



EUCALYPT

AAFBG MAGAZINE

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Australian Government



Queen Elizabeth II Jubilee Avenue and Woodland Walk

Tree planting in honour of the Queen's 70 years of service as Australia's head of State.

This project is jointly funded through Friends of Gold Coast Regional Botanic Gardens Inc. and the Australian Government's Planting Trees for The Queen's Jubilee Program and City of Gold Coast.

This project takes place on land of the Yugambeh Language region.

Friends' successful grant is to establish a 120-metre pedestrian, tree-lined avenue, and woodland of regional tree species, including species of environmental and cultural significance. The avenue and woodland will increase the extent and importance of the plant collections, providing a meaningful commemorative and educational walk for visitors of all ages. Conceived and brought to fruition with the involvement of Friends and the community, the project will become a place of reflection and celebration of Queen Elizabeth II's contribution to society.

Initial planning was undertaken to design a pedestrian-only commemorative and educational walk, transitioning through five zones of existing and newly planted trees, each associated with Regional Ecosystems.

The design was inspired by two massive remnant Blackbutt (*Eucalyptus pilaris*), one with an estimated age of between 250-300 years on land that was first settled in the late 1860s. The original owner, sugar cane farm and mill manager Scotsman Robert Muir, planted one each of *Araucaria bidmillii* Bunya pine, *Araucaria cunninghamii* Hoop pine, and *Agathis robusta* Kauri. Subsequently, these species have spread across the hillside. Together with the Blackbutts, they were the catalyst for the design.



E. pilaris Blackbutt

The project is a well-defined landscape and will integrate with adjacent horticultural features, including the heritage-listed Muir c 1870 veteran tree collection and the heritage-listed Rosser Garden, c 1930.

Added historic interest is that the site was part of a gift of land to the City of Gold Coast by the site's second owners, the Rossers, in 1969. Their daughter Gene was Friends' patron. Gene sadly died earlier this year at age 94 — Friends are pleased she knew the project was approved and funded.

The grant includes two large Interpretation signs, one recognising the contribution of Queen Elizabeth II and the other educational. There is also graphic botanic labelling, some of the species listed under State and Commonwealth legislation as endangered in their natural habitat.

Tree canopies will reduce the heat effect by providing shade, and in some steeply sloping areas mitigate excessive stormwater runoff. It will extend the existing habitat within the Botanic Gardens, providing nesting opportunities, shelter, perches, and wildlife food sources.

Continued next page

AUSTRALIAN ASSOCIATION OF FRIENDS OF BOTANIC GARDENS

The AAFBG has 68 members all round Australia plus 5 overseas associate members. See our website for a full listing.

Incorporation A0026805Z

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e-ucalypt news

Adel Urie, WordsWorth Publishing

Membership

Annual subscriptions are due on 1 April

\$50 for up to 250 members

\$150 for 250-500 members

\$250 for 500-1000 members

\$400 for 1000+ members

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We welcome your articles and photographs and important calendar events. Deadlines are mid-April and mid-October. Contact Anne at eucalyptar@gmail.com at any time to discuss your article, ideas, and timelines. We are flexible.

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The launch planting, 30 August. Ms. Angie Bell MHR Moncrieff was assisted by senior students from two local primary schools and Friends members.

The soft mulch informal pathway will wind along the avenue and through woodland, with occasional open areas designed to enable views of the existing Feature Lake below. These open areas will provide outdoor learning spaces, and informal tracks will encourage exploration and active play. As a fully planned natural area, the Queen Elizabeth II Jubilee Avenue and Woodland Walk will enhance the role of the Botanic Gardens — increasing understanding of the environment and interdependence between plants, people, and wildlife to visitors of all ages.

*Kate Heffernan
Friends' GCRBG Jubilee Project Planner
Honorary Life Member Friends GCRBG*



Friends remove woody weeds

President's report

Linda Beveridge



In looking over the year it was great to see the activities of the Friends groups that are members of AAFBG, not only in the very attractive spring and summer time but also enhancing people's appreciation of our respective botanic gardens in winter. However it is of great concern that some of our members' Gardens have been badly affected by high rainfall and floods, including in Victoria and NSW. We all recognise that it will take a very significant amount of time and work by Friends volunteers to help their Gardens recover as water engineering and botanic considerations are taken into account for water conservation and management.

A key publication this year was the Federal Government's *Australia State of the Environment 2021*. It has articulated a large number of concerns about our flora and fauna: such as a large number of endangered and threatened species of plants and associated pollinators, birds and other fauna, along with climate change. Because these concerns are relevant to flora and fauna for our respective areas, our member groups are supporting botanic gardens in their key roles to grow plants, do research and engaging the local community in understanding and enhancing the local ecosystems in order to contribute to mitigation of this situation.

The purpose of our organisation is on our website and the Management Committee is drafting our Management Plan which we will circulate to our members and seek your comments. We welcome your questions and suggestions about them. The website address for AAFBG purposes is <https://friendsbotanicgardens.org/about-us/information>

In his article, our Secretary, Bob Ducrou, highlights some of our goals that are of particular interest.

So many of us take some holiday time during the Christmas and New Year season. Several Australian native species that flower at this time of year have been called 'Christmas Tree' or 'Christmas Bush', yet they are actually very different, both in appearance and in botanical classification.



Christmas Bells (*Blandfordia nobilis* and other *Blandfordia* species) are widely known, and the colours and leaves of Holly Grevillea (*Grevillea wickhamii*), widespread in Northern Territory and Western Australia, are also welcome sights at this time of year, as it evokes close and/or distant memories. It was fascinating to see illustrations of some of these plants in different states and territories on the ANBG website.



Top row: *Blandfordia nobilis* Christmas Bells, *Grevillea aquifolium* Holly Grevillea (Vic and SA), *Ceratopetalum gummiferum* NSW Christmas Bush, *Prostanthera lasianthos* Victorian Christmas Bush.

Bottom row: *Bursaria spinosa* subsp *spinosa* Tasmanian Christmas Bush (Tas & Vic), *Persoonia pinifolia* The Australian Christmas Tree or Pine-leaved Geebung, *Grevillea wickhamii* Wickham Grevillea or Holly Grevillea (NT & WA), *Nuytsia floribunda* Western Australian Christmas Tree.

It is also a season when we not only reflect on the past year but also look to the year ahead as we enjoy the flowers in our Botanic Gardens.

The 2023 AGM for AAFBG will be on 5 May 2023. Our celebratory AGM is being generously hosted by Friends of RBGV Melbourne. Some enticing visits to gardens are also being organised as part of our celebration of our 30th anniversary.

Also in 2023 is the next AAFBG trip with a botanical theme. We have had enjoyable trips to Tasmania previously, and we are planning a trip in 2023 to another area of great interest, most likely in NSW. There will be further information so that you can book for this trip.

Another area of particular interest is our AAFBG Conferences that are held every two years. In this edition there are short articles about the 2024 Conference in marvellous Maroochydore so you can save the date. And there is an invitation to you to host the 2026 Conference. Previous conferences have been interesting and stimulating in sharing ideas and activities with other Friends of Botanic Gardens, and this would be true for future conferences, too.

Congratulations to all of our member groups for what they have achieved this year, and best wishes for Friends' great enjoyment and success in our Botanic Gardens in the year ahead.



*Buy yourself a tea towel
for Christmas
Or buy them for your friends*



Pure linen, Australian made

\$25 each, \$5 postage

More tea towels more postage

Email AAFBG at:

info@friendsbotanicgardens.org

to order and pay.

Happy Christmas

Secretary's report

Bob Ducrou



In this age of instant information, it's easy to be overwhelmed dealing with the deluge of messages and forget the purposes of the Association:

- Encourage and support the growth of societies or associations interested in the conservation, development, well-being and public appreciation of Botanic Gardens;
- Represent the interests of Friends of Botanic Gardens in Australia and New Zealand.

To support the purposes the association will endeavour (in part) to:

- Promote membership of the Association.
- Facilitate communication, advocacy, information exchange and sharing of experience.
- Maintain a website for the benefit of members and other community groups.
- Publish and disseminate among members and the community newsletters or other publications relating to the activities of the Association.

The first two points require your contact information to be up to date. If your email or postal address changes, please let us know – an email to info@friendsbotanicgardens.org will do the trick!

Exchange and sharing news is important. Please let us know what is going on with your group – consider submitting an article for the next, and 60th, edition of *Eucalypt*. Our indefatigable Editor Anne Rawson shouldn't have to be seeking contributions.

After the resignation of Chantal de Vere, your committee decided to ask WordsWorth communicating if they could take on the role of administration, particularly producing the *e-ucalypt news*. They agreed and have been doing this since May this year and you may have noticed how professional it looks. We are very grateful for their willingness to take on this role. Adel Urie's report is on page 7.

Save the Date: Friday 5 May 2023 for the Annual General Meeting, hosted by the Melbourne Friends of Royal Botanic Gardens Victoria, and featuring the Handbury Awards and 30th Anniversary Celebration. The Committee is looking into a possible side day trip to Cruden Farm and RBGV Cranbourne Gardens -more detail to follow.

Best wishes for the Christmas Season. Don't forget a great gift idea, the AAFBG Australian-made pure linen tea towel. Buy from the website or contact us.

My thanks to Elizabeth Gilfillan for her continuing support as I adjust to my role as Secretary.

Bob Ducrou

Conferences and AGM

AAFBG Conference 2024

Save the following dates in your calendar: 23 to 26 August 2024 and plan to be on the Sunshine Coast for the AAFBG Biennial Conference hosted by the Maroochy Botanic Gardens.

There have been some changes since the announcement at the Eurobodalla Conference. The timing has been brought forward a week so we don't clash with Father's Day crowds, and the venue will be at the Gardens, rather than an external site. A 'catchy' title for the theme eludes us still – we know the content we want, but haven't yet had the inspiration to give us a memorable theme.

The Conference Organising Group is about to start extensive field testing of possible venues for the Conference Dinner on the Saturday night.

If you have any great ideas for presentations or suggestions about the Conference, please contact us at friendsofmrbbg@gmail.com

AAFBG Conference 2026

AAFBG is seeking Expressions of Interest in hosting the 2026 Biennial Conference

2026 might seem far off in the future. But now is the time to start contemplating the opportunity to raise the profile of your Friends group, your Botanic Garden and your region by hosting the 2026 AAFBG Conference. Timing is flexible and can allow the Conference to be included in an itinerary of seasonal events and attractions of your region.

If you are unfamiliar with the Conference format, a copy of the conference guidelines (AAFBG Members Biennial Conference Manual) can be sent to you, or you can contact any of the Committee members for further information at info@friendsbotanicgardens.org

Save the Date

Friday 5th May 2023

AAFBG
2023 AGM &
Handbury Award Presentations
30th Anniversary Celebration
more details to follow soon

Hosted by the
Melbourne Friends of Royal Botanic Gardens Victoria

Helping to administer AAFBG

Adel Urie and Barb Schriver

WordsWorth communicating. Mobile: 0437 682758

Greetings from us indoors! We're sending warm wishes to everyone having to deal with this latest climate event.

It is part of our job to help you to promote and communicate your news and the benefits of your Gardens using the resources available at the AAFBG. For instance:

The AAFBG Website

Every member group has a page on the AAFBG website. It is a great opportunity to capitalise on all the general promotions the AAFBG conducts during the year, drawing audiences back to the AAFBG website. Make sure the information about your Garden is current and engaging. Check your entry and send your updates to website@friendsbotanicgardens.org. Give us a call on 0437682758 if you would like to chat about it.

What else can we do on the website to add value to your AAFBG membership? Here are a few ideas:

- Provide a reference area for shared and searchable tips and tricks. This could be anything from running a fundraiser to applying for grants and general gardening ideas.
- Build an online archive of submitted articles and stories from members to share for inclusion in other member newsletters (with reference of course).
- Similarly, we can create an online archive of images for use by members.

There's so much we can use the internet for. Forward us your ideas to: info@friendsbotanicgardens.org

e-ucalypt news

Within the first week of every month we publish the *e-ucalypt news*. *e-ucalypt* is valuable for broadcasting short term news bulletins from your Garden, such as your own monthly newsletter and promoting events. Send us an engaging intro with a link or file that offers more information about your contribution.

All past editions of the bi-annual newsletter, *Eucalypt*, and the monthly *e-ucalypt news* are available on the website.

Social media

We would love to be using social media to better advantage the AAFBG and our members.

Let us know your social media IDs so we can build networks and help promote all our member Gardens. And do remember to reference us in your posts with @aafbg

We are looking forward to engaging with you as we further settle into our role and understand your needs and expectations.



Guiding for People, Plants and Planet *Volunteer Guides at the Royal Botanic Gardens Victoria*

Following a year's delay due to COVID, more than 100 delegates were welcomed from 16 Botanic Gardens across Australia and New Zealand to the 17th Australasian Botanic Guides Conference. Delegates spent two and a half days at Melbourne, one day at Cranbourne, and one day on a day excursion visiting three gardens in areas outside metropolitan Melbourne. There were four choices of areas to visit: Melton Botanic Garden and the north west; Mornington Peninsula, including Heronswood and Cruden Farm; Yarra Valley & the Dandenongs, including the newly named Dandenong Ranges Botanic Garden; City Gardens, including the Melbourne University System Garden and Burnley Gardens.

Plenary sessions in Melbourne included two on climate change, one on landscape succession at RBGV Melbourne (see also last issue of *Eucalypt*) and setting up the Climate Change Alliance, the other on using crop wild relatives for crop improvement. Other plenaries covered Indigenous reflection on the significance of gardens and surrounding lands, surviving and thriving post-COVID, and reaching out to the world, which covered propagation at the Botanic Garden in Oman and the Global Gardens of Peace, internationally in the Gaza Strip and locally in Australia. Plenaries at Cranbourne included the design of and the development and management of the famous Australian Garden at Cranbourne.

Multiple activity sessions at both sites included a choice of walks, talks or workshops, 50 at Melbourne and nine at Cranbourne. These ranged from walks featuring specific areas of both Gardens, a wide range of talks from Gondwana and Palaeobotany to Melbourne's Urban Forest, to flying foxes, visits to the Herbarium and also the Herbarium Library, to fire ecology and also bandicoots. Workshops likewise were wide-ranging including a children's garden creative nature workshop, guiding people with dementia and a presentation from Tour Guides Australia.

Social activities were not forgotten with the welcome drinks at which Tim Entwisle (RBGV Director & CEO), and the Chair of the RBGV Board, Ms Chris Trotman, welcomed our visitors. On the Thursday evening the lakeside gathering featured our resident harpist Michael Johnson, but sadly no punting on the ornamental lake due to the particularly heavy downpour of rain. The conference concluded with a festive paella lunch.

The Conference Committee were most grateful for the support from the RBGV, the Melbourne Friends RBGV, the Cranbourne Friends RBGV, and to several anonymous donors.

Rosemary Cotter, Conference Convener.



Ancient giants and ancient plants

*Friends of Australian National Botanic Gardens
Canberra, ACT*

In July, Australian megafauna, including Diprotodon, Dromornithid and Megalania were exhibited in the Australian National Botanic Gardens (ANBG). They attracted large numbers of families and the display has become a major annual event. The ANBG Volunteer Guides developed a guided walk, aimed at adult audiences, which ran daily during the event. The walk considered the dinosaurs of the Jurassic and the Australian megafauna of the more recent Pleistocene and the plants these animals ate.

Fossil evidence indicates the Araucariaceae family reached its maximum diversity between 200 and 65 million years ago during the Jurassic and Cretaceous periods. The ANBG has examples from all three genera: *Agathis*, *Araucaria* and *Wollemia*. Visitors were able to examine the distinctive branchlets of the *Araucaria cunninghamii* (Hoop Pine) and *Wollemia nobilis* (Wollemi Pine) and see how the lack of petiole (leaf stalk) helped make fossils of these plants easy to identify.

The Sauropods, a large group of herbivorous dinosaurs, needed to consume up to 900 kgs of food per day. Their body design (extremely long neck, small head and sturdy legs and tail) meant that they could access large amounts of foliage with limited use of energy. These animals did not have large powerful teeth but rather thin, spaced teeth that could strip off *Araucaria* foliage like a metal rake.

The walk offered an opportunity to talk with visitors about Podocarpaceae – a large family, centred in Australasia and dominant in the time of Gondwana. Visitors were often familiar with *Podocarpus elatus* (Plum Pine) but surprised to find that it is a conifer. During the event, the *Podocarpus elatus* trees were loaded with seed so visitors could see the hard seed (a modified cone) and swollen stem that resembles a fruit.

An example of a Dromornithid (or mihirung), a large, flightless bird was very popular. The family existed for around 20 million years, disappearing in the last 100,000 years. Murray (2004) contends that these geese like birds, which may have weighed up to 500 kgs, consumed large volumes of seeds and nuts that today are not eaten, in volume, by any animal. *Owenia* (Emu Apple) and *Livistona* (a genus of palms) are examples. He calculated that a large Dromornithid could have dispersed 2 to 4 kg of seed, up to 30 kms, per day. Imagine the impact on seed dispersal with the demise of these animals!

The megafauna not only brought people to the Gardens but also gave Guides the opportunity to bring visitors closer to some of the ancient plants of Australia.

Joanne Smith



Real and fossil leaves of the *W. nobilis*; fruit of the *P. elatus*; and a small boy with a *Megalania*.



References

Murray, P. Vickers-Rich, P. (2004) *Magnificent mihirungs : the colossal flightless birds of the Australian Dreamtime*. Bloomington: Indiana University Press. ISBN 978-0-253-34282-9

The best kept secret!

Beth and Raoul Dixon
Friends of Ballarat Botanical Gardens

On a recent caravanning trip along the S-W Victorian coast and into South Australia, Beth and Raoul Dixon visited Pangarinda Botanic Garden, 'a link in a chain of endeavour to conserve Australia's threatened flora' and a member of the AAFBG. For more information and links to a Garden Brochure and Bird Watching Poster, see <https://www.coorong.sa.gov.au/tourism/nationalconservation-parks/pangarinda>.



Pangarinda Botanic Garden describes itself as 'Our Best Kept Secret' which is an appropriate epithet given its location. Situated in Wellington East, South Australia, it is easy to miss as one drives down to cross the Murray River on the Wellington Ferry to Strathalbyn.

The Garden specialises in Australian native plants and trees from arid lands across the country. It was initiated by a group of local residents in 1993 seeking to beautify the district. The 30 hectares of Crown Land on which it is based were formerly weed infested, eroded sand drifts with a few remnant patches of native Pines (*Callitris gracilis*).

By 2010 about 12 hectares had been planted and since then volunteers along with school children, parents and staff have continued the plantings, greatly improving local biodiversity. We visited the area in August this year and were amazed by the beautification that has been achieved. Many varieties of Eucalypts, Grevilleas, Banksias, Eremophilas, to name a few genera, are now flourishing in a well-designed setting.

Whilst the bulk of the work is done by a small group of volunteers, the Coorong District Council supports the project, providing \$4000 per year for stock purchases and other expenses, and one staff member allocated for one day per week to assist with fund-raising and relevant activities.

We would recommend a visit to these Gardens if you are anywhere near the area.

Beth and Raoul Dixon also took the photos



Visiting some Victorian Botanic Gardens

*Friends of Ballarat Botanical Gardens,
Ballarat, Victoria*

Many benefits are gained by visiting other Botanic Gardens – enjoyment, inspiration and education, along with the opportunity to connect with fellow Friends’ groups. It may also provide a different perspective on what is being achieved in your own Botanic Gardens. On a recent trip to northern Victoria we visited three Botanic Gardens that are within a 100 km radius.



In 2010 the City of Greater Bendigo adopted an ambitious Masterplan for the rejuvenation and extension of the historic Bendigo Botanic Gardens. A key part of the Masterplan is the Garden for the Future that was completed in 2018. Designed by Taylor Cullity and Lethlean (TCL), it focuses on the changing climate. Three distinct areas planted with imported species, Australian natives and a fusion of both, demonstrates to visitors what can be achieved in their own gardens. In the centre are an oval-shaped promenade, a stage and amphitheater for outdoor events. The Central Hub Precinct with a Visitor Center, linking the old and new areas, comes next. For more information: www.friendsbgbg.org.au.



At Girgarre, a tiny town south of Echuca, the Gargarro Botanic Garden is being developed on land gifted by the Heinz Corporation. Substantial funds have been raised, including State and Federal grants. The intention of this very new Garden, also designed by TCL, is to create a bold and beautiful garden that features the region’s landscape and indigenous flora as well as reflecting its rich history. When it is completed, it will include a Welcome Gateway, a diverse range of native plants, an ephemeral water feature and a café. A Sound Shell and Amphitheatre for events was opened in 2018. For more information: <https://gargarrobotanicgarden.com.au>.



The transformation of a former landfill site into the Australian Botanic Gardens Shepparton began in 2011. Designed to showcase native plants in themed gardens and bushland, the large site includes wetlands and the River Walk. The diverse habitat attracts many different birds. The elevated central area, called Honeysuckle Rise, is a lookout that gives visitors a 360° overview of the Gardens and the Goulburn Valley. Recognising the site’s former use, recycled materials are used effectively in the Garden’s construction. A strong connection to the region’s history is also evident: the Weaving Garden is planted with species used in traditional Aboriginal weaving; the layout and planting of the Terraces Garden tells the story of irrigated and non-irrigated agriculture. For more information: <https://fabgs.org.au>.

Merrill and Arthur Shulkes

Who also took the photos, except the Gargarro drone one which was taken by the Project Convenor.

Why trees grow up straight (mostly...)

Friends of Maroochy Regional Bushland Botanic Gardens
Tanawha, Queensland



Flooded gum, *E. grandis*.

Much of Maroochy's 170 ha is classified as 'Tall to Very Tall Forest', which prompts the question...

Isn't it amazing how straight and tall our Flooded Gums, *Eucalyptus grandis* (and other trees) grow? How do they do this? Trees grow straight up to the light, people say — common knowledge! But hang on, doesn't that mean that the light (sun) must be directly above these trees all day? Something doesn't quite add up, so what's going on here?

Charles Darwin, experimenting throughout his life, did some little experiments with his son Francis, growing wheat seedlings to try and understand how plants respond to light. They found that the seedlings when exposed to light from one side bent towards that light. But when they cut off the tips of some of the seedlings they no longer bent! Through a series of simple experiments, they showed that a substance was produced in the tip of the stem and that it travelled down the stem causing it to bend when exposed to light from one side. In more recent times this substance has been identified as a growth hormone called Auxin. Light sensitive proteins in the stem cause auxins to move to the darker, shaded side of a stem exposed to light from one side, causing greater elongation of cells on darker side so the stem bends towards the light, and no tip means no auxin so no bending!

Darwin and others had also noticed that pot plants and seedlings when laid on their side would bend up and the roots would turn down, so it seems that plants also respond to gravity. The hormone auxin moves in response to gravity so it will end up being more concentrated on the lower side of the stem or root. The small increase in concentration of auxin causes those cells on the lower side of the stem to elongate thus bending the stem up. In root cells higher concentration of the hormone inhibits cell elongation so the root bends down.

But in most situations plants grow straight up so they must have some way of sensing which way is up. It seems that they have evolved structures that are a little like the balance organs in our middle ear that allow us to sense which way is up! Cells, called statocytes, are found in the growing tips of stems and roots. In these cells are tiny starch granules that can move around. Imagine a few rice grains in a glass, as the glass tilts the grains roll across the glass. In the plant cell the movement of tiny granules causes the statocyte cell to send a signal to other cells causing them to produce the hormone auxin, which causes cell elongation on one side of the stem or root in the region behind the tip, causing it to bend.

Gravity is a constant stimulus compared to a moving sun and is therefore more likely to be responsible for a tree growing straight up and this is generally accepted these days.

Text and picture by Neil Rankin

Money, at last!

*Friends of Australian Arid Lands Botanic Garden
Port Augusta, South Australia*



For the last five years the Friends of AALBG, along with The Port Augusta City Council, have been actively lobbying both Federal and State politicians for financial assistance to cover the short fall in the costs of running the AALBG, which is owned and operated by the Council. This is about \$750,000 (including depreciation) yearly and local rate payers were covering this cost (not happily I can assure you).

After the State election this year Labour was successful and came to the party with a total of \$3,000,000 to be given to the Council in four equal payments over four years. This is wonderful news for us all and means the Arid Lands can continue to grow without worrying about running costs.

Our visitor numbers have been over 100,000 per year for the last three years and the Garden really looks stunning. The Garden celebrates 26 years in existence this year and plants are maturing wonderfully.

The Friends are still busy raising money for many projects in the Garden, mainly new Garden signage at the Lookout and throughout the Garden. As you know signs are very expensive.

With the rain weeds of course are a problem but volunteers are helping staff to keep them under control.

Arid Lands at the moment looks the best I have ever seen it. The Acacias, Eremophilas, Sennas and Eucalypts, and many others, just looking wonderful.

Chris Nayda, Secretary

Tiny Forests

*Friends of Wollongong Botanic Garden
Wollongong, New South Wales*

Wollongong Botanic Garden is extending its expertise in plants and horticulture beyond the Garden boundary through a new project called Tiny Forests. This Wollongong City Council project aims to engage with the local community, and partner with participating schools, to work towards Council's Urban Greening goals. Inspired by the work of Japanese Botanist, Akira Miyawaki, Tiny Forests seeks to turn vacant public land into thriving native forests. Each Tiny Forest is roughly the size of a small tennis court and consists of up to 300 plants and over 40 local native species.

'One Tiny Forest creates 30 times more green surface area than grass alone and provides a safe habitat for animals and insects. They also help restore local biodiversity, absorb carbon dioxide, and create shade to cool the urban environment,' Wollongong Botanic Garden's Education Officer, Penny Hoswell, said.

'Through these spaces Wollongong can increase tree canopy cover within our suburbs in a strategic and targeted way. The average level of tree canopy coverage across our city is 17%, well below the national average of 39%. Some suburbs have great tree cover of 52%, but some have as little as 3-5%, the lowest of anywhere in Australia. These Tiny Forests will help us reach our target of 35-40% tree canopy across Wollongong.'

To date, the Council and the Gardens have planted two Tiny Forests, the first at Tarrawanna with the help of Tarrawanna Public Schools students, the second at the Botanic Garden with the help of the Friends. This Tiny Forest is unique as it's designed in the shape of lungs, to symbolise a living reminder of the importance of trees and plants on the health of our community. Council's newest Tiny Forest is planned for Dapto and will be planted with the help of Dapto High School students.

Unlike a normal forest, Tiny Forests grow incredibly fast, taking only five to 10 years to mature instead of the normal 70 years. Over time these forests become self-sustaining and require minimal maintenance. 'We can achieve fast growth by preparing the soil so that it has the right nutrients, fungi and bacteria. We also plant everything close together to encourage them to grow faster as they compete against each other for light,' Ms Hoswell said.

'We've planted them in a way that will replicate the many layers of a forest. On the bottom is a layer of Council's FOGO (Food Organics and Garden Organics) compost, then an understory, canopy and emergent layer planted together. The plants are all species locally native to Wollongong, selected by specialist staff at the Botanic Garden and grown at our Nursery.'

Wollongong Botanic Garden will continue to plant new Tiny Forests in other communities soon.

Text and photos from Wollongong City Council



Wollongong Botanic Garden staff and volunteers from the Friends working together to plant a new Tiny Forest; a Council member briefing the workers.

Visiting Noosa Botanic Gardens

*Friends of Gold Coast Regional Botanic Gardens
Gold Coast, Queensland*

One of the many benefits of membership in AAFBG is the opportunity to meet and know fellow devotees from regional and national Botanic Gardens and in some cases overseas Botanic Gardens. Meeting with members at other Botanic Gardens is also an opportunity to gather new ideas.

A recent two-day visit to Noosa Botanic Gardens provided a more in-depth look at a Botanic Garden I had visited several times previously. Located closer to Cooroy than Noosa, the Botanic Garden sits along a sloping rise above the shores of massive Lake Macdonald. It's home to an impressive collection of trees and palms from all corners of the globe. It includes trees from many climatic zones, including *Quercus* and *Magnolia* species, Southeast Asian and Australian rainforest trees with many sprawling *Ficus*, and some soaring gums. The palm collection appeared equally diverse. I wondered at the origins of the extensive collections, in particular trees and palms. I later learned that Ross McKinnon, former Curator of Brisbane Botanic Gardens, was involved in the early plant selection.

The Gardens have an impressive Friends team, and I met with FNBG President, Jill Brownlee, and several experienced guides, and an enthusiastic group of potential guides, to share our respective botanic guide stories.

Discussions were also around gaining support for Queensland's regional botanic gardens from local or state government. Recently a group was formed at the instigation of the Queensland Department of Environment and Science to specifically coordinate threatened species projects in south east Queensland. This is already bringing collaboration between Botanic Gardens, with opportunities to share and conserve plants by some Botanic Gardens — safe havens in the protection of endangered plants. In many cases also retaining or creating habitat for threatened wildlife as well.

Kate Heffernan



Pectinopitys ladei Mount Spurgeon Black Pine has a very limited region around Mount Spurgeon near Port Douglas and is listed as Near Threatened; Growing only in a small area with a high-water table east of Gympie, *Boronia keysii* Key's Boronia primarily regenerates by seed after fire; Closely related to Macadamia, and also edible, *Hicksbeachia pinnatifolia* Bauple Nut is listed as vulnerable in its natural habitat in NE NSW and SE Qld.

BGCI appeal for Botanic Gardens in Ukraine



Ukraine Botanic Garden Appeal Update

Through the BGCI Ukraine Botanic Garden Appeal, and together with Partnerships for Nature, we have already disbursed \$25,000 to 10 botanic gardens across Ukraine. Thank you for your support!

With recent developments in Ukraine all over the news, it is clear that this conflict is going to continue into the foreseeable future. Seven of the ten botanic gardens participating in the Appeal are in cities being attacked. Support is still needed to retain staff, maintain collections and keep botanic gardens open for respite and sanctuary.

BGCI is planning to disburse remaining funds to Ukraine gardens by the end of November, in order to meet critical current needs, so please donate today.

Your donations can still make a difference.

We need your help

Help to sustain collections and staff at Ukrainian Botanical Gardens through this time of crisis. Your donation can make a difference. Learn more about the [gardens supported by the appeal](#).



[MAKE A DONATION](#)

Go to the following site to read more about these Gardens and the work that is being done with the donations. And to make a donation.

<https://app.sheepcrm.com/bgci/appeals/627d13f7eb6926744981d994/>