

## 21. MALLEEFOWL AT MT. GIBSON MINESITE

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### Introduction

The Mt. Gibson Iron Ore project site lies about 280 km west of Geraldton in Western Australia. The mining lease contains a substantial population of Malleefowl that the company is committed to conserve, indeed it is compelled to do so by state and commonwealth legislation. The mine will extract two forms of iron ore, hematite and magnetite. The magnetite will travel as a slurry along a pipeline direct to Geraldton and be exported from there. The corridor that contains the pipeline will also hold a road, a gas pipeline and a water pipeline to carry water from the Tathra borefield and return water to the Port of Geraldton. The project has an expected life of 20 years but has not yet had final environmental approval, although it has had a Public Environmental Review, the release of the Appeals Report and is expecting ministerial approval shortly. Once it has state approval it will then need to get commonwealth approval, but we are confident that both these will come through and are planning accordingly.

The lease area lies in the precinct of a number of private properties that are being actively managed for conservation. The Mt. Gibson Sanctuary of the Australian Wildlife Conservancy lies adjacent to the east of the proposed mine site, the Charles Darwin Reserve of Bush Heritage Australia lies to its west and Ninghan Station, owned by the Pindiddy Aboriginal Corporation and an indigenous protection area to its north.

The country is a banded ironstone formation, hilly, thickly vegetated, and difficult to traverse on foot. There is some flat country, but the Mt. Gibson Range dominates the lease area and is covered with Acacias, particularly mulga *Acacia aneura*, bowgida *A. linophylla* and sugar brother, *A. collgardiensis*. The mine site also lies at the intersection of two bioregions, the Yalgoo and the Avon Wheatbelt; the pipeline will also traverse the Geraldton Sandplain bioregion. The Malleefowl is one of several vulnerable or endangered organisms living in the area.

### Methods

In order to assess the impact of the mine on the Malleefowl we consulted earlier records held by the North Central Malleefowl Preservation Group, Professor Harry Recher, Birds Australia, the Australian Wildlife Conservancy and the Western Australian Museum. We also undertook our own surveys, walking through the scrub, five metres apart and searching for mounds, active and inactive, on the minesite and surrounding areas, but omitting the top of the range where Malleefowl had not been seen. We scored mounds as active if they looked active; we did not dig them up. These surveys involved eight people for many weeks and were very labour intensive, but achieved results.

Because the vegetation is so thick and the ground surveys so expensive, time-consuming and restricted in area, we have been seeking methods that are more efficient than large parties searching on foot. The company is investigating the possibility of adapting Heli West's system that is used by Western Power to locate pole top fires, electromagnetic faults and fires that can't be observed visually. It is a three camera system with an ultra violet sensitive camera, an infra red long wave radiometric camera as well as a high resolution digital video to pick up temperature differentials between mounds and the surrounding soil. Heli West have ground truthed the system, comparing the camera technology with visual assessment and they think it will work well. If we can get it to work it will be potentially cost effective and will mean that much larger areas can be surveyed quickly and effectively so we will get realistic regional population numbers.

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TIFF (LZW) decompressor  
are needed to see this picture.

**Figure 1.** Regional distribution of Malleefowl in the Mt Gibson area, based on various historical data sources.

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**Figure 2.** The results of searching for Malleefowl mounds in the vicinity of Mt. Gibson minesite in 2005.

## Results

A review of earlier observations showed that Malleefowl previously occurred in many parts of the area surrounding the mine site. Figure 1 shows the distribution of records of Malleefowl derived from various historical sources. The results of our recent searches for Malleefowl mounds in the area around the mine site are shown in Figure 2. During our search in 2005 we found 115 mounds, of which 15 were active. Most, but not all, of the mounds were in thicket country. Checking the active mounds again in 2007, we found that eight of them were not active in that year. In 2005 we also saw 4 live birds and one bird that appeared to have been killed and partly eaten by a fox.

The mine site itself will directly impact on three mounds active in 2005 and 25 mounds that were inactive in 2005.

### **Discussion**

With regard to the Malleefowl the target will be no change in the number of active Malleefowl mounds in the general region. So it becomes very important to the company to have a valid way to measure active Malleefowl mounds because we are using that to monitor the Malleefowl population. Hence our interest in the Heli West system.

Mining at Mt. Gibson will have some direct negative effects on the Malleefowl. There will be a direct impact of clearing and development of the mine and its associated infrastructure, resulting in removal so some mounds and loss of habitat for nearby birds. There will also be disturbance from traffic on the many roads that will need to be built and disturbance at night from lighting around the mine and plant. In addition Malleefowl will suffer from fires and from predation by introduced predators.

The company is very conscious of its responsibility to mitigate these threats to the Malleefowl as far as possible. It has prepared a Malleefowl Conservation Plan that designates buffer zones around active and inactive mounds that are no go areas during the time breeding is occurring. Clearing impacting on Malleefowl mounds is only to be undertaken between April and June, that is, outside the breeding time. There is to be annual monitoring of active mounds and remedial action will be taken if a decline in the number of active mounds is observed. The company will support a regional predator control programme. There will be close collaboration with neighbouring properties, the North Central Malleefowl Preservation Group and the Department of Environment and Conservation to ensure a regional approach to Malleefowl management.

In addition to the specific conservation plan for Malleefowl the company plans to contribute to conservation efforts at a regional level. It wants to have an environmental benefit outside the footprint of the mine. It will take a regional approach to fire control, recognising that the area is prone to lightning strike, and that these often start fires in inaccessible area. It will have well-maintained fire fighting machinery on hand, and although it will not be able to prevent fires starting in the area, it should be able to prevent them becoming extensive and damaging large areas of bushland. The company also plans to help start and to support a Regional Conservation Association and provide funding of \$100,000 a year to support on ground projects in that region, be they on public land or private land, so long as the projects are aimed at conservation. In addition the company has said the stations in the region that already focus on private conservation, will be provided with \$150,000 a year for each station to do work on the ground.

In conclusion the company's aim is to continue to work with groups through direct on ground work, but also through knowledge, to maximise the knowledge and the conservation of the populations of Malleefowl in the region, both in the Mt. Gibson Ranges, but also in the general area. When the company says working with groups, that means with groups that are focused on conservation, Australian Bush Heritage, Australian Wildlife Conservancy, North Central Malleefowl Preservation Group, Ninghan Station, other mining companies in the area and both state and commonwealth agencies. If this comes to fruition it will be an opportunity to really maximise the benefit.