Action statement

Flora & Fauna Guarantee Act 1988

Rough-barked Apple *(Angophora floribunda)*

Taxon ID: 500230

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

Rough-barked Apple. Image from Atlas of Living Australia.

This habitat distribution model displays the indicative range of the Rough-barked Apple based on occurrence records and likely habitat. See NatureKit for an interactive map. The Rough-barked Apple also occurs outside of Victoria.

Conservation Status

Endangered

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

This means that:

- The Rough-barked Apple's geographic distribution is highly restricted; and
- the distribution of the population or habitat is severely fragmented; and
- there is a continuing decline or reduction in:
  - the area, extent or quality of habitat; and
  - the number of mature individuals.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: B1ab(iii,v)+2ab(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 Rough-barked Apple Species Forecast Report and VicFlora.

Threats

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

Threat	Description
Fire	
Altered fire regimes	• A hotter, drier climate may increase the likelihood or frequency of fire impacting habitat, with the potential to reduce habitat extent and/or condition. • Both infrequent and frequent fire may lead to population decline and alter vegetation structure and habitat quality. • While Rough-barked Apple generally recovers readily from bushfires, it may be outcompeted by other tree species during this recovery phase. This threat may be amplified by repeat fires at short intervals.
Fire management activities	• 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 or modification	
Forestry operations	• Forestry operations 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. Rough-barked Apple may be outcompeted by other species during coupe regeneration.
Human disturbance	
Construction, development and/or infrastructure	• Construction and development may result in direct removal of habitat, or indirect impacts to habitat through changes to water regime, increased risk of weed incursion, and increased access to native habitats by introduced predators and domestic pets. • Road widening of the Mallacoota Road, development, and fuel breaks at the Mallacoota town interface have potential to impact individuals of or habitat for Rough-barked Apple.
Climate change	
Altered rainfall and temperature regimes	• Climate change, increasing temperature and altered rainfall are likely to magnify existing threats and may reduce the stability, extent, and condition of habitat. • The likely impact of climate change on Rough-barked Apple is not currently known.
Pathogens and disease	
Myrtle Rust	• Myrtle Rust is a disease caused by the introduced fungus (*Austropuccinia psidii*). Myrtle Rust threatens trees and shrubs of the Myrtaceae family and can cause deformed leaves, heavy defoliation of branches, reduced fertility, stunted growth, and mortality.
Phytophthora cinnamomi	• Infection by *Phytophthora cinnamomi* leads to mortality, reduced fitness, reduced recruitment/reproduction, and local population declines of many plant species, including Rough-barked Apple.

Threat	Description
Introduced species	
Introduced herbivores	• Introduced herbivores degrade habitat through herbivory, trampling, pugging of wet soils, increasing nutrient loads, erosion of waterway edges, and increasing the accessibility of habitat to introduced predators and introduced plants.
Introduced plants	• Introduced plants can directly compete for resources and reduce species abundance and diversity. Mechanical disturbance of habitat (e.g., from road and/or fuel break construction and maintenance, forestry activities) can increase the likelihood of introduced plant competition.
Introduced predators	• Predation by foxes (*Vulpes vulpes*) and feral cats (*Felis catus*) contributes to mortality of native species. Of particular concern to the Rough-barked Apple is predation of digging mammals such as bandicoots and potoroos that may be important to maintaining soil health in areas of habitat.

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.
Community engagement and awareness	• Continue to identify, promote, and support opportunities for community involvement in conservation efforts.
Control introduced herbivores *	• Implement and maintain effective control of introduced herbivores, including deer, in priority areas.
Control introduced plants *	• Implement and maintain effective control of introduced plants in priority areas and undertake revegetation with appropriate native species, where required.

Action	Description
Control introduced predators *	• Implement and maintain effective control of feral cats and foxes 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.
Mitigate the risks posed by pathogens and disease	• Identify and manage the risks associated with Myrtle Rust, considering management options to limit exposure, infection, and impact of infection. • Implement vehicle, tool, and footwear hygiene to minimise risk of *Phytophthora cinnamomi* introduction or spread.
Protect key habitat	• 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.
Research	• Investigate the potential impacts of known threats on Rough-barked Apple, and potential management actions. • Investigate and determine a suitable fire regime that meets the species' ecological requirements and promotes its recovery.
Survey and monitoring	• Monitor populations at known sites and other suitable locations to assess distribution, population trends and habitat condition. • Monitor the impact of threats to inform management interventions. • 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 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 the Rough-barked Apple 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

- Threatened Species Assessment report – Rough-barked Apple (*Angophora floribunda*)
- Rough-barked Apple Species Forecast Report
- Commonwealth Species Profile and Threats database
- Victoria's changing climate – understanding the impacts of climate change in Victoria
- Threatened Species and Communities Risk Assessment
- Commonwealth Threat Abatement Plans
- Genetic Risk Index
- Flora and Fauna Guarantee Regulations 2020
- IUCN Red List criteria descriptions

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.

ISSN 1448-9902 **(online)**

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