

Technical Bulletin # 14

Surveying threatened Mallee birds in Murray-Sunset and Hattah-Kulkyne National Parks



Above: Southern Scrub-robin. Photo: Dean Ingwersen.

This technical bulletin summarises the findings of field research conducted in November 2011 on the extent and abundance of threatened Mallee birds in the Murray-Sunset and Hattah-Kulkyne National Parks.

The project aimed to:

- Increase knowledge of the current abundance and extent of the Victorian Mallee Bird Community in the Murray-Sunset and Hattah-Kulkyne National Parks;
- Investigate the effect of the exceptionally wet spring/summer of

2010/11 on the Victorian Mallee Bird

Community and the mallee habitat; and

- Compare survey results with those of the 2006/07 surveys of the Mallee Fire and Biodiversity Project, undertaken by La Trobe and Deakin Universities.

Background

This study targeted the Victorian Mallee Bird Community, a group of 20 bird species which are listed as a threatened community under the *Victorian Flora and Fauna Guarantee Act 1988* (FFG Act).

Some of the species that make up this community are widespread and common,



Above: Red-lored Whistler. Photo: Chris Tzaros.



At a glance

- The Victorian Mallee Bird Community is a group of 20 species, which together are listed as a threatened community under the *Victorian Flora and Fauna Guarantee Act 1988*.
- Surveys of this community were conducted in the Murray-Sunset and Hattah-Kulkyne National Parks in spring 2011.
- Results show that the Victorian Mallee Bird Community remains relatively intact within the study area.
- Threats (weeds and introduced animals) were generally low across most sites.

but others are rare and have been listed individually as a threatened species (see Table 1).

Major threats to the Victorian Mallee Bird Community are continued habitat loss, fragmentation and degradation and inappropriate fire regimes. Introduced predators, such as foxes and cats, are also thought to contribute to the decline of these species.

This project builds on data from the Mallee Fire and Biodiversity Project, a four year joint research project between Deakin and La Trobe Universities, which investigated the response of Mallee biodiversity to fire. In 2006 and 2007, the Mallee Fire Biodiversity Project undertook bird surveys at 12 sites in the Murray-Sunset and Hattah-Kulkyne National Parks. The current study re-surveyed these sites in light of the record rainfall that occurred in north-west Victoria between September 2010 and February 2011. It was expected that bird abundance would increase after this rainfall event as the Mallee environment recovers from drought conditions.

Methods

Surveys were undertaken in November 2011. A total of 160 transects and 160 points were surveyed in the Murray-Sunset and Hattah-Kulkyne National Parks. Transect surveys involved walking 500 m and recording all birds seen and heard along the length. Point surveys involved five minute surveys where all birds seen and heard within a 60 m radius were recorded.

Photopoint analyses were also undertaken of paired photographs from 2006/07 and 2011. Habitat variables, for example, the amount of eucalypt foliage, grasses, bare ground and logs, were compared between photographs.

At each transect, the impact of threats was observed and given a high, medium or low rating.

Table 1. Species that make up the 'Victorian Mallee Bird Community', a threatened community under the FFG Act. EPBC Act refers to the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999, VRoT refers to the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2007).

Common name	Individual Conservation Status		
	EPBC Act	FFG Act	VRoT
Malleefowl	Vulnerable	Listed	Endangered
Regent Parrot	Vulnerable	Listed	Vulnerable
Splendid Fairy-wren			
Mallee Emu-wren	Endangered	Listed	Endangered
Striated Grasswren			
Shy Heathwren			
Redthroat		Listed	Endangered
Slender-billed Thornbill		Listed	Near Threatened
Spotted Pardalote			
White-eared Honeyeater			
Purple-gaped Honeyeater			Vulnerable
Yellow-plumed Honeyeater			
Grey-fronted Honeyeater			Vulnerable
Black-eared Miner	Endangered	Listed	Endangered
Brown-headed Honeyeater			
Chestnut Quail-thrush			Near Threatened
Western Whipbird	Vulnerable	Listed	Critically Endangered
Red-lored Whistler	Vulnerable	Listed	Endangered
Jacky Winter			
Southern Scrub-robin			



Above: Mallee Emu-wren. Photo: Dean Ingwersen.



Above: Photo taken during 2006/7 study. Photo: Mallee Fire Ecology Project



Above: Photo taken in 2011. Photo: BirdLife Australia

Call playback was also used to target Black-eared Miners, Mallee Emu-wrens, Red-lored Whistlers and Striated Grasswrens; a recorded call of each species was played through a speaker and the surrounds monitored for a response.

Results and Key Findings

Comparison to previous surveys

Over 4,700 individuals of 75 species of birds were recorded during this survey. While the total number of species recorded (overall species richness) was higher in 2011, the average number of species recorded per site (mean species richness) and the average number of individuals recorded per site (mean abundance) was significantly lower than in the 2006/07 surveys (see Table 2).

These results were converse to the expected increase in species richness and abundance in response to wet conditions. This in part may be due to a time lag between the drought breaking and bird populations recovering.

Another possibility is that after the exceptionally wet spring/summer of 2010/11, areas of mallee habitat most recently burnt have thrived, particularly when compared to older stands of vegetation. It may be that these recently

burnt patches have flourished post-rain, drawing birds from areas of older-aged habitat. This would result in the lowered abundance and diversity in the sites surveyed.

Comparisons with previous surveys were inconclusive about the effects of the wet 2010/11 period on vegetation condition in the parks. Vegetation characteristics such as annual grasses, which can rapidly respond to changing environmental conditions, showed a significant change in the amount of cover between past and current photopoint surveys, while other features were less obvious in their improvements.

Victorian Mallee Bird Community

Fifteen of the 20 species which make up the Victorian Mallee Bird Community were encountered across the study landscape at multiple sites, confirming

Table 2. Summary of results per year for point count surveys.

Year	# points surveyed	Total # species recorded	Total # individuals	Mean species richness (\pm s.d.)	Mean abundance (\pm s.d.)
2006	240	55	2320	5.63 (\pm 2.43)	9.67 (\pm 12.00)
2007	240	61	2699	6.91 (\pm 2.81)	11.25 (\pm 11.48)
2011	160	62	1368	3.85 (\pm 2.15)	8.55 (\pm 10.32)

that this community remains relatively intact within the Murray-Sunset and Hattah-Kulkyne National Parks. However, there is concern for the five species which were not recorded: the Western Whipbird, Redthroat, Slender-billed Thornbills and Purple-gaped and Grey-fronted Honeyeater. Little is known of the population status of these species in the Murray-Sunset and Hattah-Kulkyne National Parks, but their absence in this study may reflect that they occupy habitat that was outside of the survey design. For example, Redthroats and Slender-billed Thornbills show a preference for acacia and chenopod shrublands, vegetation communities which were not surveyed in this study.

Five species of birds listed under the Commonwealth EPBC Act were recorded during the 2011 surveys: the Malleefowl, Regent Parrot, Mallee Emu-wren,



Above: Regent Parrot. Photo: Mallee CMA.

Black-eared Miner and Red-lored Whistler. All species were recorded at multiple sites, with Regent Parrots being one of the more abundant species recorded across the entire survey.

The four species targeted with call playback were also recorded during this survey, highlighting how useful this method is in confirming the presence or absence of targeted species. These species were distributed widely across the study area, highlighting the importance of these national parks in the conservation of these species in the Victorian Mallee.

Threats

At the time of surveys, both parks showed minimal impacts from the threats surveyed for. A small number of sites will require active management to control rabbits, foxes and goats. These sites tended to be close to the park boundaries,

where external landscape influences are greater. Weeds were not recorded at significant levels at any survey sites.

Implications and Recommendations

Recommendations from this project include:

- Undertake targeted surveys for the Western Whipbird, Redthroat, Slender-billed Thornbill and Purple-gaped and Grey-fronted Honeyeaters. These surveys should incorporate a broader range of habitat types.
- Conduct surveys again in future years to allow for potential time lags in population recoveries to be monitored.
- Control goats and rabbits in areas where they were identified as a medium to high level threat.
- For photopoint surveys, standardised methods of taking images and permanent markers would ensure future comparisons are possible.



Above: Black-eared Miner. Photo: Mallee CMA.

Acknowledgements

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Further information

The information for this bulletin has been taken from "Survey of the Victorian Mallee bird community within the Murray-Sunset and Hattah-Kulkyne National Parks 2011." For more information on the Victorian Mallee bird community survey, please contact the Mallee CMA on 03 5051 4377.

References

Mallee Fire and Biodiversity Project, La Trobe University and Deakin University, 2006-2010.
<http://www.latrobe.edu.au/zoology/research/specialisations/fire-ecology/projects/mallee-fire-and-biodiversity>

Project Partners



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