

Action statement

Flora and Fauna Guarantee Act 1988

Wavy Marshwort (*Nymphoides crenata*)

Taxon ID: 502287

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



Wavy Marshwort. Image source: Atlas of Living Australia.



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

Conservation Status

Endangered

Listing criteria: 4.1.1; 4.1.2(a)(b)(i)(ii)(iii)(iv)(v)(c)(v) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- the taxon has undergone, is suspected to have undergone, or is likely to undergo in the immediate future, a severe reduction in population size; and
- its geographic distribution is highly 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:
 - its extent of occurrence; and
 - its area of occupancy; and
 - the area, extent or quality of habitat; and
 - the number of locations or subpopulations; and
 - the numbers of mature individuals; and
- there are extreme fluctuations in:
 - the numbers of mature individuals.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: A2ce; B2ab(i,ii,iii,iv,v)c(iv).

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 [Wavy Marshwort Species Forecast Report](#) and [VicFlora](#).

Threats

The threats below have been identified through expert input, published literature and spatial analysis.

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. Reduced annual rainfall and increased maximum temperatures will reduce the availability of groundwater and/or surface water flow and refuge habitat.
Fire	
Altered fire regimes	<ul style="list-style-type: none"> Both infrequent and frequent fire, may lead to population decline and alter vegetation structure and habitat condition.
Fire management activities	<ul style="list-style-type: none"> Fire management operations such as creation of fuel breaks (soil disturbance, slashing) may lead to siltation, remove habitat, cause mortality of individuals, and reduce regeneration.
Habitat loss, degradation or modification	
Excess biomass	<ul style="list-style-type: none"> Excess growth of either native or introduced plant species can change the structure and composition of habitat.
Land use change	<ul style="list-style-type: none"> Ploughing of ephemeral wetlands can damage or lead to the loss of these habitats.
Vegetation clearing or damage	<ul style="list-style-type: none"> Habitats are subject to ongoing small and large losses as a result of urban development, utilities works, maintenance on transport corridors and of land management activities such agricultural intensification, cropping, pasture de-rocking and fertiliser use.
Human disturbance	
Ground disturbance	<ul style="list-style-type: none"> Trampling and the use of off-road motor vehicles impacts the soil, damages habitat and may directly and indirectly cause species mortality.
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.

Introduced species	
Deer	<ul style="list-style-type: none"> Introduced deer species (Sambar Deer (<i>Cervus unicolor</i>), Red Deer (<i>Cervus elaphus</i>) and Fallow Deer (<i>Dama dama</i>)) degrade habitat through herbivory, antler-rubbing, trampling, pugging of wet soils, increasing nutrient loads, erosion of waterway edges, and increasing the accessibility of habitat to introduced predators and introduced plants.
Feral goats	<ul style="list-style-type: none"> Feral goats (<i>Capra hircus</i>) can cause direct mortality of plants and degrade habitat through herbivory and trampling, and decrease soil stability which contributes to erosion.
Feral horses	<ul style="list-style-type: none"> Feral horses (<i>Equus caballus</i>) severely degrade habitat through herbivory, trampling, pugging of wet soils, increasing nutrient loads, and erosion of waterway edges. Their presence can also disperse seeds from introduced plant species, altering habitat composition and structure.
Feral pigs	<ul style="list-style-type: none"> Feral pigs (<i>Sus scrofa</i>) cause direct mortality and damage habitat through pugging and wallowing that compacts soils. Pigs can also cause erosion and increase nutrient loads that result in degraded water quality and changes to vegetation structure.
Rabbits	<ul style="list-style-type: none"> The European Rabbit (<i>Oryctolagus cuniculus</i>) 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.
Native species	
Competition and/or herbivory by other native species	<ul style="list-style-type: none"> Competition for resources with, and/or herbivory by, other native species can impact habitat, recruitment and/or mortality rates. This threat is exacerbated where habitat loss or degradation reduces availability of resources.
Water properties	
Changes to salinity	<ul style="list-style-type: none"> Changes to natural salinity levels in waterways and/or wetlands can degrade habitat or result in a change in habitat type, impacting persistence at the site.

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 Wavy Marshwort'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 Wavy Marshwort and conservation of its habitat, including the restoration of cultural knowledge where appropriate.

Conservation Actions

The actions below have been identified through expert input, 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. Holistic management of the cultural landscape where this species occurs is encouraged noting additional actions including cultural practice may benefit this 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	<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 fuel management in areas of the species' habitat, to confirm treatment suitability and timing.
Biomass management	<ul style="list-style-type: none"> Manage biomass as required to enhance habitat structure and composition, using ecologically and culturally appropriate means.
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"> Identify, promote, and support opportunities for raising awareness and community involvement in conservation efforts, including through citizen science to inform improved management for the species.
Control deer*	<ul style="list-style-type: none"> Implement and maintain effective control of deer in priority areas.
Control feral goats*	<ul style="list-style-type: none"> Implement and maintain effective control of feral goats in priority areas.
Control feral horses*	<ul style="list-style-type: none"> Implement and maintain effective control of feral horses in priority areas.
Control feral pigs*	<ul style="list-style-type: none"> Implement and maintain effective control of feral pigs in priority areas.
Control rabbits*	<ul style="list-style-type: none"> Implement and maintain effective control of rabbits in priority areas.
Ecological fire regime*	<ul style="list-style-type: none"> Implement fire management actions that promote an appropriate fire regime for the species.
Manage environmental water	<ul style="list-style-type: none"> Explore options for the provision of environmental water to mitigate changes in salinity where required.
Manage native species	<ul style="list-style-type: none"> Develop and apply management techniques to mitigate the threat of competition and/or herbivory from native species where required.
Manage public access	<ul style="list-style-type: none"> Exclude access from vehicles and motorbikes, and discourage human trampling through the provision of appropriate fencing, signage and community education.
Manage road and track works	<ul style="list-style-type: none"> Protect habitat from disturbances caused by track, bridge and ford construction and maintenance.
Permanent protection*	<ul style="list-style-type: none"> Investigate incentives, voluntary agreements, covenants, and other permanent protection measures to protect and restore habitat.
Protect key habitat	<ul style="list-style-type: none"> Ensure that species distribution data and ecological information is available and considered in planning for developments, land use changes and utilities maintenance. Ensure that incremental losses are included in consideration of potential losses. Minimise alterations to hydrological regimes upstream or in surrounding landscapes.

Action	Description
Survey and monitoring	<ul style="list-style-type: none"> • Monitor representative populations to determine trends and management needs. • Undertake targeted field surveys to confirm the extent of all known populations and seek to discover previously undetected populations based on predicted habitat and ecological information.

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

Past Actions

The compilation process for this action statement did not identify any past management actions undertaken in the last 10 years. If you are aware of recent actions that have been undertaken to benefit this species, please contact threatened.species@deeca.vic.gov.au

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](#)
- [Biodiversity Knowledge Framework](#)

Further Information

- [Wavy Marshwort Species Forecast Report](#)
- [Threatened Species Assessment Report - Wavy Marshwort \(*Nymphoides crenata*\)](#)
- [Victorian Deer Control Strategy](#)
- [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](#)
- [Natural Environment Climate Change Adaptation Action Plan 2022-2026](#)

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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