

Action statement

Flora & Fauna Guarantee Act 1988

Candy Spider-orchid (*Caladenia versicolor*)

Taxon ID: 500522

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



Candy Spider-orchid. Image by Pauline Rudolph.



This habitat distribution model displays the indicative range of the Candy Spider-orchid 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); 4.1.3(a) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- the Candy Spider-orchid 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 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 number of mature individuals; and
- the total number of mature individuals is low, and the number is likely to continue to decline at a very high rate.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: A2ac+3ce+4ace; B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v); C1.

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 [Candy Spider-orchid Species Forecast Report](#) and [VicFlora](#).

Threats

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

Threat	Description
Climate Change	
Altered rainfall regime	<ul style="list-style-type: none"> • Reduced annual rainfall and/or changes in rainfall patterns (and increased frequency and duration of droughts) may cause mortality of adults, cease or reduce recruitment, alter community composition, increase competition with woody species, and reduce the availability of suitable habitat.
Introduced species	
Introduced herbivores	<ul style="list-style-type: none"> • Browsing by introduced herbivores, including deer species, rabbits (<i>Oryctolagus cuniculus</i>), feral goats (<i>Capra hircus</i>) and hares (<i>Lepus europaeus</i>) can cause direct mortality and damage to the habitat by browsing and or trampling.
Introduced plants	<ul style="list-style-type: none"> • Invasion of introduced plants following disturbance can impact the species through competition.
Native species	
Birds	<ul style="list-style-type: none"> • Browsing by Emu (<i>Dromaius novaehollandiae</i>) may damage plants and limit seed set.
Mammals	<ul style="list-style-type: none"> • Sites are subject to over-grazing by possums and macropods such as the Black-tailed Wallaby (<i>Wallabia bicolor</i>) and Eastern Grey Kangaroo (<i>Macropus giganteus</i>), particularly during budding and flowering times when the plants are more obvious or attractive for browsers.
Problematic native plants	<ul style="list-style-type: none"> • Some native species, such as Hedge Wattle (<i>Acacia paradoxa</i>) and some <i>Allocasuarina</i> species, can overcrowd and smother the Candy Spider-orchid, changing floristic composition over time and possibly impacting pollination.
Fire	
Altered fire regime	<ul style="list-style-type: none"> • Fires (including planned burns) that occur during the active growth phase of the species (autumn, winter, spring) after the leaf emergence, but before seed is set, are likely to cause mortality of adult plants before tuber replacement occurs, and therefore reduce recruitment.

Threat	Description
Altered fire regime	<ul style="list-style-type: none"> A hotter, drier climate may increase the frequency and intensity of fires, exacerbating the risk of direct mortality and reduced habitat quality and/or extent.
Fire management activities	<ul style="list-style-type: none"> Fire management operations such as creation of fuel breaks (soil disturbance, slashing) may remove habitat, cause mortality of individuals, and reduce regeneration.
Habitat loss, degradation, and fragmentation	
Land use change	<ul style="list-style-type: none"> Land use change may lead to mortality of plants, loss or fragmentation of habitat and/or degradation or modification of habitat.
Human disturbance	
Firewood collection	<ul style="list-style-type: none"> Trampling by people and damage from vehicles and trailers used during illegal collection of firewood on public land can occur.
Illegal take	<ul style="list-style-type: none"> The Candy Spider-orchid is highly sought after by collectors, and there is evidence of past illegal take. This can cause mortality of individuals and habitat degradation through trampling and soil compaction and smothering of individuals.
Recreational activities	<ul style="list-style-type: none"> Illegal use of vehicles and motorbikes off designated tracks causes direct mortality.
Road and track construction or maintenance	<ul style="list-style-type: none"> Roadside populations/ remnants are vulnerable to disturbance from run-off, soil erosion, and weed and pathogen introduction during road construction and maintenance.
Trampling by humans	<ul style="list-style-type: none"> Accidental damage to individual plants and/or seedlings by orchid enthusiasts can occur. One site is in an easy to access location and has high annual visitation. Plants and habitat can also be damaged by placement of beehives at registered apiary sites, and the vehicles/equipment used to transport hives.
Population dynamics	
Fragmentation	<ul style="list-style-type: none"> Candy Spider-orchid was almost certainly once more widespread and abundant, but much of its habitat has been cleared with surviving subpopulations highly fragmented, leading to increased risk of loss of genetic diversity.
Small population size	<ul style="list-style-type: none"> Very small subpopulations are highly susceptible to stochastic events causing major decline or local extinction within a short time frame.

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 the Candy Spider-orchid'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 Candy Spider-orchid and conservation of its habitat.

Conservation Actions

The actions below have been identified through expert consultation, published literature and spatial analysis. 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	<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.
Collect and store reproductive material	<ul style="list-style-type: none"> • Develop a targeted seed collection program. Ensure collection of both seed and mycorrhizal fungi for storage and ex-situ propagation.
Community engagement and awareness	<ul style="list-style-type: none"> • Identify, promote, and support opportunities for community education and involvement in conservation efforts. • Raise awareness of Candy Spider-orchid and the importance of protecting its habitat in the local community. • Inform and consult with landholders and land managers where there are known subpopulations to mitigate the risk of unintentional damage, such as non-target effects of weed control, machinery use, or inappropriate fire regimes. Encourage these key stakeholders to contribute to the implementation of conservation management actions.
Compliance and enforcement	<ul style="list-style-type: none"> • Undertake risk-based compliance and enforcement activities to limit the impacts of illegal firewood collection, illegal take, and illegal recreational activities on the species.
Control introduced herbivores*	<ul style="list-style-type: none"> • Implement effective management and control of introduced herbivores including deer, hares and rabbits.
Control introduced plants*	<ul style="list-style-type: none"> • Implement effective management and control of introduced plants.
Develop, update and apply forestry protections	<ul style="list-style-type: none"> • Maintain prescriptions for this species under the <i>Code of Practice for Timber Production 2014 (as amended in 2022)</i> (the Code). • Where relevant, incorporate species-specific protection measures into plans and permits relating to timber harvesting operations in native forest on private land.
Ecological fire regime	<ul style="list-style-type: none"> • Implement fire management actions that promote an ecologically appropriate fire regime for the Candy Spider-orchid.
Establish and maintain fencing	<ul style="list-style-type: none"> • Fence populations where required to prevent accidental impact or habitat disturbance from road maintenance, earthworks, browsing by native and introduced animals, recreational activities, firewood collection or human trampling. • Cage individual plants where required to reduce browsing pressure while allowing for natural pollination and seed dispersal.

Action	Description
Ex-situ management	<ul style="list-style-type: none"> Maintain an ex-situ population representative of the genetic diversity remaining in the species, to be used for seed orcharding and subsequently establishment of plants for translocations.
Manage problematic native plants	<ul style="list-style-type: none"> Manage the impacts of problematic native plants such as Hedge Wattle and some Allocasuarina species, on the Candy Spider-orchid.
Manage public access	<ul style="list-style-type: none"> Reduce potential for damage from human activity by re-directing or closing vehicle tracks and trails close to populations where possible. For vehicle tracks or trails that cannot be moved, consider other options for protection.
Manage road and track works	<ul style="list-style-type: none"> Avoid damage during roadworks using appropriate on-site signage, and mapping and data checking in advance of on-ground works.
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"> Protect populations from adverse land use changes.
Research	<ul style="list-style-type: none"> Investigate feasibility of translocations, as well as options for linking, supplementing, or establishing additional subpopulations in climate refuge sites. Investigate the species' ecological requirements that are relevant to persistence, particularly in the context of climate change. Investigate and determine a suitable fire regime that meets the ecological requirements of the Candy Spider-orchid and promotes its recovery. Determine the species' pollinator(s) presence at potential translocation sites prior to translocation. Undertake a population viability analysis to determine management options to promote the species' recovery across its range.
Survey and monitoring	<ul style="list-style-type: none"> Monitor population size, distribution, the relative impacts of threatening processes and the effectiveness of management actions. Comprehensively search likely habitat and map important populations. Enter and maintain records in the Victorian Biodiversity Atlas (VBA).

**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
Collect and store reproductive material	<ul style="list-style-type: none"> Maintained seed and mycorrhizal fungal collections from target populations within the Victorian Conservation Seedbank at the Royal Botanic Gardens Victoria (RBGV).
Develop, update and apply forestry protections	<ul style="list-style-type: none"> The Candy Spider-orchid has a current species-specific prescription in the Code: <ul style="list-style-type: none"> In the Portland-Horsham Forest Management Area: Manage occurrences in consultation with the Department unless already protected.

Past action	Description
	<ul style="list-style-type: none">The risk of forestry operations was considered for this species in 2020 under the Victorian Government Threatened Species and Communities Risk Assessment. Additional permanent protections were not found to be required.
Research	<ul style="list-style-type: none">A pollinator was recorded from two of the wild sites and the introduction sites and identified as <i>Leioproctus maculatus</i>, a small colletid bee.
Survey and monitoring	<ul style="list-style-type: none">Monitoring of reintroduction and one of the wild sites was undertaken as part of a translocation project.

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

- [Candy Spider-orchid Species Forecast Report](#)
- [Threatened Species Assessment report – Candy Spider-orchid \(*Caladenia versicolor*\)](#)
- [Commonwealth Species Profile and Threats database](#)
- [Threatened Species and Communities Risk Assessment](#)
- [Victoria's changing climate – understanding the impacts of climate change on Victoria](#)
- [Code of Practice for Timber Production 2014](#)
- [Genetic Risk Index](#)
- [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 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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