



Coordinating the DEH  
Malleefowl Monitoring Program  
in the South Australian Murray Darling Basin  
2009/2010

Final Report

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## 1.0 Introduction

In 2004, the Department for Environment and Heritage (DEH) initiated a project in the Murraylands Region to implement best practice monitoring of the existing network of malleefowl grids in the South Australian Murray Darling Basin (SAMDB). The intention was to adopt the monitoring system developed by the Victorian Malleefowl Recovery Group (VMRG). This system is now recognised as the national standard and has since been adopted throughout South Australia as part of the DEH commitment to the National Malleefowl Recovery Plan.

This report concludes the sixth year of the project. The focus of the project has progressed from the implementation of the new monitoring system in the early years to the collection of related environmental data and the continued development of a volunteer network. As in previous years, the project included the annual survey of all regularly monitored grids, using volunteers wherever possible. The monitoring data was collated, validated and prepared for entry into the new internet based national database, which is currently being trialled.

This report details the achievements of the latest stage of the project and includes summaries of the 2009/2010 breeding season monitoring results and volunteer hours contributed. Each project objective for the 2009/2010 season is addressed separately and recommendations for the continuation of the project are included in closing.

## **2.0 Monitoring results for the 2009/2010 breeding season**

The following section has been split into subsections relating to the individual grids monitored this season in the project area. The identification numbers for each grid, as allocated under the national database, have been included in the subsection titles. A summary of the monitoring results for the 2009/2010 season has been included in Appendix 1.

### **2.1 Cooltong Conservation Park (s03) grid**

The survey of the Cooltong grid was conducted by the Friends of Riverland Parks (FORP). The survey was conducted between 16 and 24 November 2009, during a biodiversity survey of the park. Survey kits were delivered to Kevin Smith prior to the survey and collected afterwards.

A total of 40 mounds were surveyed at Cooltong and none of these mounds were active. This season was the fifth consecutive season where no active mounds have been recorded on this grid.

### **2.2 Danggali Conservation Park (s05 & s15) grids**

The two Danggali grids were surveyed on 12 December 2009 by Community Land Management (CLM) volunteers, supervised by Grant Geyer. The CLM volunteers used their own monitoring kits and the survey data and photos were subsequently forwarded to us by Grant.

A total of 18 mounds were surveyed and one of these mounds was active (on the s05 grid). One active mound was also recorded last season. One new mound was found on the s05 grid this season.

### **2.3 Pooginook Conservation Park (s06) grid**

The survey of the Pooginook grid was also conducted by the FORP. The survey was conducted on 29 November 2009, during a biodiversity survey of the park. Once again, survey kits were delivered to Kevin Smith prior to the survey and collected afterwards.

A total of 33 mounds were surveyed at Pooginook and none of these mounds were active. The Bookmark fires of November & December 2006 burnt this grid after it was monitored in the 2006/2007 breeding season, so no active mounds were expected this season. At this stage, FORP have agreed to continue monitoring the grid on an annual basis to take advantage of the opportunity to record how the vegetation on the grid regenerates after the Bookmark fires.

### **2.4 Bakara Conservation Park (s07) grid**

The survey of the Bakara grid was conducted on 4 November 2009 by members of the Scientific Expedition Group (SEG), supervised by Mallee Eco Services. The survey had been originally planned for the preceding weekend but was cancelled due to very hot weather. Unfortunately this meant that fewer volunteers were available for the rescheduled survey.

Another 2 new volunteers were trained during this survey, in addition to the 15 SEG volunteers that were trained last season.

A total of 56 mounds were surveyed at Bakara and one of these mounds was active. The number of active mounds was up on the 2008/2009 season, when no active mounds were recorded.

## **2.5 Short's Heritage Agreement (s08) grid**

The survey of the Short's grid was conducted on 3 November 2009 by members of the SEG, supervised by Mallee Eco Services. The survey had been originally planned for the preceding weekend but was cancelled due to very hot weather. Unfortunately this meant that fewer volunteers were available for the rescheduled survey.

A total of 41 mounds were surveyed at Short's and one of these mounds was active. The same number of active mounds was recorded in the 2008/2009 season.

## **2.6 Chowilla Regional Reserve (s09) grid**

The Chowilla grid was surveyed on 12 December 2009 by CLM volunteers, supervised by Grant Geyer. The same arrangements were in place for this survey as for the Danggali survey.

A total of 18 mounds were surveyed and one of these mounds was active. Breeding activity was down on last season, when 2 active mounds were found. One malleefowl sighting was recorded on the grid this season.

## **2.7 Ferries MacDonald Conservation Park (s10) grid**

The Ferries MacDonald grid was surveyed on 11 December 2009 by Mallee Eco Services, Peter Johnston, Tony Chambers and Dennis Matthews. Tony Chambers is a new Adelaide based volunteer who also assisted with the survey of the Ettrick grid this season. Tony was trained in the use of the standard monitoring procedure during the Ettrick survey.

A total of 61 mounds were surveyed and 4 of these mounds were active. Breeding activity was up on the previous season, when 3 active mounds were recorded.

## **2.8 Peebinga Conservation Park (s44) grid**

Mallee Eco Services surveyed the Peebinga grid over 2 visits, on 19 December 2009 and 6 January 2010. Kevin Smith assisted with the monitoring on the second visit.

A total of 54 mounds were surveyed, of which 4 mounds were active. Breeding activity was down on the previous season, when 8 active mounds were recorded. Conditions on the grid seemed to have returned to a drier state and the positive lag effect of the good rains in 2007 appears to have abated. The heavy seed crop on understorey acacia shrubs noted last season was not present this season.

## **2.9 Karte Conservation Park (s45) grid**

CLM conducted the survey of the Karte grid for the first time this season over 2 visits, on 30 December 2009 and 9 January 2010.

A total of 24 mounds were surveyed and none of these mounds were active. Breeding activity was down on last season, when 1 active mound was recorded.

## **2.10 Gluepot Station (s52, s54, s56, s57, s59, s60, s63) grids**

Once again Kevin Smith coordinated these surveys, although we did provide a number of kits which were delivered prior to the surveys and collected afterwards. The surveys were conducted between 26 and 27 October 2009.

A total of 105 mounds were surveyed in the 7 grids and none of these mounds were active. This season was the third consecutive season where no active mounds have been recorded on these grids.

The majority of grids s52 and s54 were burnt in the Bookmark fires of November and December 2006, so little or no breeding activity was expected on these grids. At this stage, Kevin is continuing monitoring these grids on an annual basis to take advantage of the opportunity to record how the vegetation on the grids regenerates.

Kevin also organised the complete re-searching of the s59 grid on 12 and 13 September 2009 as part of the annual monitoring effort. Three new mounds were found during this search, although they may be mounds that had been originally mapped but not located again since the initial grid search.

## **2.11 Bandon (Burdett's Heritage Agreement) (s67) grid**

The Bandon grid was surveyed by Mallee Eco Services over 3 visits, on 23 November and 4 December 2009 and 3 January 2010.

A total of 59 mounds were surveyed and 2 of these mounds were active. Breeding activity was down on last season, when 5 active mounds were recorded. One malleefowl sighting was recorded on the grid this season. A fox was also sighted in the vicinity of one of the active mounds.

## **2.12 Ettrick (Fullston's Heritage Agreement) (s68) grid**

Mallee Eco Services and Tony Chambers conducted the survey of the Ettrick grid on 25 October 2008.

A total of 26 mounds were surveyed and 2 of these mounds were active. Breeding activity was up on last season, when 1 active mound was recorded.

### **2.13 Murray Bridge army training range (MBAR) (s69) grid**

The MBAR grid was surveyed on 8 December 2009 by Mallee Eco Services, DEH Murraylands staff (Chris Hedger & Annelise Wiebkin) and 2 volunteers (Troy Pankhurst and Andrea Ramirez). The DEH staff and volunteers were trained in the standard monitoring procedure during the survey.

A total of 48 mounds were surveyed and 6 of these mounds were active. This grid was not surveyed in the 2008/2009 season.

### **2.14 Summary of volunteer hours contributed**

The total volunteer hours contributed during the 2009/2010 monitoring season were as follows:

Ferries MacDonald - 16 hours (Peter Johnston, Tony Chambers)  
Pooginook - 31 hours (FORP)  
Cooltong - 19 hours (FORP)  
Ettrick - 8 hours (Tony Chambers)  
Danggali, Chowilla & Karte - 171 hours (CLM)  
Gluepot - 78 hours (Kevin Smith, Birds Australia volunteers)  
Gluepot (re-searching grid s59) - 98 hours (Kevin Smith, Birds Australia volunteers)  
Bakara - 10 hours (SEG)  
Short's - 27 hours (SEG)  
Murray Bridge Army Range - 19 hours (Troy Pankhurst and Andrea Ramirez)  
Peebinga - 6 hours (Kevin Smith)

**Total 2009/2010 season - 483 hours**

(Total 2008/2009 season - 599 hours)

## **3.0 Trends in breeding activity for each grid**

A comprehensive analysis of the trends in breeding activity for each grid was included in the final report for the 2007/2008 breeding season. Updated graphs showing breeding activity trends for each grid, compared with the corresponding rainfall data, were included in the final report for the 2008/2009 breeding season.

An updated comprehensive analysis of the trends in breeding activity for each grid was not included in the project objectives this season.

Please refer to Appendix 2 for a summary of the historical monitoring results for each grid.



#### **4.0 Collation & validation of 2009/2010 monitoring data**

All the monitoring kits were collected after each survey and the data was downloaded to a Cybertracker database on a desktop computer. The only exception was the Cybertracker data from the Danggali, Chowilla and Karte surveys, which was submitted by Grant Geyer. The data was then checked for completeness and accuracy.

The mound photos were downloaded from the digital cameras and relabelled with the grid and mound numbers. The mound photos from the Danggali, Chowilla and Karte surveys were submitted on CD by Grant Geyer. The complete set of photos was collated and then burnt to a CD for forwarding to DEH.

All the monitoring data, including mound photos, was submitted to DEH in February 2010 on a CD. A copy is also maintained by Mallee Eco Services as a back up.

It is intended that Mallee Eco Services will trial the uploading of this season's monitoring data to the web based national database.

#### **5.0 Contributions to State & National Recovery Team activities**

Mallee Eco Services is now a member of the committee which is overseeing the development and trialling of the new internet based national malleefowl monitoring database. Time was spent familiarising ourselves with recent developments, but to date we have not been required to contribute anything further other than trialling the uploading of this season's monitoring data to the national database.

During the 2009/2010 breeding season, samples of feathers were collected during grid monitoring for the National Malleefowl Conservation Genetics Study. The samples were forwarded to the relevant people in February 2010.

#### **6.0 Promoting the adoption of the standard survey protocols**

This objective has been largely achieved over the course of the last 5 years. All the main groups and individuals involved in regular malleefowl monitoring across the SAMDB are now using the new standard monitoring procedures.

DEH and the Department of Defence were able to come to an agreement over the monitoring of malleefowl mounds at the Murray Bridge Army Range in time for the 2009/2010 season. Previously this grid has only been monitored when Department of Defence funding was available, which was used to employ contractors to monitor all the known mounds on the Range. DEH and Mallee Eco Services offered to monitor the mounds in the grid originally surveyed by Greencorps, as this is a discrete area of known size, which means that the mound monitoring data can be utilised in the national database for statistical analysis. The remainder of the mounds scattered throughout other areas of the Range would only provide opportunistic monitoring data, which although useful, cannot be used for statistical analysis in the national database. This compromise will hopefully mean that this grid can now be monitored annually,

although it should be noted that the Department of Defence have indicated their preference for volunteers not to be involved due to occupational health and safety and liability issues.

## **7.0 Volunteer training**

Mallee Eco Services trained an additional 5 new volunteers and 2 DEH Murraylands Region staff in the standard survey protocols during the 2009/2010 breeding season. Refresher training was also provided during surveys for existing volunteers as required.

Occupational health and safety protocols were implemented this season as required by DEH. This mainly involved the use of the DEH Duty Officer for checking in and checking out of grids during the monitoring season. Handheld UHF radios were also used during surveys where multiple groups of volunteers were on grids at the same time.

Murraylands volunteers were kept up to date on monitoring progress throughout the 2009/2010 breeding season and a copy of this report will be forwarded to all volunteers involved in the monitoring program, as has happened in previous years.

## **8.0 Issues raised during the 2009/2010 season**

### **8.1 Murraylands volunteer network**

As has been the case in previous years, it was again evident that if DEH wishes to expand the network of volunteers for malleefowl monitoring in the Murraylands Region, then the majority of effort should be directed towards Adelaide. It is obvious that there is considerable local interest in malleefowl conservation, but it is proving difficult to translate that interest into local people volunteering their time for grid monitoring.

Despite this, the volunteer network has expanded over the last few seasons in particular, to the point where we only now have trouble finding volunteers for the Peebinga grid. This is mainly due to its location (between Loxton and Pinnaroo) and the number of mounds (54) on the grid, which means it takes more than one day to monitor.

### **8.2 Collection of environmental data**

This was not included in the project objectives this season, but incidental work is continuing, particularly on monthly rainfall figures and locating rain gauges that are both regularly monitored and as close as possible to each grid.

The aim with the collation of rainfall figures is to be able to graph breeding activity for each grid against annual rainfall and rainfall during the critical May to September period.

### **8.3 Updating monitoring kit equipment**

On a national level, investigations and trials are still continuing with replacement options for the Palm units that are used in the monitoring kits. The original Palm 3xe units in the

Murraylands kits will also need to be replaced at some stage. We are beginning to encounter problems with these older Palm units due to their age.

## 9.0 Recommendations for the continuation of the project

1. Modify draft VMRG landholder/land manager surveys for collecting environmental data for monitoring grids for use in the SAMDB and trial their use.
2. Consider implementation of a simple uniform system for collecting fox baiting data across the SAMDB for all groups conducting fox baiting for malleefowl conservation eg. GPS and Palm system.
3. Continue contacting established Adelaide based volunteer groups to recruit volunteers for monitoring in the SAMDB.
4. Continue to identify a network of rain gauges in the project area which can supply accurate figures for all existing grids. This should include landholders if their gauges are closest to the grids. Rainfall figures should indicate monthly totals as a minimum level of detail.
5. Continue efforts to collect and collate historical rainfall figures.
6. Purchase handheld UHF radios for the Murraylands monitoring kits. Five megawatt radios would be recommended for best coverage.
7. Investigate the replacement options for the Palm 3xe units currently used in the monitoring kits.
8. DEH should actively pursue potential adaptive management opportunities to progress the National Recovery Plan at a regional level. This would be a natural progression from the work done to date, which has mainly focussed on monitoring. A priority in the Murraylands Region would be fire management, as the understorey in many of the Murraylands parks is senescing (eg. Karte Conservation Park and Ferries MacDonald Conservation Park). Patchy, low intensity prescribed burns have the potential to rejuvenate the understorey, which is the vegetation layer that commonly contains plant species that provide food resources for malleefowl.

## Appendix 1: Summary of survey results for the 2009/2010 breeding season

Grid	Mounds Visited	Active Mounds	New Mounds	Sightings
Bakara CP s07	56	1	0	0
Bandon (Burdett's HA) s67	59	2	0	1
Chowilla RR s09	18	1	0	1
Cooltong CP s03	40	0	0	0
Danggali CP 1 s05	11	1	1	0
Danggali CP 2 s15	7	0	0	0
Etrick (Fullston's HA) s68	26	2	0	0
Ferries McDonald CP s10	61	4	0	0
Gluepot 11 s59	15	0	0	0
Gluepot 12 s60	14	0	0	0
Gluepot 15 s63	13	0	0	0
Gluepot 3 s52	23	0	0	0
Gluepot 5 s54	15	0	0	0
Gluepot 7 s56	15	0	0	0
Gluepot 8 s57	10	0	0	0
Karte CP s45	24	0	0	0
Murray Bridge AR s69	48	5	0	0
Peebinga CP s44	54	4	1	0
Pooginook CP s06	33	0	0	0
Shorts HA s08	41	1	0	0

## Appendix 2: Murraylands Malleefowl Data Summary 1989 - 2009

Grid	Grid Area (ha)	Total number of mounds visited (number of active mounds)																	
		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
03 - Cooltong CP	400					36(13)	36(16)	40(8)	43(5)	41(1)	43(3)	43(2)	43(2)	41(0)	41(3)	40(2)	4		
05 - Danggali CP 1	100					(2)	(0)	(1)	(0)	NS	(0)	(0)	(1)	(1)	NS	NS	(0)		
06 - Pooginook CP	400		(6)	(8)	(12)	27(6)	(8)	(7)	(4)	33(0)	33(1)	33(0)	33(1)	33(1)	NS	33(0)	33(1)	3	
07 - Bakara CP	420	(12)	(12)	(10.5)	(13.5)	NA	NS	58(16)	59(17)	58(18)	(10.5)	56(7)	53(7)	55(2)	55(0)	56(0)	55(1)	5	
08 - Shorts HA	250	(9)	NS	(9)	NA	NS	NS	42(7)	(7.5)	(5)	45(7)	41(6)	40(1)	(3)	42(0)	42(0)	41(1)	4	
09 - Chowilla RR	200						NS	18(0)	19(0)	19(0)	19(0)	20(1)	20(0)	20(2)	NS	NS	18(0)	1	
10 - Ferries McDonald CP	350	PS	(10)	41(10)	(10)	49(7)	NS	(8)	PS	NS	NS	60(5)	60(3)	59(4)	NS	NS	31(3)	6	
15 - Danggali CP 2	100					(0)	(1)	(0)	(0)	NS	(1)	(0)	0	0	NS	NS	0		
44 - Peebinga CP	400														61(5)	NS	NS	50(3)	4
45 - Karte CP	200														21(0)	NS	NS	NS	1
46 - Billiatt CP	400														13(0)	NS	NS	NS	9
47/48/49 - Ngarkat CP	1200														34(1)	NS	NS	NS	1
52 - Gluepot 3	200																	NS	9
54 - Gluepot 5	200																	16(1)	1
56 - Gluepot 7	200																	10(0)	1
57 - Gluepot 8	200																	10(1)	9
59 - Gluepot 11	200																	11(0)	1
60 - Gluepot 12	200																	15(0)	1
63 - Gluepot 15	200																	13(0)	1
67 - Bandon	675																		
68 - Ettrick	155																		
69 - Murray Bridge AR	375													NS	NS	NS	48(7)	49(7)	

NA = data not available

NS = not surveyed

PS = partial survey only (less than 10 mounds)

Partial survey - not all mounds visited

NOTE: Where the number of active mounds in brackets is the only figured included, these figures have been taken from the 2006 "Trend analysis of monitoring data"

\* Additional 39(7) opportunistic mounds outside grid

**Appendix 3: Mounds requiring new stakes and/or tags**

<b>Grid</b>	<b>Nest</b>	<b>Needs Stake</b>	<b>Needs Tag</b>
Danggali CP 1 s05	21	1	1
Peebinga CP s44	69	1	1