broaden our funding base, we only have some security for the next year or two. More staff are needed over the next 5 years so the results of the Adaptive Management Project can be shared with all relevant land managers. We are also working to upgrade our database to provide annual reports specific to Natural Resource

Management Regions to assist in local management plans. We hope to use this as the basis for ongoing financial support.

Conclusion

We summarise our reasons for success as follows:

- Dedicated champions. Unfortunately it's hard to bottle this, but it is important that when champions are identified, we do what we can to support them.
- The fascinating biology of the species as the only arid zone mound-builder in the world. It engenders much publicity and general interest.
- A sophisticated monitoring system that engages volunteers at many levels: from camping and bushwalking to viewing thousands of motion camera images or programming apps to phones for data gathering. From one day a year to nearly full-time jobs, malleefowl volunteering has something for everyone. We go to great lengths to ensure our volunteers time and all the data they gather are treated with respect.
- A well-managed Recovery Team that focuses on achieving Recovery Plan actions. The Recovery Team has been fortunate to have the involvement and leadership from some particularly talented and dedicated people. It is important to support these people when needed – it is a waste to have talented conservation specialists spending their time chasing funding.

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