Action statement

Flora & Fauna Guarantee Act 1988

Beech Finger-fern *(Notogrammitis angustifolia* subsp*. Nothofageti)*

Taxon ID: 503742

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

Beech Finger-fern. Image by Annabel Carle.

This habitat distribution model displays the indicative range of the Beech Finger-fern 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); 4.1.4 of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- The Beech finger-fern 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
- 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 number of mature individuals; and
- the total number of mature individuals is very low.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: A3ce+4ce; B2ab(i,ii,iii,iv,v); D.

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 Beech Finger-fern Species forecast report and VicFlora.

Threats

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

Threat	Description
Climate change	
Increased frequency and/or length of droughts	• Drying and warming of the environment, including droughts, may to lead to habitat changes, and impact recruitment and/or mortality rates of the Beech Finger-fern. • Cool Temperate Rainforest and Wet Forest are the key habitats of the Beech Finger-fern. Mature and old-growth stands of these forest types are at particular risk of decline due to the combined effects of climate change and altered fire regimes.
Fire	
Altered fire regimes	• A hotter, drier climate may increase the likelihood or frequency of fire impacting habitat, including alterations to catchment hydrology, with the potential to reduce habitat extent and/or condition. • Fire (including planned burns) that are more frequent than the species' tolerable fire interval can lead to mortality and reduced recruitment, including through alterations to hydrology.
Bushfire	• Bushfires can result in habitat degradation and mortality. • When a significant fire event impacts a rainforest or mature stand of Wet Forest, there is a high risk of sclerophyll invasion (typically eucalypts) or stand replacement by more fire-tolerant sclerophyll taxa. If unmanaged, this results in a change of habitat type.
Habitat loss, degradation or modification	
Forestry operations	• Forestry operations in native forest have the potential to remove or degrade habitat, compact soils, contribute to erosion and sedimentation, exacerbate the spread of introduced species, pathogens and parasites, and cause mortality of individuals.
Plantation operations	• Plantation operations such as harvesting, burns and herbicide application may further alter hydrology, disturb native habitats and result in mortality of some individuals.
Introduced species	
Deer	• Introduced deer species Sambar Deer (*Cervus unicolor*), Red Deer (*Cervus elaphus*) and Fallow Deer (*Dama dama*) 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.
Native species	

Threat	Description
Problematic native plants	• Invasion of eucalypt species from surrounding forest types outcompete the species typically found in rainforest stands and impact the retention of the Beech Finger-fern's rainforest habitat.
Pathogens and disease	
Myrtle Wilt	• Loss of canopy species to Myrtle Wilt may alter habitat for Beech Finger-fern. • Myrtle Wilt is a natural disease of Myrtle Beech (*Nothofagus cunninghamii*). It is caused by a fungus (*Chalara australis*) infecting plants through wounded tissue, and almost always causes mortality to the infected tree. This is a major threat to habitat throughout the Otways, Strzelecki Ranges and Wilson Promontory, where Myrtle Beech is the dominant or co-dominant canopy species.
Pollutants and toxicants	
Pesticide use	• Spray drift or off-target damage from herbicide application within or immediately adjacent to populations may impact recruitment and may cause mortality of Beech Finger-fern.

Conservation Objectives

Conservation objectives are informed by the conservation status and criteria under 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, improve genetic fitness and minimise future population decline.
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements.

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
Avoid and/or mitigate impacts associated with fire management	• 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.
Collect and store reproductive material	• Undertake appropriate spore collection for long-term storage. Ensure that adequate supply and genetic diversity is secured for any future reintroductions that may be required, and that essential information (such as dormancy) is known.
Community engagement and awareness	• Continue to raise landholder and broader community awareness of the importance of protecting Beech Finger-fern habitat and managing threats.

Action	Description
	• Work with key stakeholders to reduce threats and encourage adherence to behaviours that support a healthy environment. • Work with plantation managers to identify important Beech Finger-fern populations and encourage protection and/or establishment of buffers to disturbance (including harvesting, burning and aerial herbicide application) around known site records.
Conservation management planning	• Review and update, or develop, relevant plans or planning tools to support conservation management.
Control deer *	• Implement and maintain effective control of deer in priority areas.
Develop, update and apply forestry protections	• Where relevant, incorporate species-specific protection measures into plans and permits relating to timber harvesting operations in native forest on private land. • Incorporate measures to protect relevant environmental values into timber harvesting plans for plantations.
Manage problematic native species	• Manage eucalypt invasion in rainforest habitat within four years of intense fire events. Focus efforts on habitat for known threatened species.
Minimise disease risk	• Minimise damage to the crown or root system of Myrtle Beech to limit infection by the airborne and waterborne spores of Myrtle Wilt.
Research	• Investigate the impacts of known threats, including climate change, and potential management actions.
Survey and monitoring	• Monitor populations at known sites and other suitable locations to assess distribution, population trends, threats and habitat condition. • Monitor representative Beech Finger-fern populations following timber harvesting, planned burning and bushfire to look for evidence of antler-rubbing on host trees, which might be more widespread following disturbance. • Undertake targeted field surveys to confirm the extent of all known Beech Finger-fern 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 key conservation management actions listed below have been delivered in the past 10 years.

Past action	Description
Develop, update and apply forestry protections	• The risk of forestry operations was assessed for this species in 2022 under the Victorian Government Threatened Species and Communities Risk Assessment. Interim protections were not found to be required.

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

- Beech Finger-fern Species Forecast Report
- Threatened Species Assessment report – Beech Finger-fern (*Notogrammitis angustifolia* subsp. *nothofageti*)
- Victoria's changing climate – drivers and impacts of climate change in Victoria
- Commonwealth Threat Abatement Plans
- Genetic Risk Index
- Flora and Fauna Guarantee Regulations 2020
- IUCN Red List criteria descriptions
- Threatened Species and Communities Risk Assessment

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 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 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 and observations, including for introduced plants and 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/

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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Accessibility

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