

# Action statement

*Flora & Fauna Guarantee Act 1988*

## Guthega Skink (*Liopholis guthega*)

Taxon ID: 12432

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



Guthega Skink (subadult). Image by Zak Atkins.



This habitat distribution model displays the indicative range of the Guthega Skink based on occurrence records and likely habitat. See [NatureKit](#) for an interactive map.

### Conservation Status

#### Critically Endangered

**Listing criteria:** 3.1.2(a), (b)(i,ii,iii,iv,v) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- its geographic distribution is extremely restricted; and
- the distribution of the population or habitat of the Guthega Skink is restricted to a limited number of areas that are subject to the same threat or suite of threats that can affect all individuals present; and
- there is a continuing decline or reduction in:
  - its extent of occurrence; and
  - area, extent or quality of habitat; and
  - the number of mature individuals.

**Corresponding International Union for the Conservation of Nature (IUCN) criteria:** B1ab(i,ii,iii,iv,v).

More information on IUCN listing criteria can be found here: [IUCN Red List of Threatened Species](#)

## Species Information

Species information such as its description, distribution, ecology and references are provided in the [Guthega Skink Species Forecast Report](#).

## Threats

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

Threat	Description
<b>Human disturbance</b>	
Development, construction and infrastructure	<ul style="list-style-type: none"> <li>Clearing, slashing, trampling and/or flattening of vegetation, disturbance of rock associated with grooming ski runs can destroy and/or degrade habitat.</li> </ul>
Ground disturbance	<ul style="list-style-type: none"> <li>Disturbance of natural rock features by people searching for reptiles and creating rock stacks degrades habitat. This impact can expose Guthega Skinks to predators and harmful weather, destroy over-wintering refuges and lead to animals abandoning their burrows.</li> </ul>
Recreational activities – horse-riding	<ul style="list-style-type: none"> <li>Recreational horse-riding can destroy and degrade habitat. This is particularly problematic on the Bogong High Plains.</li> </ul>
Road and track construction or maintenance	<ul style="list-style-type: none"> <li>Creation and widening of roads, tracks and walking trails facilitates movements by invasive predators. Roads also further fragment the population, likely reducing or preventing effective dispersal and gene flow between colonies of the Guthega Skink.</li> <li>Additional development in the alpine zone (e.g., expansion of trails) threatens alpine fauna through direct habitat loss.</li> </ul>
<b>Climate change</b>	
Altered snow cover and duration, rainfall and temperature regimes	<ul style="list-style-type: none"> <li>Altered rainfall and temperature regimes will limit suitable habitat for the species as vegetation changes. An emerging threat is the movement of native predatory species from lower elevations into Guthega Skink habitat.</li> <li>Changes to snow cover, depth and duration are likely to affect the specific thermal properties of Guthega Skink's over-wintering retreats.</li> </ul>
<b>Fire</b>	
Altered fire regimes	<ul style="list-style-type: none"> <li>Increased fire frequency and intensity degrades habitat as vegetation recovery at these high elevations is slow following fire. It can also increase mortality rates and expose animals to elevated levels of predation from native and invasive predators.</li> </ul>
<b>Introduced species</b>	
Deer and pigs	<ul style="list-style-type: none"> <li>Grazing, trampling and wallowing by deer, particularly Sambar (<i>Cervus unicolor</i>) damage and degrade habitat. Pigs (<i>Sus scrofa</i>) are likely to be a serious potential threat.</li> </ul>
Feral horses	<ul style="list-style-type: none"> <li>Grazing and trampling by feral horses (<i>Equus caballus</i>) damage and degrade habitat.</li> </ul>
Foxes	<ul style="list-style-type: none"> <li>Predation by foxes (<i>Vulpes vulpes</i>) is likely to lead to a direct loss of individuals and changes in behaviour, which may negatively impact populations.</li> </ul>

Threat	Description
Weeds	<ul style="list-style-type: none"> <li>Weeds, particularly Orange Hawkweed (<i>Hieracium aurantiacum</i>) and Mouse-ear Hawkweed (<i>Hieracium pilosella</i>), degrade and/or modify habitat through competition and exclusion of native species.</li> </ul>
Population dynamics	
Low genetic diversity	<ul style="list-style-type: none"> <li>Low genetic diversity of populations may have a detrimental long-term effect on this highly restricted species.</li> </ul>

## Conservation Objectives

Conservation objectives are informed by the conservation status and criteria in 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 minimise future population decline.
- Investigate reintroduction and/or translocation of Guthega Skinks to support an increase in the range and extent of the current distribution.
- Increase knowledge of biology, ecology, distribution, demography, and conservation requirements
- Support community participation and improve awareness of the Guthega Skink and conservation of alpine environments.

## 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
Community engagement	<ul style="list-style-type: none"> <li>Engage with landholders and land managers on areas of the skink's suitable habitat, particularly alpine resorts, and encourage implementation of conservation actions.</li> <li>Raise community awareness of the species and the conservation of alpine environments through campaigns and community participation.</li> </ul>
Control feral horses	<ul style="list-style-type: none"> <li>Implement the Parks Victoria '<i>Protection of the Alpine National Park Feral Horse Action Plan</i>', and specifically, deliver the output of removing all feral horses from the Bogong High Plains.</li> <li>As far as possible, remove feral horses from the range of the Guthega Skink habitat.</li> </ul>
Control other introduced animals*	<ul style="list-style-type: none"> <li>Implement effective management and control of foxes and deer such that impacts on the Guthega Skink are negligible.</li> <li>Implement effective management and control of feral pigs from Guthega Skink habitat.</li> </ul>

Action	Description
Control weeds*	<ul style="list-style-type: none"> <li>Implement effective management and control of weeds within Guthega Skink habitat, in particular Orange Hawkweed and Mouse-ear Hawkweed.</li> </ul>
Ex-situ management	<ul style="list-style-type: none"> <li>Continue the ex-situ program at Zoos Victoria.</li> <li>Continuously improve husbandry requirements and conduct research into maximising genetic health via gene mixing.</li> </ul>
Identify and protect key habitat*	<ul style="list-style-type: none"> <li>Avoid activities that destroy, disturb, or degrade native vegetation, rock, soil, and water bodies in all Guthega Skink habitat (e.g., roading, construction, slashing native vegetation, creation or expansion of campsites, and impacts from recreational horse-riding).</li> <li>Explore options to minimise or remove recreational horse-riding from Guthega Skink habitat.</li> </ul>
Research	<ul style="list-style-type: none"> <li>Determine through captive trials and field enclosures the role of 'genetic rescue' in the conservation of the Guthega Skink.</li> <li>Facilitate ongoing research on the ecology and life history of the Guthega Skink to enhance knowledge of the species, and to identify and implement effective recovery actions.</li> <li>Support the establishment of field enclosures to determine the best habitat rehabilitation methods and gene mixing approaches, to maximise Guthega Skink resilience to threatening processes.</li> <li>Investigate opportunities to increase the range and extent of the Guthega Skink through reintroductions.</li> </ul>
Restoration and/or revegetation	<ul style="list-style-type: none"> <li>Continue to explore creation of new or improved habitat.</li> </ul>
Survey and monitoring	<ul style="list-style-type: none"> <li>Continue detailed population monitoring and collection of demographic information, to better understand the distribution and ecological requirements of the species, the impacts of threats, the effects of management actions, and the prioritisation of further threat mitigation and management actions.</li> </ul>

\*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	<ul style="list-style-type: none"> <li>Guthega Skink has been a Fighting Extinction Priority species for Zoos Victoria, embedded in the 'Love your Locals' community conservation campaign since 2014.</li> </ul>
Control feral horses	<ul style="list-style-type: none"> <li>Parks Victoria removes feral horses from the Bogong High Plains and Victoria's eastern alps.</li> </ul>
Ex-situ management	<ul style="list-style-type: none"> <li>Captive husbandry has been developed and an ex-situ population established and maintained at Zoos Victoria for research, breeding and public display.</li> </ul>
Introduced species management	<ul style="list-style-type: none"> <li>Fox management and control have been undertaken since 2011.</li> </ul>

Past action	Description
	<ul style="list-style-type: none"> <li>• Cat control has been undertaken since 2017.</li> <li>• Deer control has been undertaken since 2015.</li> <li>• Weed management was undertaken in 2020.</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Development of population monitoring protocols and surveys has been undertaken since 2008 across the Guthega Skink's range.</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Detailed research on the Guthega Skink throughout its range in Victoria and NSW has been undertaken for more than ten years. This work has included research to understand and characterise habitat; thermal biology; diet; genetics; reproductive biology; skeletochronology; habitat rehabilitation; dispersal and habitat management.</li> </ul>

## 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

- [Guthega Skink Species Forecast Report](#)
- [Threatened Species Assessment report – Guthega Skink \(\*Liopholis guthega\*\)](#)
- [Commonwealth Species Profile and Threats database](#)
- [Threatened Species and Communities Risk Assessment](#)
- [Victorian Deer Control Strategy](#)
- [Commonwealth Threat Abatement Plans](#)
- [Protection of the Alpine National Park Feral Horse Action Plan 2021](#)
- [Victoria's changing climate – understanding the impacts of climate change in Victoria](#)
- [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 / 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](#).

Interested parties are encouraged to work together across community, government, private and public land managers and Traditional Owners to undertake these actions and secure funding for their implementation.

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](mailto: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, including for weeds and introduced animals, and observations as they carry out their projects.

For further information see: Victorian Biodiversity Atlas ([environment.vic.gov.au](http://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.



© The State of Victoria Department of Energy, Environment and Climate Action August 2023



This work is licensed under a Creative Commons Attribution 4.0 International licence. You are free to re-use the work under that licence, on the condition that you credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, the Victorian Government logo and the Department of Energy, Environment and Climate Action (DEECA) logo. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>

ISSN 1448-9902 (online)

### Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

## Accessibility

If you would like to receive this publication in an alternative format, please telephone the DEECA Customer Service Centre on 136186, email [customer.service@delwp.vic.gov.au](mailto:customer.service@delwp.vic.gov.au) or via the National Relay Service on 133 677 [www.relayservice.com.au](http://www.relayservice.com.au). This document is also available on the internet at [www.environment.vic.gov.au](http://www.environment.vic.gov.au)