

Action statement

Flora and Fauna Guarantee Act 1988

Depressed Freshwater Mussel (*Hyridella depressa*)

Taxon ID: 619

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



Depressed Freshwater Mussel. Image source: Atlas of Living Australia.



Depressed Freshwater Mussel Victorian Biodiversity Atlas (VBA) records since 1970. See [NatureKit](#) for an interactive map. This species also occurs outside of Victoria.

Conservation Status

Endangered

Listing criteria: 4.1.2(a),(b)(iii) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- its geographic distribution is highly restricted; and
- the distribution of the population or habitat of the taxon is severely fragmented; and
- there is a continuing decline or reduction in:
 - the area, extent or quality of habitat.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: B1ab(iii)+B2ab(iii).

More information on IUCN listing criteria can be found here: [IUCN Red List Criteria](#).

Species Information

The Depressed Freshwater Mussel also occurs outside of Victoria where it may have a different conservation status throughout its broader distribution. Species information such as its description, distribution, ecology and references are provided in the [Depressed Freshwater Mussel Species Forecast Report](#) and the [Atlas of Living Australia](#).

Threats

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

Threat	Description
Altered hydrology	
Altered water regime	<ul style="list-style-type: none"> Changes to flow or water regimes which do not align with the species' needs may impact habitat suitability, recruitment and/or mortality, and ultimately site occupancy.
Climate change	
Altered rainfall and temperature regimes	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Drying and warming of the environment, including droughts, may lead to habitat changes, and impact recruitment and/or mortality rates.
Disruption of ecological processes	
Reduced reproduction	<ul style="list-style-type: none"> A decline in the abundance of native fish species reduces opportunities for reproduction of the Depressed Freshwater Mussel as native fish are the host for the mussel glochidia (larvae).
Fire	
Bushfire	<ul style="list-style-type: none"> Bushfires can result in mortality and habitat degradation. Important impacts can include the loss of key habitat features and food sources, and an increase in predation risks.
Emergency response	<ul style="list-style-type: none"> Some emergency response activities can inadvertently modify or degrade habitat, change vegetation structure, and lead to mortality of individuals.
Fire management activities	<ul style="list-style-type: none"> Fire management operations such as creation of fuel breaks (soil disturbance, slashing) may degrade or remove habitat, cause mortality of individuals, and reduce regeneration.
Habitat loss, degradation or modification	
Degradation of riparian and/or wetland vegetation	<ul style="list-style-type: none"> Degradation of vegetation in riparian and wetland habitats reduces habitat extent and/or condition, potentially impacting species persistence.
Instability of waterway beds and/or banks	<ul style="list-style-type: none"> Instability of waterway beds and/or banks can result in habitat degradation and/or loss.
Livestock	<ul style="list-style-type: none"> Livestock can cause habitat degradation through, trampling, soil compaction, soil erosion, pugging of wet areas, and excess nutrient loads.
Loss of key habitat features	<ul style="list-style-type: none"> Loss of ecologically important habitat features such as well-shaded streams with clear, and consistently slow flowing water. Resulting in reduced habitat condition and/or extent, potentially impacting persistence.
Human disturbance	
Road and track construction or maintenance	<ul style="list-style-type: none"> Construction and maintenance of waterway crossings, roads and tracks expose the species and habitat to disturbance from run-off, soil erosion, siltation, and weed and pathogen introduction, in the immediate area and downstream.

Pollutants and toxicants

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| Pesticide use | <ul style="list-style-type: none"> • Pesticides (including chemicals used to control plants, fungi, invertebrates, and vertebrates) can impact recruitment and/or mortality rates, may alter habitat or ecosystem function, and may impact persistence. |
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Population dynamics

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| Loss of genetic diversity | <ul style="list-style-type: none"> • 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. |
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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 Depressed Freshwater Mussel's range and/or extent, by providing opportunities for natural movement/dispersal;
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements; and
- Support community participation and improve awareness of the Depressed Freshwater Mussel 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. In undertaking actions for this species, consider the full extent of the species' range.

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	<ul style="list-style-type: none"> • Ensure that species distribution data and ecological information is available and considered in fire management activities. • Undertake biodiversity values check prior to fire management activities in areas of the species' habitat to confirm treatment suitability and timing.
Climate adaptation	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Increase landholder awareness of the species and the impacts of livestock grazing and pesticides. Provide guidance on the changes to pesticide use and to grazing that may be required, such as exclusion, to support conservation outcomes.
Ex-situ management	<ul style="list-style-type: none"> • Establish and maintain ex-situ populations in suitable secure sites, to service the conservation objectives of the species.

Action	Description
Identify and protect refuges	<ul style="list-style-type: none"> Identify and protect habitat areas that provide important refugia from disturbance events (e.g., fire) or significant weather events (e.g., drought).
Manage environmental water	<ul style="list-style-type: none"> Explore options for the provision of environmental water where required to improve flow regimes for the species.
Manage impacts from natural disaster events	<ul style="list-style-type: none"> Identify and implement recovery actions for vulnerable populations impacted by natural disaster events and/or emergency response (e.g., associated with significant bushfire or flood events).
Manage threats to native host fish species	<ul style="list-style-type: none"> Manage threats to native fish which provide a host for the glochidia of the Depressed Freshwater Mussel.
Manage road and track works	<ul style="list-style-type: none"> Protect habitat from disturbances caused by road, track, bridge and ford construction and maintenance.
Prevent and control erosion	<ul style="list-style-type: none"> Restore habitat and/or provide appropriate engineering solutions to reduce the impacts of erosion.
Protect key habitat	<ul style="list-style-type: none"> Manage water quality to support retention, restoration and/or creation of habitat and/or population persistence.
Restoration and/or revegetation*	<ul style="list-style-type: none"> Undertake restoration and/or revegetation to increase habitat suitability and/or create new habitat areas.
Translocation	<ul style="list-style-type: none"> 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
Emergency response and preparedness	<ul style="list-style-type: none"> Developed and implemented a response plan for the species when it was impacted by the 2019/20 bushfires.
Ex-situ management	<ul style="list-style-type: none"> Depressed Freshwater Mussel bred ex-situ at the Snobs Creek native Fish Hatchery. Established and maintained ex-situ populations at Snobs Creek Native Fish Hatchery to restock natural populations.
Research	<ul style="list-style-type: none"> Research undertaken to increase knowledge of captive breeding methods and genetic management of the Depressed Freshwater Mussel.

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

- [Depressed Freshwater Mussel Species Forecast Report](#)
- [Threatened Species Assessment Report - Depressed Freshwater Mussel \(*Hyridella depressa*\)](#)
- [Atlas of Living Australia – Open access to Australia’s biodiversity data](#)
- [Victoria’s changing climate - understanding the impacts of climate change in Victoria](#)
- [Commonwealth Threat Abatement Plans](#)
- [Flora and Fauna Guarantee Regulations 2020](#)
- [IUCN criteria summary](#)

Get Involved and Take Action

If you are interested in supporting this species’ recovery, there are some important things 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 are 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 weeds or introduced 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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