



Saving ^{the} Malleefowl

Despite Western Australia's south-west being something of a stronghold for the malleefowl, numbers continue to decline. This is the story of how communities throughout the State are rallying to save this enigmatic bird.

by Sandra McKenzie and John Blyth

The malleefowl (*Leipoa ocellata*) is one of Australia's most remarkable bird species. It belongs to the family of megapodes or mound builders. Malleefowl are easily identified by their large strong feet, their beautifully mottled brown and bluish-grey appearance and the large mounds they build to incubate their eggs. Their mounds are made of sandy soil and may be three to five metres in diameter and filled with up to a cubic metre of moist leaf litter. Both birds work together to build the mound, into which the female lays between 15 and 25 eggs, spiralling into the centre.

The male is largely responsible for maintaining the mound throughout the incubation period. He regularly checks the temperature and makes any adjustments by adding or removing soil. Mound building may take several months between autumn and spring, with chicks hatching in late spring to summer. The chicks dig their way unaided to the top of the mound, even through a metre of soil. When they get



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A male malleefowl tending its mound.
Photo - Marie Lochman

Left: A sure sign that malleefowl are in the Goongarrie area—the bird's tracks are very distinctive.

Photo - Sandra McKenzie

Below: The male malleefowl opens the mound, allowing the female to lay her eggs.

Photo - Hans & Judy Beste/Lochman
Transparencies

to the surface they receive almost no parental care and can fly and feed themselves within 24 hours.

Malleefowl are one of only 22 species of megapodes, all of which are confined to the islands of south-east Asia, the south-west Pacific and Australia. There are only three species in Australia: the brush-turkey, the orange-footed scrubfowl and the malleefowl. The malleefowl is the only megapode to occupy semi-arid and arid areas, and as a result it has developed

the most elaborate and sophisticated incubation technique in the family.

THREATS TO THE MALLEEFOWL IN WA

Historically, the malleefowl was found from north of Carnarvon to the south-west corner of the State and widely distributed throughout the arid areas, ranging as far afield as the Gibson and Great Victoria Deserts. Today, however, it has declined to 46 per cent of its former range. Interestingly, birds



are still seen throughout the Wheatbelt, despite the removal of most of the original vegetation. Where such populations exist, numbers can be quite high because the land is more productive than in arid areas.

The south-west of WA remains a stronghold for the species, but even there, community groups and government agencies are searching for answers to questions that may determine the future survival of the species. For example, how do we know whether or not the birds we are seeing are all old and nearing the end of their breeding age? Exactly how many active incubator-mounds (nests) are left in the small areas of remnant vegetation? What are the impacts of feral animals on adults and young malleefowl? Can we revegetate areas to encourage the return of malleefowl? Can we sustainably farm the land and ensure the survival of malleefowl populations?

The habitat requirements and home-range size of malleefowl are poorly understood. There is also little information on the recruitment of young birds into adult populations, and whether or not there have been changes in regional malleefowl numbers over time.

It is known, however, that clearing for agriculture and grazing by stock have been major factors contributing to the decline of the species. Studies by Harry Frith (1962) showed that malleefowl breeding densities can be reduced by up to 90 per cent in areas that have been grazed. Wildfires are also of major concern—malleefowl are generally poor fliers and do not disperse widely when fires approach. Mallee scrub and woodland, the prime habitats of malleefowl, are also the most flammable of habitat types. When a fire passes through, it removes most of the above-ground vegetation on which the malleefowl feeds, and the leaf litter it uses in its mound. Predation by foxes has been acknowledged as a distinct threat to malleefowl. It is thought that cats may also have a detrimental effect on chicks, but there is no firm evidence of this. In the arid areas, feral goats compete with malleefowl for limited resources, and change the composition of natural vegetation. In semi-arid areas, rabbits are the competitors.



Above: Once the chick has struggled to the top of the mound it is left to fend for itself. It can fly within 24 hours.

Right: The female malleefowl lays between 15 and 20 eggs.
Photos – Hans & Judy Beste/Lochman Transparencies



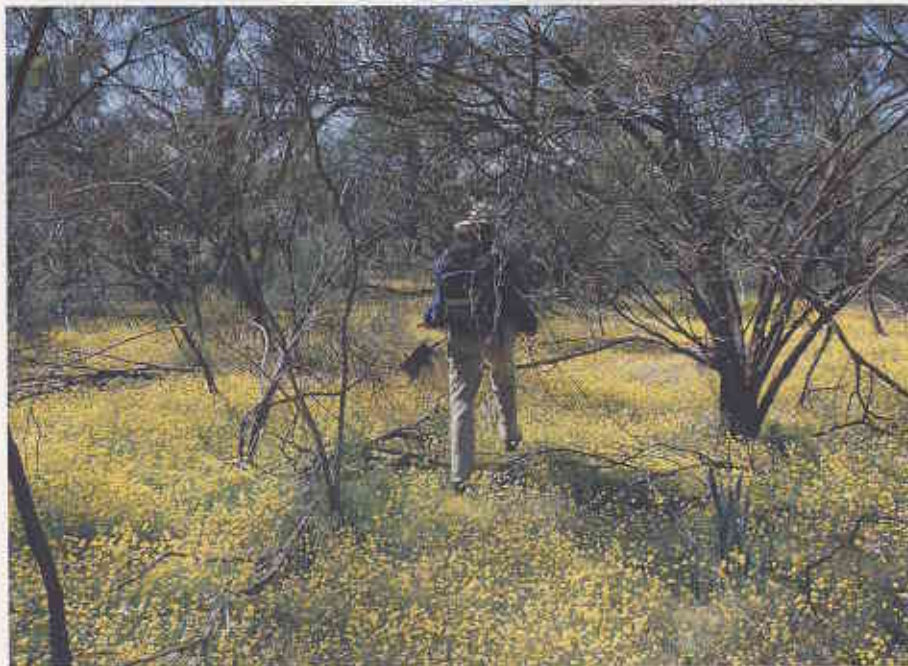
WORKING TOGETHER

The WA Malleefowl Conservation Program was initiated by the World Wide Fund for Nature (WWF) in response to community concerns for the malleefowl's status in WA. The program has been coordinated by the Threatened Species Network, a joint program of WWF and the Natural Heritage Trust.

WWF and the Department of Conservation and Land Management (CALM) have worked together to ensure the success of the program, with support from Perth Zoo, Birds

Australia, the Malleefowl Preservation Group Inc., the North Central Malleefowl Preservation Group, the West Morawa Catchment Group, the Kalgoorlie/Goldfields Naturalists Club, and the Green Corps Program of the Australian Trust for Conservation Volunteers (ATCV)—a Commonwealth Government initiative.

This alliance of government agencies and community groups has been a winning combination for the malleefowl, and has helped to address many of the threats facing populations of the bird in WA. One of the main



recovery actions for malleefowl highlighted in the draft National Recovery Plan is the need for long-term monitoring of known populations. Collecting data on breeding densities and monitoring the stability of malleefowl populations is fundamental in assessing the impact of threatening processes and planning future conservation efforts.

To date, with the help of Green Corps trainees, community groups have established 11 long-term monitoring sites throughout regional WA. Every known malleefowl mound in these sites will be visited annually, to determine whether it is being used for breeding. Malleefowl tend to renovate old mounds rather than build new ones, so it is relatively easy to detect changes in the number of breeding birds in an area. The data collected will then be sent to the National Recovery Team so that trends can be monitored on a national scale. It is envisaged the project will eventually be run almost entirely by community-based volunteers.

Long-term malleefowl monitoring sites have been established at Wubin-Dalwallinu, West Morawa, Jaurdi and Goongarrie Stations (managed by CALM) near Kalgoorlie, Lake Magenta Nature Reserve and Ongerup. These provide an excellent sample of habitat types within WA, ranging from the acacia and spinifex woodlands of the Goldfields, and the mallee and everlasting country in the northern Wheatbelt, to the denser mallee and melaleuca heaths on the southern coast.

MAKING A DIFFERENCE

The Malleefowl Preservation Group (MPG) in Ongerup has been involved in conserving the malleefowl since 1992.

Top left: Green Corps trainees renovate Eric the malleefowl's home at Perth Zoo.

Centre left: Spectacular wildflowers at the Koolanooka monitoring site near Morawa.

Left: Monitoring is also being carried out in thick mallee country at Lake Magenta.

Photos – Sandra McKenzie



One of the first steps in the formation of the group was to publish a Community Action Plan for Malleefowl Conservation. This was initiated by the WA Threatened Species Network Coordinator. The group's work so far has included fencing remnant vegetation from stock; controlling feral animals such as foxes, cats and rabbits; revegetating corridors; surveying and monitoring malleefowl populations; mapping habitat; and promoting community awareness and education. Developing a community action plan was found to be an excellent way of motivating and directing people's energies into conservation actions. The MPG celebrated their achievements recently with the release of a book, *The First Five Years*, co-authored by Project Coordinator Susanne Dennings and fauna consultant Greg Harold.

The North Central Malleefowl Preservation Group (NCMPG) was formed in 1994. The group has been very successful in involving local landowners in recovery actions. In 1995, 35 landowners were involved in fox baiting more than 100,000 hectares. Today, this number has grown to 110 landowners, baiting around 550,000 hectares. Anecdotal evidence suggests that immature malleefowl are being seen much more frequently than before the baiting. Funding for this program has come from WWF, CALM (Merredin office) and the Dalwallinu Shire, but at least half the baiting costs have been borne by the landowners themselves. In addition to fox baiting, the NCMPG has established about 13 kilometres of fencing to secure known malleefowl habitat. They have also worked alongside researchers to collect eggs for CALM's captive breeding and reintroduction program, Project Eden,

Above: A malleefowl works its mound near Ongerup.

Above right: This mound was found at Koolanooka Hills near Morawa.

Right: Up to a cubic metre of leaf litter is scraped into the middle of this mound at Goongarrie Station in the Goldfields.
Photos – Sandra McKenzie



at Shark Bay. To date, 67 malleefowl have been hatched, raised and released into the Francois Peron National Park. The birds have adjusted well to their new home. Monitoring of radio-tagged animals at six months indicated a survival rate of around 90 per cent, and healthy animals are still being sighted 18 months after release.

The West Morawa Catchment Group has also lent its support to malleefowl recovery actions. Before this, landowners were involved in a Community Biodiversity Survey with the Latham Land Conservation District Committee, WWF, ATCV and CALM. This work produced important biological information for Landcare groups developing integrated farm and catchment management plans to ensure that farming and malleefowl could coexist. Some of the highlights of the project included records of the side-barred legless lizard (*Delma grayii*), little long-tailed dunnart (*Sminthopsis dolichura*), fat-tailed dunnart (*Sminthopsis crassicaudata*) and the threatened western spiny-tailed skink (*Egernia stokesii badia*). Malleefowl

were also sighted at five locations, and more than 300 plant species were recorded, 11 of them being declared rare flora.

The Kalgoorlie/Goldfields Naturalists Club (KGNC) is the latest group to join the Malleefowl Conservation Program. Before joining, members of the KGNC had been active in promoting the conservation of various Goldfields species. Their efforts resulted in a biological survey of Victoria Rock Nature Reserve that documented flora and discovered a rare native pea plant (*Gastrolobium graniticum*). They also published a guide to the common birds of Kalgoorlie-Boulder in 1995, with support from a Gordon Reid Foundation for Conservation Grant.

City-based community groups can also make a significant contribution. Birds Australia (WA) has been monitoring malleefowl at the Eyre Bird Observatory and Dryandra Woodland for some years, and have developed publicity material to inform people about the malleefowl. The group is also a potential source of volunteers for future monitoring of the new sites.



MALLEEFOWL AS A FLAGSHIP SPECIES

Flagship species provide a focal point for community conservation efforts. Their functional relationships within the ecosystem often mean that recovery actions for their preservation also benefit other elements of local biodiversity. Flagship species are easily recognisable and they have an ability to foster community pride and lead to ongoing community action.

By adopting the malleefowl as a flagship for regional conservation, Western Australian community groups have been able to help safeguard vast areas of habitat. The impressive fox-baiting efforts of Malleefowl Preservation Groups in Wubin and Ongerup will have positive effects for

many other species. Already, the community is seeing increased numbers of birds, reptiles and mammals, including the banded lapwing plover, brush wallabies, stone curlews and the sand monitor (bungarra).

Community action also raises public awareness and concern for threatened species. Spin-offs include on-ground initiatives such as revegetation, fencing, cat sterilisation and increased volunteer participation in surveys. Good working relationships are also fostered between regional government agency staff and community members. CALM staff at Woodvale, Katanning and Kalgoorlie have assisted community groups and the Green Corps team with communications equipment, field

Above: The male malleefowl is largely responsible for tending the mound throughout the incubation period.
Photo – Jiri Lochman

Below: Green Corps trainees work with the Kalgoorlie/Goldfields Naturalist Club to set up the Goongarrie monitoring site.
Photo – Sandra McKenzie

expertise, survey equipment and accommodation.

The success of the WA Malleefowl Conservation Program really comes down to teamwork. Enthusiasm and the desire to make a difference, both individually and collectively, will ensure these efforts continue into the future.



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How many seals or sea lions are there around WA's coasts? See 'A Tale of Two Seals' on page 42.



Enjoy the WA environment—and don't get hurt! See 'Balancing Act' on page 23.



"What I wasn't prepared for was the magic of the experience." See 'Desert Impressions' on page 35 for the story of a LANDSCOPE Expedition.



The malleefowl has declined to 46 per cent of its former range. Read about the combined effort to save it on page 17.



Traditional owners are working with CALM and other agencies to manage the land. See page 10.

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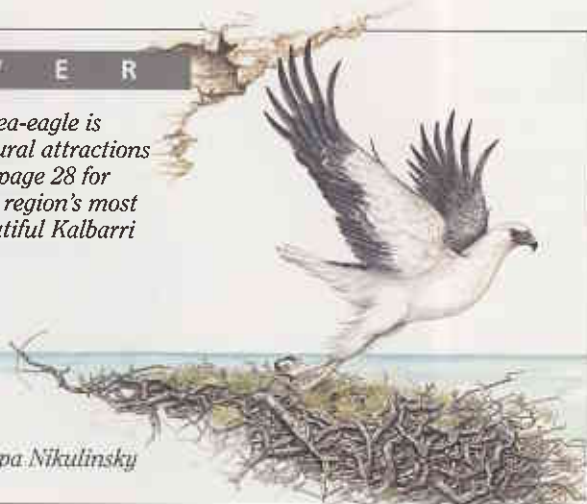
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