

A statement for the purposes of approved conservation advice (s266B of the *Environment Protection and Biodiversity Conservation Act 1999*).

Approved Conservation Advice for
***Stipiturus mallee* (Mallee Emu-wren)**

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Stipiturus mallee, also known as the Mallee Emu-wren is one of three species of emu-wren. It is a very small bird with a long distinctive tail of six emu-like feathers, about 1.5 times longer than its body. The male of the species has a sky blue face and upper breast with a rusty red capped head and back of its neck; the rest of its body is brownish-grey. Females and juveniles are similar but lack the blue markings, have a black streaked crown, white lores and white cheek streaks. The species call is high pitched and weak.

Conservation Status

This species is listed as **endangered** under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) under criterion 2. It has a highly fragmented distribution, is reduced to few viable populations and has a reducing area of occupancy. Given the limitations on dispersal due to the species being a habitat specialist, its suspected low reproduction rates, preference for specific age-class post-fire habitats and the threat of wildfire and drought across its range, the geographic distribution of the Mallee Emu-wren is considered to be restricted and precarious for the survival of the species. The Mallee Emu-wren has also been assessed as **vulnerable** under criterion 3, the estimated total number of mature individuals being limited, the number is likely to continue to decline and its geographic distribution is precarious for its survival.

Distribution and Habitat

The Mallee Emu-wren occurs in mallee regions south of the Murray River in north-west Victoria and adjacent areas in South Australia. It principally occupies Spinifex (*Triodia* sp.) dominated vegetation that has not been burnt for many years and Victoria contains the vast majority of numbers and populations of this wren. This species occurs within the Mallee and South Australian Murray Darling Basin Natural Resource Management Regions.

Threats

The main current threats to the Mallee Emu-wren include inappropriate fire regimes and the effects of drought on habitat suitability. Mallee Emu-wren populations are highly susceptible to wildfires and their limited dispersability can prevent birds from finding refuge in nearby unburnt habitat. However fire also plays an important role in maintaining the habitat suitability of this species as it appears to favour vegetation which was last burnt between 16 to 29 years ago, in preference to areas burnt either more or less recently. Therefore the prolonged absence of fire may also be disadvantageous, and should be considered when developing an appropriate fire regime. Drought poses an additional threat to the Mallee Emu-wren, as rainfall influences habitat suitability and the abundance of insects, which Mallee Emu-wrens use almost exclusively as a food source. Given that the lifespan of this species is probably only about five years, a prolonged drought can lead to poor reproductive performance and result in population crashes.

The main potential threats to the Mallee Emu-wren include grazing by mammalian herbivores, including domestic stock, native species and feral animals. Amongst other effects, grazing removes understorey plants, prevents tree regeneration and leads to a reduction in invertebrate diversity and abundance. Being predominantly ground-dwelling, the Mallee Emu-wren is also susceptible to predation by feral cats and foxes.

Previously, much of the habitat suitable for this species was cleared. Most of the population now occurs within protected areas, so it is unlikely that clearing will continue to pose a major threat. However, the species is likely to continue to be disadvantaged by the fragmentation arising from the historic clearing.

Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Determine population trends of the Mallee Emu-wren, through:
 - appraisal of methodologies for determining population sizes and trends;
 - designating and promoting a large number of representative mallee sites for benchmark surveys and long-term monitoring;
 - long-term monitoring of sub-populations; and
 - developing landscape-scale population estimates and modelling so that their status and need for translocation or captive management can be assessed.
- Increase the level of knowledge of the ecological requirement of the Mallee Emu-wren, through:
 - more precise assessment of population size(s), distribution, habitat requirements, reproductive biology (and the factors that influence this) and the relative impacts of putative threatening processes.
- Examine the impact of fire regimes on the species, through:
 - Undertaking comprehensive fire history mapping in areas where this does not already exist; and
 - Studying the survival, dispersal and recolonisation ability of the species in response to fire.

The following are actions that can be carried out to stop the decline or support the recovery of the species:

Regional Priority Actions

The regional priority recovery and threat abatement actions required for this species are identified below. Note that while many of these suggested actions will also benefit other threatened species in the mallee, there may be some cases where different co-existing threatened species may have contrasting management requirements (particularly for fire). The resolution of such competing management demands is not addressed here.

Existing Plans/Management Prescriptions that are Relevant to the Species

- The species is included in the draft multi-species recovery plan for the Mallee Emu-wren, Red-lored Whistler, and Western Whipbird.
- The Mallee Fire and Biodiversity Project aims to identify the properties of habitat mosaics produced by fire that enhance the persistence and status of a broad range of taxonomic groups in eucalypt-dominated mallee habitats. The Mallee Emu-wren is one of several bird species being surveyed for this study.
- The Mildura District Fire Protection Plan.
- The Ngarkat District Fire Management Plan.

Habitat Loss, Disturbance and Modification

- Confirm known sites of high conservation priority.
- Incorporate requirements of the Mallee Emu-wren into regional plans such as those of catchment management authorities and plans for parks and reserves.
- Include protection of known and potential threatened Mallee Emu-wren habitat in Local Government Environment plans.
- Ensure that relevant resource management staff in all Government agencies are aware of the Mallee Emu-wren habitat within or near their region.
- Determine fragmentation impacts due to clearing and fires, the limitations of patch size, and what constitutes functional corridors.
- Ensure road widening and maintenance activities in areas where the species occurs do not impact known populations.

Fire

- Develop and implement a suitable fire management strategy for the species across all areas of its range, in consultation with fire authorities and agencies, noting particularly that a suitable fire management strategy will recognise that there are temporal and spatial management issues relating to fire and its interaction with this species.

Establishing Additional Populations

- Investigate options for linking and/or enhancing existing populations or establishing additional populations.

Conservation Information

- Increase awareness of the species within the local community, through working with Birds Australia, birdwatchers, and community volunteers; and
- Regularly report recovery program results to the community.

Local Priority Actions

The local priority recovery and threat abatement actions required for this species are identified below:

Habitat Loss, Disturbance and Modification

- Monitor known sites to identify key threats or progress of recovery;
- Undertake survey work in suitable habitat to locate any additional populations;
- Minimise adverse impacts from changed land use at known sites;
- Enhance populations in reserves;
- Improve management integration across the South Australian and Victorian populations;
- Reduce the effects of predation by feral foxes and cats; and
- Manage the effects of drought.

This list does not necessarily encompass all actions that may be of benefit to the Mallee Emu-wren, but highlights those that are considered to be of highest priority at the time of listing.

Information Sources

Baker-Gabb D (2007). Draft National Recovery Plan for the Mallee Emu-wren *Stipiturus mallee*, Red-lored Whistler *Pachycephala rufogularis*, Western Whipbird *Psophodes nigrogularis leucogaster*. Department of Sustainability and Environment, Melbourne. Draft, August 2007.

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