Action statement

Flora & Fauna Guarantee Act 1988

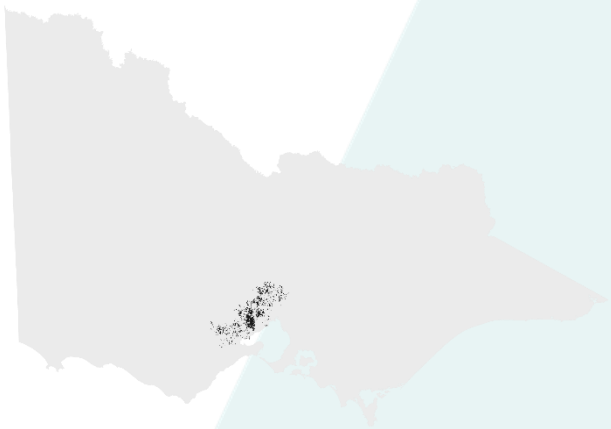
Victorian Grassland Earless Dragon *(Tympanocryptis pinguicolla)*

Taxon ID: 12922

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

Victorian Grassland Earless Dragon. Image by DEECA.



This habitat distribution model displays the indicative range of the Victorian Grassland Earless Dragon based on occurrence records and likely habitat. See NatureKit for an interactive map.

Conservation Status

Critically endangered

Listing criteria: 3.1.2(a), (b)(iii); 3.1.3(b)(i)(ii); 3.1.4 of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- the Victorian Grassland Earless Dragon's geographic distribution is extremely restricted; and
- it is restricted to a limited number of areas that are subject to the same threat or suite of threats that can impact all individuals present; and
- there is a continuing decline or reduction in:
  - the area, extent or quality of habitat; and
- the total number of mature individuals is extremely low and the number is likely to continue to decline; and
- each subpopulation is extremely small; and
- most of the individuals are in one subpopulation.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: B2ab(iii); C2a(i,ii); D. 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 National Recovery Plan for Four Grassland Earless Dragons and Zoos Victoria's Conservation Action Plan. Since the recent rediscovery of this species, new information is emerging regularly and can be sought from the Victorian Grassland Earless Dragon Recovery Team.

Threats

The threats listed below have been identified with input from ecologists, databases, decision support tools and published literature. Traditional Owners may identify additional threats to those listed for this species. Threats are listed in alphabetical order under specific threat categories.

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 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.
Habitat loss, degradation or modification	
Excess biomass	• Excess growth of either native or introduced plant species will change the structure and composition of habitat.
Land use change	• Land use change such as conversion of grazing to cropping alters vegetation extent and condition, and removes habitat features such as rocks and spider burrows, that are used for shelter, egg-laying and thermoregulation. Cropping also reduces abundance and diversity of ground dwelling invertebrate prey.
Loss of key habitat features	• Loss of ecologically important habitat features such as rocks, inter-tussock spaces and invertebrates results in reduced habitat condition and/or extent, impacting persistence.
	• Inappropriate grazing regimes are a threat to the species. Overgrazing can reduce the availability of shelter as well as invertebrate prey and spider burrows. Insufficient grazing results in excess biomass that reduces habitat suitability.
Reduced habitat connectivity	• Loss of habitat connectivity reduces access to habitat and opportunity for genetic exchange between populations.
Vegetation clearing or damage	• Habitats are subject to ongoing losses as a result of urban development, utilities works, maintenance on transport corridors and of land management activities such as agricultural intensification, cropping, pasture de-rocking and fertiliser use.
Human disturbance	
Ground disturbance	• Disturbance of terrestrial substrates, including rock removal, rock rolling or rock crushing, results in damage to habitat and may impact persistence.
Illegal take	• Unauthorised take, trade and removal of this species contributes to reduced recruitment, increased mortality and reduced population size.
Introduced species	
Feral cats	• Predation by feral cats (*Felis catus*) contributes to mortality of native species.
Foxes	• Predation by foxes (*Vulpes vulpes*) contributes to mortality of native fauna species, altering ecosystem processes.
Introduced plants	• Introduced plants such as Serrated Tussock (*Nassella trichotoma*), Chilean Needle Grass (*Nassella neesiana*), Cane Needle Grass (*Nassella hyaline*), African Box-thorn (*Lycium ferocissimum*), Artichoke Thistle (*Cynara cardunculus* subsp. *flavescens*) and African Thistle (*Berkheya rigida*) change the structure and composition of the vegetation community, impacting the assemblage of species and ecosystem function that supports the Victorian Grassland Earless Dragon.

Threat	Description
Introduced rodents	• Introduced rodent species such as the Black Rat (*Rattus rattus*), Brown Rat (*Rattus norvegicus*) and House Mouse (*Mus musculus*) can compete for resources in addition to causing direct mortality.
Rabbits	• The European Rabbit (*Oryctolagus cuniculus*) can cause direct mortality of plants and significantly impact recruitment. Rabbits also damage habitat through the construction of warrens that can cause soil erosion, and provide habitat for other introduced species.
Pollutants and toxicants	
Pesticides	• Insecticide use on farmland may affect the abundance of invertebrate prey and the availability of spider burrows that provide shelter for the species.
	• Herbicide application can cause changes to the type and structure of vegetation within the habitat and impact invertebrate abundance and composition. However, herbicide application may be a necessary tool for the management of introduced plants and biomass.
Population dynamics	
Small population size	• Small populations have lower resilience to stochastic events, and increased risk of genetic decline.
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.

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 and halt future population decline.
- Establish 5 additional self-sustaining wild populations of >250 individuals each in the short-medium term, managed as a metapopulation and expand the area of occupancy of the species to be greater than 1000 ha. Seek to establish 10-15 populations within the longer term (15-20 years).
- Coordinate scientific, regulatory and planning programs across government authorities and jurisdictions to retain, expand and manage suitable habitat for the persistence of the species.
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements.
- Support community participation and improve awareness of the species and conservation of its habitat, including the restoration of cultural knowledge where appropriate.

Conservation Actions

The actions listed below have been identified with input from ecologists, databases, decision support tools and published literature. Actions are listed in alphabetical order to allow all interested parties to prioritise based on their context, capacity and capability.

Holistic management of the cultural landscape where this species occurs is encouraged. Traditional Owners may identify other actions including cultural practice that will benefit this species and may also need to review existing actions to ensure they are culturally appropriate.

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.
Biomass management	• Manage biomass as required to enhance/maintain habitat structure and composition, using ecologically and culturally appropriate means that support persistence of the species in consultation with the Recovery Team.
Climate change adaption	• Consider the incremental and/or transformational adaptation actions that may be required to support the recovery of the species. This may be done by applying the climate adaptation lens and triggers for transformational adaptation from the Victorian Government's Climate Change Adaptation Action Plans.
Community engagement and awareness	• Identify, promote, and support opportunities for raising community awareness and securing funds to advocate for and deliver conservation actions. .
	• Increase landholder awareness of the species and the impacts of insecticides and herbicide use. Provide guidance on the changes to use that may be required, such as exclusion from areas of habitat, to support conservation outcomes.
	• Work with Traditional Owners to collaborate and enable two-way knowledge sharing of the Victorian Grassland Earless Dragon.
Compliance and enforcement	• Undertake risk-based compliance and enforcement activities to limit the impacts of identified threats to the species, including unauthorised land clearing and illegal take of the species.
Conservation management planning	• Utilise existing protection mechanisms in the Melbourne Strategic Assessment such as the Western Grassland Reserve for establishing future in-situ populations.
	• Develop a Prescription under the Melbourne Strategic Assessment Program to support conservation activities and outcomes for the species.
	• Support the implementation of the National Recovery Plan for Four Grassland Earless Dragons of Southeast Australia.
	• Apply the Threatened Specific Framework to support cost effective decision-making for the conservation and recovery of the Victorian Grassland Earless Dragon.
Control feral cats*	• Implement and maintain effective control of feral cats in priority areas.
Control foxes*	• Implement and maintain effective control of foxes in priority areas.
Control rabbits*	• Implement and maintain effective control of rabbits in priority areas.

Action	Description
Control introduced plants*	• Implement and maintain effective control of introduced plants such as Serrated Tussock (*Nassella trichotoma*), Chilean Needle Grass (*Nassella neesiana*), Cane Needle Grass (*Nassella hyaline*), African Box-thorn (*Lycium ferocissimum*), Artichoke Thistle (*Cynara cardunculus* subsp. *flavescens*) and African Thistle (*Berkheya rigida*) in priority areas.
Control introduced rodents	• Implement and maintain effective control of introduced rodents such as the Black Rat (*Rattus rattus*), Brown Rat (*Rattus norvegicus*) and House Mouse (*Mus musculus*) in priority areas.
Ex-situ management	• Continue to maintain ex-situ populations and establish new ones at suitable secure sites to service the conservation objectives of the species, provide insurance against extinction and maintain and improve genetic diversity.
Permanent protection *	• Implement incentives, voluntary agreements, covenants, acquisition and other permanent protection measures to protect and restore habitat.
Protect key habitat	• Ensure that species distribution data and ecological information are available and appropriately considered in planning for developments, land use changes and utilities maintenance. Ensure that additional incremental losses are avoided.
	• Integrate management requirements for the species into existing conservation plans in the Melbourne Strategic Assessment area.
Research	• Continue to assess the survey methods to improve in situ detection, including, but not limited to, investigating the efficacy of detection dogs and e-DNA techniques.
	• Continue to improve understanding of population dynamics (e.g. sex ratios, recruitment, causes of mortality) to inform management priorities and increase knowledge of biology and ecology of the species.
	• Continue to improve understanding of reproductive requirements and factors influencing recruitment success.
	• Continue research to increase the understanding of genetic risks to inform management options.
	• Continue to investigate optimal biomass control regimes including burning and/or grazing.
	• Continue to investigate the species diet to support management of reintroduction sites.
	Maintain ongoing monitoring of known populations to increase knowledge on species ecology and critical habitat features to determine population trends and inform management needs.
Restoration and/or rehabilitation	• Undertake restoration and/or revegetation to increase habitat suitability and/or create new habitat areas. Consider provenance of revegetation stock in the context of the future climate.
Survey and monitoring	• Ensure that survey techniques minimise damage to grassland habitat and align with best practice approaches identified for the species.
	• Undertake targeted field surveys in areas of potential habitat, based on ecological information, to support further detections.
Translocation	• Design and implement a translocation program to meet the objectives of the action statement.

**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
Community engagement and awareness	• Fighting Extinction, Totes for Wildlife Campaign and Dragon Guardians Membership program launched through Zoos Victoria. Fighting Extinction
	• Ongoing engagement with the rediscovery site landholder to support land stewardship and on-going management.
	• Ongoing engagement with the Wadawurrung, Wurundjeri Woiwurrung, and Bunurong Peoples of the Kulin Nation who are the traditional custodians of the native grasslands inhabited by the species.
Conservation management planning	• Conservation Action Plan developed by Zoos Victoria.
	• New habitat distribution model developed to support conservation planning and identify habitat for survey and monitoring.
	• Recovery Team established and registered with the Commonwealth Government.
	• Workshop held in December 2024 with key stakeholders across regulatory and conservation areas to identify potential sites for reintroduction across the species' former range, including within existing conservation areas under the Melbourne Strategic Assessment.
Ex-situ management	• Conservation breeding program established and maintained at Zoos Victoria to support the conservation objectives of the species.
Research	• Ongoing detection dog trials to supplement survey methods and improve detection rates delivered by Zoos Victoria and supported by the Commonwealth.
	• Ongoing research to assess genetic diversity of the extant and ex-situ populations to inform management decisions.
	• Population Viability Analysis undertaken to inform ex situ and in situ population and threat management decisions.
Survey and monitoring	• Camera trap surveys targeting the Victorian Grassland Earless Dragon across 10 grassland sites between Werribee and Dundonnell in 2016.
	• Ongoing habitat assessments in areas identified as potential habitat in the habitat distribution model for the species.
	• Ongoing monitoring of the known population and surveys at other locations across its former range.
	• Ongoing reptile surveys using artificial cover objects, undertaken across grasslands between Melbourne and Geelong since 1985. The recording of a Victorian Grassland Earless Dragon beneath an artificial tile as part of these surveys led to the rediscovery of the species in early 2023.
	• Surveys using mini pitfall traps at Edgars Road, Little River and Live Bomb Range, Bulban Road in 2018.
	• Survey guidelines published by the Commonwealth for the species.

Decision Support Tools

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 the following decision support tools:

- Choosing actions for nature
- Biodiversity Knowledge Framework

Further Information

- National Recovery Plan for four Grassland Earless Dragon Species
- Zoos Victoria's Conservation Action Plan
- Zoos Victoria's Fighting Extinction: Grassland Earless Dragon
- Victorian Grassland Earless Dragon Conservation Advice
- Species of National Environmental Significance - DCCEEW
- Victoria's changing climate – understanding the impacts of climate change on Victoria
- Translocation of wildlife
- Natural Environment Climate Change Adaptation Action Plan 2022-2026
- Commonwealth Threat Abatement Plans
- Flora and Fauna Guarantee Regulations 2020
- IUCN criteria summary
- References relating to this Action Statement

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/

Indigenous Data Sovereignty

DEECA is committed to recognising and enabling Indigenous Data Sovereignty (IDS). Indigenous data comprise any information or knowledge of species and Country collected or recorded by, or about, Traditional Owners. IDS asserts Traditional Owner rights to access and have governance over the collection, ownership and use of their data, including that which is included or referred to in this Action Statement.

Acknowledgement

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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