22. Tracking Malleefowl in the Little Desert National Park: A preliminary study of Malleefowl activity in the park

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Abstract

The Little Desert NP stretches 95 km east from the Victoria – South Australia border, south of the Western Highway. Malleefowl are known to occur in the park but their distribution has never been systematically mapped. Until recent years the VMRG has had minimal involvement in the park, with one long-term monitoring site and two more recent sites established in or adjacent to the park.

Our aim was to investigate the distribution and abundance of Malleefowl in the Little Desert with a view to establishing further monitoring sites.

A simple but innovative sampling approach was developed. This approach utilised electronic data collection and allowed for the field work to be conducted by non-professional volunteers whilst maintaining scientific integrity. The activity was conducted in partnership with the Victorian Mobile Landcare Group.

The project showed that the methodology was a suitable technique in sandy country for establishing both the existence and the distribution of Malleefowl in potential Malleefowl habitat. It also showed that it has the potential to increase the awareness of Malleefowl among the wider community. The paper concludes by indicating that the methodology could be used as an effective tool in further Malleefowl research.

Introduction

The Victorian Malleefowl Recovery Group Inc (VMRG) monitors Malleefowl activity throughout Victoria. Monitoring sites are established in all of the National Parks and a number of Flora and Fauna Reserves within the Mallee environment. Sites are strategically placed and, by and large, cover Malleefowl country reasonably adequately – with one noticeable exception. With only two sites established, the vast Little Desert National Park has been a stand out omission from the activities of the VMRG. This paper describes the innovative approach the VMRG used to assess possible locations for the establishment of further monitoring sites in the Little Desert.

As much as the VMRG wanted to know about the extent of Malleefowl activity with the Little Desert, this paper is more about the methodology used and, as such, attempts to scrutinise that methodology as a worthwhile tool for future research.

The Little Desert National Park

The Little Desert stretches eastward from the South Australian border for about 95 km and is bordered by the Western Highway to the north and the Wimmera Highway to the south. The north to south width averages about 15 km, with a maximum of about 22 km. The 130,000 hectares are divided into three blocks – the Western, Central and Eastern blocks. The Western block is largely classified as 'Remote and Natural'. Most recreational activities take place in the Central and Eastern blocks (see Fig. 1).

The park is criss-crossed with tracks, mainly requiring 4WD vehicles, although some are suitable for conventional vehicles. There is about 1000 km of track altogether. There are also a number of designated hiking tracks, mainly within the Eastern Block.

The vegetation varies considerably throughout the park, and the fire regime over recent years has been quite extensive.
The Little Desert Lodge, established by Whimpey Reichelt, is situated to the northwest of the Eastern Block. It is the only private body registered to breed Malleefowl in Victoria and it has done much to further the cause of the Malleefowl.

Why search the Little Desert
The Little Desert contains many areas with the potential to support Malleefowl populations. The VMRG has had minimal interaction in the Park. For many years now it has monitored a site in the Hateley Flora and Fauna Reserve, on the northern edge of the eastern block. However, due largely to a fire that burned most of the reserve a number of years ago, the Malleefowl population has long since disappeared.

In recent years the VMRG began the process of establishing a monitoring site in the vicinity of Mt Turner, virtually in the centre of the central block. Likewise, the group has done the same with a site in the Nurcoung Flora and Flora Reserve to the south of the eastern block, but separate from the National Park.

Ray ‘Whimpey’ Reichelt, founder of the Little Desert Lodge and associated complex, (now incorporated into the Little Desert Flora and Fauna Foundation) has had a long association with Malleefowl in the park but the emphasis of his work is quite different to that of the VMRG.

Vegetation of the Little Desert
The vegetation of the Little Desert is quite varied and not all is suitable for Malleefowl activity. The Parks Victoria website contains the following description:

More than 670 species of native plants have been recorded in the Little Desert, representing about one fifth of Victoria’s indigenous flora. The eastern block contains extensive heathlands, with banksia, tea-tree and sheoak, and many spring flowering species. Woodlands of Yellow and Red Gum with Slender Cypress-pines, and swamps and clay flats of Bull-oak and melaleuca are of particular interest in the western block. Some twelve plant species are considered to be rare or significant. The central block contains elements of the vegetation types of both the other blocks, with extensive areas of stringybark. Three plant species are considered rare or significant. Scattered throughout sandy areas of the park are ridges of iron-rich sandstones on which Broombush can be found.

Figure 1. Fire history in the Little Desert NP.
Fire in the Little Desert
The Little Desert has been extensively burnt in recent years, a combination of wildfire and prescribed burning (Fig. 1). The VMRG is getting increasingly involved in the decision making process in this regard and is very concerned with requirement to burn 5% annually of all crown land in Victoria (see Fig. 1).

How best to search the Little Desert
Searching the Little Desert in the time-honored method of line searching was out of the question. The park, at 130,000 ha, is large and much of it quite obviously unsuitable for Malleefowl activity. The park is also very elongated in shape, adding to the difficulties and, as mentioned above, contains about 1000 km of largely sandy tracks. The solution was to search for the signs of Malleefowl using a sampling approach, enabling a broad overview to be obtained which, in turn, would lead to the targeting of specific areas based on the outcomes of the search.

The Methodology
The methodology decided upon centered on the use of mobile teams of observers assigned to search designated tracks. Each transect (the term used for each designated track) was divided into sequential units of 1 km. The first 850 metres of each unit was driven and the last 150 metres walked by a team of at least 2 observers.

There were 14 transects identified initially and in September 2009, 60% were searched (Part 1). In April 2011 another 12 transects were identified and 70% were searched (Part 2). These transects were a combination of incomplete transects from Part 1, a second look at some of the more promising areas and some additional areas added in response to knowledge gained in the interim (see Fig. 2).

Observers were asked to look for animal tracks, particularly Malleefowl, and to attempt to identify the species. GPS records were taken at the start and end of each walking unit and of any Malleefowl prints seen elsewhere. Photographs were taken of the first example observed of a species during each walking section. A scaling card was included in each photograph to allow for easier verification at a later stage, and an identifying letter (typically the first letter of the name of each species) placed on each card. Question marks were added where
observers were unsure. Photographs were also taken of the vegetation at the end of each walking section. These provided additional information when the data was being examined for possible monitoring sites. It was also hoped that they would provide a ‘snapshot in time’ of the condition of the vegetation within the park. At the end of each walking section observers were also asked to record the Track Condition, estimated in 25% increments, of the ability of the track to show prints.

**Recording the data**
The data was recorded in the Cybertracker program. Observers used either the older Palm/GPS combinations familiar to many monitors, or the newer, more compact Mobile MapMakers. Observers were also equipped with printed forms, to be used if they preferred or if the technology came unstuck. It was pleasing to note that this was unnecessary on both counts. Teams were also equipped with a modified track identification manual, to aid in identifying fauna tracks.

**Providing the resources**
Much of the funding for the project came from the Wilderness Society via their WildCountry Small Grants Program. Members of the VMRG provided much of the expertise necessary for ‘reading the signs’, and a significant number volunteered their services for both parts of the project.

Providing an adequate number of both people and 4WD vehicles was beyond the resources of the VMRG, so a partnership was formed with the VMLCG (Victorian Mobile Landcare Group). Whilst the VMLCG is unapologetically part of the broader 4WD movement (they began as an off shoot of the LandRover 4WD Club), they are also committed to the care of the environment and their many environmental projects take them all over the state. Catering was provided by VCE students from Lalor Secondary College.

The involvement of these groups is consistent with the aims of the VMRG, in which community involvement and education is strongly emphasised.

**Training**
Training was largely conducted on site prior to the commencement of the activity. Training consisted of an outline of the purpose of the activity and detailed instructions on the methodology, and the use of the technology. A ‘Modified Tracks Manual’, specifically targeting species likely to be in the Little Desert, was produced and provided to each team. Detailed instructions were provided in the form of an ‘Operations Manual’, produced in-house specifically for the project. Safety requirements were emphasised and protocols put in place. However, with the experience of the participants involved, safety was not a large concern.

**Problems**
The weather turned out to be the most significant problem. Rain caused the cancellation of the first proposed date in April 2009, and it caused disruptions to the collection of data on the two project days, September 2009 and April 2011. In September 2009 the rain occurred just prior to the start of the search and in April 2011 the rain caused a premature end to the search. Whilst not heavy in either case it was sufficient to limit the ability of observers to find and identify tracks.

The experience gained in Part 1 indicated that the transect lengths were too optimistic. Consequently, for Part 2 the transect lengths were reduced by about 40%. For Part 1 the average transect length was 58 km and for Part 2, 34 km.

The base for the project was the Kiata Camping Ground in the north-east of the park. This meant that teams appointed to transects in the west had considerable distance to travel to and from their search area. However, this could not be avoided due to the lack of any other suitable base camp.
Findings

General
The methodology proved itself to be a useful method for searching large areas quickly. Malleefowl abundance was disappointing but the project did provide adequate data for further investigation of future search sites as part of the annual monitoring program.

The Methodology
As a method of searching a large area with limited resources in a relatively short period of time the methodology was adequate. Whilst a longer walking section on each sequence would have been of more benefit, the ’850 m drive – 150 m walk’ combination proved to be adequate from a sampling point of view.

The methodology lent itself well to cooperation with community groups, conditional upon the provision of sufficient expertise in each team. Detailed preparation and training were paramount to the overall success of the project.

The Malleefowl
The presence of Malleefowl was observed in only a small number of areas and these, by and large, tended to correspond with observations and information previously gathered. In all likelihood, the extensive recent fire regime, both prescribed and wild, has had a detrimental impact on the Malleefowl, as evidenced in the Hateley Flora and Fauna Reserve.

Recommendations
"That the methodology, as described, be endorsed as a suitable tool for the preliminary assessment of the distribution and abundance of Malleefowl and other species in large areas of potential habitat."

"That the methodology be endorsed as a tool for community engagement and Malleefowl awareness."

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