

# Save our Flora

AN ONLINE INDEPENDENT NATIONAL PROJECT  
**CONSERVATION THROUGH CULTIVATION**

Contact: E. [saveourflora@gmail.com](mailto:saveourflora@gmail.com) W. [saveourflora.weebly.com](http://saveourflora.weebly.com)

**Project launched on  
14th November 2013**

**Maria Hitchcock OAM**  
 Administrator, Bulletin Editor

### **Membership**

Individuals: 230

Groups: 22

International 3

Membership is free.

Please encourage others to join.

Quarterly Bulletins are sent by email only. Feel free to pass them on.

New members will receive the latest e-Bulletin only. Earlier Bulletins can be accessed online. (See box)

This is an informal interactive sharing group. We welcome your emails, articles and offers of seed and cuttings at any time.

Your privacy is respected and assured with this group. You may **unsubscribe** at any time.

New Year Fires  
 rage on South  
 Coast of NSW

Image:  
 HuffPostAustralia



**Is your garden a  
 native plants  
 sanctuary?**

**All you have to do  
 is grow one or  
 more threatened  
 species.**

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***Unsure if you have any rare or endangered plants? Check them out on  
 the EPBC list***

<http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora>



# Save our Flora

## **Maria writes:**

It's mid January and the news items have moved from images of collapsed piles of rubble that used to be houses to people caring for wildlife. These fires have taken a huge toll not only on infrastructure, housing, small businesses, communications, energy, transport and tourism but also on our unique wildlife. The bush will recover but species which were on the brink may never do so. Images of burnt and dehydrated Koalas will haunt me forever I think. Thankfully Australians have enough empathy to ensure that carers receive sufficient donations to allow for the establishment of rescue shelters.

While the focus is on our wildlife little thought is given to the large number of rare plant species which might have been tipped over the edge towards extinction by these catastrophic fires. Plants are just not as sexy as Koalas. It's a problem. They can't run away or burrow into a big hole. Many have adapted to bushfires but can they survive infernos that melt duco? No doubt researchers will be out monitoring recovery responses. We can all play a part by observing regeneration and wildlife movements in burnt out areas. Please do some recording and send me your observations.

Much has been made of Aboriginal cultural burning practices. This is an area I am particularly interested in and am in the process of educating myself on the topic. The conservatives scream loudly that there has not been enough hazard reduction burning in order to deflect blame from their own inaction over decades to prepare the country for more frequent and more intense fires. I have a problem with frequent burning as I am certain it changes the ecology of an area and leads to the disappearance of key species. I would be keen to hear from you on this topic.

In the meantime I have a fire plan, boxes in the lounge-room ready to pack albums and other valuable keepsakes. We have sprinklers ready to go on the roof and around the western boundary. Our hearts go out to members who have been caught up in this catastrophe - Greg Bourke who managed to save his house but ended up with a blackened bush block, Mt Tomah BG which suffered a lot of damage. I'm certain more of you have your own story to tell. Now is the time for us all to help each other. If anyone needs assistance let me know and I'll send out an alert to members.

Just as I was completing this Bulletin it started to rain. we have now had the best rain for a few years in nice steady showers. I hope you are also getting the same.

*Maria*

## **Save our Flora**

### **PowerPoint Presentation**

**Ready to go!**

**30 slides approx 30 mins. talk**

**If you are interested in obtaining**

**this presentation**

**please email me**

**I can send it in an email (4.3MB)**

**or as a CD**

**Send me a C5 stamped addressed envelope**

**Attach 2 stamps**

**or on a memory stick**

**Send me a blank memory stick plus a stamped addressed envelope - 2 stamps**

## **Errata**

The Wollemi presentation piece in Bulletin 32 was not written by Liz Benson but was reported by Lindy Monson [lindymonson@yahoo.com.au](mailto:lindymonson@yahoo.com.au)

## **Wollemi Pines Saved**

This article includes a video on how the Wollemi Pines in the Wollemi NP were saved by special preventative action.

<https://www.smh.com.au/environment/conservation/incredible-secret-firefighting-mission-saves-famous-dinosaur-trees-20200115-p53rom.html>



## Greetings from the Macadamia Conservation Trust.

**Our mission is to support and conserve Australian wild macadamia trees in their native habitat and in all other ways.**

I am writing to ask about Macadamia trees that you may have growing in your Gardens, as it is possible that they may be living examples of genotypes that no longer exist in the wild.

Healthy Land and Water (the Regional NRM body for Southeast Queensland) is currently partnering with the Macadamia Conservation Trust (the Trust) to run the [Wild Macadamia Hunt](#) to find macadamia descendants – I attach the Project Information Sheet as background.

The Hunt is funded by the Queensland Government and thus focussed on Queensland, but the Trust would like to extend the Hunt to Botanic Gardens, as we have records of macadamia seeds being distributed to Botanic Gardens throughout Australia in the late nineteenth century.

### I would like to ask the following:

Please let me know by return email if you do or do not have any macadamias growing in your Gardens. If you have some trees, please could you enter details of the tree/s onto the

[Wild Macadamia Hunt portal](#),

or alternatively fill out a

[‘Paper form’](#)

for each tree and return to me. If neither of these options are possible, please call me and I can take down details over the phone. We would be very excited to see any records that you may have of where the trees came from and when they were planted, and any relevant correspondence, as we are trying to piece together the history of their distribution.

If your trees sound to be of wild origin, I will write back, requesting permission to collect a sample of a few young leaves for genetic analysis. Please don't hesitate to contact me directly by phone with any queries or information.

DENISE BOND | EXECUTIVE OFFICER  
Macadamia Conservation Trust  
M 0488 432 226 | T 1800 262 426 | +61 2 6622 4933



*Macadamia janseni* Image: [Flickr](#)

### Revealed: Widespread species devastation following 'unprecedented' fires

SMH Peter Hannam 18/1/20

*'NSW's plants, though, may count the most species pushed to the brink. Among 651 of the most vulnerable flora species, 26 had their ranges entirely burnt while another 30 were located in areas 99 per cent affected. The mapping techniques used to make the assessment may underestimate the impacts. The apparent inclusion of sightings more than a couple of decades old implies a greater abundance of rare species than is actually the case prior to the fires, one ecologist told the Sun-Herald.'*

### Full article:

[https://www.smh.com.au/environment/conservation/revealed-widespread-species-devastation-following-unprecedented-fires-20200117-p53siy.html?promote\\_channel=edmail&mbnr=Mzg4MTA1Mg&id=email:nnn-130mn654-ret\\_news1-membereng:nnn-04%2F11%2F2013-news\\_am-dom-news-nnn-age-u&campaign\\_code=13INO010&et\\_bid=29218935&list\\_name=40\\_smh\\_newsalert&instance=2020-01-18-18-21--UTC](https://www.smh.com.au/environment/conservation/revealed-widespread-species-devastation-following-unprecedented-fires-20200117-p53siy.html?promote_channel=edmail&mbnr=Mzg4MTA1Mg&id=email:nnn-130mn654-ret_news1-membereng:nnn-04%2F11%2F2013-news_am-dom-news-nnn-age-u&campaign_code=13INO010&et_bid=29218935&list_name=40_smh_newsalert&instance=2020-01-18-18-21--UTC)

**NASA**

8th January 2020

<https://www.nasa.gov/feature/goddard/2020/kangaroo-island-shows-burn-scars-on-one-third-of-the-land-mass>

## Kangaroo Island Shows Burn Scars On One Third of the Land Mass

NASA's Terra satellite provided before and after imagery (see link above) that showed the extent of the fires that have been ravaging Australia's Kangaroo Island. Kangaroo Island lies off the mainland of South Australia, southwest of Adelaide. About a third of the island is made up of protected nature reserves which are home to native wildlife which includes sea lions, koalas and diverse and endangered bird species, including glossy black-cockatoos which have been brought back from the brink of extinction over the last two decades.

In the western part of Kangaroo Island, specifically in Flinders Chase National Park, penguin colonies and famous coastal rock formations are found. Kangaroo Island is Australia's third largest island after Tasmania and Melville Island. In addition to it being a very popular tourist destination for both Australians and nature lovers, the island even boasts a colony of Ligurian honey bees which are the world's only pure-bred and disease-free population of this type of bee.

Which makes the devastating bushfires that have laid waste to almost one-third of the island not only just a major tragedy for the island but an ecological tragedy as well. The bushfires began as lightning strikes within Flinders Chase National Park. Ecologists within the park put estimates of the number of koalas that have perished in the fire at 25,000 which is half the island's population of the popular animals. NASA's fleet of satellites are able to monitor from their various satellites the extent of the damage and the areas continuing to burn which assist firefighters in fighting these major disasters. The link above has a

slider of two images that show Kangaroo Island both before and after the bushfires.

The photos below show two *Correas* endemic to Kangaroo island.



*Correa calycina* var *balmaturorum* Image: Hitchcock



*Correa reflexa* var *insularis* Image: Hitchcock



## National park eco-tourism developments taken to court, with states watching closely

ABC News By national regional and rural reporter [Jess Davis](#) 15 Dec 2019

**A desire to cash in on the popularity of eco-tourism has resulted in some state governments seeking and approving private tourism developments in national parks.**

### Key points:

- Protesters are concerned about the lack of public consultation when it comes to building in national parks
- A recent proposal to build a private heli-fishing development in Tasmania's Lake Malbena was taken to the Federal Court
- The court told the Federal Government to reassess the application, with state and territory governments watching the case closely

It's forced those fighting against such ventures to take their cases to the courts and the protesters are having some success. A development at Halls Island on Lake Malbena, in Tasmania's Walls of Jerusalem National Park, has become emblematic of the fight over development and will likely set a precedent across the country.

Last weekend protesters showed their opposition to the helicopter fly-fishing development at a rally on the Central Plateau, with more than 150 people braving cold, wet and windy conditions to have their say. Adrien Butler from the newly formed Tasmanian Wilderness Guides Association told the rally the proposal was misguided.

"Our current State Government has a particular vision for Tasmania, and we believe that this vision is short-term, self-serving, and neglects wilderness values," Ms Butler said. Wilderness photographer Dan Broun organised the rally, which was followed by a number of protesters walking into Lake Malbena to symbolically "reclaim it for the Tasmanian people".

"This development, unfortunately, while it seems small scale will actually set a precedent that will open the floodgates to development in our parks," Mr Broun said. Federal Court win

Last week the Federal Court ordered the Commonwealth Government to reassess the application, as it found the original decision that no approval was required to be flawed. It's a win of sorts and has been touted as a precedent setter, with other states and territories carefully watching the case.

Leading the challenge on behalf of the Wilderness Society was principal lawyer for the Environmental Defenders Office, Nicole Sommer. "The law doesn't deal with how we should develop national parks and that's because national parks were there to be protected — we didn't expect to have development," she said. "The Halls Island project will be a test for how the Commonwealth Government deals with development in World Heritage Areas. It will say whether it's going to wave through development."

In a statement to the ABC, Federal Environment Minister Sussan Ley said she accepted the decision by the court and it will be re-assessed in due course. "We balance any commercial opportunities within our parks with strengthening the resilience of our ecosystems and the benefits for Traditional Owners," the Minister said.

While private developments do exist in Tasmania's national parks, they are rare. But with the popularity of eco-tourism on the rise, governments and businesses are beginning to recognise the potential to cash in. In Tasmania, Queensland and South Australia, state governments are not just accepting applications, they're actively seeking them through Expressions of Interest (EOI).

The Australian Walking Company (AWC) has been running a private walk with luxury huts on Tasmania's Overland Track for more than 30 years and is now rapidly expanding — benefitting from the EOI process. "We've recognised a growth in the market, more opportunities coming online and we think there's an opportunity for sustainable growth within this niche tourism sector," general manager Heath Garratt said. The company now has six walks available in Tasmania and Victoria and a further eight applications underway across the country — including at Uluru. "It's so important for the Government and also the tourism industry to ensure that that growth is sustainable and managed really well," Mr Garratt said. "And I think that's what we're hearing from the community a lot, there's some concern that that might not be the case."

On South Australia's Kangaroo Island, local community groups are taking the State Government to the Supreme Court, in a bid to stop the building of private luxury accommodation in the Flinders Chase National Park. A development by the AWC has been approved on the Kangaroo Island Wilderness Trail, but community groups are angry that there was no public consultation process and say the areas proposed are too fragile.

The former ranger in charge at Kangaroo Island, Caroline Paterson, left her job earlier this year because she said her values no longer aligned with the department. "It's all about making money and, unfortunately, I don't feel that there is enough value placed on the natural environment," she said. Ms Paterson said the community was upset about the proposed location of the development, but would be happy for it be placed away from sensitive coastal sand dunes. "Some places are OK to open up to make it accessible for visitors and some places are not," she said. "And if they're not the Government just needs to say no, because there are so few wild places left in the world."

But Mr Garratt refuted the claims and said he was confident they will get through the court case and start development. "I also would hope that they understand there's a real benefit to what we do as a company, and that we're actually providing a great service to the lands that we're actually operating on," he said. "We would never trash the environments we're working in, because we rely so heavily on them."

The opponents at Kangaroo Island have support across the country and are forming an alliance with other groups, including the opponents of Lake Malbena. The Wilderness Society told the crowd at the Lake Malbena rally it would be launching a national campaign next year, bringing together various fights. Wilderness photographer Dan Broun said it was important that governments listen and engage with the public on these proposals. "It is not a commodity to be sold off. It is not there to be traded for some deal with some developer and that goes for all of our wild places," he said.

"All of our national parks belong to the nation, the World Heritage Areas belong to the globe."

In a statement to the ABC, the Tasmanian Government said the EOI process was delivering benefits to the economy.

## Available Propagators

The following people have indicated a willingness to work with projects that require good propagation skills. If you would like to be added to this list please let Maria know.

### **Maria Hitchcock** Armidale NSW

Life member NSW - APS

Over 40 years propagating experience.

Cool Natives Online Nursery

<https://coolnativesnursery.com>

### **Col Jackson**

Over 20 years propagating experience

Member of the Latrobe Valley APS Victoria

[coljackson57@hotmail.com](mailto:coljackson57@hotmail.com)

### **Spencer Shaw**

We operate two nurseries,

Brush Turkey Enterprises Wholesale

[www.brushturkey.com.au](http://www.brushturkey.com.au) and

Forest Heart Eco-Nursery

[www.forestheart.com.au](http://www.forestheart.com.au)

and specialise in SE QLD native plants, particularly rainforest.

[spencer.shaw@brushturkey.com.au](mailto:spencer.shaw@brushturkey.com.au)

0428 130 769

### **Helen Howard**

[grevillea.hh@gmail.com](mailto:grevillea.hh@gmail.com)

I have grafted Eucalypts, Grevilleas,

Eremophilas and Brachychitons. My

teacher was Merv Hodge. If any BG has a project I could help out with let me know.

"We understand that to lock in growth for the future we must protect what is special about Tasmania and we've said from day one that new attractions in wilderness areas and National Parks must be sensitive and appropriate. And we continue to stand by that commitment," the statement said.

<https://www.abc.net.au/news/2019-12-15/private-development-in-national-parks-opposed/11800134>

**Ed: One wonders what will happen now that the eco-resort at Flinders Chase NP has been burnt down. It may not be so lucrative to build these resorts in National Parks if the fire threat is becoming more frequent and intense.**

## ANPC News

<http://www.anpc.asn.au>

### Healthy Seeds Project

*‘Healthy seeds for resilient restoration – A reliable, genetically appropriate supply of native seed for resilient ecological restoration in NSW’*

The ANPC has embarked on an 18 month project funded by the NSW Government through its **Environmental Trust**, to deliver an evidence-based Roadmap to secure a reliable, genetically-appropriate, native seed supply in NSW for restoration, and to update the Florabank Guidelines for best practice native seed collection and use.

#### Achievements so far:

- A Consortium of partners from across the native seed and ecological restoration sectors has been established between the ANPC and the [Centre for Australian National Biodiversity Research](#), [Royal Botanic Gardens Sydney](#), [Department of Planning, Industry and Environment](#), [Australian Seed Bank Partnership](#), [Greening Australia](#), [Australian Association of Bush Regenerators](#) and the [Society Ecological Restoration Australasia](#). The Consortium will oversee the project and co-design a Roadmap for future actions to deliver solutions on this issue.
- The [Seeds for the Future – a one day Forum](#) was held on 8 October 2019 with the Australian Association of Bush Regenerators to bring together people from the bush regeneration, revegetation, nursery and landscape architecture sectors to set the scene for future collaborations and introduce the ‘Healthy Seeds’ project.

#### Background

High quality seed from a range of native species is the foundation for restoring healthy and resilient ecosystems. However, there is evidence that much of the seed being used for restoration in NSW is not necessarily fit-for-purpose. Between October 2016 and April 2017 the ANPC undertook a survey

of the Australian native seed sector, which reported dwindling seed supplies and a decline in expertise and training. Initial survey results were disseminated at the [Australian Native Seed Industry Review Workshop](#) held at the ANPC’s [11th Australasian Plant Conservation Conference](#) (APCC11) in Melbourne on 18 November 2016. A report entitled *‘The Supply of Native Seed for Restoration in Australia’* is currently in preparation which will disseminate the full results. Current and future restoration projects are at risk due to a range of complex and interrelated factors, including:

- Seed used in restoration projects can have genetic problems.
- Insufficient seed from the range and diversity of species and functional groups needed to restore ecosystems.
- Volume of seed produced by wild populations is declining.
- Pressure from seed collectors impacting on wild populations.
- Natural plant populations have variable seed production and seed is often not available in the timeframes required.
- Demand for genetically-appropriate native seed has been increasing while supply from wild populations is falling leading to seed shortages, particularly west of the divide.
- Lack of infrastructure available to grow and store native seed at the scale needed.
- Markets appear unwilling or unable to establish seed production infrastructure spontaneously, without support.
- The seed supply chain is labour and capital-intensive and high risk.
- The ‘market’ is driven by federal state and local government investments which are unstable and variable across time and location.
- No industry body or established standards for native seed.
- Information for practitioners is inaccessible and out-of-date.
- The provenance of much of the seed used is unknown, and there is anecdotal evidence of falsification in some cases.

## Project Objectives

- To identify the most effective and efficient interventions for improving the genetic health and reliability of the native seed supply for better resilience of ecological restoration in NSW. These interventions will be identified in a Roadmap that will be publicly available and can be used by both public and private partners to drive solutions.
- To gain agreement and co-ordination between government, community and industry sectors on the way forward for improving the genetic health and reliable supply of native seed for more resilient ecological restoration in NSW.
- To ensure practitioners are aware of, have access to, and are using up-to-date science and guidance materials for best-practice native seed management in ecological restoration.

## Project Description

This project will deliver a robust, evidence-based, Roadmap to secure a reliable, genetically-appropriate, native seed supply in NSW that is needed to ensure the long-term health and resilience of restored ecosystems. The development of a framework and infrastructure for seed production has been identified as the main solution for the issues discussed above. Seed Production Areas (SPAs) are seen as central to overcoming shortfalls in high quality native seed for ecological restoration, and for improving seed supply reliability, reducing pressure on wild populations, and for improving genetic provenance and diversity. However, questions remain about whether, and under what circumstances, SPAs can produce genetically appropriate seed, and for what cost. And whether there is sufficient evidence to support investment in SPAs over the long term, given a changing climate. This project will assess the need for SPAs, against other solutions, and produce a publicly-available Roadmap for future action.

## The main activities that will be carried out are:

- Undertake an audit of past SPAs to examine:
  - why past SPAs were not self-sustaining when funding ceased.
  - whether they have retained sufficient genetic diversity (as plant death may have induced bottlenecks).
  - whether there are sites that can be brought back to production at a lower cost than starting from scratch (provided these are in the right areas).
  - whether, and under what circumstances, SPAs can produce genetically appropriate seed for restoration purposes, and for what cost.
- The audit will look at the availability of existing seed infrastructure (such as seed banks), and regional resources (such as local seed databases, vegetation guides and plant lists). It will assess whether the volume and species of seed grown in existing SPAs is sufficient and appropriate in different regions, and will undertake an investigation to explore barriers and opportunities in the seed and restoration sectors. This research will identify and analyse the evidence for different solutions, including (but not limited to):
  - whether restoration projects can be designed so that they can also serve as SPAs, and therefore deliver better value for money.
  - how partnerships can be utilised to drive co-ordinated solutions and leverage support and investment.
  - whether investment in SPAs, or other solutions, will have longevity as climatic conditions change.
  - analysis of options for designing a framework to ensure best practice is embedded in the sector, consider different elements such as licencing, quality assurance systems, standards, guidelines, auditing and compliance requirements and/or accreditation.
  - whether there are knowledge gaps that need to be addressed before change can occur in this sector.



- Update the Florabank Guidelines with the latest science (these guidelines are widely used but out of date). The investigation will examine how the Florabank Guidelines can be embedded in an overall framework so that they will be understood and used by the sector. This could include an analysis of solutions like major government investors requiring adherence to the guidelines for funded restoration projects, or a licencing code for ecological restoration that requires adherence to the guidelines. The update will be overseen by a working group.
- Hold a forum to promote the updated Florabank Guidelines, and provide feedback on, and test aspects of, the draft Roadmap. The Roadmap will consider the full range of possible solutions, including addressing the seed supply issue, but also filling knowledge gaps, research needs, systems and processes for Quality Assurance / QualityControl.
- Finalise the Roadmap.
- Publicly release the Roadmap.
- Print the ANPC report entitled '*The Supply of Native Seed for Restoration in Australia*' currently in preparation which will disseminate the full results of the ANPC's seed supply survey of the Australian native seed sector and provide further justification for the Healthy Seeds project.

### Key Staff

For more information on this project, please contact:

#### Healthy Seeds Project Manager

[Martin Driver](#)

#### Florabank Guidelines Project Manager

[Dr Lucy Commander](#)

### [Australasian Seed Science Conference \(ASSC 2020\) - Early bird registrations now open!](#)

Early-bird registrations are now open for next year's Australasian Seed Science Conference to be held in Canberra 5-9 April. Delegates will discuss the latest advances in seed biology and ecology, seed sourcing and end-use, seed and genebank management and seeds in culture and society.

#### **Abstracts closed on 12 January.**

Sponsorship opportunities are also now available.

[Check out the conference website to see the full 5-day program and register now.](#)

### [NSW Nature Conservation Council's 2020 Bushfire Conference - Sydney NSW, 19-21 May 2020](#)

Call for abstracts is now open. The NSW Nature Conservation Council's Bushfire Program is hosting its 12th Biennial Bushfire Conference, '**Cool, Warm, Hot: the burning questions**', to bring together academics, agencies, Traditional Owners, practitioners and communities to explore how different fire intensities can influence ecosystems and communities in a changing climate. Presentations will investigate the effects of low, medium and high intensity fires on the four sub-themes: climate change; fire ecology; ferals, weeds and restoration; and community resilience. The conference will examine how to incorporate and respond to cool, warm and hot fires in fire management as part of an optimal fire regime to achieve multiple objectives for biodiversity and cultural values, hazard reduction objectives and community resilience.

Abstract submissions close 12 February 2020.

[Click here for more information.](#)

# Save our Flora

## Invasive fungus myrtle rust is pushing Australia's native trees toward extinction

### ABC Science

By Jo Khan 4 December 2019

**While cane toads creep across northern Australia and down the eastern coastline, a far more insidious invasive species is ravaging our native trees.**

#### Key points

Scientists say four species are in "catastrophic decline" in NSW and QLD due to myrtle rust

- A draft action plan for myrtle rust in Australia is yet to be implemented, despite the fungus first being detected in 2010
- Eucalypts fall within the family affected by the fungus, but they're safe for now

Scientists warn rapid extinctions of some of our most well-known tree species are on the cards if myrtle rust, an invasive, disease-causing fungus, is not rapidly brought under control.

Myrtle rust, or *Austropuccinia psidii*, has caused extensive dieback of trees including lilly pillies, paperbarks, box brush and tea trees.

The areas most affected are wet forest environments, such as coastal heath, paperbark wetlands and rainforests, along the east coast of Australia, said Bob Makinson, a conservation botanist with the Australian Network of Plant Conservation.

"We know that at least four species are in what can only be termed catastrophic decline," Mr Makinson said.

"The critical endangered status that's been afforded to three of those species in New South Wales means that they are in danger of extinction in the near future.

"Those species are on the way out."

Native Guava trees

Image: Geoff Pegg

Native guava (*Rhodomyrtus psidioides*) and brush turpentine (*Rhodamnia rubescens*) are two of the four tree species most at risk from myrtle rust.

"Those species were widespread and had no conservation concern prior to 2010, when myrtle rust was first detected," Mr Makinson said. "But in the short space of just nine and a half years have gone to critically endangered status."

Myrtle rust is now established along the east coast of Australia and at several locations in Tasmania and the Northern Territory, but has not yet reached Western Australia.

### The 'pinnacle of pathogens'

Myrtle rust is recognisable by its yellow and orange spores on tree leaves and branches. These spores are carried by wind, and when they land on a suitable host — trees in the family Myrtaceae — they can infect it within 12 hours. Sometimes the only sign trees are infected is isolated brown spots on their leaves, and some plants can survive with this level of infection. More severely infected plants look burnt and this level of infection can cause plant death. Plant pathologist Geoff Pegg called myrtle rust the "pinnacle of pathogens" at a recent Ecological Society of Australia conference in Launceston.

"Initially we thought that [myrtle rust infection] would be mainly in areas where we have regeneration — so seedlings," said Dr Pegg, who works in forest production and protection with the Queensland Department of Agriculture and Fisheries.

"But we've actually seen the decline of mature trees to over-storey species 80 to 100 years old. We're losing the lower branches first and the plants just struggling to survive by having only the top of the canopy still alive. But it's eventually succumbing as well."

Over 350 species of Myrtaceae can be suitable hosts to myrtle rust, and it's not clear why, according to Dr Pegg.

"[Myrtaceae] is such a diverse thing, some species have spiny little leaves, and others have massive fleshy leaves, and there just doesn't seem to be difference in terms of their susceptibility," he said. The invasive rust also targets fruit and flowers and with repeated infection of new growth over time, trees are no longer able to reproduce and eventually die.

### Fire and rust

At one of Dr Pegg's study sites in Lennox Head in northern New South Wales, Myrteacea species that once dominated the site did not regenerate after fire.

"The prickly melaleuca, *Melaleuca nodosa*, was once dominant and grew in thickets, now we only find one or two individuals within those thickets, and it's been swamped by acacias and banksias," he said. With huge bushfires burning throughout Australia this spring, and predictions of more frequent and intense fires due in some part to climate change, will the threat of myrtle rust increase?

"It may significantly impact on regeneration of some Myrtaceae as the forests recover from fire," Dr Pegg said. "Because you get a massive amount of regenerating seedlings which is susceptible to myrtle rust, you will potentially get a rapid increase in spores, increase in the number of plants infected and severity of impact on species."

### Eucalypts OK, for now

Myrtle rust is not yet affecting eucalypts to the same extent as other Myrtaceae groups, but that could change, Mr Makinson said. "Myrtle rust has different strains, and there are two strains in South America, which are strongly eucalypt associated and have caused major economic damage in the eucalypt plantations over there," he said. "If either of those strains or indeed any others were to arrive in Australia the effects could be quite dire."

### Action plan not yet taken up

In mid-2018 a [roadmap for the conservation response to myrtle rust](#) was drawn up by a group of concerned scientists, led by Mr Makinson, with support the Department of Environment and Energy and the previous Plant Biosecurity Cooperative Research Centre.

Collecting germplasm — cuttings or seeds — from Myrtaceae is one of the actions recommended, as there aren't any safe refuges due to myrtle rust dispersal via wind. Samples collected could be used to identify plants that are more resistant or tolerant to the rust, which could be used to breed resistant lines of those species for putting back out into the wild to reinforce surviving populations or as reintroductions where extinction has occurred.

However, Mr Makinson said this plan is yet to be taken up or resourced. "This is an existential threat to plant family of great ecological significance in Australia and indeed have commercial significance too," he said. "One would hope that a vigorous reaction to the arrival of one strain in Australia would emerge and would prepare us better for future strains that might arise as well."

In a statement, a spokesperson for the federal environment minister Sussan Ley said the draft action plan was being finalised by the Australian Plant Biosecurity Science Foundation following public consultation. The statement also said that two of the four species of Myrtaceae currently in "catastrophic decline" due to myrtle rust in New South Wales and Queensland have been prioritised for assessment under the Environment Protection and Biosecurity Conservation Act.



# Save our Flora

## What you can do!

### [Notification of public consultation on the 'Tasmanian White Gum \(\*Eucalyptus viminalis\*\) Wet Forest' Threatened Ecological Community](#)

The national Threatened Species Scientific Committee **invites your submissions** on a proposed listing for a nationally threatened ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The 'Tasmanian white gum wet forest' has a tree canopy dominated by *Eucalyptus viminalis* and wet forest understorey of broad-leaved trees, shrubs and ferns over a thick layer of plant litter. It is found in high rainfall, lowland areas of northern, eastern and southern Tasmania, primarily in the major river valleys of the central north.

The closing date for submissions is **Friday 7 February 2020**.

[The draft Conservation Advice is available for public comment here.](#)

### [Inquiry into the efficacy of past and current vegetation and land management policy, practice and legislation and their effect on the intensity and frequency of bushfires and subsequent risk to property, life and the environment](#)

Following a referral from the Minister for Water Resources, Drought, Rural Finance, Natural Disaster and Emergency Management, the Hon David Littleproud MP, the Standing Committee on the Environment and Energy resolved on 5

December 2019 to conduct an inquiry into the efficacy of past and current vegetation and land management policy, practice and legislation and their effect on the intensity and frequency of bushfires and subsequent risk to property, life and the environment.



**The Committee is accepting written submissions, addressing one or more of the terms of reference, to be received by Friday, 28 February 2020.**

[Click here for more information and make a submission.](#)

### [I Spy A Wollemi Pine](#)

Do you know of a Wollemi Pine growing in a park or garden? Whether it's in your backyard, outside your office window, or in a nearby public space ... We want to hear from you! Using citizen science, researchers at the Australian Botanic Garden want to investigate where exactly Wollemi Pines are growing in gardens across Australia, and worldwide. Why? Identifying the hottest, coldest, wettest and driest places where Wollemi Pines are grown will give us important insight into the environmental tolerances of this special tree, which will in turn help us manage it in a changing climate. We hope that this citizen science project will also raise awareness of the importance of gardens in threatened plant conservation.

[Undertake the survey here.](#)



# Save our Flora

Fire damage: Mt Tomah BG damage and Eurobodalla BG below.





# Save our Flora

## Almost a quarter of eucalypt trees found to be threatened with extinction

[Graham Readfearn](#)

*The Guardian* Wed 11 Dec 2019

A global assessment of all 826 known species of eucalypt trees – of which some 812 grow only in Australia – has found almost a quarter are threatened with extinction. The figures are revealed in the International Union for Conservation of Nature’s update of its “red list” of threatened species.

Eucalypts in their native range of Australia faced threats from human land use, especially agriculture and urbanisation, the IUCN said.

“As keystone species, [eucalypts] define the landscape of the entire Australian continent, and are culturally significant to its First Nations people,” the IUCN said. Some 134 species of eucalypts had drops in numbers of at least 30% and the endangered Rose Mallee had declined by more than half.

Eucalyptus trees are the key food source for koalas. *Eucalyptus moluccana* was also considered a vulnerable under the new assessment, the IUCN said. Dr Eve Lucas, a scientist at the UK’s Royal Botanical Gardens at Kew, said: “The completion of the eucalypt assessment is a major milestone for plant conservation: pinpointing and highlighting the hundreds of threatened species in this iconic and ecologically important genus will increase their chances of survival in the face of the uncertain climate of the future.

“Global assessments of large genera of plants are challenging collaborative exercises and critically important to improve our understanding of plant extinction risks and the actions needed to mitigate them.”

Prof David Bowman, who studies the impacts of climate change and fire on trees at the University of Tasmania, told Guardian Australia that while eucalypts were ubiquitous in Australia, they were also vulnerable. He said: “I’m not surprised by this assessment. We are talking here about old ecological systems that are being taken to the edge.



*Eucalyptus rhodantha*

Image: Westgrow farm trees

“Eucalypts are keystone species and are critical to a huge number of ecological systems. If you start taking them out, then there will be knock on effects because so many organisms – birds and insects – depend on them. There are a lot of warning signs out there, and this is another one.”

Dr Stuart Blanch, of WWF-Australia, said: “Deforestation and global heating are threatening the survival of eucalypts across Australia. It’s not just individual eucalypt species at risk. Entire forest ecosystems dominated by eucalypts are endangered. Some have been cleared down to less than 10% - or even 5% - of their original extent.” He said that Australia only listed 76 eucalypts as threatened, while IUCN listed 198, which suggested “the federal government should urgently re-assess the plight of these iconic trees”.

He added: “The bushfires have scorched large areas of eucalypts and we hope those forests are still alive and can sprout new leaves.

“There’s hope for eucalypts and other tree species if we take the right action now.”





## Seed and Cuttings Exchange

Please send all requests directly to the person making the offer or the group email

[saveourflora@gmail.com](mailto:saveourflora@gmail.com)

Please follow the correct protocols for requests of seed or cuttings. These are detailed on the next page. Please note that some species are in very short supply and cutting material may be limited.

### Maria Hitchcock

16 Hitchcock Lane Armidale NSW 2350

*Correa eburnea*, *C. calycina*, *C. baeuerlenii*,  
*Callistemon pungens*, *Zieria adenodonta*, *Z.*  
*prostrata*, *Z. floydii*, *Boronia keysii*

I also sell some endangered species through my  
online nursery <https://coolnativesnursery.com>

### Arthur Baker

55 Moran ST Gatton Qld 4343

*Gardenia psidiodes*, *Grevillea quadricauda*, *Grevillea*  
*glossadenia*, *Eucryphia wilkiei*, *Graptophyllum*  
*ilicifolium*

*Xanthostemon formosus*, *Phaius tancarvilleae*,  
*Plectranthus nitidus*, *Zieria prostrata*, *Grevillea*  
*mollis*?

*Eremophila nivea*, *Dodonaea rupicola*,  
*Xanthostemon arenaris*, *X verticulatus*/seeds or  
cuttings

*Kunzea flavescens*, *K graniticola*, *Callistemon*  
*pearsonii*

*Callistemon flavovirens*{seeds}, *Melaleuca irbyana*  
*Lilaeopsis brisbanica* {Water plant}, *Hernandia bivalis*  
*Spathoglottis pauliniae* {Tropical ground orchid},

*Rhododendron Lachiae*

### Charles Farrugia (email [saveourflora@gmail.com](mailto:saveourflora@gmail.com))

*Eremophila denticulata ssp trisulcata*  
*Eremophila denticulata ssp denticulata*  
*Eremophila nivea* (blue form)  
*Eremophila nivea* (white form) - limited.  
*Eremophila vernicosa* – extremely limited

### Russell (email [saveourflora@gmail.com](mailto:saveourflora@gmail.com))

*Boronia clavata*

### Denise & Graeme Krake

752 Warrigal Range Rd. Brogo NSW 2550

Seed of

*Hakea dohertyi*, *Hakea ochroptera*

*Hakea longiflora*, *Grevillea maccutcheonii*

### Geoff & Gwynne Clarke

*Grevillea humifusa* - cuttings

*Angophora robur* - seed

### *Dodonaea crucifolia* - cuttings or seed

This was named a couple of years ago by Ian Telford who came down from Armidale to look over our block. Many people were calling it *Dodonaea hirsuta*, but it is not very hairy and has no hairs at all on the fruits. It also grows in a nearby flora reserve. If people would like to try this I can make it available when the material is ready. I have grown it successfully from cuttings, but it does not live long after planting out. It also produces seed and I can collect that after the next flowering (spring fruits). It grows happily around the block, popping up from seed here and there, produces plenty of seed, but it is not long lived even when self sown. Fruits are showy reds.

### Bob O'Neill

7 Hillsmeade Drive, Narre Warren South, Vic. 3805

I want to increase our range of *Lechenaultias* and *Correa pulchellas*. Can anyone help us out? Both of these groups of plants are doing well for us at Narre Warren South, Vic. I would be delighted to offer cuttings from our range to interested people. Some plants may be available to people who are able to come to our home address.

### Paul Kennedy (Leader ANPSA Hakea SG) (email [saveourflora@gmail.com](mailto:saveourflora@gmail.com))

I have seed of *Hakea dohertyi* and a large plant of *Hakea ochroptera* from which cutting material could be taken. I also have a plant of *Callistemon megalongensis* which has not flowered yet, but cutting material would be available in autumn. The seed originally came from the Melaleuca Study Group seed bank many years ago.

### Verna Aslin

20-22 Bega St Cobargo NSW 2550

*Asterolasia beckersii* and *Grevillea iaspicula*

*Do you have any EPBC plants growing in your garden with sufficient foliage to share cuttings with our members? Let me know and I'll print it here. It would be easier if we can add your address so that members can contact you directly. Please make sure you follow the protocols on the back page. (Ed)*

# Save our Flora

## Requesting and sending seed by post

Please follow these simple steps.

### Make a request

1. Send your request by email first. It will be forwarded to the grower so you can request seed and ask for the address.
2. Send your request enclosing a self-addressed envelope with two 60c stamps attached. Post the envelope.

### Send seed

1. When you receive an envelope with a seed request, package up the required seed which includes the name, provenance (if known) and date of collection. Add any tips on germinating the seed and post.

### Receiving seed

1. Seed should be stored in paper (small manilla seed packets are best but any cheap envelopes will do) and kept in a cool dark place. Some people use those small paper lolly bags and staple them at the top. Add mothballs if you like. This will prevent insect attack. I save moisture absorbers from medicine bottles and add them to my seed drawer to ensure the seeds do not rot.

Seed life varies according to species. Acacias will last for many years while Flannel Flower needs to be really fresh. Old seed may not germinate and needs to be thrown out.

## Requesting and sending cuttings by post

Please follow these simple steps.

### Make a request

1. Send your request by email first. It will be forwarded to the grower so you can request cuttings and ask for the address.
2. Purchase an Express Post small satchel for \$10.55. it will hold up to 500 gms.
3. Self address your satchel and place it in an envelope with your cuttings request. Add a label/s with the name of the species and sender. Pencil is best for writing on labels.
4. Post the envelope.

### Send cuttings

1. When you receive an envelope with a satchel inside, cut about 6 stems of the requested species. The best time to do this is early morning. Store cuttings in the crisper part of the fridge until they are ready to be posted.
2. Wrap the cuttings in damp newspaper and place them in a cliplok plastic bag. Make sure you label each parcel with the names of the species and sender. Squeeze air out of the bag and fasten top.
3. Put the bag in the satchel and post.

### Receiving cuttings

## Group Members

### ANPSA Groups

APS Echuca Moama Vic  
 APS Melton Bacchus Marsh Vic  
 APS Sutherland NSW  
 NPQ Ipswich Qld  
 NPQ Sunshine Coast and  
 Hinterland Qld

### Botanic Gardens and Reserves

Burrendong Arboretum Wellington  
 Crommelin Native Arboretum NSW  
 Hunter Regional BG NSW  
 Lindum Park Flora and Fauna Res  
 Tamworth Regional BG NSW  
 Swan Reserve Garden Vic

### Nurseries

Bilby Blooms Binnaway NSW  
 Cool Natives Armidale NSW  
 Mole Station Tenterfield NSW  
 Forest Heart Eco-Nursery SE Qld

### Seed Suppliers

Victorian Native Seeds

### Study Groups

Acacia SG  
 Correa SG  
 Epacris SG  
 Garden Design SG  
 Grevillea SG  
 Hakea SG  
 Waratah & Flannel Flower SG

### Landscapers

Brush & Bush Tamworth NSW