**DRAFT Malleefowl Adaptive Management Fact Sheet 4; Nov 2018**

The Adaptive Management (AM) Project has been running since 2012. It has progressed through several stages, and these are more fully discussed in the previous fact sheets. The AM team are excited to document the latest progress, which takes us from a planning stage to an operational stage.

The project’s priority is to understand the role of fox and cat predation on Malleefowl persistence. To this end, the team is seeking at least 20 large (10,000Ha or greater) sites where we can observe the impacts of predator control on Malleefowl populations. This will require great cooperation between experimental management partners and the AM team. Land managers are free to continue their current control strategy (even when this means no control at all), but are requested to monitor predators and Malleefowl, supplying data to the AM team for collation, landscape-scale analysis, and feedback.

At annual meetings in Perth and Mildura we have thoroughly discussed elements of the experiment to ensure it would be within the capabilities of land managers, will produce scientifically rigorous findings, and will supply enough data to draw statistically significant conclusions. The intent of this fact sheet is to summarise the decisions made at the Perth and Mildura meetings and how we came to these decisions.

The main decisions are;

**1. We will primarily measure Malleefowl breeding activity (the Malleefowl Index) using the National Malleefowl Monitoring Guidelines**

**2. We will measure fox and cat (the Predator Index) activity (not necessarily a reflection of density) and not on tracks**

Note that while these may seem straightforward decisions for the experiment, they were resolved only after much discussion. Over the next 12 months details of the monitoring approach will become more specific as preparatory statistical analyses are completed.

Summary of discussions;

**Malleefowl index**

**We will primarily measure Malleefowl breeding activity using the National Malleefowl Monitoring Guidelines**

There are a number of methods that can be used to gain an understanding of Malleefowl populations. These include Malleefowl mound monitoring, track observation and camera monitoring. While track and camera monitoring can give an indication of Malleefowl activity, only mound monitoring gives us an indicator of breeding activity. And it’s breeding activity that we are really interested in. For example, a site may have a number of non-breeding birds that will be captured by a camera or track observation and yet have no breeding and thus limited impact on Malleefowl conservation.

The current method used by the Recovery Team is to identify a site boundary and then conduct a comprehensive search either by walking the entire site or using new technology like LiDAR or Photogrammetry. All mounds are given an identification stake with tag and mapped onto the database. The site is then ready for annual monitoring for the next 10 years when another comprehensive search is needed to locate any new mounds. The entire process has been operating for many years using the National Malleefowl Monitoring Manual for guidance. The Manual (available at [www.nationalmalleefowl.com.au](http://www.nationalmalleefowl.com.au) Library page) has recently been overhauled to include the new technology of smartphones for monitoring.

For any system to be useable it must be repeatable and relatively easy to accomplish. The Malleefowl monitoring relies heavily on volunteer involvement but this has proved to be a strength in the system rather than weakness. While government resources for mound monitoring varies from year to year, our volunteers continue to do a great job regardless. Furthermore, the Recovery Team has developed a sophisticated method of gathering all the data through the National Database that processes the many thousands of pieces of information gathered annually.

Given that the National Recovery Team has developed and trialled this Malleefowl monitoring system for many years with a high degree of success, it is only logical that this is the system being adopted for the AM Project.

**Predator index**

**We will measure fox activity not density. Activity will be measured using camera traps, and these will not be sited on roads/tracks.**

It is fair to say that monitoring other species at the AM Project sites met with a lot more discussion than for monitoring Malleefowl. This is because there is so much already being done to measure species such as the fox. Techniques like spotlight transects and sand-pad monitoring are common but camera trapping is increasingly being used. It is important to keep in mind that we do not hope to measure density, there has been little success in doing this anywhere. What we want to do is develop an index of fox activity that can be reproduced across many sites and used to compare activity between them.

The AM project has decided to use cameras because cameras can measure activity for a whole year without any maintenance. At the end of the year, cameras can have memory cards changed by the same teams doing the annual Malleefowl monitoring. We have already found that volunteers are accurate and keen to record the data.

All of this makes cameras a cheap and easy option for our experiments, but where should we place them? In many cases of fox monitoring we want to know if any foxes are present at all. Thus we would establish the cameras where foxes are most seen, and this is on tracks. However, in this case we are most interested in seeing what foxes are doing where Malleefowl are, and this is mostly off tracks and in the bush. So that is where we will be placing the cameras. An added advantage of this is that cameras are far less likely to be stolen.

More specific details of camera use in our AM Project were the subject of a Masters study. The details of the study are summarised in the accompanying fact sheet.