Action statement

Flora & Fauna Guarantee Act 1988

Mallee Emu-wren *(Stipiturus mallee)*

Taxon ID: 10527

Action statements are developed under the *Flora and Fauna Guarantee Act 1988* (FFG Act). Their preparation and implementation complement the FFG Act strategy *Protecting Victoria's Environment – Biodiversity 2037* and its vision that "Victoria's biodiversity is healthy, valued and actively cared for".

Species and Distribution

Mallee Emu-wren. Image from Atlas of Living Australia.

This habitat distribution model displays the indicative range of the Mallee Emu-wren based on occurrence records and likely habitat. See NatureKit for an interactive map. Mallee Emu-wren also occurs outside Victoria.

Conservation Status

Endangered

Listing criteria: 4.1.1 of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- The Mallee Emu-wren has undergone, is suspected to have undergone, or is likely to undergo in the immediate future, a substantial reduction in population size.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: A2ac+3bce+4ce.

More information on IUCN listing criteria can be found here: IUCN Red List criteria.

Species Information

Species information such as its description, distribution, ecology and references are provided in the Mallee Emu-wren Species Forecast Report.

Threats

Threats listed below have been identified through expert consultation, published literature and spatial analysis.

Threat	Description
Climate change	
Altered rainfall and temperature regimes	• Climate change, increasing temperature and altered rainfall are likely to magnify existing threats and may reduce the stability, extent and condition of Mallee Emu-wren habitat.
Increased frequency and/or length of droughts	• Drying and warming of the environment, including droughts, may lead to habitat changes, and impact recruitment and/or mortality rates. • Drought particularly impacts the abundance of insects, which is the Mallee Emu-wren's primary food source.
Temperature extremes	• Climate change may increase the frequency and duration of heat-wave events, leading to increased risk of mortality.
Fire	
Altered fire regimes	• A hotter, drier climate may increase the likelihood or frequency of fire impacting the Mallee Emu-wren's habitat, with the potential to reduce habitat extent and/or condition. • Both infrequent and frequent fire, may lead to population decline and alter vegetation structure and habitat quality. • Landscape-scale extensive bushfires can result in fragmentation of the Mallee Emu-wren's preferred habitat, resulting in localised populations, separated by unsuitable, early successional vegetation or farmland.
Habitat loss, degradation or modification	
Livestock	• Livestock can cause habitat degradation through the combined effects of herbivory, trampling, soil compaction, pugging of wet areas, and excess nutrient loads. Although few areas of Victorian Mallee Emu-wren habitat are currently accessible by livestock, there remain several grazing licenses in Mallee Emu-wren habitat.
Loss of key habitat features	• Being a predominantly ground-dwelling bird, the Mallee Emu-wren relies on the understory Spinifex (*Triodia* spp.) for food and protection from predators. Loss of Spinifex cover significantly reduces habitat suitability. • Loss of ecologically important habitat features results in reduced habitat condition and/or extent, potentially impacting persistence.
Reduced habitat connectivity	• Loss of habitat connectivity reduces the Mallee Emu-wren's access to habitat and opportunity for genetic exchange between populations.
Vegetation clearing or damage	• Removal or damage to vegetation, contributes to habitat loss. Given the majority of Mallee Emu-wren habitat is reserved, the potential for vegetation removal is limited. However, it remains important to ensure any habitat removal is minimised.

Threat	Description
Introduced species	
Introduced herbivores	• Introduced herbivores degrade habitat through herbivory, trampling, increasing nutrient loads and increasing the accessibility of habitat to introduced predators and introduced plants. • In Mallee Emu-wren habitat, introduced herbivores of concern include feral goats (*Capra hircus*) and rabbits (*Oryctolagus cuniculus*). The impact of goats is greatest following fire events, as their browsing suppresses habitat recovery.
Introduced plants	• Introduced plants, such as Buffel Grass (*Cenchrus ciliaris*) can alter vegetation structure and increase fire risk in the Mallee Emu-wren habitat. Buffel Grass is currently uncommon in the Victorian range, however local infestations have been detected on roadsides.
Native Species	
Native invertebrates	• Infestation of Looper caterpillars (*Arhodia sp.)* is an emerging risk to the Mallee Emu-wren's habitat. The impact is poorly understood but potentially severe over large areas. • Over-abundance of defoliating invertebrates at a large spatial scale can result in canopy loss, death of trees and/or shrubs, and habitat degradation.
Population dynamics	
Loss of genetic diversity	• Small, greatly reduced, and/or isolated populations are at increased risk of loss of genetic diversity, which leads to a heightened risk of reduced recruitment and/or increased mortality rates.
Population fragmentation	• Fragmentation of once connected populations into smaller, isolated populations increases the risk of genetic decline and associated changes to recruitment and/or mortality rates. This threat is exacerbated for the Mallee Emu-wren due to its poor dispersal abilities resulting in low recruitment for populations to re-establish in habitat recovering after fire.
Small population size	• Small populations have lower resilience to the risk of stochastic events, and increased risk of genetic decline.

Conservation Objectives

Conservation objectives are informed by the conservation status and criteria under which the species was listed under the FFG Act. This provides a framework to understand how we can work towards recovery and improve the species' conservation status over time as per the objectives of the FFG Act.

The key objectives of this action statement are:

- Mitigate threats to populations and habitat to increase resilience, improve genetic fitness and minimise future population decline.
- Establish at least one new viable population within its historic range.
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements.
- Support community participation and improve awareness of the Mallee Emu-wren and conservation of its habitat.

Conservation Actions

The actions below have been identified through expert consultation, published literature and spatial analysis. Actions are listed in alphabetical order to allow all interested parties to prioritise based on their context, capacity and capability. Landscape scale actions may mitigate threats for other species. For more information on where to undertake actions that benefit multiple species and identify the most beneficial locations to undertake actions for this species, please refer to NatureKit.

Action	Description
Avoid and/or mitigate impacts associated with fire management	• Ensure that species distribution data and ecological information is available and considered in fire management activities. • Undertake biodiversity values check prior to fuel management in areas of the species habitat, to confirm treatment suitability and timing.
Community engagement and awareness	• Continue to identify, promote and support opportunities for community involvement in Mallee Emu-wren conservation efforts. • Work with key stakeholders to reduce threats and encourage adherence to behaviours that support a healthy environment.
Control introduced herbivores*	• Implement and maintain effective control of introduced herbivores, particularly feral goats, in priority areas.
Control introduced plants*	• Implement and maintain effective control of introduced plants in priority areas and undertake revegetation with appropriate native species. • Implement measures to identify and control new areas of Buffel Grass and prevent it establishing within conservation reserves.
Control introduced predators*	• Implement and maintain effective control of feral cats and foxes in priority areas.
Ecological fire regime*	• Implement fire management actions that promote an appropriate fire regime for the Mallee Emu-wren.
Identify and protect refuges	• Identify and protect habitat areas that provide important refugia from disturbance events (e.g., fire) or significant weather events (e.g., drought), particularly in the context of a changing climate.
Manage impacts from natural disaster events	• Identify and implement recovery actions for vulnerable populations impacted by natural disaster events and/or emergency response (e.g., associated with significant fire or flood events).
Research	• Increase knowledge of the Mallee Emu-wren ecology in heathland habitat to maximise success of any future translocation programs. • Increase understanding of genetic risks and management options. • Increase understanding of the potential impact of Looper caterpillar infestation in the Mallee habitat of the Mallee Emu-wren. Also identify the causes and possible control measures for the infestation. • Investigate and determine a suitable fire regime that meets the Mallee Emu-wren's ecological requirements and promotes its recovery.
Restoration and/or revegetation*	• Undertake restoration and/or revegetation to increase habitat suitability, create new habitat areas, and connect populations.

Action	Description
Survey and monitoring	• Monitor Mallee Emu-wren populations at known sites and other suitable locations to assess distribution, population trends and habitat condition. • Monitor the impact of threats to inform management interventions.
Translocation	• Design and implement a translocation program to meet the objectives of the action statement, using learnings from the previous translocation project.

**Indicates landscape-scale actions that may deliver benefits to multiple species*

Past Actions

The key conservation management actions listed below have been delivered in the past 10 years.

Past action	Description
Avoid and/or mitigate impacts associated with fire management	• Habitat distribution modelling and outcomes of research to understand Mallee Emu-wren fire-response informs strategic fire management planning, fire regimes and planned burning programs. • Impacts associated with fire management activities are managed through a value checking and risk mitigation process for planned burning and bushfire suppression control lines.
Establish/maintain Recovery Team	• A Recovery Team was established to facilitate collaborative management for this species. This was subsequently incorporated into the Threatened Mallee Birds Conservation Action Planning committee in 2015.
Ex situ management	• A captive breeding program has been established to learn more about the species husbandry and ability to survive in captivity.
Research	• Research has investigated population sizes and sustainable harvest for translocation, and experimental trials have investigated improvements to translocation protocols for the species. • Research into the feasibility of using acoustic monitoring for Mallee Emu-wren was undertaken in 2022. • Research has been undertaken to understand habitat suitability and fire management. • Research to better understand population genetics was undertaken in 2020.
Survey and monitoring	• Ad-hoc surveys and population census have been undertaken. This work enabled the re-discovery of a small population in Wyperfeld National Park in 2015, further explored and substantiated in 2022.

Decision Support Tools

Decision making for conservation actions is supported through the following Victorian Government tools which may be of assistance in choosing the most appropriate or beneficial actions for biodiversity:

- Choosing actions for nature: NatureKit
- Biodiversity Knowledge Framework

Further Information

- Mallee Emu-wren Species Forecast Report
- Threatened Species Assessment report – Mallee Emu-wren (*Stipiturus mallee*)
- Commonwealth Species Profile and Threats database
- Victoria's changing climate – understanding the impacts of climate change in Victoria
- Commonwealth Threat Abatement Plans
- Genetic Risk Index
- Flora and Fauna Guarantee Regulations 2020
- IUCN Red List criteria descriptions

Get Involved and Take Action

If you are interested in supporting this species' recovery, there are some important things you need to consider.

The Department of Energy, Environment and Climate Action (DEECA) is committed to engaging and partnering with Traditional Owners on how they wish to be involved in the planning and implementation of actions for this species. Steps must be taken to avoid harm and where appropriate ensure actions can deliver cultural benefits.

You can find advice about required approvals, land manager and/or owner permissions, options and incentives for private land conservation, and engagement with Traditional Owners and public land managers here: Action statements (environment.vic.gov.au)

To identify the relevant Traditional Owners, use the Aboriginal Cultural Heritage Register and Information System (ACHRIS) Welcome to Country and Acknowledgements Map.

You can also register your interest in taking action so we can connect you to other people or organisations working to help us secure the future for this species at threatened.species@deeca.vic.gov.au

Reporting Actions

Activity data is critical to monitoring the implementation and progress of actions and evaluating action statements. These data are also used to:

- Determine progress towards achieving the contributing targets for Protecting Victoria's Environment – Biodiversity 2037.
- Inform the five-yearly State of the Environment Report.

For guidance on reporting actions undertaken on this species, refer to Activity Data.

Submitting Monitoring Data

The Victorian Biodiversity Atlas (VBA) provides a foundational dataset showing where biodiversity occurs across the Victorian landscape and how it may have changed over time. As a core input for decision support tools that inform conservation action, public land management, research activities and reporting, we encourage all participants in the delivery of on-ground actions to submit species records and observations, including for introduced plants and animals, as they carry out their projects.

For further information see: Victorian Biodiversity Atlas (environment.vic.gov.au)

Sign up and begin submitting your data today at: https://vba.biodiversity.vic.gov.au/

Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

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Accessibility

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