A charity fostering scientific research into the biology and cultivation of the Australian flora

Research Matters

Newsletter of the Australian Flora Foundation

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Inside

President's Report 2025

Delivered by Assoc. Prof. Charles Morris at the Annual General Meeting, November 2025.

Over the three years from 2022 to 2024, there has been a step increase in the funding budget arising from the receipt of the Reid bequest in 2021.

This period saw the introduction of a two-tiered granting scheme; Reid grants, with a budget of $20,000-60,000 for projects spanning up to 3 years and Small grants, with a budget limit of $20,000 for projects of 1 or 2-years in duration.

Expenditure on grants was $24,083 in 2022, the last year of the previous granting system (Table 1). With the increase in income from the Reid bequest, expenditure on grants rose to $207,418 in 2023, and has ranged from $184,000-189,000 over 2024-2025 (Table 1).

Four to five Reid grants per year were awarded over this period, and two to four Small grants.

A collaboration with Wild Macadamia Conservation (WMC, formerly the Macadamia Conservation Trust) has resulted in an extra grant being awarded each year for the last two years funded by WMC.

Table 1. Grant expenditure, number of Reid grants, number of Small grants and the number of total grants awarded 2022-2025.

Year	Grant expenditure* ($)	Number of Reid grants	Number of Small grants	Total
2022	24,083	4	3	7
2023	207,418	4	4	8
2024	184,111	5	2	7
2025	189,731	2	3	5

*GST inclusive

In 2025, the planned grant expenditure for three Reid grants and two Small grants totalled $203,775. The Macadamia grant incurred a further $60,000 expenditure, but this cost is borne by Wild Macadamia Conservation.

Reid grants

Lead investigator	Project title	Funding approved ($)
Hannah Carle (Western Sydney University)	Finding climate resilience for grassy woodland restoration: species diversity and climate-adjusted provenances	59,240
Margaret Mayfield (University of Melbourne)	Characterising field vital rates of annual wildflowers to predict species persistence under future climates	57,809
Angela Moles (University of New South Wales)	How is herbivore pressure changing through time?	59,856
		$176,905

Small grants

Lead investigator	Project title	Funding approved ($)
Isabella Butler (University of Western Australia)	Fly-pollinated *Banksia*? A possible first case of sapromyophily in Proteaceae and its conservation implications	7,560
Trevor Wilson (NSW Botanic Gardens)	Advancing plant conservation: investigating reproductive strategies and pollination to guide management of threatened Australian flora using *Prosthanthera* as a case study	19,310
		$26,870

Wild Macadamia Conservation grant

Lead investigator	Project title	Funding approved ($)
James Makinson (Western Sydney University)	Using AI powered machine vision to find new *Macadamia tetraphylla* populations, and to monitor trees for pest and pollinator activity	60,000

The work of the Foundation relies on the goodwill of many people: the members and donors who support us, and the Councillors who oversee administration.

The Scientific Committee is central to the work of the Foundation, in collecting and assessing grant applications via peer review. Jennifer Firn has overseen this process with the other Scientific Committee members. Heather Miles has been an excellent Secretary, taking on the role after Ian Cox, who held the position for many years, retired. Hans Griesser has been capable and competent as Grants Officer. Tina Bell produces the high standard Newsletter. Gabrielle Lebbink oversees our webpage. Paddy Lightfoot, Ross Smyth-Kirk and David Murray continue as Councillors. I continue as President and Treasurer.

E Charles Morris
President
17 November 2025

Australian Flora Foundation Grants

Six grants were awarded by the Foundation for research that began in December 2025.

Malcolm Reed Large Grants

Finding climate resilience for grassy woodland restoration: species diversity and climate-adjusted provenances

Hannah Carle, Paul Rymer, Chaminda Alahakoon, Simba Gombedza
Western Sydney University, NSW

Restoring Ecosystem CLIMate resilience (RECLIM) is a global challenge, reflected in the NSW Government Plan for Nature. In Western Sydney, critically endangered grassy woodlands are threatened by urban expansion and climate change, and the NSW Government has committed to restore 1,500 hectares by 2056 (Cumberland Plains Conservation Plan). Practitioners increasingly advocate for 'climate-adjusted provenancing', but significant knowledge gaps remain on its efficacy, and capacity to leverage species diversity for climate resilience. A warming-by-drought field experiment, RECLIM, will test the resilience of biodiverse groundcover species and local versus climate adjusted populations from Sydney's grassy woodlands.

This project will investigate how functionally diverse groundcover species differ in their sensitivity/resilience to warming and water limitation and whether climate-adjusted provenances of plant material can contribute ecosystem resilience to climate change. An array of 20 species collected from populations across the Sydney basin, will be to subject to field-based

experimental manipulations that mimic current and future climate conditions. It is expected that: (1) species from warmer-drier biogeographic distributions will better maintain function and performance under warming and drying; (2) populations within species that are from warmer-drier locations will better maintain function and performance compared to local populations under warming and drying.

Outcomes will support evidence-based guidelines for government, industry and community (including the Cumberland Plains Conservation Plan) to better facilitate the climate resilience of ecological restoration practices.

Characterising field vital rates of annual wildflowers to predict species persistence under future climates

Margaret Mayfield
University of Melbourne, VIC

To develop effective conservation plans for Australia's threatened plant communities, understanding species interactions in environmental contexts is essential. Existing dynamic population models rely on averaged vital rates, neglecting crucial environment-driven variation. In this project, empirical data will be collected on vital rates of annual plants across variable environments within the threatened Western Australian York Gum woodlands.

This project will aid conservation of native Australian plants by addressing crucial knowledge gaps about the life history traits and vital rates of native wildflower species in a uniquely Australian plant biodiversity hotspot. The results obtained will allow predictions about species persistence under future climate scenarios and other aspects of environmental change. Such work will provide foundational understanding of how spatial and temporal variation in key vital rates alter the probability that adaptive management plans will be successful for local areas and even individual reserves.

Findings will be of direct use to conservation of the York Gum woodlands and provide vital generalisable insights for preserving this plant community. However, this project is designed to provide generalisable information on how important variation in vital rates impact population growth and predictions of species persistence more generally.

How is herbivore pressure changing through time?

Angela Moles[1], Nigel Andrew[2]
[1]University of New South Wales, NSW; [2]Southern Cross University, NSW

Herbivory can shape species distributions, alter plant fitness, and affect community composition. However, we know surprisingly little about how biotic interactions have changed in response to anthropogenic change either in Australia, or elsewhere in the world. We will combine historic data on herbivory on Australian native plants with matching data on present day levels of herbivory, to test two hypotheses: (1) that herbivore pressure on native plant species is decreasing through time, and (2) That changes in herbivory are not uniform across species' ranges. This work will improve understanding of how Australian plants are likely to respond to climate change.

Small Grants

Fly-pollinated Banksia? A possible first case of sapromyophily in Proteaceae and its conservation implications

Isabella Butler[1], Gavin Flematti[1], Michael Renton[1], Bjorn Bohman[1], Siegy Krauss[2], Ryan Phillips[3], Stan Wawrzyczek[4], Sian Kershaw[5]

[1]University of Western Australia, WA; [2]Kings Park Science, WA; [3]La Trobe University, VIC; [4]Threatened Species Conservancy, VIC; [5]Department of Biodiversity, Conservation and Attractions, WA

This project aims to investigate the pollination ecology and reproductive success of three rare, unique and endemic species of *Banksia* in the Wheatbelt region of Western Australia, a landscape facing severe threats including fragmentation, declining pollinator diversity, climate change, and rising salinity.

The iconic Australian plant genus *Banksia* (Proteaceae) is known for its diverse pollination systems involving birds, mammals, and insects. While typically known for their large and brightly coloured flowers, some species of *Banksia*, formerly classified as *Dryandra*, may also be geoflorous and cryptic in appearance. Three species of *Banksia* that demonstrate geoflorous and cryptic floral traits are *Banksia epimicta*, *B*. *idiogenes* and *B*. *shanklandiorum*. The flowers of these species have also been described as producing an offensive scent, leading to the prediction of pollination by blowflies. The scent of *B*. *epimicta* has been noted to smell especially fetid, which in other plant families is indicative of pollination by flies via carrion or dung mimicry.

The project will determine the pollinators and the floral traits attracting them to these three species of *Banksia*. *Banksia epimicta* will be

specifically tested for traits associated with sapromyophily (pollination by flies attracted to decaying organic matter). Outcomes will inform future conservation actions, including translocation, augmentation, and fire management, to improve the long-term viability of these species.


Left: Flower of *Banksia epimicta* (image from iNaturalist Australia, by Mike and Cathy Beamish, CC-BY 4.0 (Au), https://bie.ala.org.au/species/https://id.biodiversity.org.au/node/apni/2900703#). Right: Flower of *B. idiogenes* (image by Lyn Alcock, sourced from https://davesgarden.com/guides/pf/showimage/414244).

Wild Macadamia Conservation Grant

Using AI powered machine vision to find new *Macadamia tetraphylla* populations, and to monitor trees for pest and pollinator activity

James Makinson, Saeed Afshar, Anushika De Silva, James Cook, Sergio Chevtchenko, Yeshwanth Bethi
Western Sydney University, NSW

Macadamia nuts have become a major native food crop in Australia. Commercial macadamia cultivars are typically hybrids of *Macadamia integrifolia* (Smooth-shelled Macadamia) and *Macadamia tetraphylla* (Rough-shelled Bush Nut). *Macadamia tetraphylla* is listed as vulnerable under the *Environmental Protection and Biodiversity Conservation* Act in Australia. While historically the two species were geographically isolated, with a natural hybridization zone found inland of the Gold Coast, most of the present-day macadamia orchards are located throughout the native range of *M. tetraphylla*, exposing wild trees of this vulnerable species to genetic pollution, pests and pathogens (e.g., macadamia nut borer, husk spot). Both species face additional pressures from habitat fragmentation, weed invasion, and altered fire regimes.

Many remote regions of habitat suitable for *M. tetraphylla* have not been surveyed, meaning unique subpopulations may still be waiting to be discovered. Our team will harness our cutting-edge neuromorphic AI

system to search satellite imagery for undiscovered wild populations. We will then deploy AI-powered audio-visual monitors to quantify the pests and pollinators of wild trees.

Left: Fruit and foliage of *Macadamia integrifolia* (Smooth-shelled Macadamia) (image sourced from https://www.gardenia.net/plant/macadamia-integrifolia-macadamia-nuts). Right: Fruit and foliage *Macadamia tetraphylla* (Rough-shelled Bush Nut) (image sourced from https://en.wikipedia.org/wiki/Macadamia_tetraphylla).

Young Scientist Awards

The Australian Flora Foundation awards prizes annually to encourage young scientists to continue studying the flora of Australia.

At the annual conference of the Ecological Society of Australia (ESA), held in Melbourne in December 2025, the Foundation's prizes were presented to the following two students.

Outstanding oral presentation on the biology or cultivation of an Australian plant

Seasonal variations to plant germination following anthropogenic fire in a Heathy Woodland

Joshua Burke
Deakin University, VIC

Abstract

Fire has long played a role in the formation and variation of Australia's natural systems; however long-established fire regimes have been disrupted since European colonisation. In Victoria, bushfire risk to public

land is managed through a series of smaller scale planned burns with a primary objective of protecting human lives and assets. Planned burns are undertaken in the window between autumn and spring, when conditions are stable and vegetation moisture content is higher. Under a changing climate we are seeing drier winters and less predictable weather patterns, posing a potential shift in optimal burning windows.

Left top, middle, and bottom: Joshua Burke and the research team collecting data. Right top, middle, and bottom: Examples of regeneration of the diverse vegetation of Coastal Heathy Woodlands in Victoria in which this study was done.

We investigated the germination response of fire-adapted vegetation to burns undertaken in both autumn and spring 2022, within a Coastal Heathy Woodland. We also investigated the effect of burn extent (totally burnt, totally unburnt, patchily burnt). We analysed plant recruitment in 720 1 x 1 m seedling abundance surveys, and vegetation community composition in 72 10 x 10 m surveys.

We found higher levels of recruitment with greater burn extents following autumn burns, but no influence of burn extent following spring burns. We also observed greater mortality of taxa recruiting from seed following spring burns, mlikely due to drier than average conditions in the subsequent summer and autumn. The open space following mortality allowed for an influx of colonising plant taxa (mostly members of Poaceae and Cyperaceae families) and invasive species.

This research of one burn year shows a potential shift in the planned burning window and highlights the need for complementary research to better understand the impacts of altered fire regimes at both a species and community level.

About Joshua

Joshua is a recent Honours graduate from Deakin University with a strong interest in plant biology and disturbance ecology. He is currently taking a sabbatical to save funds whilst contemplating steps toward a PhD.

Outstanding poster presentation on the biology or cultivation of an Australian plant

Forecasting forest growth in a warming climate: a physiological approach

Camille Sicangco
Western Sydney University, NSW

Abstract

Dynamic global vegetation models (DGVMs) are widely used to predict vegetation responses to climate change, but current DGVMs contain outdated representations of physiological responses to rising temperatures. Empirical evidence demonstrates that plants thermally acclimate their photosynthetic and respiratory rates in response to rising temperatures, but most DGVMs do not represent this process. Furthermore, default physiological parameters of DGVMs are generally based on data for northern hemisphere species, potentially leading to unrealistic values when applied in an Australian context.

We measured photosynthetic and respiratory temperature responses of dominant rainforest and wet sclerophyll tree species along the Australian east coast latitudinal gradient. For a case study in Tasmania, we

parameterised the DGVM LPJ-GUESS based on our field data and modified photosynthetic equations in this model to test whether these updates improve predictions of gross primary productivity (GPP) measured at a flux tower in Tasmania.

Our field data demonstrated that the temperature optimum of photosynthesis ($T_{opt, A}$) increases with mean annual temperature, but that this response is stronger for rainforest than for wet sclerophyll tree species. For our Tasmanian case study, inclusion of photosynthetic temperature response parameters and revised photosynthetic equations in LPJ-GUESS improved predictions of GPP relative to the trunk version of the model.

Our results demonstrate promising support for the ability of revised photosynthetic parameterisation and implementation to improve DGVM predictions and suggest that rainforest and wet sclerophyll tree species may have different capacities and/or strategies to respond to rising temperatures. As global temperatures rise under climate change, it is crucial that we develop understanding of forest vulnerability to warming and how it might differ between forest types and along thermal gradients.

Top left and right: Camille Sicangco showing off her award-winning poster presented at the Ecological Society of Australia conference in December 2025. Bottom left and right: Examples of rainforest and wet sclerophyll forest in which the study was done.

About Camille

Camille is a PhD candidate at Hawkesbury Institute for the Environment, Western Sydney University (WSU). Her research integrates on-the-ground field research with theoretical modelling to understand the impacts of warming and heatwaves on growth of Australian forests. Her co-authors for this research were Belinda Medlyn, Assaf Inbar, and Kristine Crous from WSU, and Ross Peacock from NSW National Parks and Wildlife Service, NSW and Macquarie University, NSW.

Tasmania's giant trees – a celebration and a warning

Brett Mifsud
School of Natural Sciences, University of Tasmania, TAS

Introduction

Our paper, *Tasmania's giant eucalypts: discovery, documentation, macroecology and conservation status of the world's largest angiosperms*, published in January 2025 established that Tasmania is the epicentre of the tallest and most massive angiosperms (flowering plants) on earth. We documented tall trees to nearly 100 m in height, and giant trees to over 23 m girth and 460 m³ in trunk wood volume. While most of the tallest and largest trees were *Eucalyptus regnans* (Mountain Ash), *E. globulus* (Tasmanian Blue Gum) and *E. obliqua* (Messmate Stringybark) also produced occasional outsized specimens.

This paper was, especially for the lead author, well over 30 years in the making. However, the catalysts for ensuring it was published to the wider world were more recent and quite pressing. The first of these were the devastating bushfires that occurred in Tasmania in the summer of 2018/2019. These fires, started by 'dry' lightning, burned for weeks, mostly in remote wilderness and uninhabited forested land. On top of destroying irreplaceable ancient alpine vegetation, in lower elevation wet eucalypt forests, they killed 15 of the largest 25 trees in Australia. Sadly, these losses barely made the news outside of Tasmania. The second catalyst occurred when Prof. David Bowman wanted to publish a short note in the journal 'Nature' about these losses. However, because my existing data was not published in the scientific literature, he could not reference my years of research. Thus, the idea for a comprehensive and collaborative paper was conceived.

When is a tall tree NOT a big tree?

Our paper aimed to document both the tallest and largest trees. A very tall tree, as defined by both Victorian and Tasmanian forest agencies, is a tree equal to or greater than 85 m in height. A giant tree in size, as defined by Forestry Tasmania in 2003 (after they had recently burned and

accidentally killed 'El Grande', then the largest tree ever measured in Australia), was any tree having a measured or modelled trunk wood volume equal to or greater than 280 m³. These benchmarks are deliberately set very high (the higher the threshold for a tree being defined as a 'giant' the fewer trees need protecting from logging in State Forest areas), and when used to classify trees from across Australia, are extremely prohibitive. For example, there is not a single tree on the entire Australian mainland that gets close to 280 m³ in trunk wood volume. Furthermore, while there are a significant number of 85 m+ tall trees in Victoria, no other mainland state contains trees that reach this height.

What makes Tasmania so special is that this relatively small island, comprising less than 1% of the total landmass area of Australia, contains the nation's tallest, largest and oldest trees.

Although an individual tree can both be very tall and very large, these two definitions are measuring different aspects of a tree. A perfect example of this occurs in Victoria, where some very tall trees resulting from the bushfires in 1926 and 1939 are already over 90 m tall. However, these super tall trees barely exceed 1 m in diameter at 1.4 m from ground level and have trunk wood volumes in the range of 25 to 35 m³ (less than a tenth the size of trees with the largest volume). In no way could these trees be described as 'giants' – in fact, a visitor to these forests would likely walk right past the tallest tree, without giving it a second glance, because unless someone has a sophisticated measuring device and the skills to use it, differentiating a super tall tree from its marginally less tall neighbours is virtually impossible.

A reverse situation occurs with the largest trees. Many of these giants have broken tops with corresponding heights between 55-75 m. If these 'giant' trees were judged purely on their height, some would not make the top 10,000 trees in Australia!

Just how big are Tasmania's largest trees?

The largest tree in Tasmania, a massive and ancient *Eucalyptus regnans*, has a measured wood volume of 463 m^3. To put that in perspective, imagine a solid cylinder, 1.27 m thick, rising 463 m into the sky – that's a lot of wood!

Some readers may be familiar with some well-known large trees from other parts of Australia. For example, ancient River Red Gums (*Eucalyptus camaldulensis*) found along water courses and flood plains in Victoria and South Australia. However, even the largest individuals of this species would barely have 100 m³ wood volume. 'The Grandis' is a much-visited tall tree near Bulahdelah, NSW. This impressive Flooded Gum (*Eucalyptus grandis*) has a trunk volume of 137 m³. In the southwest corner of West Australia, there are two tree species that reach a great

size. The largest known Karri (*Eucalyptus diversicolor*) is just over 220 m³ in wood volume, while the largest Red Tingle (*Eucalyptus jacksonii*) contains 202 m³ of wood in its trunk.

Top left: Super tall *Eucalyptus regnans* (Mountain Ash) in regrowth forest in Victoria. The tree in the centre is over 92 m in height but has a girth of only 3.5 m and a wood volume of 30 m³. Top right: A contrasting specimen of *E. regnans* that is both very tall (87 m) and very large (17 m girth) with a wood volume of 328 m³. Bottom: The base of a giant *E. regnans* in southern Tasmania with a height of 76 m and a girth of 23 m.

Victoria also has extensive populations of giant Mountain Ash trees with the largest of these reaching 245 m³ in trunk volume, just over half the size of the largest Tasmanian tree. Victoria has around 220,000 hectares of *Eucalyptus regnans* forest remaining, over three times the area of the same forest type in Tasmania. Surviving historic photos of giant trees from Victoria seem even larger than those that currently exist in Tasmania today, so why are the top 30 largest trees now in Tasmania?

The answer to this conundrum lies mostly to do with fire.

Bushfires and giant trees

Bushfire acts as both a destructive and regenerative agent across most land ecosystems in Australia, and this includes the tall wet eucalypt forests in the southeast and southwest of the continent. *Eucalyptus regnans* is a member of a group of eucalypts known as obligate seeders. Obligate seeders lack a lignotuber (a woody structure full of dormant buds at the base) and therefore cannot resprout if a bushfire destroys the crown of the tree.

Eucalyptus regnans has some inbuilt fire protection with its basal stocking of rough bark, and mature trees usually can withstand low intensity bushfires. However, above this basal stocking, its smooth, gum type bark is very thin and very susceptible to both direct flame and radiant heat. Therefore, trees of this species are easily killed by bushfires, with even fires of moderate intensity causing the death of most, if not all the mature trees in an area. In many instances, this characteristic leads to the establishment of even aged stands of trees. For example, vast areas of the Central Highlands in Victoria are covered in 1939 'regrowth' forest following the devastating Black Friday fires of 1939. Similarly, much of the forest around Kunanyi (Mt Wellington) above Hobart is 'regrowth' from the 1967 Black Tuesday bushfires.

In the days following a severe bushfire, the seed capsules in the canopy open, and thousands of fresh seeds fall to the forest floor. The fire that killed the parental trees has not only created a fertile ash bed for germinating seeds, but it has also killed the seed-eating invertebrates (mostly ants). Furthermore, the dead trees of the previous stand, having lost their leaves, now allow plenty of sunshine to enable a new stand of *Eucalyptus regnans* to grow.

Following a bushfire, over 100,000 seedlings per hectare can germinate, resulting in extreme competition for light and resources. The density of trees quickly reduces over time and after hundreds of years, there may be only four or five trees per hectare remaining. This fire dependent lifecycle can be a bit precarious. It takes at least 15 years before *Eucalyptus regnans* can produce viable seed, and if the time between

stand replacing fires is too short, there is the possibility that the species will disappear from that locality and be replaced by other types of vegetation.

Conversely, if there is no bushfire for over 550-600 years, all the eucalypt trees in that area may die of old age or collapse due to rot. In this case, former *Eucalyptus regnans* forest can be replaced by rainforest species like *Nothofagus cunninghammii* (Myrtle Beech) and *Athersperma moschatum* (Sassafras) – as is occurring in some wet eucalyptus forests in Tasmania.

Thus, we now have a clearer picture why Tasmania has the largest eucalyptus trees in Australia. Forests in Tasmania have the species with the genetics that can produce individual specimens of great size (i.e., *Eucalyptus regnans*, *E. globulus* and *E. obliqua*). More importantly, there have been fewer widespread catastrophic fires in Tasmania than in Victoria over the past 225 years since settlement. Tasmanian forests still contain some forest areas that been shown to have arisen from fires around the year 1500 – meaning the surviving trees are around 525 years old. Consequently, within these ancient stands of trees, there is the occasional outsized specimen that has survived many natural and man-made attritional factors such as storms, lightning, low intensity bushfires, and logging, and are still standing today.

Unfortunately, in Victoria, the combined effects of bushfires, land clearing in the 19th century and logging, has meant only about 1% of *Eucalyptus regnans* forest is considered 'old growth'. None of the remaining stands of old trees are in the 450–500-year-old age class that is needed to produce truly giant trees.

The vulnerability of giant trees to bushfires

The giant eucalyptus species of south-east Australia usually begin their lives after a bushfire, and for many years they are in fierce competition for space, light, and water. Consequently, these trees need to put most of their energy into growth and the trade-off is that they put comparatively little resources into protecting their heartwood. This means that any exposed wood rots fast. This is not generally an issue for trees up to around 100-150 years of age, where branches are small and bases are intact. However, as these trees move into older age classes, large areas of rot and hollows develop, both at the base and where large branches have broken off in the crown. Ecologically, the hollows formed in the tree canopy provide essential nesting places for birds and arboreal mammals such as the Greater Glider and Leadbeaters Possum. Nevertheless, these pockets of rot are also entry points for fire and embers. Low intensity bushfires that barely impact a healthy 50–150-year-old *E. regnans* can be catastrophic to a nearby 500-year-old tree. A fire in the hollow base of a

giant tree may eventually cause the collapse of the tree while yet most of the surrounding vegetation appears either slightly scorched or unharmed.

Left: Tall 1939 regrowth *Eucalyptus regnans* (Mountain Ash) from Victoria. Right: An example of the burnt base of a giant *Eucalyptus globulus* killed in the 2019 bushfires – note the relatively unscathed surrounding forest.

Using LiDAR to find giant trees

LiDAR (Light Detection and Ranging) has a wide range of uses across all manner of scientific and medical disciplines. It has been used extensively in forestry for over 20 years and is an excellent tool for locating tall trees remotely. We were also able to use LiDAR in novel ways; to assess areas for their potential to contain trees of the oldest age classes; and to measure crown sizes of individual trees.

Calculating the wood volume of large, old trees with complex, irregularly shaped bases was once an extremely time-consuming task. However, since iPhone introduced LiDAR (12Pro and above), this task is now much simpler.

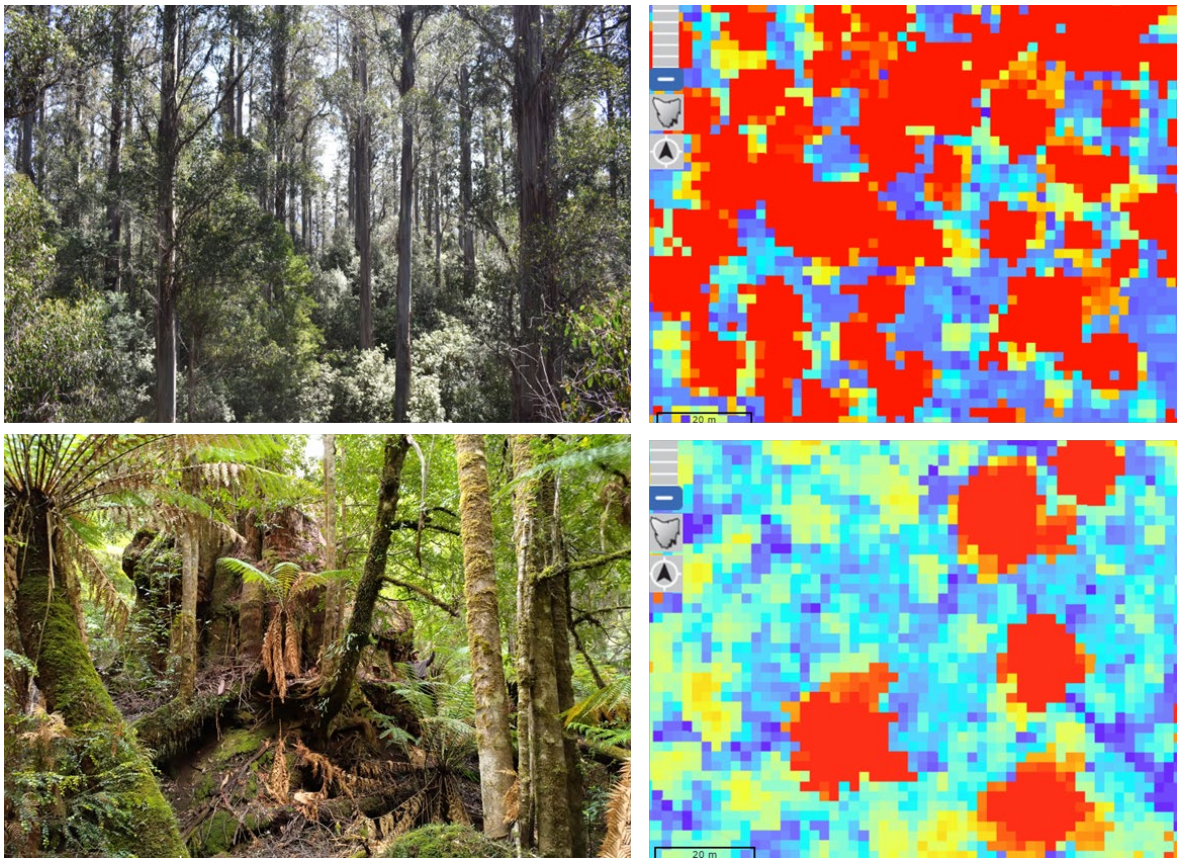
Management of old growth forest

Ensuring the largest trees in Australia can survive a hotter and drier climate will only be achieved thorough cooperation and planning from government agencies. When the 2019 fires burnt through the tall eucalypt forests west of Geeveston, Tasmania, there were no provisions in place to protect any giant trees. Subsequently, 15 of the largest 25 trees in Australia were destroyed. It is therefore our hope that when the next fire threatens Tasmania's remaining old growth forests, that the impacts of the fires on some of our most impressive and irreplaceable giants can be reduced. This could include:

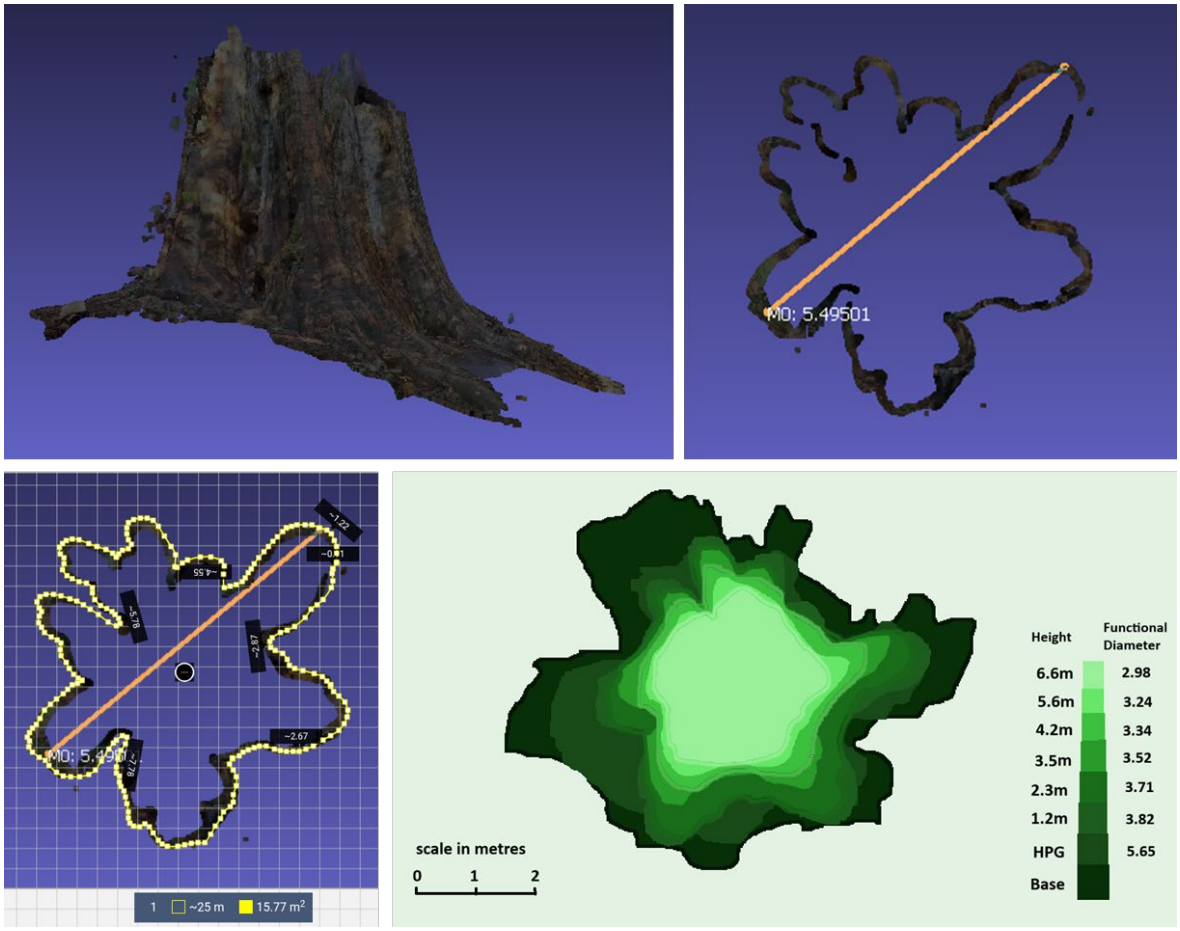
- Removing accumulated build-up of bark, leaves, and branches around the base of trees
- Setting up sprinkler systems in areas where water is available
- Water bombing where possible

- Investing in suitable materials such as specialised wrapping foil to protect tree base hollows from direct flames and ember attacks

Without such extra protection, Tasmania's surviving 500-year-old giants may end up like those from Victoria consigned to stories and photographs in history books.



Top left and right: A moderately densely packed forest stand in the Florentine Valley, Tasmania and a typical LiDAR image from a similar forest location. Tree heights are up to 91 m and crown widths are generally less than 15 m across. The tall heights of many of the trees (red colouring) indicate that this is a mature stand, while the closely spaced trees means that it is likely the stand is in the 200–225-year age bracket. Bottom left and right: A sparsely packed forest stand with relatively few remaining eucalypts (red colouring) towering over what is very likely to be rainforest (yellow colouring). The crown widths also indicate large, old trees and the average heights of the trees are consistent with older trees with damaged tops.



Top left: A complete LiDAR scan of the tree base is made with the iPhone. Top right: Using software such as Meshlab or Agisoft Metashape, cross sections of the 3D scan are taken at small intervals. Bottom left: The areas of these shapes are back calculated into a circle from which functional diameters are determined. Bottom right: These diameters are used to calculate volume of the lower section of the trunk.

Further reading

Mifsud B, Prior LD, Williamson GJ, Corigliano J, Hansen C, Van Pelt R, Pearce S, Greenwood T, Bowman DMJS (2025) Tasmania's giant eucalypts: discovery, documentation, macroecology and conservation status of the world's largest angiosperms. *Australian Journal of Botany* 73, BT23088.

Williams JL, Lindenmayer D, Mifsud B (2023) The largest trees in Australia. *Austral Ecology* 48, 653-671.

About the author

As one of Australia's experts on tall trees, Brett spends his time documenting, recording, photographing and climbing tall trees in Victoria and Tasmania. He can be contacted at brettbtgmifsud@gmail.com.

Some thoughts on a life with trees

Mark Johnston
Independent scholar: arboriculture, landscape and urban forestry

Introduction

Working with trees for the benefit of people and their environment must be the best job in the world. To spend a lifetime doing this has been an absolute privilege. For me, trees are the most beautiful, awe-inspiring, magical and colossal living things on our planet. However, while we can admire their beauty and stature, trees don't just look good. In these challenging environmental times, we are becoming more aware of the importance of our local trees and woodlands, what we call the urban forest. The trees in our parks, gardens, streets, housing estates and other locations are a vital resource that can deliver many environmental, social and economic benefits. They really can make our towns and cities attractive, green, and healthy places to live.

Trees and people

Throughout most of my 50 years in the 'tree world', my work has been as much about people as it has about trees. My career has included working as a tree surgery contractor, a tree officer in local government, a consultant in private practice, a university academic and a government adviser. During that time, I've developed many exciting practical initiatives that have pioneered new ideas and approaches to urban greening, achieving national and international impact. This includes city-wide projects in London, Dublin, Cardiff, Glasgow, and Belfast and various national programmes. My underlying mission has been to connect people with trees, particularly those communities living in the most deprived districts of our cities.

A few years ago, I decided to write my autobiography entitled *Planting Ideas in the Urban Forest*. But it is more than an autobiography; it is a book of ideas that draws on a lifetime of working with trees, people and urban greening.

Many colleagues have told me that from a young age they always loved trees and woodlands. For them, working in arboriculture or forestry was a natural career choice. Even those who started out in unrelated careers, it was invariably something that always interested them. It wasn't like that for me. If any of those careers advisors at school had suggested working with trees, I would probably have laughed.

Early learning about trees

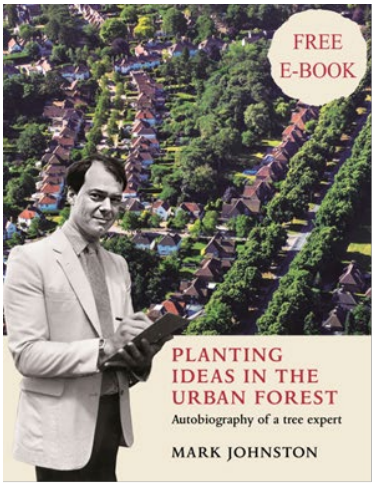
As a young man I found myself working in forestry by default and later developing a career in arboriculture, quite literally by accident. In my early 20s, I was living in the counterculture around London's Portabello

Road. In 1973, along with many likeminded people of my generation, I left the city to seek a more fulfilling and sustainable lifestyle. In my case, I ended up in West Wales, a beautiful rural area of farms and forestry. Finding work was difficult and the only job that I could get was with the Forestry Commission. I remember thinking, I'll do this for a few weeks to get some money and then look for a proper job. However, I really loved the work and never looked back.

Later, after setting myself up as a freelance contractor doing forestry and tree surgery, I had a chainsaw accident. This prompted me to think long and hard about where I was going with my life. After taking some advice, I got a place on a short course in tree surgery at Merrist Wood College, the only place in Britain at the time teaching arboriculture. Thankfully, I passed the course, and it really change my life.

When I left forestry in Wales, UK, I had very little knowledge of trees. Indeed, I could only identify the common forestry conifers and a few native broadleaved trees. Suddenly, the course at Merrist Wood opened a whole new arboreal world. Our classes in tree knowledge were taken by the inspiring John Whitehead, a Kew graduate who spent his holidays plant collecting in exotic locations. He would take us on walks around the college campus with its wonderfully varied and rapidly expanding tree collection. Depending on the theme of the week, he would point out trees that were good for autumn colour, damp sites, or street tree planting. Learning about all these new trees was a total pleasure. When it came to the tree identification test at the end of each week, I made sure I was familiar with every tree I had been introduced to.

While learning about trees in college taught me a great deal, it was only through working with many different species that I acquired a far more intimate knowledge. When I got my first job in arboriculture as a climbing arborist at Crawley Borough Council, I spent all day climbing around in trees. Of course, I had to concentrate on the safety aspects of my work, particularly with dead and dangerous trees. However, with trees that required sensitive pruning or tree surgery, I was able to appreciate the detail of their foliage, branch structure and other features. Later, when I meet the great Alex Shigo, sometimes called the father of modern arboriculture, I was struck by his wise words that we should 'touch trees' to gain a deeper understanding of them.




Top left: Details of Mark's autobiography entitled *Planting Ideas in the Urban Forest*. Top middle: Part of the forested estate of Kew Gardens where Mark did his early training. Top right: Presenting at the International Society of Arboriculture conference in 2025 in Christchurch, New Zealand/Aotearoa. Bottom: Awe inspiring and ancient trees of *Eucalyptus regnans* (Mountain Ash) in Tasmania.

During the early years of my career, I had the time, particularly at weekends, to regularly visit botanic gardens and arboretums. I was able to pursue my love of trees and greatly expand my tree knowledge. This reached a high point soon after passing my final arboriculture exams and while I was working on the tree gang at Kew Gardens in 1982. But that didn't last. From the mid-1980s, I was immersed in developing the urban forestry movement, firstly in Britain and Ireland and then internationally. It became an all-consuming mission.

Urban forestry

Working at the cutting edge of urban tree management, I came to realise that my arboricultural education had taught me very little about the 'people' aspects of the work. I had learnt a lot about trees and tree care but not much else. I found myself rapidly learning 'on the job' about the social, economic, and political aspects of urban tree management. Later, I would use that experience when writing about these aspects in my technical and academic publications.

My long career in urban forestry has been hugely rewarding and through my practical projects, teaching and research, I have managed to achieve considerable impact. I am very grateful that my contribution has been widely acknowledged with several national and international awards. However, the constant focus on policy and strategic aspects of my work has meant that I have often neglected my appreciation of the beauty and wonder of trees. Working in the stressful roles of senior consultant or government adviser or engaging in professional politics, which can be quite depressing, has dominated much of my working life. Occasionally, I have taken a step back to recharge my batteries and sustain myself with the joy and spiritual energy from trees. Looking back, I should have done this more often and for longer periods.

Going abroad with trees

Towards the end of last year, a wonderful opportunity arose to explore trees and forests in a part of the world I had never visited. The occasion was an invitation from the International Society of Arboriculture (ISA) to give the Keynote Address at its 2025 Annual Conference in Christchurch, New Zealand/Aotearoa. This was a great honour, especially as the ISA asked me to give a personal perspective on the past, present and future of the international urban forestry movement.

I took the opportunity to visit Australia and undertake some tree hunting expeditions and visit several botanic gardens. What an amazing and magical arboreal experience! Highlights included seeing the ancient Kauri trees (*Agathis australis*) in the Waipoua Forest north of Auckland and the towering Mountain Ash (*Eucalyptus regnans*) in Tasmania. Most of all, this wonderful experience really reconnected me with trees. As the New Year begins, my resolution is to spend more time enjoying the beauty and wonder of trees and forests. I recommend this decision to everyone.

Mark Johnston's autobiography *Planting Ideas in the Urban Forest* is a free e-book that can be downloaded from his website: https://markjohnstontrees.com/

From securing pets to building ‘insect hotels’ – here are seven ways to attract birds to your garden

Rochelle Steven and David Newsome
Murdoch University, WA

Home gardens can provide vital habitat for Australian birds. But there’s more to it than just planting certain types of shrubs and flowering trees.

After decades of encouragement to include native plants in home gardens, urban environments have come to favour certain species and neglect others including some of our most loved birds, such as fairy-wrens.

Birds that thrive on nectar such as honeyeaters, and bossy birds with bold personalities such as noisy miners, some parrots and magpies, tend to dominate the scene. But it doesn’t have to be this way.

We wanted to explore how urban gardens can best support a wider range of Australian birds. Our new review of research on this topic revealed seven key considerations (Steven & Newsome, 2025). These fall into two themes: reducing threats and improving habitat.

We found there is no point doing just the good things (such as plantings) if we don’t stop doing the bad things (such as killing insects, poisoning owls and letting cats hunt). It’s like trying to fill a bucket with a hole in it.

So, let’s acknowledge the complexity of nature and take a broader approach to attracting birds to our gardens, by ticking off the items on this shopping list.

1. Secure pets

Domestic cats kill millions of Australian birds every year. So, no matter how innocent your cat looks, it remains a highly evolved predator.

The only guaranteed way to protect birds and other wildlife from cats is to keep them contained inside or in purpose-built enclosures, 24 hours a day. You can find out about building your own cat enclosure from government and retail experts online.

Dogs can also stop birds taking up residence in your garden. The mere presence of a dog can deter some birds. Keeping dogs contained at night can reduce the level of disturbance to nocturnal birds. But if you really want to attract birds to your garden, you may choose to keep your dog inside more.

Embrace native animals and insects into your garden but keep your pets indoors (photos from T Bell).

2. Avoid using insecticides and outside lights

Many flying and ground-dwelling insects are in decline. This is bad news for many birds including fairy-wrens, willie wagtails, fantails and robins who rely almost entirely on insects for food. But we can avoid using insecticides or any other form of lethal control such as bug zappers in our own gardens.

Ideally, accept insects as a natural part of your garden. Don't try to deter them, unless they pose a risk to public safety, such as swarming European honeybees or hordes of European wasps. You can also consider favouring native plants that naturally are resistant to unwanted insect attack.

Excess artificial light is also taking a toll on insects. Consider whether you really need to leave that outdoor light on all night. Review your existing outdoor lighting using the five principles for responsible outdoor lighting (https://darksky.org/resources/guides-and-how-tos/lighting-principles/), ensuring all artificial light is useful, targeted, low-level, controlled and warm coloured.

3. Stop poisoning raptors

The use of rat poison, especially those labelled as 'fast action', is killing native owls and other birds of prey at an alarming rate due to secondary

poisoning. In other words, raptors are dying after eating rats and mice that have taken the bait.

Many countries have regulated the sale and use of these products for this reason, but Australia is lagging behind. So, if you "give a hoot" about our owls, switch to snap traps. There are also various other effective, humane and efficient options available, including removing unwanted fruit from the ground, keeping sheds tidy, and securing compost bins to keep rodents under control.

4. Prevent window strikes

Birds can fly into windows when they're unable to differentiate between the glass and the surrounding environment. Strikes may be lethal upon impact or result in injury. A stunned bird is also more vulnerable to predators.

In Australia, bird lovers can reduce the risk by using decals which are decorative stickers intended for windows. Screens, hanging plants or mobiles can also be placed in front of windows to help the birds avoid collisions.


Include roosting sites and a variety of flower types in gardens to encourage diversity of insect and animal visitors (photos from T Bell).

5. Create an inclusive garden

The diversity in Australian birds extends to their diets. Beyond honeyeaters, the nation is home to huge numbers of insectivores, carnivores, seed-eaters, and fruit peckers.

Australian gardens typically have plenty of bottlebrush and grevilleas, which stacks the deck in the bold honeyeaters' favour. So, when buying new garden plants, try catering for a wider variety of bird species.

Choose dense shrubs with small white, yellow or blue flowers to attract insects. These bushy plants also make excellent habitat for small birds.

Retaining trees ensures our larger birds have nesting sites too. If you get the garden design right, with a variety of plants to suit all tastes, there is no need to feed the birds.

6. Encourage insects

Native bees and flies play a crucial role in ecosystems, both as pollinators and food for birds. You can provide insects with nesting habitat in the form of insect 'hotels', food (namely flowers and other insects) and safety from pesticides. These small gestures can make a huge difference.

7. Water the birds too

With the urban heat island effect and growing frequency of extreme heat waves, birds are in need of reliable sources of fresh water. Offer this crucial resource in a water feature such as a bird bath or pond.

Supplying fresh water to native animals on very hot days and more permanently as a water feature (photos from T Bell).

Whole neighbourhoods for birds

Your garden has never been more important for birds. Doing your bit in your own backyard can make a visible difference – you will see the birds for yourself.

But true conservation gains can only be made when people work together at a larger scale.

Why not start a conversation with your neighbour about attracting birds to your garden? Creating one garden for birds is great, but when we start talking about whole neighbourhoods for birds, that's magic!

Further reading

Paker Y, Yom-Tov Y, Alon-Mozes T, Barnea A (2014) The effect of plant richness and urban garden structure on bird species richness, diversity and community structure. *Landscape and Urban Planning* 122, 186-195.

Steven R, Newsome D (2025) More than garden plants: extending the conversation of urban gardens as an important refuge for Australian birds. *Biodiversity and Conservation* 34, 1139-1154.

Wagner DL, Fox R, Salcido DM, Dyer LA (2021) A window to the world of global insect declines: moth biodiversity trends are complex and heterogeneous. *Proceedings of the Natural Academy of Sciences USA* 118, e2002549117.

What Research Were We Funding 25 Years Ago?

Note: See http://aff.org.au/results/grant-summaries/ for further details of these and other research projects funded by the AFF.

Some of this information has been taken from Final Reports submitted to the AFF

Germination and growth response of salt tolerant native grasses from ephemeral wetlands in inland Victoria

AJ Brown, W Reddy, J Cody, and EA James
State Chemistry Laboratory, Agriculture Victoria and Royal Botanic Gardens Melbourne

This project was funded for research in 2000 and 2001 for $11,800.

Background

Observations from previous monitoring by the research team indicated that adaptation of native grasses to saline areas varied from slight (e.g., *Agrostis avenacea*) to high tolerance (e.g., *Danthonia eriantha*) to salt dependence (e.g., *Agrostis adamsonii*, *Puccinellia stricta*). In the early 2000s when this grant was awarded, salt tolerant Australian native plants had received very little research attention. This project examined some of the growth differences among selected halophytic grasses and their underlying physiological characteristics, with a view to providing better knowledge of their growth requirements.

The research funded followed three main aims:

- Determine differences in dormancy, germination and seedling vigour for several salt tolerant native grass species
- Examine physiological responses and adaptation of these species to different levels of salinity on germination, seedling growth, and vegetative growth
- Use research findings to assist with management of biodiversity of native species at saline sites and the rehabilitation of species-depleted sites.

Germination and hydroponic growth trials were done using several native grass species to examine their growth characteristics and physiological responses to different levels of salinity. The species selected included:

- *Agrostis adamsonii* (Adamson's Blown-grass), renamed as *Lachnagrostis adamsonii*
- *Agrostis robusta* (Salt Blown-grass), renamed as *Lachnagrostis robusta*
- *Agrostis punicea* var. *punicea* (Purple Blown-grass), renamed as *Lachnagrostis semibarbata* subsp. *filifolia*
- *Puccinellia stricta* (Australian Saltmarsh-grass)
- *Poa salacustris* (Salt-lake Tussock-grass)
- *Distichlis distichophylla* (Australian Salt-grass)

Left: *Lachnagrostis* (*Aragrostis*) *adamsonii* (Adamson's Blown-grass) is a tufted, short-lived perennial grass that grows adjacent to saline wetlands and watercourses and is endemic to south-western Victoria (image credit to Adam Brown, sourced from https://www.ghcma.vic.gov.au/what-we-do/projects/biodiversity-projects/adamsons-blown-grass/). Middle: *Poa sallacustris* (Salt-lake Tussock-grass) is a small perennial grass growing to 30 cm when flowering. This species is endemic to south-western Victoria between Colac and Hamilton (image from National Recovery Plan for the Salt-lake Tussock-grass *Poa sallacustris*, available at https://www.dcceew.gov.au/sites/default/files/documents/p-sallacustris.pdf). Right: *Aragrostis semibarbata* subsp. *filifolia* (Purple Blown-grass), currently known as *Lachnagrostis semibarbata* subsp. *filifolia* is a small short-lived perennial grass found in south-eastern Australia but is under threat due to destruction and disturbance of saline wetland areas where it is found (image credit to DPIPWE staff – Natural Values Atlas, sourced from https://database.understorey-network.org.au/plant/ lachnagrostis-semibarbata-var-filifolia).

Implications for management and rehabilitation of ephemeral wetlands

Germination requirements were varied, not only among the species studied but among populations within species. Breaking of dormancy for *Agrostis adamsonii*, *A. robusta* and *Puccinellia stricta* was adversely

affected by light and suggests that seed should be stored in dark conditions prior to sowing. In contrast, germination of *A*. *punicea* was dependent on light.

Germination was adversely affected by salt for at least two species suggesting that field sowing would be more successful for these species after leaching winter rains than during autumn, particularly relatively dry autumns. Establishment and growth of *A*. *robusta* and *P*. *stricta* is likely to be more successful than for *A*. *adamsonii* in areas where soil salt levels are high.

Growth rate and plant vigour were particularly impressive for *A*. *adamsonii* and *A*. *robusta*, even at the highest salt treatment and would be particularly useful where rapid establishment and ground cover is required. Field monitoring studies suggested that tussocks of these species will persist for at least three seasons, provided site conditions remain moist.

It was found that *Agrostis punicea* is not a vigorous species but could still be used in low to moderately saline land. It was evident that there was some genetic diversity among populations according to their varying response to saline conditions and suggests that some selection for suitable strains may be necessary. *Agrostis avenacea* displayed considerable genetic diversity and further study of this taxon was suggested in this regard.

Puccinellia stricta appeared to grow more slowly than species of *Agrostis* and is likely to be a longer-term coloniser of saline land. Although salt tolerance characteristics displayed were variable, field observations indicated that *P*. *stricta* inhabits the most saline areas.

The role of *Poa salacustris* is still uncertain without further study. In the field, it is found on the upper beach margins of salt lakes where soil salt concentrations are relatively low. This study indicated that it has a reasonably high salt tolerance, at least, once established. It may not tolerate waterlogging that often accompanies saline conditions. It has a prolific rhizomatous root system and would be useful in soil binding situations.

All the species tested were found to have potential for use in rehabilitating saline soils and, to preserve or enhance native plant biodiversity, would be preferred over introduced exotics. However, the results of this study showed that their potential use is varied in relation to changed hydrology and resulting salinity and the rate of colonisation needed.

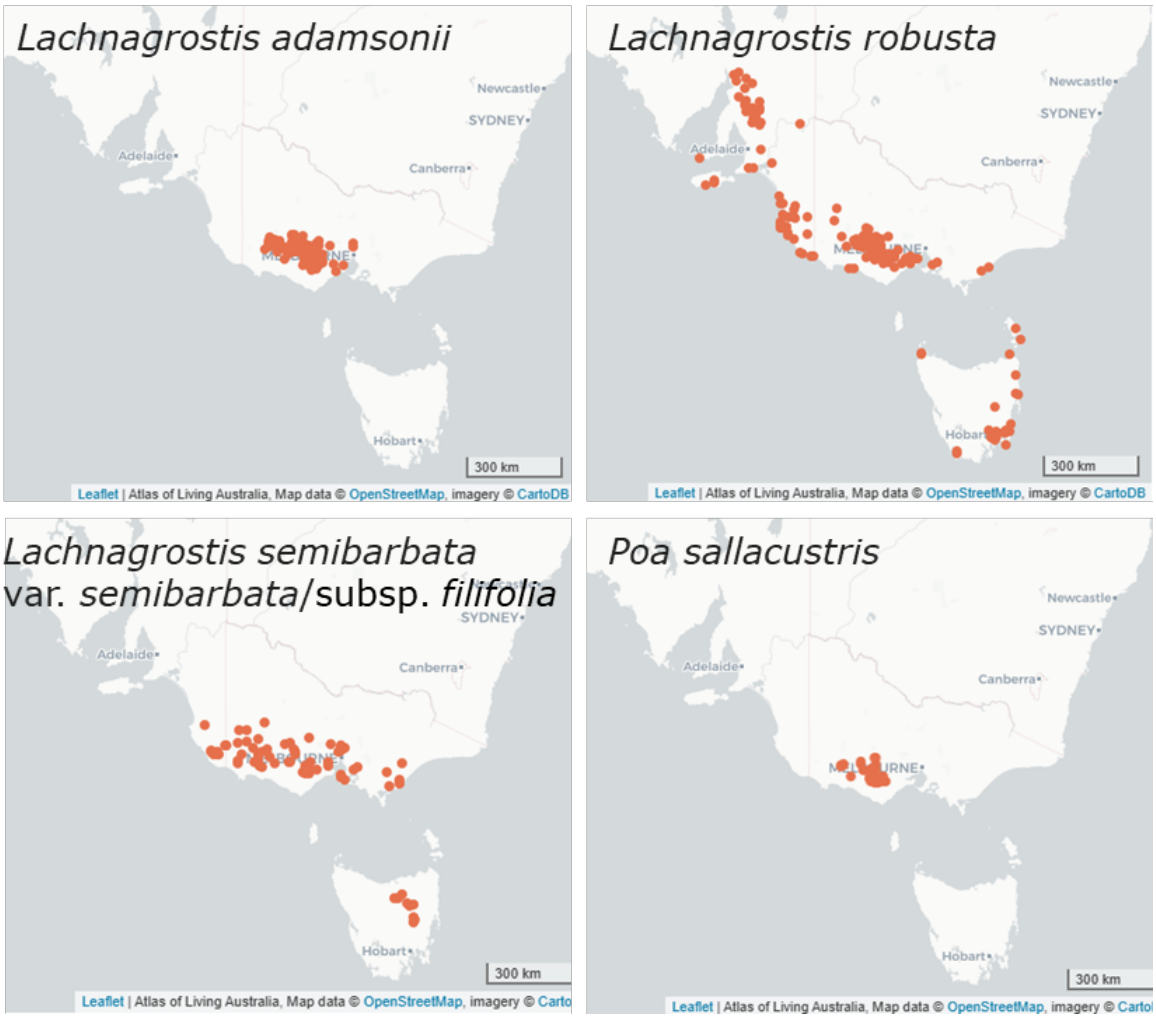
What are the current management plans for these species?

At the time the study was done, Adamson's Blown-grass and Purple Blown-grass (as *A*. *billardierei* var. *filifolia*) were listed under the *Victorian Flora and Fauna Guarantee Act* 1988 (FFG Act) as 'Threatened' species. Adamson's Blown-grass and Salt-lake Tussock-grass were also listed as 'Endangered' and 'Vulnerable', respectively, under the *National Environment Protection and Biodiversity Protection and Biodiversity Protection Act* 1999 (EPBC Act).

Lachnagrostis (*Agrostis*) *adamsonii (*Adamson's Blown-grass) is now listed as 'Endangered' in Victoria under the FFG Act and remains listed nationally as 'Endangered' under the EPBC Act. A National Recovery plan for the species was released in 2010. Major threats to remaining populations include weed invasion, changed hydrology and salinity, and disturbance from grazing and road maintenance. Priority actions to mitigate these threats include:

- Protecting habitat through grazing and weed management
- Minimising land use change which may lower the water table or cause changes in salinity
- Increasing community awareness to prevent further disturbance or removal of plants through roadside signage and compilation of an information pamphlet
- Further research and monitoring
- Establishment and maintenance of a genetically representative *ex situ* collection of seed for propagating plants to use in creating new populations or increasing the size of existing populations

Aragrostis billardierei var. *filifolia* (Purple Blown-grass) is currently known as *Lachnagrostis semibarbata* subsp. *filifolia*. At the time of the study, it was listed as Vulnerable, but it is now listed as Endangered in Victoria under the FFG Act. This species varies only slightly from *Lachnagrostis semibarbata* var. *semibarbata* and their distribution overlaps with which suggests that the two species are only very slightly genetically different and probably interbreed. It does not currently have a management plan.



Current distribution of four of the six species of native grasses studied. The distribution of *Lachnagrostis semibarbata* subsp. *filifolia and L. semibarbata* var. *semibarbata* are combined as their distributions overlap considerably and it has been suggested that populations interbreed (maps from Altas of Living Australia shared via Creative Commons Attribution-ShareAlike License 4.0).

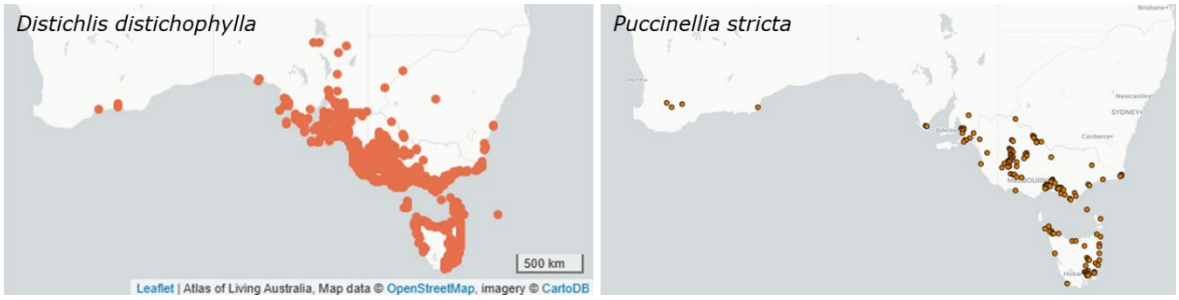
Poa salacustris (Salt-lake Tussock-grass) remains listed as a Vulnerable species under the EPBC Act. At present there are nine populations with a total coverage of about 0.6 ha in south-western Victoria. The population size has been reduced and fragmented through clearing and grazing by sheep and cattle. Major threats to remaining populations include weed invasion and continued grazing. Because the species occurs on fringes of lakes, well-meaning revegetation programs may alter hydrology and reduce or modify remaining habitat. A change in land use from grazing to cropping is a threat on private land. A National Recovery Plan for this species was developed in 2006 and recognised the following broad objectives:

- Acquire accurate information for conservation status assessments
- Identify habitat that is critical, common or potential
- Ensure that all populations and their habitat are protected and managed appropriately

- Manage threats to populations
- Identify key biological functions
- Determine the growth rates and viability of populations
- Establish populations in cultivation
- Build community support for conservation

Information to determine the success or otherwise of achieving these goals is not readily available. There is evidence that local government and community groups and non-government organisations (e.g., Southern Grampians Shire Council, Greening Australia, Nature Glenelg Trust, Hamilton Field Naturalists Club) are actively working together with state government to take on conservation activities for this species.

At the time of the study, *Agrostis* (*Lachnagrostis*) *robusta* (Salt Blown-grass) was not listed but it is now as Endangered in Victoria under the FFG Act. This species does not have a management plan.



Current distribution of *Distichlis distichophylla* (Australian Salt-grass) and *Puccinellia stricta* (Australian Saltmarsh-grass); two of the more widely distributed species of native grasses investigated in this study (maps from Altas of Living Australia shared via Creative Commons Attribution-ShareAlike License 4.0).

Puccinellia stricta (Australian Saltmarsh-grass) is widespread throughout southern Australia and is associated with halophyte communities on the outer margins of inland saline lakes, and on river, estuary and coastal margins. *Distichlis distichophylla* (Australian Salt-grass) is also widespread in Victoria but is listed as Endangered in NSW.

Regardless of the source, funding for research into native flora in Australia is critical for its conservation. Given that 80% of Australia's flora and fauna are unique to the continent, with approximately 75% of its biodiversity still to be fully documented, this funding is essential for understanding and managing these ecosystems, particularly in the face of climate change and land use change.

Financial Report

This statement is summarised from the Foundation's audited accounts for the year ended 30 June 2025. The Table is based on the Audit Report for 2024-2025, but corrects some errors subsequently found in that Audit Report. The errors will be formally corrected at the next audit in 2026.

Item	2025 ($)	2024 ($)
Income		
Donations	20,107	13,525
Membership subscriptions	3,075	2,325
Interest	13,146	38,725
Managed fund distributions	149,324	86,316
Imputation (franking) credits	35,482	32,970
Increase in market value of investments	671,377	523,547
Bequests	23,240	-
Dividends CBA shares	22,182	21,248
Grants returned	7,493	-
Macadamia Conservation Trust	19,729	-
General Fund surplus	28,000	-
Miscellaneous income	14	-
Total income	**993,170**	**718,656**
Expenses		
Grants	330,892	271,000
Audit fees	2,800	2,790
MYOB fees	591	-
Administration expenses and website	327	202
Postage and printing	-	237
Young Scientist Awards	1,000	1,000
Australian Network for Plant Conservation	-	1,500
Decrease in value Bennelong	2,453	-
Cash transfer to Research Fund	16,607	-
Total expenses	**354,671**	**276,729**
Surplus for the year	**638,499**	**441,927**
Assets		
Investments and bank accounts	4,326,674	4,947,740
Debtors	160,859	66,962
Imputation credits receivable	44,590	32,928
GST receivable	17,295	17,326
Term deposit CBA	490,379	-
CBA shares	862,783	-
Transfer from General Fund	28,000	-
Total assets	**5,930,579**	**5,064,956**
Liabilities		
GST payable	9,393	352
Grant commitments	416,938	258,524
General Fund transfer	16,607	-
Total liabilities	**442,938**	**258,876**
Net assets	**5,487,641**	**4,806,080**
Accumulated funds		
Accumulated funds from last year	4,780,235	4,364,153
Current year surplus	638,499	441,927
Total accumulated funds	**5,418,734**	**4,806,080**

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Long Tour: South West WA

- Arrive in Perth by Monday 6th September.
- Check in at The Vines Resort, Swan Valley.
- Long tour 7 Nights to South West WA to leave Tuesday 7th September.
- Tour ends afternoon of Tuesday 14th September at Vines Resort.

Short Tour: Margaret River Region WA

- Arrive in Perth by Thursday 9th September OR fly direct to Busselton to arrive by or on Saturday 11th September.
- Short Tour bus leaves Vines Resort Friday 10th September.
- Short Tour joins Long Tour at Busselton on 11th September. Tours ending at Vines Resort on afternoon of Tuesday 14th September at Vines Resort.

Conference Preliminaries: Vines Resort

- Wednesday 15th September. Conference secretariat, administration and trade set up.
- International Board Meeting
- Australian Region Board Meeting
- Golf Event

Conference: Vines Resort

- Wednesday 15th September. Registration & Welcome event.
- Thursday 16th Conference sessions and Bus tours.
- Friday 17th Fellows breakfast, Conference sessions and Bus tours.
- Saturday 18th Conference sessions. Australian AGM & Gala Dinner.
- Sunday 19th Final sessions & Farewells.

Post Conference Tour: Mid West Region WA

- Monday 20th to Saturday 25th September – Mid West 4 x 4 Wildflower tour.

About the Australian Flora Foundation

The Australian Flora Foundation is a not-for-profit charity dedicated to fostering scientific research into Australia's flora. It is totally independent. All members of the Council and the Scientific Committee give their time freely as volunteers.

Each year the Foundation provides funding for grants for vital research into the biology and cultivation of the Australian flora. Many of the researchers are honours or postgraduate students, and their success with an Australian Flora Foundation grant hopefully stimulates their interest in researching Australia's unique and diverse plants throughout their careers.

This work is only made possible by the generous support of donors and benefactors.

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- Prof. Jennifer Firn, Vice President
- Mr Ross Smyth-Kirk, Vice President
- Ms Heather Miles, Secretary
- Emeritus Prof. Hans Griesser, Grants Officer
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- Dr Gabrielle Lebbink, Website Editor
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- Dr Jason Bragg
- Dr Siegy Krauss
- Dr Mark Ooi
- Prof. Angela Moles
- Assoc. Prof. Rachel Standish
- Prof. Richard Williams

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