AROUND THE MOUNDS

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WA Update...

Cats, Currawongs and Cropland: it's a chicks life in an agricultural bush remnant

Local volunteers are helping with important research into the survival of Malleefowl chicks and the way they disperse. Malleefowl chicks have been known to disperse 600m a day from the mound, some moving up to two kilometres (Dr Joe Benshemesh, 1992 at Wyperfeld). But what does a chick do when the bush 'runs out' after one and a half kilometres? Can it find enough food? Will it cross an open stretch of cropland? Will it use corridors? Move along road verges? Or will it stay where it is?

Malleefowl chick. Photo: J. van der Waag.

These are some of the questions hoped to be answered in a PhD project examining the dispersal and survival of young Malleefowl chicks in isolated bush remnants in Western Australia's agricultural wheat belt region. The research is being carried out by Jessica van der Waag from the University of Western Australia, north of Ongerup.

As most of the vegetation in the study region has been cleared, the remaining remnants are generally very small, privately owned and surrounded by crop or grazing land. The site of this year's pilot study is a 138ha block and is home to at least ten adult birds (five breeding pairs). The study involves fitting chicks that have been hatched from eggs collected from the area with specially designed radio transmitters and then carrying out ongoing monitoring of the chicks to determine the chicks movement patterns and diet. The chicks are artificially incubated near the site for the last few weeks before hatching, and then released at the source mound and radiotracked. Measurements of food availability, vegetation types and cover will be taken from areas where the chicks settle, and where they continue to move through. This information is extremely important to ensure areas of native vegetation in the area where Malleefowl are found can be managed to best suit the Malleefowl and improve their chances of survival. Volunteers on the project are assisting Jessica by radio tracking the chicks, recording their locations at different times during the day and night and recording information on the chicks behavior that is observed. The work requires a high level of fitness as the volunteers spend much of the day walking through the bush in the summer heat.

Carl Beck, District Nature Conservation Office and a volunteer from Katanning said "Assisting Jessica with her research really demonstrated how important remnant

Volunteers Jess, Carl and Sam at work on a mound. Photo: J. van derWaag.

Volunteer Sam Beck collects eggs for incubation. Photo: Carl Beck

vegetation on farms is to helping conserve species such as the Malleefowl."

Data has been collected since tracking started in late January with the release of 15 chicks. Ten of these were one to two month old pilot study birds raised at the University and released at the source site, and the other five chicks were incubated and released at the source site within days of hatching. Unfortunately there has been more mortality data than dispersal data. The main culprit in the nine mortalities to date (with three disappearances and three survivors) is thought to be a feral cat moving into the bush from nearby farmsheds. Other predators have included foxes, a goanna and possibly a Currawong. Two of the survivors are older pilot study birds who have settled in particular areas, and the third is a young chick which has been two days in the bush. Fingers are crossed it will continue to evade the predators - only 1093 days until adulthood!

Other groups that are assisting Jessica with her research include the Malleefowl Preservation Group, Yongergnow Inc and the Department of Conservation and Land Management. The project is partially funded by a WA Community Conservation Grant through Yongergnow Inc.

Funding for the project has been obtained from a WA Community Conservation grant through Yongergnow Inc.

For more information about the project or to assist as a volunteer, contact Jessica on 0429 422 176 or by email on vanderwaag@ozmail.com.au

Kalgarin Community Malleefowl Display

Malleefowl Preservation Group (WA) and Karlgarin Progress Association members, the "James's" and "Marsh's" recently travelled down to Ongerup in search of ideas and

Malleefowl 'scrap iron' sculptures. Photo: M. Marsh

support for their community malleefowl display board. The information board will be erected adjacent to the "scrap iron" malleefowl sculptures just outside the town south west of Hyden.

On 25th April the Karlgarin Progress Association unveiled two malleefowl sculptures made from scrap iron and a mound made from lime cement, twigs and dirt at the intersection of Brookton Highway and Swan Street. The project was made possible through Hyden Progress Association funding support from a Country Arts WA grant.

Pioneers to the district, Mick Aggiss (MPG member) and Mrs Mary James were invited to unveil the sculptures. Mary now lives in Hyden and Mick has retired to Bremer Bay. We extend a big thank you to the very talented "malleefowl makers", Colin Ritcher and Merv Trestrial who constructed the sculptures and mound.

With support from the MPG, we hope that this small community contribution will attract visitors to our town and importantly help raise awareness of the malleefowl and its need for protection in our region.

Merle Marsh Karlgarin Progress Association

Vic Update...

Training Volunteers To Monitor Malleefowl Grids: A Victorian perspective

The Victorian Malleefowl Recovery Group Inc. was formed in 2001 to provide a structure for interested community people to belong to an organisation that coordinates the task of monitoring malleefowl grids in Victoria. The group draws its membership from diverse localities, with approximately half coming from metropolitan and rural cities, and half from Mallee towns and farms. One of the roles of the VMRG committee is to provide training for those volunteers who wish to undertake malleefowl monitoring.

The volunteers who monitor come from diverse backgrounds to work together in a shared endeavour. They have differing levels of experience of walking in the bush, but only a few are accustomed to walking off tracks in remote mallee scrub where communication is difficult. Training is necessary to meet three objectives:

An active nest in Nurcoung FFR. Photo: VMRG

- To establish agreed standard monitoring procedures to meet scientific scrutiny
- To provide safety briefings and safety exercises
- To provide skills to enable monitors to confidently use electronic monitoring equipment and safety devices

The VMRG conduct an annual training weekend in October prior to any group going into the field, and there is an expectation that volunteers who wish to monitor will attend this weekend.

Monitoring for Consistency

As part of the program, all volunteers undertake a four hour field excursion visiting at least two mounds, preferably one being an active mound. The focus of the excursion is to ensure that monitors have a similar understanding of the data that needs to be collected when they are at a malleefowl mound. Most important is the need to ensure that the assessment of whether a mound is "active" is consistent, i.e.

Paul Burton instructing volunteers in how to read a mound. Photo: VMRG

whether the mound is being worked by malleefowl and is likely to contain eggs.

Next in importance is the consistent reading of a mound for signs of malleefowl activity, signs of disturbance and standard measurements of the mound. Evidence and interpretation of other tracks and scats is also explained and observed during the excursion. Recording observed data on printed nest sheets and on a palm pilot is practised during visits to the mounds. Monitors are provided with a Volunteers Field Handbook for future reference.

Safety Briefings and Safety Exercises

Safety workshops covering navigation and communications are essential components of the training weekend. Experienced VMRG members and Parks Victoria rangers conduct these sessions.

Navigation exercises covering a set course using GPS devices and compasses are undertaken. Whilst this is a refresher activity for most people, it is remarkable how valuable even the most accomplished bushwalker finds this activity, especially going back to the basics of navigating by compass. As the majority of our grids were set up with gridlines and red reflectors, which are now redundant

Peter Morgan using the trunking radion at a grid in Sunset National Park. Photo: VMRG.

because of the GPS, a reminder of how to navigate using these grid reflectors, in case of GPS failure, is also explained, and then practised during the field excursion.

Communication devices, especially Trunking Radios and Satellite phones are unfamiliar to most volunteers. Park Rangers are available to initially provide the explanation of the intricacies of using the equipment, and then they supervise lots of hands-on practice.

An aspect of safety, 'First Aid in the bush', is being developed for the next training weekend.

Monitors discuss the safety procedures they need to follow before they go into the field, particularly the requirement to inform the VMRG Safety Officer and Park Rangers of

Ann and Mary learning how to use the GPS at Wonga Hut, Wyperfeld National Park. Photo: VMRG.

their movements, and the need to make daily contact with the Safety Officer whilst in the field.

Electronic Monitoring Equipment and Safety Devices

An essential part of the training activities is to provide volunteers with as much time as possible to become familiar with the technical equipment used during monitoring.

- Palm Pilot: The functions of the palm pilot, locating Cybertracker (i.e. the malleefowl data program), recording data on cybertracker, checking battery power, trouble-shooting.
- GPS: The functions of the GPS, selecting Datum, marking waypoints, locating mounds using GPS & using the GPS as a navigation tool.
- Trunking Radio: The functions of the trunking radio, contacting Rangers, sending and receiving messages, using Radio as a phone.
- Satellite Phone: The functions of the satellite phone, setting up the phone, and making and receiving calls

Conclusion

The VMRG committee have developed this program over the last four years, particularly with the help of Dr Joe Benshemesh and Paul Burton, who we refer to as our technical advisors. We are keen to share our experiences with others, and to learn from other groups the good ideas they use for training volunteers.

The VMRG can be contacted through the Secretary Ann Stokie at annos@iprimus.com.au, and further information about the VMRG is available on our website www.malleefowlvictoria.org.au

Ann & Peter Stokie on behalf of the VMRG.

Disparity in nesting activity between monitoring grids in the Victorian Mallee

Analysis of the data collected by volunteers from VMRG and others over more than a decade shows an interesting disparity in the density of active nests (and total nests) between remote grids and those close to farmland. This could also be interpreted as a disparity between Murray-Sunset N.P. and all other areas given that the remote grids are all within that Park. The location of Malleefowl monitoring grids in the Victorian Mallee is as shown on the map. These 20 grids form the bulk of the monitoring effort in Victoria. On this map the grids, each of which measure 2km x 2km, are classified according to whether they are 'near', 'intermediate', or 'remote' from farmland.

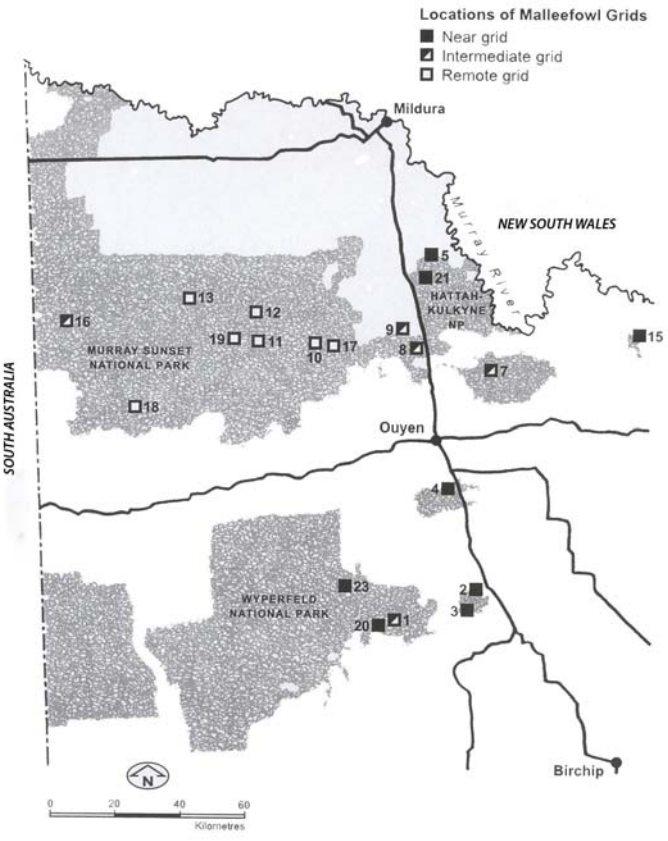
The location of Malleefowl monitoring grids in the Victorian Mallee are as shown on the map. These 20 grids form the bulk of the monitoring effort in Victoria. On this map, grids (each 2km × 2km) have been classified according to whether they are 'near', 'intermediate', or 'remote' from farmland. The definition of each classification is as follows:

- 'near' grids are located within 2km of cleared land (9 grids with 488 nests)
- 'intermediate' grids are located 3-8 km from cleared land (5 grids with 171 nests)
- 'remote' grids are located 10-28 km from cleared land (6 grids with 148 nests)

It should also be noted that all of the remote grids are within Murray-Sunset N.P. – there are none within the other large parks such as Wyperfeld N.P.

In his review of Malleefowl monitoring data in 1997, Joe Benshemesh noted that most remote grids had exhibited a decline in nesting activity for the period 1989/90 -1995/96 (Benshemesh 1997). The report on the outcome of monitoring for the 2003/04 season noted that differences in the density of active nests between Murray-Sunset N.P. (mainly remote grids) and other areas (mainly near grids) had widened over the period 1996/97 - 2003/04. John Coventry (formerly Museum of Victoria, pers. comm.) has also noted a decline in Malleefowl abundance for the interior of the Big Desert over a 25 year period.

It is important that we understand why this disparity between Murray-Sunset N.P. and other areas of the Victorian Mallee should exist. There are several possible explanations, each



of which needs to be explored in greater detail. These include:

- Inherent differences in the quality of the habitat within Murray-Sunset relative to other areas. For instance, birds have been observed feeding on grain in neighbouring cereal paddocks. This does not explain why the density of active nests in Murray-Sunset continues to decline relative to other areas.

- Lower (and less reliable) rainfall in Murray-Sunset relative to areas south and east, especially over the past decade. Whether the long term decline of Malleefowl in Murray-Sunset can be explained simply by rainfall is unclear.

- Differences in the fire history for the perimeters of large parks relative to their interiors. There have been several 'landscape-scale' fires within the area of the Mallee parks over the last 50 years. These would have made it difficult for Malleefowl to re-colonise affected areas, and may even have caused birds to migrate to the fringes of the large parks.

- Relatively more severe fox predation in the interior of parks where foxes have fewer options in the event that their staple prey (rabbits) suddenly declines due to drought or disease. We are investigating this in greater detail by analysing differences in fox diet for near and remote grids. This has been possible because the VMRG volunteers collect fox scats from nests in the course of their monitoring work, and Parks Victoria have had their contents analysed. The interim results of this investigation will be published in the near future (Sandell & Benshemesh in prep.).

Differentiating between these possible explanations is difficult, not least because Malleefowl monitoring programs were not set up with these questions in mind. In Victoria, most of our remote sites are clustered in one geographic area making it difficult to separate local factors, such as rainfall and fire, from more general considerations of landscape configuration that may influence Malleefowl through predation or food availability. But the observed disparity between grids in the Victorian Mallee highlights a few important issues for Malleefowl monitoring programs.

Firstly, if we want the monitoring system to answer questions such as these (and we do) we need to consider the questions carefully before establishing new sites, and in general, aim for a monitoring program that representatively samples the range of landscapes in which Malleefowl occur. Secondly, we need to coordinate our monitoring nationally so that gaps that occur in one state may be filled by information from another state. Combining our data will provide far greater power to answer key questions. Thirdly, we need to actively manipulate factors if we can in order to test their effects. For example, effective reduction of fox numbers in remote areas to assess whether this leads to any increase in nesting activity.

Peter Sandell (Parks Victoria - Environment Program Manager, Mallee District). Dr. Joe Benshemesh (Consultant on Malleefowl and other matters)

References:

Benshemesh, J. (1997) Review of Malleefowl monitoring in Victoria. Flora and Fauna Technical Report No. 148. Department of Natural Resources & Environment, Melbourne.

Benshemesh, J. (unpubl.) Malleefowl monitoring 2003/4: an update on the data collected. Report to VMRG by Joe Benshemesh.

Sandell, P., Benshemesh, J. (in prep.) Diet of Red Fox (Vulpes vulpes) in Mallee Dunefields based on Contents of Scats collected from Malleefowl (Leipoa ocellata) Nests.

Malleefowl Action at Wychitella - Central Victoria

Malleefowl guardian of the Wychitella Conservation Reserves, Peter Watts has an anecdote for each separate nest he visits.

"A detector bloke told me about this one." Another one is hard to find "because the man who told me had a gammy leg and his compass bearing was affected in the same way".

"This one is where eggs were laid in 2000/1. It's quite near a busy track. Then there was the drought year.Then it was activated again in 2002 but the female was killed in July that year. Don't know if she was taken by a fox or was hit by a passing vehicle".

Every nest has its own story and every story reveals acute observation, a personal analysis evoking concern for the life of each bird and the future of Peter's extended family.

And as we monitor each nest on behalf of the VMRG I note the apparent incongruity of our activity. On the one hand,we are trying to answer questions created for a different geographic environment (the north-west desert region of Victoria cf.the north-central temperate climate and sand cf. gravely claysoils) and entering the data as requested whilst being confronted with evidence of the dangers faced by the malleefowl on a daily basis. These are often people-induced dangers. We wonder about the information we are collecting and how it will help in the daily survival of these local and so isolated creatures.

However, both of us belong to the Wedderburn Conservation Management Network, a voluntary group funded by the State Government precisely to find action solutions to dilemmas like this.

And when we look back at the last twelve months we realise we have accomplished a fair first year. We attended the National Malleefowl Forum in Mildura (Feb 2004), had Joe Benshemesh make a public address in Wedderburn, acquired and circulated a number of videos of the Malleefowl, commissioned and paid for a Malleefowl Action Plan for Wychitella, successfully applied for a TSN grant to revegetate malleefowl habitat, began a long term relationship with the local K-12 school, lobbied local MHR's in relation to the National Malleefowl Plan, conducted a line search on a public block to ascertain whereabouts of mounds, attended an ecological burning workshop, liaised with the Sporting Shooters Association of Australia (Vic Branch)conducted an aircraft flight to search for mounds, began researching the unwritten history of malleefowl interest in the local area,

discussed appropriate signage for the district bushland, sponsored a fox-baiting program for the summer months in conjunction with the Department of Primary Industry and Parks Victoria, and commenced the monitoring for the VMRG.

Our current tasks include; developing a grid system that fits the VMRG pattern, collating and reviewing the disparate pieces of information from DSE, PV and local sources, continuing the fox-baiting on a permanent basis, continuing to encourage people to join the VMRG and thus widen the pool of trained mound monitors, and to establish video monitoring of at least one of the currently active mounds to check on the survival rate of chicks as a means of seeing how successful is our fox baiting program.

So why do we monitor the mounds, collecting data which is of no direct use to daily survival? Because we recognise that the scientific approach does in fact support the bird. Science provides a strong basis for developing policy at a state and national level which can mean dollars to support the bird at the local level. Science supports sustainability. Both require volunteer action. Each requires its own frame of mind. The lesson for us is to be able to accommodate both.

John Morieson

SA Update...

Christmas malleefowl

For Christmas, my partner Rob and I decided to give ourselves a treat. The weather was surprisingly mild for the end of December which meant ideal conditions for trekking through mallee and thick scrub in South Australia's South East (SE) to record the details of two recently located 'active' malleefowl mounds.

We had been searching for evidence of malleefowl residency (i.e. breeding) at one particular Reserve in the SE for nearly two years, going out on long weekends and occasional short

Malleefowl mound at Gum Lagoon....

ones. During that time we had found and recorded details on numerous old mounds, but not once sighted any malleefowl. We had pretty much narrowed down the range of possible locations when the Department of Environment and Heritage (DEH) had a Green Corp team at a bit of a loose end. With Rob's instructions on where to look the team found an active nest within a few hours!

A second active mound had recently been reported for Gum Lagoon Conservation Park (CP) located to the west of the Riddoch Highway and was apparently fairly accessible to

...and one of the inhabitants of another Reserve. Photos: J. Corin.

the main track. So Rob & I decided to have Christmas Day there, measure up that mound and then head off east to the other Reserve to see the mound we hadn't quite managed to discover ourselves.

To our delight we found not one but two active mounds within walking distance of our camp at Gum Lagoon. We watched from our perch in a tree as a pair of malleefowl dutifully

Rob Mengler gets a closer look at the mound at Gum Lagoon. Photo: J. Corin.

kicked the fine white sand back into place to perfect their mound. The next day one sauntered past as we were having breakfast. At the other Reserve, due to the different nature of the habitat, we were able to find a relatively obscure spot about 10m away from the mound. From there we looked on as the malleefowl stood atop its mound and then proceeded to methodically kick the heavier red sand into place, first from one side then from the other.

Gum Lagoon CP is situated amongst a cluster of reserves that are believed to be 'a stronghold' for malleefowl but there has been little past monitoring of populations to determine their actual state. By contrast, the other Reserve is in a highly fragmented part of the SE and although malleefowl sightings were reported there in the early 1990's it was believed these were just vagrants. Being less than 1,000 hectares the park

was thought too small to support a malleefowl population. However, it is approximately 40 years since a fire burned through the area promising suitable habitat for nesting. Good roadside vegetation cover also provides a degree of connectivity with malleefowl populations at some distance away on private land. These facts, together with the supplementary food resources available from adjacent cropping land suggested it was worthwhile putting in the search time at this Reserve. It was, making for a very special Christmas.

Jane Corin

SA Murray Darling Basin

In mid 2004, the SA Department for Environment and Heritage (DEH) began a process of overhauling the monitoring of existing malleefowl grids in parks, reserves & heritage agreements in the SA Murray Darling Basin (SAMDB).

The aim is to establish a coordinated community based monitoring program, based on the Victorian Malleefowl Recovery Group (VMRG) model. Existing data was collated and sorted, including all available location details of mounds on grids, six survey kits were purchased (Palm computers plus GPS and case) and a small contingent of crow-eaters headed over to Wyperfeld (waving Port Power flags) to join the October training weekend conducted by the VMRG. Members of the Community Land Managers group from Calperum and Taylorville Stations also attended, as they were also planning to pursue this approach. All of those who attended returned to SA feeling confident in their abilities to start collecting data electronically after an exceptional weekend.

The Victorian approach has now been successfully trialled this breeding season, with the Friends of Riverland Parks surveying grids in Pooginook, Cooltong and Peebinga Conservation Parks, & the 4WD Adventurers surveying grids in Bakara Conservation Park & the Shorts Heritage Agreement in the Mantung/Maggea area. A good start was also made with applying this method to 15 grids on Gluepot Reserve. Additionally, a mammoth effort was carried out by Community Land Managers on Calperum and Taylorville Stations, where approximately 20 new grids established and surveyed.

Overall a great start was made, and we are now well placed to see this method adopted across the board in the coming season. Unfortunately results were not so positive with very few active mounds recorded, following another year of poor winter and spring rains in 2004.

In the next season the intention is to extend the existing volunteer network & to encourage community members to "adopt a grid" to help ensure that all 14 grids managed by DEH are surveyed annually. A similar approach is planned for Gluepot Reserve, and individual Community Land Managers will continue to coordinate surveys of grids on their patches in Calperum and Taylorville.

Anyone interested in becoming involved should contact the DEH Regional Ecologist, Jody Gates, on 8595 2204.

South East SA

Several DEH staff from Robe, Naracoorte and Mt Gambier undertook training in the techniques of grid monitoring in early November 2004. Personnel involved in grid monitoring activities in Victoria provided the training.

Little monitoring of mounds has currently taken place, however, it is planned that on-ground activities will increased over the next 12 to 18 months. It is intended that part-time 'Malleefowl Recovery Program Coordinator' position, hopefully to be appointed in the near future, will drive much of the on-ground activities.

In addition to increasing the number of mounds being monitored, it is hoped that through the creation of a part time position, the region will also have an opportunity to better collate historic Malleefowl records and interpret current fox baiting and fire information with respect to Malleefowl conservation.

Dan Harley, SE Threatened Fauna Officer, DEH.

Aerial survey trial

A trial was conducted on March 15, 2004 to assess the effectiveness of helicopter surveys for monitoring malleefowl mounds in areas where there are very low mound densities and ground based search efforts are not particularly effective. This method is routinely used by NSW NPWS to monitor the number of active mounds in a number of reserves in western NSW. The aerial survey took place in the Gawler Ranges NP and Flystat software used to record flight path and individual mounds sighted. Transects were flown at ~80 km/hr and 60 m altitude over Pinkawillanie CP, Hambidge CP, an established grid near Lock and the Scrubby Peak section of Gawler Ranges NP.

The results of the trial indicated that the technique was useful for locating mounds in large tracts of vegetation and may assist in directing further ground-based search efforts. The aerial survey technique was calibrated against ground surveys at a standard 2 square kilometre grid located near Lock and showed that the aerial survey method detected only 50% (18 of 36) of mounds recorded from a ground survey during early 2004 and that there may have been some double counting of large highly visible mounds due to the proximity of adjacent transects (100m apart). Further investigation of the method is warranted for areas where there are large tracts of vegetation with relatively low mound density and limited track network.

It is proposed that an additional aerial survey be conducted in March 2005, with the primary aim being to locate additional mounds in the Gawler Ranges National Park and

Pinkawillanie Conservation Park areas to potentially revisit in the future.

Jason Van Weenan, Threatened Fauna Officer, DEH

Gawler Ranges NP ground survey

Ground surveys to determine the distribution and abundance of malleefowl mounds in key areas of the Park were conducted by a CVA team and local staff from April 4-14, 2004. Five days were spent searching an area E of Scrubby Peak on the Yardea-Minnipa Road where a pair of birds have been regularly sighted by Parks staff. Despite extensive searching no active mounds were located although a number of old mounds were recorded in the area along with bird sightings and fresh tracks. Further surveys were also conducted SW of Pine Lodge Survey and on Pinkawillanie CP where recently active mounds were located (used within the last 5 years). Survey information was recorded on standard datasheets used for malleefowl monitoring in other areas of SA and include GPS locations of birds or mounds, date, physical description of key mound features such as surface crust, leaf litter and vegetation present inside and outside the mound and cross-sectional profile rated from 1-7. This information will be entered onto the DEH Opportune Database for future reference.

Nicki De Preu, Rangelands Ecologist, DEH

Eyre Peninsula

Things have been progressing well with the survey of Eyre Peninsula grids over the latest monitoring season. Monitoring is now completed for three (Lock, Hinks & Cowell)out of the five grids, with the remaining two grids (Munyaroo and Pinkawillanie) on track for completion in the near future. An opportunistic search of the only known active mound in Lincoln National Park (lower Eyre Peninsula) revealed that it was again active this season.

The "West Coast Integrated Pest Management Group' have embraced the Malleefowl monitoring program on Eyre Peninsula and have attempted to incorporated the information obtained from grid monitoring as a measure of the Pest Management Groups success.

Andrew Freeman, Bush Management Advisor, DEH

Anangu-Pitjatjatjara Lands

Monitoring of some mounds has been occurring and there are currently three active mounds at Walalkura and two at Watarru. There are several other sites where tracks have been observed (Sandy's Bore, south of Watinuma and near Makiri). Predator signs seem to be low at present which is encouraging.

Belinda Cooke, IPA Support Officer, APY Land Management

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