

6. Malleefowl monitoring in the SA Murray Darling Basin: 2011 update

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Abstract

The 2010/2011 Malleefowl breeding season in the SA Murray Darling Basin has seen the best conditions for many years due to widespread above average rainfall beginning in September 2009. There has been a significant rainfall deficit in the area since the mid 1990's. During this extended dry spell, Malleefowl breeding activity has been comparatively low and has only responded positively to localised heavy rainfall events in specific areas.

Twenty grids in the region are included in the regular annual monitoring program, which cover an area from Danggali Conservation Park in the north to Peebinga Conservation Park in the east to Ferries MacDonald Conservation Park in the south west. Ten of these grids are in heritage agreements on private land (including Gluepot Reserve), nine are in conservation reserves and one is on Department of Defence (Commonwealth) land.

Unfortunately breeding activity has not responded to the improved conditions in all areas, particularly north of the Murray River. Other areas within the region where recent rainfall deficits have been particularly pronounced have also not seen an increase in breeding activity. Elsewhere, breeding activity was higher than in previous years, with a record number of active mounds recorded at Peebinga Conservation Park.

Possible reasons for the lack of positive response include a lag effect from the extended dry spell and reduced Malleefowl populations. Follow up rains during 2011 may be critical for vegetation recovery to continue and to encourage increased breeding activity across the entire region.

Introduction

Malleefowl monitoring grids have been established in the SA Murray Darling Basin since the late 1980's. A variety of groups have been involved, including the Department of Environment and Natural Resources (DENR), the Murray Mallee Local Action Planning Group, Greencorps and the Department of Defence, with the extensive assistance of volunteers. During this time, monitoring grids have been established on public, private and Commonwealth land.

In 2004, DENR initiated a project in the region to adopt the monitoring method pioneered by the Victorian Malleefowl Recovery Group (VMRG), which has since been formalised as the national monitoring standard. The project also involved revitalizing Malleefowl monitoring in the region and engaging with all groups involved in monitoring to create a consistent and sustainable volunteer based annual monitoring program which could feed data into the national database, where it could be constructively utilized.

Twenty grids in the region are now included in the regular annual monitoring program, which covers an area from Danggali Conservation Park in the north, to Peebinga Conservation Park in the east, to Ferries MacDonald Conservation Park in the south west (see Figure 1). Ten of these grids are in heritage agreements on private land (including Gluepot Reserve), nine are in conservation reserves and one is on Department of Defence (Commonwealth) land.

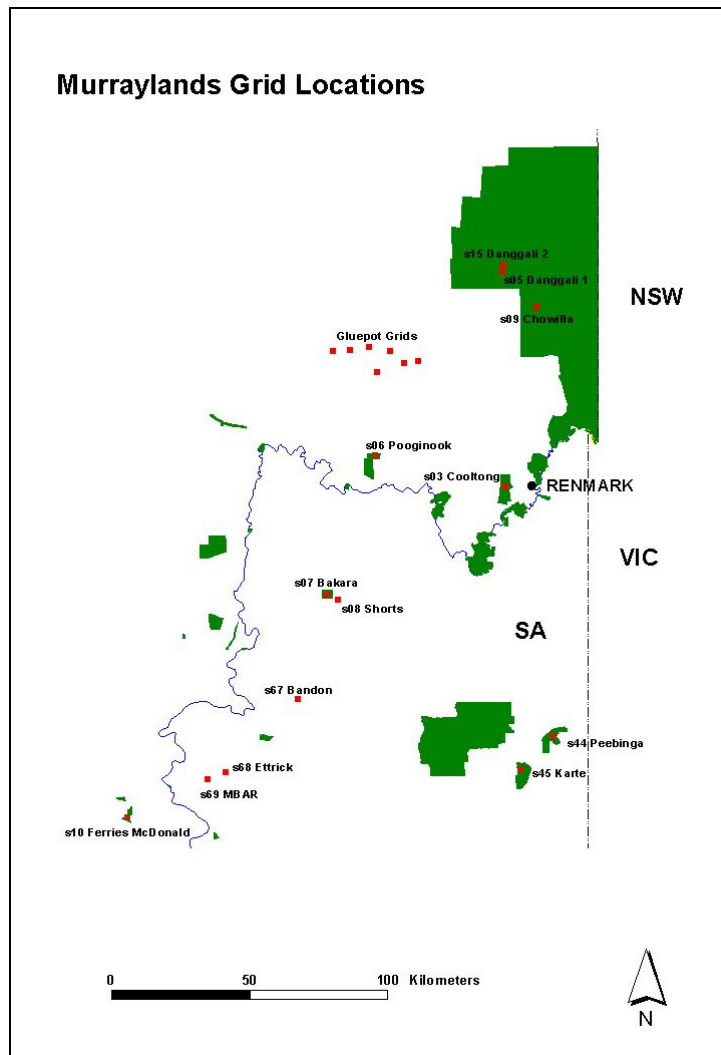


Figure 1: Murraylands (SA) grid locations.

Unfortunately breeding activity has not responded to the improved conditions in all areas, particularly north of the Murray River. Other areas within the region where recent rainfall deficits have been particularly pronounced have also not seen an increase in breeding activity. Elsewhere, breeding activity was higher than in previous years, with a record number of active mounds recorded at Peebinga Conservation Park (see Table 1).

In recent years, the project has also focused on the collection of rainfall figures and correlating them with breeding activity on individual grids (see Figure 2). This has involved the collation of monthly rainfall totals and comparing the total annual rainfall figures against the long term average. The cumulative rainfall totals for the May to September period have also been compared to the long term average for this period, as rainfall during this period has been shown to have a pronounced effect on breeding activity (Benshemesh, Barker & MacFarlane, 2006). Rainfall figures have been taken from the nearest Bureau of Meteorology rain gauge or from landholders' gauges if they are closer to the grid. This year will also see the first installation of an automatic weather station on a grid in the region.

Table 1: 2010/2011 Monitoring results.

Grid	Mounds Visited	Active Mounds 10/11	Active Mounds 09/10	Comment
Bakara CP s07	56	1	1	
Bandon (Burdett's HA) s67	59	6	2	
Chowilla RR s09	18	0	1	
Cooltong CP s03	40	1	0	
Danggali CP 1 s05	10	1	1	
Danggali CP 2 s15	7	0	0	
Ettrick (Fullston's HA) s68	24	2	2	
Ferries McDonald CP s10	61	6	4	
Gluepot 11 s59	15	0	0	
Gluepot 12 s60	15	0	0	
Gluepot 15 s63	13	0	0	
Gluepot 3 s52	23	0	0	Burnt 2006
Gluepot 5 s54	16	0	0	Burnt 2006
Gluepot 7 s56	15	0	0	
Gluepot 8 s57	10	1	0	
Karte CP s45	24	0	0	
Murray Bridge AR s69	49	6	5	
Peebinga CP s44	54	10	4	
Pooginook CP s06	33	0	0	Burnt 2006
Shorts HA s08	41	1	1	

NB: Grid names in red show a negative response or no change in breeding activity in 2010/2011; grid names in green show a positive response

Discussion

Possible reasons for the lack of positive response in some areas include a lag effect from the extended dry spell and reduced Malleefowl populations. It is possible that in certain areas, Malleefowl populations have become so reduced by the extended dry conditions that they are not able to positively respond to improved conditions for breeding. Follow up rains during 2011 may be critical for vegetation recovery to continue and to encourage increased breeding activity across the entire region. If low levels of breeding activity are repeated in the 2011/2012 season on specific grids it will suggest that the Malleefowl populations in those areas may no longer be self sustaining.

Three grids north of the Murray River were burnt in the Bookmark fire at the end of 2006. The monitoring of these grids in the intervening years has been conducted to take advantage of the opportunity to monitor the regeneration of vegetation on the grids. Breeding activity is not expected on these grids for some time yet.

Recommendation

The lack of a general positive trend in breeding activity across the region in response to the much improved conditions over the last 18 months highlights the need to move on from solely monitoring Malleefowl breeding activity in the SA Murray Darling Basin. I would like to see the monitoring program continue in the region but I think it should be rationalized. The priority should now be to monitor grids in conjunction with adaptive management trials. The volunteer time saved from reducing the number of grids monitored annually could be reinvested in assisting with the adaptive management trials. This would also help renew enthusiasm and interest in the volunteer network.

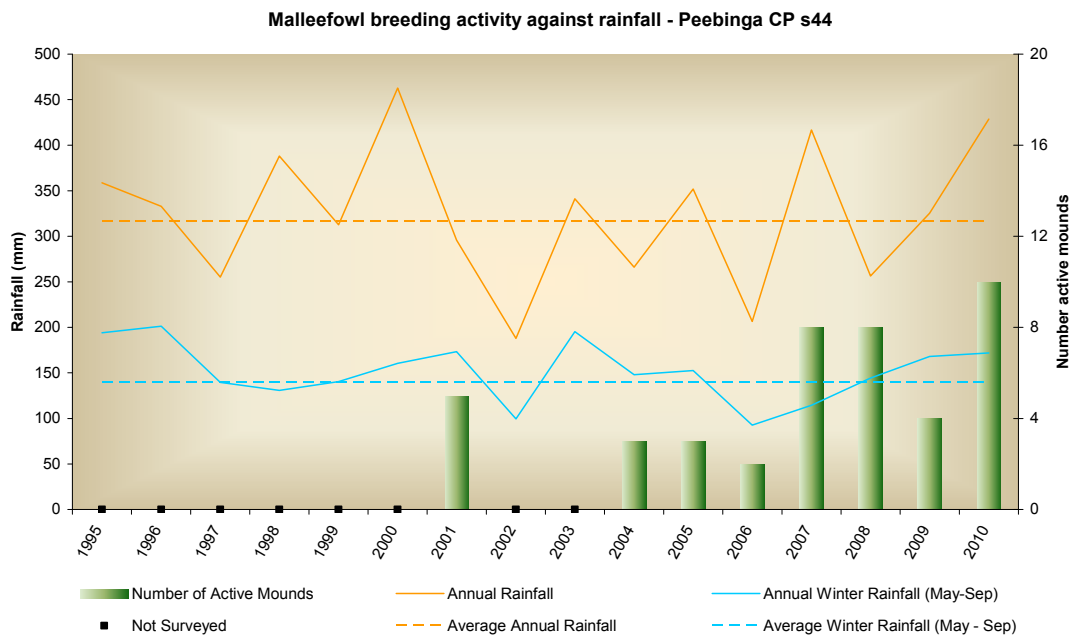
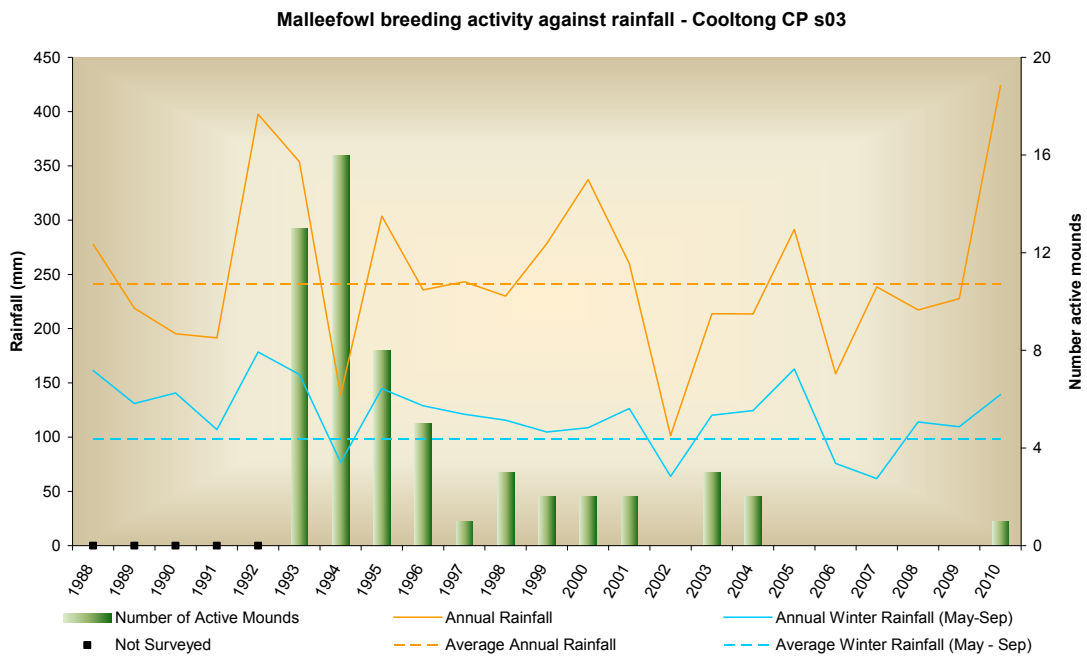


Figure 2: Examples of breeding & rainfall graphs.

References

Benshemesh, J; Barker, R and MacFarlane, R (2006) "Trend Analysis of Malleefowl monitoring data" (Milestone 3 report to the Mallee CMA, Victorian Malleefowl Recovery Group, and multi-regional "National Malleefowl Monitoring, Population Assessment and Conservation Action Project" steering committee).

Mallee Eco Services (2011) "Malleefowl Monitoring Program: South Australian Murray Darling Basin 2010/2011. Final Report May 2011" Unpublished report to Department of Environment and Natural Resources, Murraylands Region