

Action statement

Flora and Fauna Guarantee Act 1988

Dwarf Sickle-fern (*Pellaea nana*)

Taxon ID: 504812

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



Dwarf Sickle-fern. Image source: Atlas of Living Australia.



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

Conservation Status

Endangered

Listing criteria: 4.1.2(a)(b)(iii)(v) 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
- 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 numbers of mature individuals.

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

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 [Dwarf Sickle-fern Species Forecast Report](#) and [VicFlora](#).

Threats

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

| Threat | Description |
|---|---|
| Climate change | |
| 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. |
| Fire | |
| Altered fire regimes | <ul style="list-style-type: none"> Increased frequency and intensity of fire may cause mortality of plants before they reach maturity. Fires contribute to vegetation change by opening the habitat and permitting drying winds to enter, facilitating overgrowth by short-lived shrubs and herbs, and allowing expansion of eucalypt species. A hotter, drier climate may increase the likelihood or frequency of fire impacting habitat, with the potential to reduce habitat extent and/or condition. This includes the drying of buffers which act to prevent planned burns from entering rainforest. |
| Fire management activities | <ul style="list-style-type: none"> Fire management operations such as creation of fuel breaks (soil disturbance, slashing) may remove or degrade habitat, cause mortality of individuals, and reduce regeneration. High intensity planned burns in or near rocky habitat may damage plants. |
| Human disturbance | |
| Construction, development and/or infrastructure | <ul style="list-style-type: none"> Construction and development may result in direct removal of habitat, or indirect impacts to habitat through changes to water regimes and increased risk of weed incursion. |
| Recreational activities | <ul style="list-style-type: none"> Rocky environments can be very sensitive to trampling and vehicle damage. |
| 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 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. |
| Introduced plants | <ul style="list-style-type: none"> Introduced plants can directly compete for resources and reduce species abundance and diversity. |

Native species

- | | |
|----------------------------|---|
| Other native plant species | <ul style="list-style-type: none"> • Encroachment of eucalypt recruits from surrounding forest outcompete rainforest stands and significantly impact the retention of Victoria's rainforest habitat. |
|----------------------------|---|

Pathogens and disease

- | | |
|-------------|---|
| Myrtle Wilt | <ul style="list-style-type: none"> • Myrtle Wilt is a natural disease of Myrtle Beech (<i>Nothofagus cunninghamii</i>). It is caused by a fungus (<i>Chalara australis</i>) infecting plants through wounded tissue, and almost always kills the infected tree. This is a major threat to habitat throughout areas where Myrtle Beech is the dominant or co-dominant canopy species. |
|-------------|---|

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 Dwarf Sickle-fern'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 Dwarf Sickle-fern 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"> • Undertake biodiversity values check prior to fuel management in areas of the species' habitat, to confirm treatment suitability and timing. • Ensure that species distribution data and ecological information is available and considered in fire management activities. |
| 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. |
| Control deer* | <ul style="list-style-type: none"> • Implement and maintain effective control of deer 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. |

| Action | Description |
|---|---|
| Control introduced plants* | <ul style="list-style-type: none"> Implement and maintain effective control of introduced plants in priority areas and undertake revegetation with appropriate native species, where required. |
| Manage over-abundant native plant species | <ul style="list-style-type: none"> Manage eucalypt encroachment in rainforest following intense fire events. Removal should occur within four years following fire, and focus on habitat for known threatened species. |
| Manage public access | <ul style="list-style-type: none"> Manage public access to limit the risks of human disturbance. |
| Mitigate the risks posed by myrtle wilt | <ul style="list-style-type: none"> Minimise damage to the crown or root system of Myrtle Beech (<i>Nothofagus cunninghamii</i>) to limit infection by the airborne and waterborne spores of the fungal pathogen. |
| Protect key habitat | <ul style="list-style-type: none"> Exclude access from horse-riding, vehicles and motorbikes, and discourage human trampling through the provision of appropriate fencing, signage and community education. |
| Survey and monitoring | <ul style="list-style-type: none"> 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. Monitor representative populations to determine trends and management needs. |
| Vegetation management | <ul style="list-style-type: none"> Investigate localised management solutions to mitigate the impacts of increased frequency and intensity of fire. |

*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 |
|--------------|---|
| Control deer | <ul style="list-style-type: none"> Implemented and maintained effective control of deer in priority areas. |

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

- [Dwarf Sickle-fern Species Forecast Report](#)
- [Threatened Species Assessment Report - Dwarf Sickle-fern \(*Pellaea nana*\)](#)
- [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 \(environment.vic.gov.au\)](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](#).

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 \(environment.vic.gov.au\)](https://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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