

# Action statement

*Flora & Fauna Guarantee Act 1988*

## Mt Donna Buang Wingless Stonefly (*Riekoperla darlingtoni*)

Taxon ID 2512

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



Mt Donna Buang Wingless Stonefly.  
Image by Eddie Tsyrlin/John Gooderham.



Mt Donna Buang Wingless Victorian Biodiversity Atlas (VBA) records since 1970. See [NatureKit](#) for an interactive map.

### Conservation Status

#### Critically Endangered

**Listing criteria:** 3.1.1; 3.1.2 (a), (b)(iii,iv,v) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- the Mt Donna Buang Wingless Stonefly has undergone, is suspected to have undergone, or is likely to undergo in the immediate future, a very severe reduction in population size; and
- its geographic distribution is extremely restricted; and
- the distribution of the population or habitat of the taxon is severely fragmented; 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 number of locations or subpopulations; and
  - the number of mature individuals.

**Corresponding International Union for the Conservation of Nature (IUCN) criteria:** A2bc+4bce; B1ab(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 [Mt Donna Buang Wingless Stonefly Species Forecast Report](#).

## Threats

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

Threat	Description
<b>Human disturbance</b>	
Recreational activities – Motor vehicles	<ul style="list-style-type: none"> <li>Human movements directly impact populations close to visitor carparks, roads and tracks, including through maintenance activities that may impact water quality and habitat.</li> <li>Soil compaction, and sedimentation from vehicles and run-off degrade habitat and cause direct mortality.</li> </ul>
Trampling by humans	<ul style="list-style-type: none"> <li>Adult stoneflies are usually found within 20 metres of streams in rolled bark near car parks, making them vulnerable to trampling by visitors.</li> </ul>
<b>Climate change</b>	
Altered fire regime	<ul style="list-style-type: none"> <li>Fire, including low intensity, may cause direct mortality from extreme temperatures, and impact the species through smothering of riparian and aquatic habitat with ash, loss of bark habitat, and loss of shade – reducing ground and habitat moisture.</li> </ul>
Altered temperature and rainfall regime	<ul style="list-style-type: none"> <li>Increased temperatures and reduced rainfall will likely alter and degrade riparian habitat and reduce substrate moisture and surface flow.</li> <li>An increase in solar radiation and reduction in moisture within the stonefly habitat may occur as the cover of Myrtle Beech (<i>Nothofagus cunninghamii</i>) is reduced should outbreaks of Myrtle Wilt (<i>Chalara australis</i>) increase under warming conditions.</li> </ul>
Increased frequency or length of droughts	<ul style="list-style-type: none"> <li>Drought degrades habitat and causes mortality, as the nymphs need moisture in the substrate to survive.</li> </ul>
<b>Pollutants</b>	
Toxicants	<ul style="list-style-type: none"> <li>Due to the proximity of tracks and a carpark to populations, there is a risk of runoff contaminated with oil and fuel entering areas occupied by the species.</li> <li>Herbicides used to control woody riparian weeds and blackberry may cause habitat degradation and mortality.</li> </ul>
<b>Introduced species</b>	
Deer	<ul style="list-style-type: none"> <li>Grazing, trampling and wallowing by deer erodes and degrades niche habitat occupied by the species including shallow ephemeral drainage lines, riparian habitat and water quality.</li> </ul>
Weeds	<ul style="list-style-type: none"> <li>Due to the proximity of populations and habitats to carparks and roadsides, there is a higher probability of weed dispersal and invasion into riparian areas occupied by the 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, increase genetic fitness and minimise future population decline
- Increase the Mt Donna Buang Wingless Stonefly's range and/or extent, by providing opportunities for natural movement.
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements.
- Support community participation and improve awareness of the Mt Donna Buang Wingless Stonefly and conservation of mountain forest 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 and awareness	<ul style="list-style-type: none"> <li>• Increase knowledge and awareness of the species through signage, websites, and provision of information to land managers.</li> <li>• Inform the public about the status and recovery efforts for the stonefly by providing information to visitors to the area and publicising the species through the media.</li> </ul>
Identify and protect key habitat	<ul style="list-style-type: none"> <li>• Ensure all land managers and contractors incorporate appropriate measures to protect the stonefly and its habitat in their work programs.</li> </ul>
Provide appropriate environmental flows	<ul style="list-style-type: none"> <li>• During periods of drought, install water tanks to provide a slow leak of water via small irrigation pipes directly to sections along the spring to maintain a minimum moisture level for survival of nymphs.</li> <li>• Investigate if excess fresh snow could be relocated from roads and car parks to the catchment of the alpine springs to provide additional flows during the spring months. Ensure this is done without heavy machinery, or with strict limits to keep machinery away from fragile areas.</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Undertake research into the ecology of the stonefly, including life history, significant threats, tolerance to threats, genetic relatedness of the known subpopulations and habitat requirements.</li> </ul>
Survey and monitoring	<ul style="list-style-type: none"> <li>• Refine survey techniques such as eDNA to increase detection probability.</li> <li>• Monitor the population annually and determine the extent of the species distribution and population abundance at all sites.</li> <li>• Undertake monitoring of Myrtle Wilt and keep machinery away from Myrtle Beech to prevent wounding as this can allow the disease to spread.</li> </ul>

Action	Description
Translocations	<ul style="list-style-type: none"><li>Once there is adequate protection of current populations and improved knowledge of the species, investigate alpine springs that may be suitable for translocations to expand the distribution of the stonefly. Candidate sites must have suitable altitude, flow regime, temperature regime, substrate and vegetation composition.</li></ul>

## Past Actions

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

Past action	Description
Survey and monitoring	<ul style="list-style-type: none"><li>Annual surveys of juveniles and nymphs were completed between 2005 and 2019 during winter.</li><li>Surveys using eDNA were undertaken in 2019 and detected two new subpopulations.</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

- [Mt Donna Buang Wingless Stonefly Species Forecast Report](#)
- [Threatened Species Assessment report – Mt Donna Buang Wingless Stonefly \(\*Riekoperla darlingtoni\*\)](#)
- [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 \(environment.vic.gov.au\)](https://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.



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