

THE BOTANIC GARDENer

The magazine for botanic garden professionals

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Feedback and comments on the
newsletter and articles are welcome.
Please email: secretariat@bganz.org.au

COVER: The Cannonball
tree *Couroupita guianensis*,
seen here in flower at
Cairns Botanic Gardens.
Photo credit: John Siemon.

A deciduous species from the
family Lecythidaceae and native to
the rainforests of Central and South
America, the common name refers
to the cannonball-sized fruit which
can grow up to 25cm in size.

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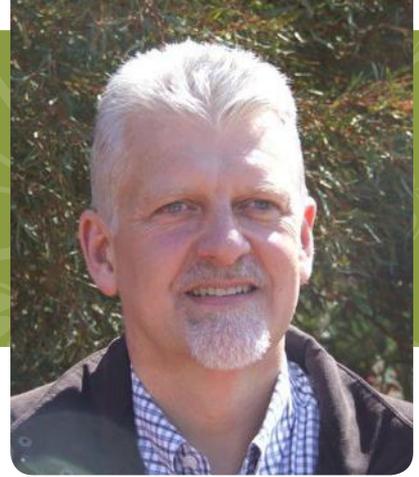
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The theme of the November issue is *Managing Change* and will feature papers from the 2017 BGANZ congress. The deadline for contributions is Monday 1 November 2017. Please contact the Secretariat (secretariat@bganz.org.au) if you are intending to submit an article or have a contribution to other sections.

President's view

John Sandham, BGANZ President



John Sandham

Open for business

The few weeks preceding the second BGANZ Botanic Gardens Open Day were hectic getting things ready but by all accounts we improved and built on last year's success. A big thank you goes to everyone who embraced the day. Hopefully it is now part of the institutional calendar and an annual event to celebrate the wonderful work of botanic gardens.

I take this opportunity to thank Sir Peter Cosgrove, the Governor General of Australia for becoming our patron and opening this year's run-in at the ANBG on 11 May.

He said 'We all love our botanic gardens and their natural beauty but many ordinary folk do not realise their critical role.' Also thanks go to both Costa Georgiadis and Jack Hobbs for their wonderful ambassadorial roles.



You won't need reminding to make preparations to attend 8th BGANZ Congress in Adelaide. Some wonderful abstracts have been submitted and the four days promise lots of good times learning from each other. Visit <https://kaigi.eventsair.com/QuickEventWebsitePortal/bganz-congress-2017/info> for all the information and please register. All of us in South Australia are looking forward to welcoming you. Also check out the awards and travel grants you can apply for. Please take this opportunity to benefit from your BGANZ membership.

Lastly and most importantly we will be seeking new members for the BGANZ Council. We want new vibrant people who can take us into the future. If you are interested make contact with your state or country's representative on Council who can advise and support you in your goal.

We all know that there's strength in numbers and with shared passion and vision we can ensure our botanic gardens remain among the best in the world. We are certainly open for business and welcome your involvement.

Editorial insights

Janelle Hatherly, Managing Editor



Janelle Hatherly

The wonders of the internet never cease to amaze me and it's great to see how our botanic gardens have embraced social media to promote and communicate the great work they do. Those botanic garden(er)s who have been slow to make the transition to new media (or can't choose between the many and varied platforms available) should find plenty of useful tips inside this issue.

The best outcome of this Information Age is the ease of access to information *for all* and *by all*. Thanks to everyone who responded to the request to share their favourite social media platforms. Our snapshot survey elicited responses such as these:



For me, Instagram wins by a mile as a more personal, user-friendly and instant impact platform to share garden images and interact with others. The image format is large; there is no character limit on text, comments about the post remain with the post (unlike Twitter where I find conversations difficult to follow) and there are new nifty features always being added; e.g. Your Story.

I think, especially for finding public gardens, Instagram is a less crowded, friendlier space in which people feel more comfortable to post their own images, ask questions and are generally inspired to visit the places they see.

Anita Rayner Horticulturist Sydney Living Museums



There are more plant nerds active on Twitter that are easily accessible. Facebook probably has more but unless you dig into the hundreds of specialist pages and therefore waste a lot of time, you struggle to access them.

Greg Bourke Curator Manager The Blue Mountains Botanic Garden, Mount Tomah



I vote Facebook for local information to visitors and Twitter for plant geek engagement.

Jimmy Turner Director of Horticultural Management Botanic Gardens & Centennial Parklands

Personally, audio podcasts are my favourite because they can be listened to anywhere, anytime and they provide me with rich, meaningful content and food for thought and conversation. This platform, YouTube and others like it are a boon for botanic gardens because they empower us to deliver more than just venue and event promotion.

In our Feature Interview, Tim Entwisle says of botanic gardens: 'We pride ourselves on accuracy and authority, which is good and does set us apart from the false news but there has to be place for risk and user content.'

Possibly the worst outcome of this Information Age is the blurring line between truth and fiction – in this post-truth world – which may have serious consequences for the future of science and scholarly research. For a truly stimulating exploration of this perspective, I recently listened to the ABC's *Big Ideas* podcast: 'Fuzzy thinking won't save the planet'. In it Professor Brian Schmidt (Vice-Chancellor of the Australian National University) delivered the Manning Clark lecture and discussed *Evidence and expertise in a post-truth world*.

[The Oxford Dictionary nominated *post-truth* as the Word of the Year in 2016.]

In keeping with the need to promote sound evidence and expertise, the next issue of THE BOTANIC GARDENER will feature a selection of articles from the [8th BGANZ Congress](#) to be held in Adelaide 22-25 October. Alan Matchett will be the guest Managing Editor for this issue.

Lastly, I'd like to introduce three new members of the Editorial Committee and welcome them on board. THE BOTANIC GARDENER now has representatives from most States ... and abroad.

'In addition to many years of scientific writing, both my own (as a researcher in plant molecular biology, tutor and horticulturist) and as part of my current role as Collections Policy and Training Officer at the Botanic Gardens of South Australia, I am the editor of the monthly Fern Society of South Australia's *Fern News* and one of four team members of The Friends of the Botanic Gardens of Adelaide's quarterly *Gazette*.

I prize clear, concise expression and very much enjoy writing factual articles – I am hopeless at fiction – and look forward to contributing to the editorial team of THE BOTANIC GARDENER'.



Dr Nicola Fidler



Tom McCarter

'I am a New Zealander, though I have lived and studied in the USA and the UK. I have worked in botanic gardens for the past nine years as a student and horticulturist (for Wellington City Council, Longwood Gardens, RBG Kew and Chelsea Physic Garden). I have also volunteered for BGCI on their Education and Global Tree Campaign teams and am currently studying an MSc in 'Plant and fungal taxonomy, diversity and conservation' at RBG, Kew.

I am always interested in BGANZ news and would love to be more involved in the network. I am pleased to have the opportunity to do this editorial role remotely'.

'After a long career in the higher education sector, including the development and editing of learning resources, I dropped everything and ran away to Burnley College, graduating with a Masters in Urban Horticulture in 2010.

At present I am knee deep in a conservation effort for the 19th century botanic garden and arboretum in the Western Victorian village of Camperdown, where I live. It's a challenge, but I believe we need to find ways to harness all available professional and volunteer efforts to make and keep beautiful places. I am inspired by the enthusiasm I see around me in our botanic gardens network and look forward to being part of the editing team for THE BOTANIC GARDENer'.



Janet O'Hehir

Outstanding in the field

Janelle Hatherly interviews

Tim Entwisle, Director and Chief Executive,
Royal Botanic Gardens Victoria

Google defines social media as 'websites and applications that enable users to create and share content or to participate in social networking'.

Thanks for agreeing to be our feature interviewee, Tim. You're well-known and highly respected as a scientist and a director in the botanic gardens world but it is your social media guru status that I want to focus on here.



Prof. Tim Entwisle

What social media do you use in your life?

Me, a social media guru? Let me first say that I have stiff competition these days from dedicated social media colleagues in other Australian botanic gardens, and their follower/hits/befriending numbers leave me in the shade!

But as an elder statesman in the field, I'm happy to live off past glories. My medium of preference is Twitter: I like the impersonality of it and its popularity with journalists. Others don't know when you are off and on line, and it's like being in a huge party where you can duck in and out of conversations (or if desired, go home and ignore it).

Facebook can be enlightening, but seems to attract self-pity and indignation, or 'conversations' you would not have engaged with in real life. YouTube is ruled by cats and Adolf Hitler clips, but Instagram, Twitter, Pinterest etc. are perfect for flowers (and food).

At the heart of my own social media is my heritage-listed blog, *Talking Plants*. I use Twitter, Facebook, and even LinkedIn when I can get the automation working, to market each post.

**There are creators,
purveyors and consumers
in social media.**

I think there are creators, purveyors and consumers in social media. There is no value judgment associated with the categories. I do all three and we need botanic gardens folk to participate in them all. My preference, or comfort zone, is in creation. I occasionally purvey but I'm a low level consumer.

You describe yourself as a science communicator. When did you discover your passion for 'journalism' and how did this impact on your scientific career?

During my PhD I toyed with doing a journalism course but that might have been just to protract my time as a student. When I raised it with my father he recommended against it, having worked in a newspaper office. They spend most of their time in the pub he said. Of course at my stage of life that sounded like the perfect job, but I stuck with the science.

I had always liked writing – short stories, birthday card ditties, and the occasional diary entry. Then in 1989, towards the end of a post-doc at University of Melbourne I attended a talk by the (now deceased) science journalist Graeme O'Neill. He explained the basics of a good (science) story and suggested, if we were interested, we should focus on something we were passionate about to start.

At the time he was editing a page in *The Age* devoted to science, and welcomed submissions. So I wrote about my PhD study on algae, then my honours work on algae ... then eventually wrote on stuff other than algae (endosymbiosis, bees, fishes, phytophthora, acacia, AIDS and so on). I loved it, particularly the buzz of quick publication and no time for regrets – quite different to bringing one of my learned taxonomic monographs to print.

[I think I am always going to find a way to communicate as well as to create science.]

With or without the journalism, I think I am always going to find a way to communicate as much as create science. I like giving talks and I love doing radio. (I started reading for 3RPH and moved into local community radio doing science and music, depending on my mood.) I still find radio the most satisfying form of mainstream media.

Journalism definitely suits my – as it turns out – very on-trend, short attention span.

When and why did you start your blog Talking Plants and how has this affected you personally and professionally?

I've been blogging since November 2008, about plants and that kind of thing. I started doing it every few days, then a couple of times a week and now weekly – over time managing my addiction. Initially it was a way to express myself, to write and to reach a new audience. Then it became a kind of repository for plant stories.

FEATURE INTERVIEW

Today it's both – a way to talk to people about what I've seen or thought about recently (usually generated from a photo I take with my phone or camera) as well as a store of information I can cite or refer people to. I'll recycle stories occasionally, for radio or print. The blog is also a great memory jog for me, a place to check a name or fact.

The blog has given me a slightly broader profile than I would have as a botanic gardens director alone, but it's tangled up with the radio, magazine and newspaper work I do.



With Jim Fogarty, interviewing Bill Bailey at Hampton Court Flower Show.

In your opinion, what impact has social media had on botanic gardens – management and visitors – in the last 10 years?

Gardens, and particularly botanic gardens, are perfect for plant porn, in a good way. It almost seems like botanic gardens were invented for Instagram, Pinterest and Twitter. It's interesting to consider whether we have used this natural affinity well or not.

It's as though botanic gardens were invented for Instagram, Pinterest and Twitter.

We have colleagues with tens of thousands of Twitter followers, getting plant pictures liked and retweeted all over the world. A lot of this is purveying rather than creating but that's fine, and perhaps more like our traditional role of labelling all the plants in our garden. But if it leads to something else – engagement, commitment, curiosity – then that's OK.



Planting a Lime Tree with Nick Cave ... every plant has a story to tell. Photo: Penny Stephens (The Age)

I do think we need a little bit more content, in whatever form people like. We need to be a bit more controversial, willing to state an opinion and, sadly, willing to be trolled.

I don't know that social media has led to a big change in visitation or the way we manage gardens. It should influence the latter more, for example the creation of photo opportunities, connecting images and names to the stories behind them.

How have you or your gardens used social media to generate user content?

Not much apart from a few light discussions on Facebook. We pride ourselves on accuracy and authority, which is good and does set us apart from the false news but there has to be place for risk and, as you say, user content. We'll get there and my work with the ABC is providing some ideas.

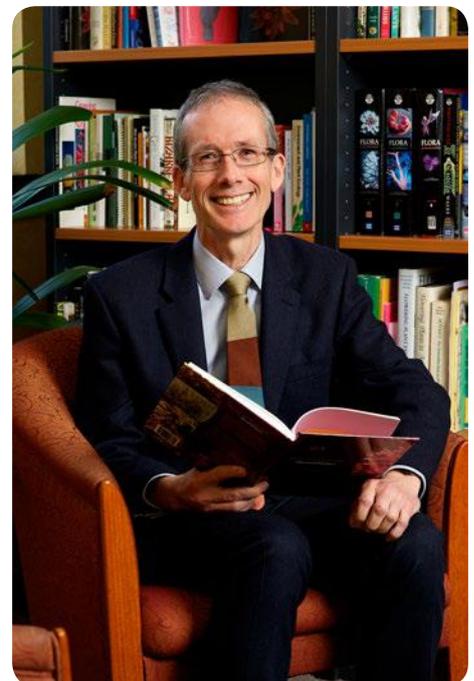
I'm interested in hearing your thoughts on the use of social media as a learning tool.

The risk with using social media as our primary form of communication is that we simply feed an insatiable appetite for new things, and nothing more. Yes it can excite people – for long enough to click 'like' or an amusing face – but the information and learning content may be insignificant. That said, it is what it is, and our role isn't (can't be) to change how visitors want to engage with us.

Social media is rarely content but it is most certainly excellent marketing and quite often the first engagement.

We have to accept that they arrive at our gardens by Instagram in the same way they arrive by bus or bike (or perhaps horse and cart). When social media works well it is like a pretty flower. It's the honey pot, as my colleague Andy Jackson at Wakehurst Place (Royal Botanic Gardens Kew, UK) used to say about floral displays in botanic gardens – they draw the crowds in.

Once captivated, or 'captured', you can trigger all kinds of other clever learning tools to make people think, and then help them become better humans. Social media is rarely content but it is most certainly excellent marketing and quite often the first engagement.



Social media complements rather than replaces deeper pursuits of knowledge.

Social media certainly gives individuals and businesses greater exposure but what is the point and how do you measure success?

What is the point of life? Sorry, but communicating is what we do. A fair question is whether we do it successfully and what the hell that means anyway. Ideally we'd be able to tell if someone changed the way they did things, voted differently or planted a tomato. We measure 'likes' and 'hits' at the moment.

I recently did a 30-minute Facebook live podcast with ABC RN (using iPhone and iPad), in someone's home answering questions about indoor plants. Apparently we had over 20,000 people watching, with over 300 questions and 35,000 or so page views around that time. On other Saturdays I'll be contributing to RN's Blueprint for Living as their 'botanical boffin', sometimes with a web story that can generate a few thousand reads.



With RN producer Amanda Smith.

I really don't know how to measure these against each other or in absolute terms. Both feel like they have an impact but if you listen to a different radio station on Saturday morning (or don't listen to radio at all) and don't catch the Facebook live podcast reminder, it's as though the thing didn't happen.

A problem I have with measuring the impact of my blogs is the multiple channels on which people comment – so there might be feedback and likes on Facebook, Twitter and elsewhere but bugger all at the blog site itself. Still the pageviews still give you some indication of activity and perhaps interest.

For a botanic garden more generally it should all be about the vision and mission. In our case that's about life being sustained and enriched by plants, and then finding as many opportunities as we can to connect with people and get this message across. I like to think the social media, podcasts, op eds in papers, magazine articles and radio interviews and shows do that. But it's hard to assess how much.



[Re-boot your life on The Conversation Hour](#) with Waleed Aly on 774 ABC Melbourne. Photo: Felicity Greenland (ABC Local)

What advice would you offer to botanic gardens wishing to develop a social media strategy?

Take a risk. Most botanic gardens are, with good reason, usually risk averse. Our governments and governing bodies often demand it. But try to test the envelope a little.

Add a little personality to media releases and social media posts, testing out some quick responses on relatively safe topics. While our authority and accuracy are important that will mean nothing if nobody is listening.

One way to get started is to hand pick a few individuals who have a good command of the English language and who have the nous to know when to comment and when to not. Don't see social media as separate to mainstream media – blend the two together so that stories bleed from one medium to another.

And finally, make it fun.

What's the best app/use of social media you've encountered in a museum or botanic garden?

I know this isn't what you mean but at the moment I'm keen on Pl@ntNet and similar plant identification apps, even with their many faults. The future is a good algorithm!

More in line with your question, I think MONA in Hobart does a great job with its non-app form of audio interpretation. And Royal Botanic Gardens and Domain Trust in Sydney is doing very well with the pretty plant porn on Twitter and Facebook. The Chicago Botanic Garden app looks good, but I haven't tested it.

The Disney app to find fairies in the botanic gardens in Melbourne and Sydney was a big success even though we got a little bit of flack in Melbourne. While I know anti-US-commercialisation sentiment is about, it's odd how something that is actually popular in the community (Disney fairies) is somehow seen as intrinsically at odds with what we do in a botanic garden. Similarly, there was a view that using screens/devices in the botanic garden is also intrinsically a bad thing (on the flip side, one mother told me her child was allowed a maximum of two hours screen time, and she was thrilled that one of those hours could be in the botanic garden).

[There's a lot of decent botanic gardens' social media buzzing around but it's hard to get heard above the noise.]

While I've downloaded a few other apps on museum/garden visits none of them have really caught my imagination yet. There is a lot of decent social media buzzing around from various botanic gardens but it's hard to get heard above the noise. I like to think our twittering Titan Arum (@RBGTitanArum) was breaking new ground in 2015 but it's become very quiet ever since it reverted to the non-flowering routine of tuber and leaf.

Is there a book/blog site about social media that you would 'highly recommend'?

Not really. My suggestion would be to sign up and start participating as a consumer on a variety of social media. Find out which ones you like and work out the social norms. Then, fire away and start contributing or purveying. The distinction between traditional media and social media is blurring and I love it when I can write web pieces for the ABC site to go alongside an interview I do, and that is then marketed through Twitter, Facebook and Instagram.

Definitely reuse and recycle, but along the way try to create as well. Social media can be hectic and at times distracting, but it's also fun and absolutely essential if part of your reason for being is to communicate.

Rainbow Gum *Eucalyptus deglupta* is one of the four species of *Eucalyptus* not endemic to Australia.



Talking Plants

... every plant has a story to tell

Tuesday, 20 May 2014

Alien gum tree vigorous and vibrant



I'll keep the focus on plants, not the recent vandalism at Melbourne's Royal Botanic Gardens. I couldn't do much better than start with this rainbow-coloured bark. It's not on display in the Gardens, yet, but given how fast the **Rainbow Gum** grows, if our 'seedlings' survive and continue to thrive we could have some within a year or two. What we have now are three plants just over a year old and already three metres tall. This one is flowering for the first time, after only 13 months...

Typing plants



By Jerome Entwisle (2015)

Entwisleia bella, *Entwisleiaceae*, *Entwisleiales*



Photo by Fiona Scott (2012)

Botanic news: from home and abroad

Focus on Asia Pacific

A great honour

Dr Brett Summerell has been awarded a prestigious Fulbright Scholarship which enables him to travel to the US next year to conduct further research into *Fusarium* fungi and undertake a speaking tour of botanic gardens and scientific institutions in New York, Chicago, Missouri and California. [Read more](#)



Brett receiving his award from U.S. Charge d'affaires, James Carouso.

Botanical garden featuring 24,000 plants opens in Seoul

Rotterdam, Netherlands-based architecture and urban design practice founded in 1993. [MVRDV's](#) new Seoul Skygarden was officially opened to the public on 26 May. Following [a winning competition proposal in 2015](#), MVRDV has transformed Seoul's 1970s disused overpass into a giant public garden, featuring a matrix of Korean flora on the 16m elevated steel and concrete structure.

MVRDV's fundamental design approach for the Seoul Skygarden was 'to change the daily life of thousands of people who cross Seoul's city centre every day'. The world-renowned Dutch studio aimed to revive the forgotten and existing infrastructure into a green symbol that will become a catalyst for a greener quarter for Seoul. [Source](#)

Rare plants not seen in decades rediscovered in South East Forests National Park

Four rare plant types, not seen in more than a decade, have been uncovered in Bombala by a team retracing the steps of the 19th century botanist Baron von Mueller.

The team comprised four plant scientists from the Office of Environment and Heritage, National Parks and Wildlife Service, the Australian National Botanic Gardens and the Australian National Herbarium. The ACT and NSW cooperative two-day expedition delivered great results and was made possible through the \$100 million NSW Saving our Species program. [Source](#)

Tondoon Botanic Garden celebrates Family Fun Day

About 1,500 people rolled up for the Family Fun Day as the Gladstone Children's Festival began. There was face painting, laser skirmish, wind chime making and more at the free event, held on 20 May in the Tondoon Botanic Gardens. [Source](#)

Successful conservation event at Waipahihi Botanical Gardens in New Zealand

Kids Greening Taupō hosted a successful conservation event at the Waipahihi Botanical Gardens for young families. The event attracted around 30 local families for fun activities focused on increasing the habitat for invertebrates and knowledge on how important these critters are to our environment. Kids were encouraged to get hands-on, hunting out insects and other invertebrates with wētā and beetles frequent finds alongside slaters and earthworms. [Source](#)

Indonesian garden celebrates 200 years

Located in downtown Bogor, West Java, the Bogor Botanical Gardens are the oldest in Southeast Asia and are the pride of Indonesians. Covering an area of about 87 hectares, with a total collection of 12,531 species of plants (grouped into 3,228 species, 1,210 genera and 214 families), it boasts over 400 species of palm trees, five thousand trees from around the tropical world and an orchid house containing three thousand varieties. [Source](#)

Focus on North America

Moose loose – tulips suffer!

Animals or birds have destroyed your prize display. It's a gardener's worst nightmare. That's precisely what the garden staff at Memorial University's Botanical Garden discovered on 18 May – a moose had eaten most of their *Canada 150* tulips. The red and white tulip bulbs were planted last fall to bloom this year, as part of Canada's 150th anniversary of confederation. [Source](#)

Best Ebook? – you tell us

Ebook title: A Botanic Garden for the Nation: The United States Botanic Garden.

[Download here](#)

Focus on Europe

Agriculture sector warns of spread of pests and pathogens

The spread of pests and pathogens that damage plant life could cost global agriculture \$US540 billion (\$A727 billion) a year, according to a report.

The report, released by the Royal Botanic Gardens at Kew in London, called for greater biosecurity measures as an increase in international trade and travel has left flora facing rising threats from invasive pests and pathogens. [Source](#)

Breaking records for visitor numbers and commercial figures

After a 20,000 rise in visitors through the gate for the year to the end of March, the National Botanic Garden of Wales has quickly followed this by record-breaking figures for April. Visitor numbers more than doubled at this Carmarthenshire attraction. Director Huw Francis said: 'If the present is anything to go by, the future looks bright.' Mr Francis explained that the garden has been working hard at broadening its appeal and new developments introduced in 2016 had proved a big hit with local people and tourists alike. [Source](#)

Is the tallest flower in Britain growing at the National Botanic Garden of Wales?

The National Botanic Garden of Wales is growing an enormous flowering plant, almost as tall as a giraffe. It is believed the *Echium pininana*, nicknamed Christiano after the Real Madrid football star, could be the tallest Echium in Britain, towering at a staggering 16 feet.

David Hardy, head of marketing said, 'All our Echiums are grown in the glass house which is a Mediterranean climate. It's not a hot house, but more of a temperate climate, not dissimilar from our own.' [Source](#).



Courtesy WalesOnline. Photo: James Davies

Pollinating great ideas

Vale George Samuel Jones

Allison Martland, President Friends of Geelong Botanic Gardens

A gentleman and a horticultural scholar

George Jones's encyclopaedic knowledge, research and achievements made him an exemplary role model, as a person who genuinely cared for others and the environment. He passed away peacefully in Melbourne on 7 October last year a few weeks before his 98th birthday.

The Friends of Geelong Botanic Gardens are making available George's self-published book, 'Growing together', to be distributed to like-minded groups and interested individuals, as was George's wish. We feel that THE BOTANIC GARDENER is an ideal avenue to distribute these books. The charge of \$20 is to cover postage and administration only.

Journalist Gail Thomas knew George Jones for over 30 years, originally meeting him through their connection with the Geelong Botanic Gardens (GBG) and the Horticultural Media Association (HMA). Gail has written this short history of some of the milestones of George's horticultural life.

After serving in World War Two George decided to take up amateur horticulture but this very quickly became his passion. In 1949 he joined the Royal Horticultural Society of Victoria (RHSV) distinguishing himself through his vast knowledge and prolific horticultural writing.

George came to live in Geelong in the 1960s and was an extremely modest man with an ever-obliging friendly disposition. A tireless worker, it was never about George. His main priority was to share his expertise and support and promote Geelong, the horticultural industry and his beloved GBG.

George was the inaugural president of the Friends of the GBG which was formed in 1985. His commitment to the gardens was reflected in his long-standing work as a volunteer guide, along with guide training and involvement as a volunteer in the Gardens Tea House. He was a member of the steering committee for the Conservation and Management Study of the GBG and Eastern Park and was a popular mentor and friend to many of the Friends' nursery growers.

George's first media writing contribution was for 'Your Garden' magazine in 1952. He prepared the RHSV's journal page in 'Your Garden' from July 1954. The journal transferred and expanded to 'Australian Garden Lover' in 1956 and George continued writing until 1964.

He provided notes on bulbs for the daffodil and bulb sections of the RHSV from 1960-1968, was honorary secretary of the editorial committee that produced *The Gardener's Show Guide* for RHSV published in 1967, contributed chapters on *Organising the Show* and *The Novice Exhibitor*, as well as the daffodil segment of *Specialist Flowers*. He wrote *Have You Heard* articles in 'Australian Garden Lover' 1972-1980, articles which also appeared in 'Seed and Nursery Trader'.

His diligent research of the history of the GBG resulted in the self-publication of his book in 1984, 'Growing together'. George wrote the book for future generations and shared it with the wider horticultural community.

This was followed by two updated supplementary volumes and these works are included in many reference libraries, including the Royal Botanic Gardens Kew UK, Library of the British Museum, Royal Horticultural Society London and the Library of Congress Washington USA.

Continuing research was published in the Friends of the GBG's newsletter and the Geelong Historical Society's *Investigator*. George was the weekly garden columnist for the Geelong Advertiser, his articles always typed on his trusty Remington.

George also contributed eighteen history pieces to the 'Oxford Companion of Australian Gardens' published in 2002. Further afield he led gardening tours to England's Chelsea Flower Show, Alaska and many other exotic places.



Judy Horton, Colin Campbell and George Jones
Photo: Gail Thomas



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www.nationalbotanicgardens.gov.au/gardens | Open 8.30 am – 5.00 pm



Awards

George's horticultural knowledge and expertise were recognised with a medal for the Geelong Community Australia Day Awards in 1996. He was a life member of the Geelong Garden Club and also a past president of the club. He was a show judge for many years and in 1999 received a certificate for his nomination in the Premier's Award for Senior Citizen of the Year.

George was made the inaugural life member of the HMA in 2001. In 2009 George was the recipient of the HMA Gold Laurel Hall of Fame Award, the highest honour to be bestowed in these awards, for his longstanding contribution in communicating and encouraging a love of gardening to the general public.

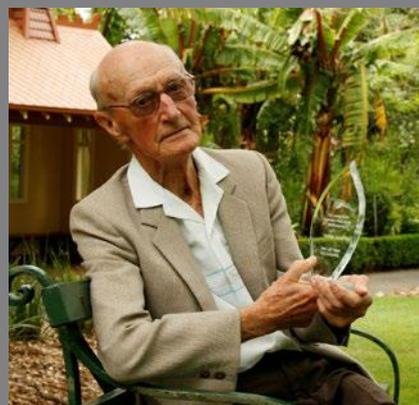
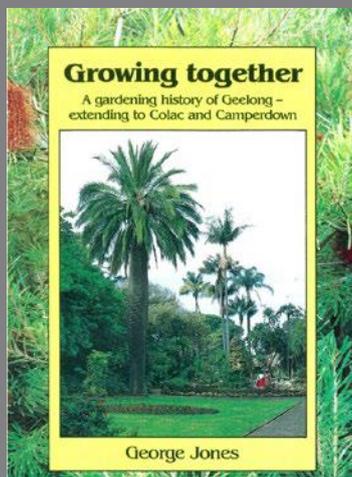
He was also held in the highest esteem, as a well-respected authority and valued member in both the horticultural and wider Geelong communities. He was keenly sought after as a highly-regarded guest speaker at a broad range of venues.



Ian Rogers and George Jones planting a Wollemi Pine 2005. Photo: Gail Thomas



Growing together by George Jones



Book available: *Growing together* by George Jones

Friends of Geelong Botanic Gardens are proud to make available copies of *Growing together* by the late George Jones. George was widely acclaimed in horticultural circles, writing and reviewing horticultural books both in Australia and internationally. His vast plant knowledge and humble, gentlemanly manner were universally admired.

- George's book, *Growing together*, is a gardening and environmental history. It relates to the Geelong, Colac and Camperdown region of Victoria but can be read with interest by gardening enthusiasts elsewhere.
- *Growing together* reflects the first 150 years of Victoria's existence - the pioneers, their endeavours, their successes, their failures, their tragedies and even their entertainments.
- *Growing together* was researched and written for the benefit of future generations. This has resulted in an informative book written in a highly readable style.
- George Jones was the inaugural President of Friends of Geelong Botanic Gardens, an outstanding volunteer and a superb mentor to many FGBG members.

The Friends are sure that you will enjoy this unique addition to your library.

Copies can be obtained from Friends of Geelong Botanic Gardens. The FGBG website contains an order form for your convenience. www.friendsgbg.org.au

\$20
includes
postage

Friends' office: 5222 6053

Friends' Email:
info@friendsgbg.org.au



Unexpected lifeguards – botanic gardens, Myrtle Rust and genetic resources

Brett Summerell, Director Science and Conservation, Botanic Gardens & Centennial Parklands & President-Elect, Australasian Plant Pathology Society and **Bob Makinson**, Convenor, Myrtle Rust Environmental Impacts Working Group & Vice-President, Australian Network for Plant Conservation Inc.

Botanic gardens have always regarded their living collections as important assets for education, science and sometimes conservation. It is fairly rare for the isolated examples of any one species held in a garden to become a critical resource for saving a whole species from extinction, but it does happen, and it is happening now. Some of the collections in botanic gardens and parklands around Australia have just become a lot more valuable.

Our collections in botanic gardens have just become a lot more valuable.

The introduced fungal disease Myrtle Rust (see page 23) is now starting to have a serious impact on a number of Australian native species in the family Myrtaceae. Some species are known to be declining catastrophically, to the point where extinction in the wild within a very few years is possible, even likely. In some, adult plants are being killed at high rates and both fruit production and seedling recruitment have been severely reduced or have effectively ceased (Pegg et al. 2014; Carnegie et al., 2016).

Adding to the urgency, many of the highest-risk species are poorly represented, if at all, in seed banks because they are known, or suspected, to have seeds that are storage-intolerant.

The enabling research to find solutions to this problem is yet to be done. Where wild-collected seed is no longer available (and given that wild plants are not easily treated with fungicides), botanic garden specimens are becoming potentially critical sources of vegetative germplasm and seed, even if selfed. Retention of these plants in healthy condition becomes vital, at least until a full assessment of the wild situation can be done and an integrated conservation program developed.



Symptoms of Myrtle Rust on *Eugenia* species.

Comprehensive data on declines in the wild are available for only a few species so far. However, two species (Carnegie *et al.*, 2016) illustrate the case. Native Guava *Rhodomyrtus psidioides* and Scrub Turpentine *Rhodamnia rubescens* were both widespread on the east coast prior to 2010, and neither was regarded as threatened. By the second half of 2014, after only four years' exposure to Myrtle Rust (less in some areas), whole-of-range impact assessment showed all study sites infected, and a drastic decline in the population of both species.



Myrtle Rust infection on fruit, shoots and leaves of Scrub Turpentine. Photos: RO Makinson

Rhodomyrtus psidioides (18 sites) had 57% mean adult mortality, with 82% of surviving adults severely defoliated (90% mean crown transparency, a measure of 'leafiness', against an estimated normal of 25-35%). *Rhodamnia rubescens* (43 sites) was on a shallower trajectory, with adult mortality more variable at a mean 12%, and mean crown transparency 76% (vs normal 30-35%). For both species, no seedlings were found, fruit production was negligible, and no resistant populations are known. Decline at these rates far outstrips the speed with which natural selection can favour any disease-resistant genotypes, even where these exist.

We have effectively missed the boat for seed collection for these two species, and an unknown number of others that may be undergoing similar levels of decline. A narrow window still exists to secure and store genetically representative vegetative germplasm from surviving adults, with a view to use in a protected 'orcharding' program that could produce enough seed to enable the seed-storage studies needed for species with non-orthodox or storage-intolerant seed. This condition is known or suspected for many of the soft-fruited genera of Myrtaceae, which form a high proportion of the species most at risk.



Death of mature Native Guava after repeated infection over three years. Photo: K. Kupsch

In other high-risk species where the decline is slower, a slightly longer window exists for the collection, testing and storage of naturally produced seed.

But, you ask, what is the point? If a species has no resistance to the pathogen, but can only grow naturally in climatic areas where the pathogen is rampant, what is our end-use strategy for stored germplasm? Can we ever 'recover' these species in the wild?

The answers to these questions are complex and speculative at this stage, but one thing is certain – without the capture of a wide range of germplasm (seed or vegetative), there will be *no options at all* for some species. When wild seed is no longer available, every cultivated specimen plant of such species suddenly becomes of critical conservation importance and part of a potential survival program.

Several possible forms of biological control of the pathogen have been suggested, and need to be evaluated, although the chances of success are low.

More promising is long-term ex situ breeding for resistance traits, with a view to 're-wilding' resistant genotypes. There are few global precedents for doing this with wild species, but it is technically quite possible. Resistance gene complexes are known in several of the affected genera, and probably exist in many more yet to be identified. Rust-resistance breeding in forestry eucalypts has been done successfully in South America for many years.

Without the capture of a wide range of germplasm (seed or vegetative), there will be *no options at all* for some species.

For the species most severely affected and declining rapidly in the wild, living plants in cultivated situations are now a critically important genetic conservation resource. This justifies a high priority for vigilance for disease symptoms, for fungicidal treatment rather than removal, and for maintenance as seed-producers and samples, however limited, of the original genetic diversity of the species.

During the arrival phase of Myrtle Rust, management options for botanic gardens, parklands and other cultivated situations included heavy pruning of infected growth and/or removal of plants – all with the aim of reducing spore load and contributing to the spread of the disease. Removal may still be mandatory in some cases, e.g. in jurisdictions where Myrtle Rust has only just arrived and an eradication effort is underway. However, there is now a strong argument that for certain high priority species, retention of the plants in healthy condition (even with the additional time and labour costs of fungicidal treatment), is vitally important for conservation purposes. Arrangements are yet to be made for an inventory of living collections of such species, but this needs to be a goal in the fairly short term.

What is Myrtle Rust, and how do we prioritise cultivated species for preservation?

Myrtle Rust is an introduced fungal pathogen (*Puccinia psidii*, recently renamed as *Austropuccinia psidii*) first detected in Australia in 2010 just north of Sydney. Within three years it had spread along almost the entire eastern seaboard in moist habitats and in a limited area in the Northern Territory.

It is present in cultivated and green life industry situations in Victoria and Tasmania but has not as yet fully naturalised in those States. It has very recently (May 2017) arrived in the North Island of New Zealand. Australia so far has only a single strain of the pathogen; other strains are known overseas, which may have different host preferences and levels of virulence (some are known to be particularly aggressive on some eucalypt species). See [DOC media release](#).

Myrtle Rust is pathogenic only on members of the plant families Myrtaceae and Heteropyxidaceae, usually attacking new stem and leaf growth, and sometimes flowers and soft fruits. Since arrival in Australia it has proved capable of infecting over 370 host species in the wild and in cultivation, and the host range continues to expand. Host lists are available at <http://www.anpc.asn.au/resources>.

Many Australian species appear to be relatively tolerant of the disease as adults, although very few have yet been evaluated for impact of the disease on early stage seedlings. However, many others fall into dangerously susceptible categories and have distributions entirely exposed to Myrtle Rust. A number of species, originally classed as moderately resistant, have subsequently been shown to be adversely affected by multiple infections over several years to the point where individuals under observation are likely to die from the impact of the disease.

A preliminary analysis (Makinson, unpublished) shows 165 native natural host taxa have natural distributions totally or near-totally within the current zone of full Myrtle Rust naturalisation in eastern Australia. Of these, 32 have susceptibility ratings (*vide* Pegg *et al.*, 2014) partly or wholly in the 'Highly Susceptible' or 'Extremely Susceptible' categories, although this number may rise as many taxa are yet to have ratings assigned.

The following species are here suggested as high priorities for inventory, retention, re-propagation and (if affected by Myrtle Rust) treatment with approved fungicides rather than removal. The list is based on the above factors of known host status, known high susceptibility, and high distributional overlap with the naturalised zone of Myrtle Rust along the east coast of Australia.

A more precautionary approach would also prioritise *all* soft-fruited and some hard-fruited mesic-habitat Myrtaceae from the east coast Rust zone, regardless of known-host status, especially in very heavily affected genera like *Austromyrtus*, *Decaspermum*, *Gossia*, *Lenwebbia*, *Rhodamnia*, *Rhodomyrtus*, *Syzygium*, and *Uromyrtus*, and soft-fruited taxa from the Malesian region especially New Guinea and New Caledonia. New Zealand BGANZ members should consult their Ministry for Primary Industries ([MPI website](#)) and Department of Conservation as the situation there develops.

BGANZ members who have, or know of, multi-provenance living collections of any myrtaceous species from the Australian east coast, the south-west of WA, or from Malesia, with wild-source data, are asked to notify the authors. As in the case of Lemon Myrtle, these can be crucial to rapid screening for resistant genotypes. Arrangements are not yet in place for a central information repository of holdings of these species among BGANZ members, but these will be pursued and publicised by BGANZ in bulletins and future issues of The BGer.

Suggested species for priority retention

Archirhodomyrtus beckleri

Austromyrtus dulcis

Backhousia: *B. citriodora*,
B. leptopetala, *B. oligantha*

Decaspermum humile
[both 'southern' and 'northern'
populations]

Eugenia reinwardtiana

Gossia: *G. acmenoides*,
G. gonoclada, *G. hillii*,
G. inophloia, *G. lewisensis*,
G. myrsinocarpa (and all others
for precautionary retention)

Lenwebbia prominens
(and all others for
precautionary retention)

Melaleuca polandii,
M. quinquenervia
(prioritise plants showing
resistance if exposed)

Rhodamnia: *R. angustifolia*,
R. argentea, *R. australis*,
R. costata, *R. dunicola*,
R. maideniana, *R. rubescens*,
R. sessiliflora, *R. spongiosa*
(and all others for
precautionary retention)

Rhodomyrtus canescens,
R. pervagata, *R. psidioides*
(and all others for
precautionary retention)

Stockwellia quadrifida

Syzygium: *S. anisatum*
(=*Anetholea anisata*),
S. oleosum

Tristaniopsis exiliflora

Uromyrtus australis,
U. lamingtonensis,
U. metrosideros, *U. tenella*

Xanthostemon oppositifolius.



Nearly dead trees of Silky Myrtle *Decaspermum humile* and *Syzygium corynanthum* (the green in the crown is mostly vines).

References

Carnegie AJ, Kathuria A, Pegg GS, Entwistle P, Nagel M, Giblin FR (2015) Impact of the invasive rust *Puccinia psidii* (myrtle rust) on native Myrtaceae in natural ecosystems in Australia. *Biological Invasions* 18(1): 127–144. doi:10.1007/s10530-015-0996-y

Pegg GS, Giblin FR, McTaggart AR, Guymer GP, Taylor H, Ireland KB, Shivas RG, Perry S (2014) *Puccinia psidii* in Queensland, Australia: disease symptoms, distribution and impact. *Plant Pathology* 63(5): 1005–1021. DOI: 10.1111/ppa.12173

The hort. section

Compiled by **Brad Creme**,
Curator, Bendigo Botanic Gardens



Brad Creme

First word

This section of the magazine is an opportunity for horticulturalists to highlight their work in curating and developing living collections throughout botanic gardens in Australia and New Zealand. We can learn from each other's site-specific knowledge and practices.

Our guest horticulturist this issue is Bec Stanley whose team at the Auckland Botanic Gardens have brought scientific research, horticultural expertise and public education together in a new *Kunzea* display.

If your garden has a special collection and you want to share stories about your horticultural challenges and successes, please drop me a line at b.creme@Bendigo.vic.gov.au and we'll take it from there.

Bringing a taxonomic revision to life in a botanic garden

Bec Stanley Curator, **Emma Bodley** Records and Conservation Specialist and **Jeff Jones** Native Garden Curator, Auckland Botanic Gardens

In New Zealand *Kunzea ericoides* was split into ten species about two years ago. Living examples of the new species identified in a taxonomic revision of *Kunzea* in New Zealand by Peter de Lange in 2014 are now being displayed at Auckland Botanic Gardens (ABG). We just collected the tenth species ourselves in the wild in February. It's a new little collection (within a native collection) the staff at ABG are collecting and planting together with a plan to interpret them to the public.

[In 2014 New Zealand *Kunzea ericoides* was split into ten species.]

Until recently New Zealand *Kunzeas* were thought to be the same so everyone has a lot to learn in terms of why each is now considered different. We also now realise the Maori name 'kanuka' has been misapplied to all.

THE HORT. SECTION

Peter de Lange, who revised *Kunzea*, also told us about several species being well-known to Maori as different. This is a great example of the use of Mātauranga Māori (Maori knowledge) contributing evidence to modern taxonomy. Lange's revision also records these Maori names and shows that 'kanuka' was not the name used nationally for *Kunzea*.

Because *Kunzea* species are such critical early succession plants in New Zealand, often collected for forest restoration, it's important we learn which is which so local floras can be preserved. This new collection also gives us an opportunity to promote to visitors the importance of taxonomy for horticulture and conservation. While it's easy for gardeners to get annoyed at name changes and scoff at taxonomists 'splitting' for the sake of it, it's very much harder not to notice the obvious differences between plants when they can be seen growing side by side!

Not only do our *Kunzeas* on display already look quite different growing together but they have also flowered at different times. When mature we expect them to have quite different bark characteristics and habits too. However, the amenity potential for these new species overall is not well-known. Our new collection will enable us to describe this and make it accessible for home gardeners to select a species with the right form for their gardens.

It's all about keeping up with taxonomy, being an accessible place for people to learn new species, interpreting taxonomy to non-specialists, sourcing plants, growing things in microclimates etc. Some of the new species have very specific wild habitats and in a small garden setting this is difficult to replicate so we hope they will prosper.

One very rare plant in the collection is *Kunzea toelkenii*. It was assessed as Nationally Vulnerable and grows exclusively in sand on the sides of rivers and on a sand spit in only one region of New Zealand (Bay of Plenty). This plant in cultivation has caught our eye because it's already showing a sprawling tendency which we hope will attain the candelabra habit (we are also expecting it to sucker and become multi-trunked as it ages) it has in the wild.

Maori knowledge has provided new Maori names for 'kanuka'.



Kunzea collection planting day led by Jeff Jones.



Kunzea toelkenii starting to show its candelabra habit.

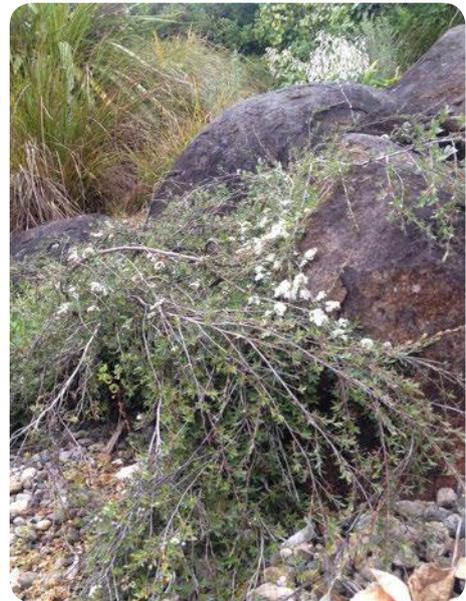
Kunzea sinclairii was one of the few species always recognised as different so not affected by the latest revision. It's a very important species for Auckland as it is one of the few endemic plants to this region. On Great Barrier Island, the only place it is found, it hugs rhyolitic rocks on exposed outcrops. This habit in cultivation is quite striking – particularly when in flower – as it carpets the rocks it is planted around.

Practically, this new approach has meant we needed to remove plants we bought and accessioned in the past as *Kunzea ericoides*. Many seemed to be hybrids when we keyed them out, and starting again seemed easier and meant we could be certain about the identity of each species.

We sourced the plants (cuttings and seeds) from our botanic and horticultural contacts around the country, as well as on field trips to collect our own local forms. We found everyone willing to help us as everyone saw this as a useful collection. Ensuring these provenance data are on our database will make this collection valuable for the whole country. We collected the final plant, *Kunzea amathicola*, this summer which felt pretty good. It will join its cousins in the garden next year.

We have placed the *Kunzea* collection in between the Native Plant ID Trail collection and the Threatened Native Plant Garden, a perfect blend as the point of the collection is identification and several are threatened. In the future we hope to interpret the collection.

Ref: de Lange, P.J. 2014: [A revision of the New Zealand *Kunzea ericoides* \(Myrtaceae\) complex](#). *Phytokeys* 40: 185p doi: 10.3897/phytokeys.40.7973.



Kunzea sinclairii showing its prostrate rock-hugging habit.



Emma Bodley ensures tags and associated data are on the database.

The science section

Compiled by **Brett Summerell**, Director,
Science and Conservation, Botanic Gardens &
Centennial Parklands



Brett Summerell

First word

In this section of the magazine we highlight some of the academic research happening both in Australia and internationally of relevance to botanic gardens. Those of us who work in botanical and conservation research hope to make our science more accessible to the community at large and what follows will help you communicate this core function in your work too.

If you have science information for inclusion in future issues please drop me a line at brett.summerell@rbgsyd.nsw.gov.au

How many tree species are there in the world?

And how threatened are they? Botanic Gardens Conservation International (BGCI) has put together a great resource outlining over 60,000 tree species that occur globally. GlobalTreeSearch is the most comprehensive list around of tree species and their country-level distributions.



One of the first things that had to be agreed on was just what is a tree? The agreed tree definition was that used by the International Union for the Conservation of Nature (IUCN) Global Tree Specialist Group – ‘a woody plant with usually a single stem growing to a height of at least two metres, or if multi-stemmed, then at least one vertical stem five centimetres in diameter at breast height’.

Once that was agreed on the next thing to do was to compile the database – no trivial task and this was the result of over two years of work to gather both tree species names and their country-level distributions. You also have an opportunity to suggest changes or correct information by emailing globaltreesearch@bgci.org.

GlobalTreeSearch will be able to be used as a tool for monitoring and managing tree species diversity, forests and carbon stocks on a global, regional or national level. It will also be used as the basis of the Global Tree Assessment, coordinated by BGCI and the IUCN/SSC Global Tree Specialist Group (GTSG), which aims to undertake conservation assessments for all of the world's

tree species by 2020. As present of the 60,000 plus species that are listed, 300 species are critically endangered, i.e. they have fewer than 50 individuals in the wild.

More information: GlobalTreeSearch on the BGCI website

http://www.bgci.org/global_tree_search.php

Feral pigs as vectors for plant pathogens

Phytophthora agathidicida is a relatively recently recognised species of the water mould *Phytophthora* that causes kauri dieback – the disease that kills Kauri *Agathis australis* in the North Island of New Zealand. This disease is having devastating effects on the populations of these majestic trees. As the disease is incurable, once trees are affected management focuses on means to prevent the spread of the pathogen.

Imogen Bassett from the Auckland Council and co-authors looked at the impact of feral pigs on the spread of the pathogen in captive feeding studies where infected root material was fed to pigs. They then attempted to recover the pathogen from the faeces of the pigs.

Similar attempts were made to recover the pathogen from wild sampled faeces – not necessarily material I would be keen to have in my lab but critical for understanding the role pigs play in dispersal! *Phytophthora agathidicida* was recovered once in the captive feeding trial but was not recovered from the wild-sampled material.

However a number of other species of *Phytophthora*, including *P. cinnamomi*, the most important cause of Phytophthora dieback in Australia, were recovered from the wild-sampled material. This indicates that pigs can spread Phytophthora in two ways – in soil adhering to them (especially feet) and through their digestive system, indicating that control is critical in areas where Phytophthora dieback is likely.

More information: *Ingestion of infected roots by feral pigs provides a minor vector pathway for kauri dieback disease* *Phytophthora agathidicida*. IE Bassett, IJ Horner, EG Hough, FM Wolber, B Egeter, MC Stanley and CR Krull. *Forestry* 2017; DOI: <https://doi.org/10.1093/forestry/cpx019>



Phytophthora on Kauri in NZ. Photo: Dr Peter Scott, SCION NZ

Climate change alters reproductive timing in grasses

Grasses are obviously a critical part of most ecosystems and support numerous other organisms, especially humans. Seth Munson and Lexine Long from the US Geological Survey in Arizona examined herbarium specimen collection data from 1895 to 2013 to derive flowering dates in sixteen species of grasses with C3 and C4 photosynthetic pathways and annual and perennial habits, and correlated this to climatic data over that time period.

Interestingly they made use of high resolution images of the herbarium specimens to assess the flowering status which highlights another benefit of photographic digitisation of herbarium collections as a piece of research infrastructure.

They found that, as expected, flowering time is strongly affected by climatic change but that the response was different depending on the photosynthetic pathway. In general C3 grasses demonstrated an accelerated response in flowering time with increasing temperatures. In contrast there was a general delay for C4 grasses with increasing mean annual temperature, with the largest changes for annuals and individuals occurring in the more northerly, wetter ecoregions of western USA.

Flowering time was delayed for most grass species (regardless of photosynthetic pathway) with increasing mean annual precipitation, while phenology/precipitation relationships through time were more mixed.

The results suggest that the phenology of most grass species has the capacity to respond to increases in temperature and altered precipitation expected with climate change, but weak relationships for some species in time suggest that climate tracking via migration or adaptation may be required. This variation in phenological responses among grass functional types, species and ecoregions suggests that climate change will have unequal effects across the western USA.

For more information: SM Munson and AL Long. Climate drives shifts in grass reproductive phenology across the western USA. *New Phytologist* DOI: 10.1111/nph.14327.

Restore & Renew – a new science project launched at the Royal Botanic Garden Sydney

Restore & Renew is a new science project launched in March at the Royal Botanic Garden Sydney to provide quantifiable data on over 200 plant species that are most commonly used by the restoration community in New South Wales (and Victoria and Queensland).



These species were nominated by practitioners as the species of plants for which provenance and genetic information would be most useful.

Throughout Australia, landscapes are in need of restoration and rehabilitation, to support healthy bushland for animals, plants and people. *Restore & Renew* is an ambitious and important project that responds to the need for bush regenerators to incorporate the latest science into their toolkit, restoring healthy ecosystems that are diverse, resilient and adaptable.

The *Restore & Renew* team have already started collecting thousands of plant specimens from across NSW for genetic analysis. This information will be used to create a publicly-available online resource where plants can be selected to suit specific sites. The recommended species will be genetically appropriate and suited to the user's location and conditions. Climate modelling will also allow practitioners to plant according to future forecasts, increasing the likelihood that the species will cope with a changing climate.



The *Restore & Renew* team.

The four main goals of *Restore & Renew* are to:

- provide maps showing where genetically-suitable seed can be collected for restoration projects,
- give information about how to create genetically-diverse plantings for maximum health and longevity,
- help habitats to be adaptable to climate change, and
- support creation of seed production areas that can be harvested for use in bush regeneration.

More information: Go to the *Restore & Renew* website: <https://www.rbg Syd.nsw.gov.au/Science-Conservation/Restore-Renew>



Marlein van der Merwe and Hannah McPherson out collecting.

Professional networking via Twitter

Emma Bodley, Botanical Records and Conservation Officer,
Auckland Botanic Gardens

The Twitter-sphere is a massive social media platform and a place to keep up with the latest news. I had a Twitter account for many years before I even logged into it because I couldn't understand the purpose of it. I thought I would have to be on it all the time to keep up and I didn't have time for that.

When I started working at Auckland Botanic Gardens (ABG), I thought that branding my Twitter account strictly for work purposes would be more useful than another social media app I had to check. Some of my colleagues had recently been to a conference in Australia and met a number of botanic gardens staff already using Twitter for professional networking.

At that point, I got hooked in the Twitter-sphere with Bec Stanley, our curator at ABG, as we found we could talk to other botanic gardens staff all over the world. We could find out about what they do, research projects, conservation efforts and the small details that would normally seem quite boring to the general Twitter user, but to us was valuable in improving how we do things in our own garden.

My Twitter account is strictly set up to share what I do at work. I don't post about my cats or my latest baking creation, I use my private Instagram and other social media for that, instead I am on Twitter as the Botanical Records and Conservation Specialist at ABG. What I post are my own opinions, however aligned to what we do at ABG. I promote the work I am currently doing and share opportunities that we are looking for partners to work with.

I post in my spare time but I might get some photos while doing my work. I follow staff at other gardens, not necessarily the official botanic garden Twitter account because they tend to post events and activities that I cannot attend. I can find out what staff in similar roles to mine are up to and draw from their experiences and learnings. It is a way of networking with professionals without going to conferences but gaining some of the same positive outcomes from networking.

What has come out of using Twitter in this way?

We talk about using our plant collections for research and it is stated in our ABG plans and guiding documents that we do this. For years we have relied on our relationship with local universities to do this. However with our staff presence on Twitter we have had an increase in the number of requests to use our plant collections for scientific research from outside of Auckland.

Recently, Tim Curran from Lincoln University contacted ABG about collecting plants for flammability testing for the National Rural Fire Authority. We were extremely happy to facilitate. With our help Tim was able to collect material from this research benefiting from our extensive collection of native and exotic plants

Also, this research contributes to important ecological decisions that will be made in the future. Recommending non-flammable plants for home gardeners in fire-prone areas aligns well to ABG objectives. Tim and I were able to tweet about the ABG plants collections and promote the results of the experiments.

Conservation is one of the three key roles of botanic gardens worldwide and is one ABG works hard to achieve. Through Twitter I was contacted by a Department of Conservation (DOC) science advisor for kakapo, a nationally critically-endangered New Zealand parrot, after posting photos of two colleagues and myself attempting to catch exploding kauri *Agathis australis* cones in a net.

DOC wanted to undertake research into kakapo diet as there was some evidence of kauri scales consumed by kakapo. This request came from DOC in the South Island where kauri is absent so contacting someone in the North Island was their best bet at getting some help with plant material.



Using Twitter to connect with researchers or other professionals that can see a way to use Botanic Garden plant collections.



Packaging up exotic plant specimens for Lincoln University flammability research.

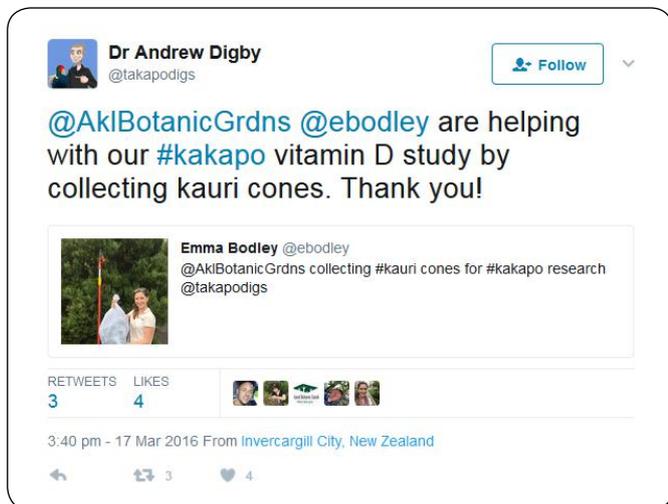
FEATURE ARTICLES

Collecting kauri cones and seeds is much easier in a garden setting than in a forest and we were very happy to help. It only took an hour to collect cones and package them up for DOC. It highlights another way our plant collections are of value and we would not have contributed to this important conservation research without Twitter.

Botanic gardens are extremely valuable in this respect because we can harvest material from our plants for use in conservation or research without impacting on natural wild populations. With our detailed plant records, we can provide researchers with provenance information for wild-collected plants. I would highly encourage botanic gardens staff to make more use of Twitter in this capacity. It's a way of self-promotion and creating useful networks outside your region.



A bag full of kauri cones for Department of Conservation to investigate kakapo diets. Photo: Bec Stanley.



Department of Conservation staff promoting value of botanic gardens collections and the research they are undertaking.

Staff at ABG using Twitter are:

Emma Bodley @ebodley

Bec Stanley @botan_ical

Julia Watson @juliawat

Feel free to communicate with us on all things botanical using Twitter!

Social media – a new gen perspective

Jake Dean, Media Communications Coordinator, Botanic Gardens of South Australia and State Herbarium

If you'd told me a few years ago I'd be running the Botanic Gardens of South Australia's social media one day, I would've laughed. In early 2015 I'd almost clocked three years in my role as editor of the world's foremost bodyboarding (surfing's younger cousin) magazine, *Riptide* – miles away from Swainsonas and school holiday programs. While it was still a blessing to produce a magazine and run the digital platforms for a title I'd read since I was a kid, I felt it was time for a fresh challenge, particularly with the uncertain future of print media.

When I saw the botanic gardens job advertised, I realised it ticked all the boxes for me. I'd still get to write for a variety of media (using my journalism background), it had a heavy digital focus and it was an organisation I'd be proud to work for, committed to the environment, sustainability and education.

I had my interview (which I thought I bombed), but I was lucky enough to get the job, due largely to – I was later told – my track record of writing snappy copy for younger audiences.

The role and our platforms

My role as Media Communications Coordinator involves managing the gardens' various social media profiles – three Facebook pages (Adelaide, Mount Lofty and Wittunga Botanic Gardens), Twitter, Instagram and, more recently, Snapchat.

Of these platforms, Facebook continues to be the main driver of traffic back to our website, and I post two-to-three items five or six days a week on Adelaide Botanic Garden's page (16,044 page likes at 1 April), and and five to six posts a week on both Mount Lofty (4,962 likes) and Wittunga's (926 likes) pages.

Facebook continues to be the main driver of traffic back to our website.

Twitter (@BotGardensSA, 4,751 followers) has been useful for connecting with other organisations and media, and for sharing newsier posts. I tweet two-to-three times a day, five days a week.

I post five days a week on Instagram (@BotanicGardensSA, 6,813 followers), which has seen a dramatic rise in traffic for us over the past year (it seems lots of people like pretty plant pictures!).

We've dipped our toe with Snapchat (botgardenssa) – that strange behemoth, which is the darling of the elusive under-25 crowd and last year overtook Twitter globally in daily usage. But we've mainly utilised Snapchat during events, which have seen a modest 100-odd people viewing each snap.



It's easy to find inspiration for posts when the office looks this good! Murdoch Avenue, Adelaide Botanic Garden. Photo: Grant Hancock

These audiences have grown significantly since I started the role in May 2015, when Adelaide Botanic Garden's Facebook page counted 5,464 page likes, our Twitter had about 600 followers and Instagram had 400.

Keys to our growth

One of the key reasons for this growth is consistency. It's near-impossible to build your audience and engagement if you're only posting sporadically, taking days off posting or not scheduling posts while you're on leave (I use Hootsuite – a handy social media account management tool – for these occasions).

No matter how busy I've been or where I've gone on holidays, I've always made sure there's something going up across our channels. Maintaining a detailed editorial calendar, with all the gardens' events, internationally-recognised days, milestones etc. has been really handy for providing me with fodder for these posts.

One of the key requirements for social media success is consistency.

Forging strong relationships with the gardens' and state herbarium's various teams (particularly horticultural) has meant I'm never short of tips on interesting or beautiful plants that are in bloom – or excuses to get out into the garden with my camera. A quick call to a curator or scientist I haven't spoken to in a while can be a godsend on days when I've seemingly got no content to post!

Tearing myself away from the desk most days to take a walk in the garden is another way to make sure I'm not disconnected from what's happening in our beautiful spaces, and to keep my ear to the ground for social content.

Varied and quality imagery is a must. I went to a social media seminar recently on Generation Z (people born in the mid-90s to early 2000s), where I was told these folks have an attention span of just eight seconds. That might give you an idea of how important it is to have strong visuals (and snappy engaging copy) to stand out among the glut of other content in people’s feeds!

I take fresh shots with my DSLR in the garden every few days, but I also have a few colleagues who take great shots at our other gardens, and I touch base with them regularly to see if they’ve got any fresh pics they’d like to share.

[Varied and quality imagery is a must and video is the best.]

If you’re looking for maximum engagement, video is the key. A recent white paper by multinational tech conglomerate Cisco predicted that 75% of all mobile traffic will be video by 2020. We’ve had some success lately with those Facebook videos you see everywhere with the concise bright captions running along the screen (which means folks can have their phones on mute yet still take in information while watching on the train).

Our video posts have had, on average, four to five times the reach and engagement compared to static image posts, and they’re really not too time-consuming to produce. I think it’s important to remember social media is a two-way street, so actually communicating with your followers is a must to drive engagement, rather than simply hitting ‘Publish’ and then walking away.

I make sure I devote time each day to respond to people’s comments, to ‘like’ and comment on photos we’re tagged in, to congratulate people on their wedding photos, to follow them back on Twitter etc.

Check out the Twitter account of Jimmy Turner (@TexanInOz), Director of Horticulture at Royal Botanic Garden Sydney, for an example where great imagery, knowledge, consistency of posts and engaging with people around the world has resulted in a whopping following and engagement (wow!).



Images shared on Mount Lofty Botanic Garden’s Facebook page in autumn 2016 garnered unprecedented traffic, and helped increase visitor numbers to the Garden for 2015-16.

Notable wins

One of our big social media wins last year came when we harnessed the people power of our visitors. The changing of the leaves at Mount Lofty Botanic Garden has to be one of the most photographed sights in South Australia in autumn, but I noticed that the stunning shots popping up in my feeds didn't have a central home – a portal where people could see the majesty of the garden in its prime, all in the one spot.

I decided to collate the best autumn shots from the garden and then I shared them in a Facebook album, which reached more than 220,000 people and garnered 16,231 reactions, comments and shares (as well as 30,320 post clicks). More than 10,000 people visited the garden that weekend alone, which was equally pleasing yet stressful for our horticultural staff on the ground!

Similar posts that autumn helped us increase visitor numbers to the Garden by 11% in 2015-16 compared to the year before.

Our Titan Arums (*Amorphophallus titanum*) aka Corpse Flowers, for obvious reasons, have been another huge driver of traffic for us. During South Australia's first ever Corpse Flower bloom (at Mount Lofty Botanic Garden, December 2015) we urged people to subscribe to our e-newsletter to be the first to know when they could come and see the stinky fleeting flower. This resulted in about 1,200 new subscribers to our MailChimp database in just over a week.

Then, on the afternoon of flowering, we were able to slap together a time-lapse video of the plant's growth and upload

it online in time for the nightly news. Not only did we use social media to push people to our YouTube channel (where the video attracted more than 159,000 views), it helped us attract global attention. The clip was soon syndicated by US media giant Business Insider, where it attracted more than two million views (all with Botanic Gardens of South Australia branding)!

The challenge for us – as our Director, Dr Lucy Sutherland, recently put it – is deciding what our other 'hero plants' are and how best to promote these to similar effect.



There aren't too many plants that capture the public's attention like the *Amorphophallus titanum*! 'Indah' at Mount Lofty Botanic Garden helped the Botanic Gardens of SA reach a global audience. Photo: Tom Chladek

Challenges

On the topic of challenges, there are many for the modern botanic garden social media mogul, and we're still working on getting the mix right at the Botanic Gardens of South Australia. The biggest challenge in my role, and I'd expect in most Australian and New Zealand botanic gardens communications roles, is that social media makes up only a small part of my day-to-day work.

Unlike big media companies or cashed-up sports franchises, we don't have the luxury of vast media and marketing teams, with a different person handling each facet of their communications strategy. I am, at any given time, our social media manager, public relations expert, marketer, blogger, event and garden photographer, video producer, website content manager, filming and photography liaison ... the list goes on.

In some ways it's great because you're always learning and getting thrown in the deep end with new skills, but it can also be frustrating because you never quite feel like you're nailing any one discipline at any one time.



Autumn colours at Mount Lofty Botanic Garden always draw big crowds, but social media helped to increase them even further. Photo: Tom Chladek

Another huge challenge is getting the mix right between social media posts that help serve the gardens' commercial interests – promoting events and ticket sales, for example – and those that promote our key science and conservation roles (and our mission to connect people with plants).

How much weight do I give a new scientific project, compared to a pretty flower in bloom, compared to a public education opportunity, compared to an upcoming concert, and why?

These are questions we're asking in a new communications strategy we're developing, which also aims to address the challenges of distilling the gardens' complex scientific achievements and projects into engaging copy the general public can understand. Clearly there's a lot to work on moving forward.

Room to improve

I'd really like to improve our use of social media analytics. Platforms such as Facebook and Twitter now offer fairly advanced analytics tools, allowing us to home in on what posts are working and why, and who our audiences are.

Careful analysis of this data allows you to make informed decisions on what kind of content will work best for what platform, what time of day attracts the most eyeballs, which kinds of images engage the most people, whether people respond better to shorter or longer posts etc.

But with so many facets of the role to tick off each day, it's easy to get in a routine of hitting 'Publish' on social media posts and then moving on to the next task without much of a look in the rear-view mirror. This year I'd like to get more scientific, using these analytics tools more regularly to further engage and grow our audiences.

While we've had some success with video, I'd like to produce a lot more video content in 2017 for all of our platforms because we know it's what gets the most engagement.



Can memes be a way to reach new and younger audiences? We're not sure yet, but we're giving it a shot.

The rise of Snapchat's sketchy video aesthetic has proven video today doesn't need to be of Golden Globe quality to capture the masses, so this year I'm keen to get over my lack of professional-quality editing experience and produce many more candid videos from our gardens for all of our platforms.

I'm also keen to increase our use of Snapchat to try to engage the younger demographic (our Facebook audiences are dominated by 25-44 year olds, predominantly women). An interesting recent addition to our Facebook feeds to try to reach younger folks has been the use of memes.

The use of these crudely slapped-together irreverent image posts and puns might once have raised eyebrows coming from a government organisation, but they're now well and truly mainstream. A piece in *The Guardian* in March described how the New South Wales Police's new 'meme strategy' has helped it reach the highest engagement of any Australian government organisation on Facebook.

We've only just scratched the surface with their use at our gardens, but already they're garnering a 100% increase in reach compared to our regular photo posts, and a 42% increase in engagement – a recent popular one featured a sad Kermit the Frog, accompanying the words: 'When you realise you left it too late and didn't get to see the Dahlia Garden in bloom' (8,870 people reached, 246 reactions, comments and shares).

Want to keep up-to-date with how our efforts are progressing? Don't forget to give us a follow – I'll make sure to follow you back!

Adelaide Botanic Garden's Facebook page <https://www.facebook.com/AdelaideBotanicGarden/>

Mount Lofty Botanic Garden's Facebook page
<https://www.facebook.com/MountLoftyBotanicGarden/>

Wittunga Botanic Garden's Facebook page <https://www.facebook.com/WittungaBotanicGarden>

Botanic Gardens of South Australia on Twitter <https://twitter.com/BotGardensSA>

Botanic Gardens of South Australia on Instagram <https://www.instagram.com/botanicgardenssa/>

Botanic Gardens of South Australia on Snapchat <https://www.snapchat.com/add/botgardenssa>

WAMA and social media

Angela Turrell, WAMA/2 Chile Marketing

We have stuck with Facebook as it just seems to work for us!

We want to build engagement and support to get the The Wildlife Art Museum of Australia (WAMA) Project funded. So we use Facebook to communicate regularly with our 'followers', sharing any relevant news, articles or events that we can find! We try to communicate regularly to keep up the interest, to generate 'likes', 'shares' and 'comments' and to grow our Facebook network.

We have dabbled on Twitter, but we don't have enough instant, newsy things to say at this point to make it work and generate a following but it's something we are working on. We could also be doing more on Instagram as it is increasingly popular and links nicely into Facebook, but is dependent on regular posts with great images.

[The great thing about Facebook is that it is designed to connect people and ideas.]



Volunteers on the proposed WAMA site, having a picnic after a working bee.

The great thing about Facebook is that it can take on a life of its own and is designed to connect people and ideas. It's really easy to grow your network right across the globe and most people use it regularly.

The main challenges are to build a network of followers and to ensure your posts send the right message.

To build our Facebook connections, we started with our volunteer group and asked them to 'follow' WAMA. We appointed a WAMA editor who 'followed' other Facebook pages hoping they would then 'follow' us and bring their networks with them. We now have about 800 people following our Facebook page.

To keep our Facebook page interesting and on message, our strategy is to:

- have a Facebook editor whose job it is to ensure the posts are appropriate and consistent in messaging
- make posts on the same day each week e.g. Wednesdays, to build in a sense of regularity (we pinched this idea from Australia.com)
- make sure the images we post are good quality, attractive and of interest to broad audiences (we've stopped putting up pictures that only we relate to)
- rotate posts between topics such as art, education, people and nature
- promote WAMA events, partners and promotions and
- 'share' or 'like' posts from other like-minded organisations.

In case you didn't know, WAMA is a project to establish a wildlife art and nature precinct in the Grampians region. WAMA starred as the feature garden in Issue 44 of THE BOTANIC GARDENER in March last year.

Our goal is to achieve government funding to build WAMA, and that requires us to gain strong grassroots community support. Please 'like' us on Facebook and join the drive to make WAMA a regional development priority.

[Please 'like' us on Facebook and join the drive to make WAMA a regional development priority.]

Social media and the National Arboretum Canberra

Shelly Parer, Communications and Marketing Assistant,
National Arboretum Canberra

Why use social media?

Social media is a powerful way to connect directly with the public, targeted interest groups and geo-located demographics. Social media connects us with a broader interstate and international community not possible within traditional media. By giving instant access to your clients and visitors, social media provides a channel for immediate feedback and the ability to respond in real time. With over 2.3 billion regular users worldwide and over a million people signing up each day, social media has become an essential and central part of our National Arboretum Canberra (NAC) communication and PR strategy.

Our social media strategy

The National Arboretum Canberra has active Twitter, Flickr and Facebook accounts. We recently launched an Augmented Reality app that incorporates information on points of interest, soundscapes and holograms. The NAC Facebook page is our primary social media outlet. Twitter is a secondary account and is used as an information channel. We decided not to have an Instagram account due to resource limitations, however we frequently share Visit Canberra Instagram posts on our Facebook page.

The NAC's Facebook promotes and shares information on:

- upcoming events, school holiday activities and guided walks
- the restaurant, cafe, gift shop and venue hire
- family-friendly activities and venues such as our Pod Playground
- updates on projects such as new gardens, new forests, pruning or mulching activities and seasonal changes in the forests



Pod Playground.
Photo: Jack Mohr Photography

- public alerts to closures of roads, playgrounds or venues
- the presence and activities of affiliated community groups
- promotional videos, reviews, photos and media articles
- human-interest stories related to the arboretum.

The list of potential stories is only limited by the human resources and time available to create content, monitor and respond to comments and the saturation point of the audience. With 1.4 billion Facebook users worldwide crossing all demographics, Facebook is a key social media channel.

The National Arboretum Canberra's Twitter tweets:

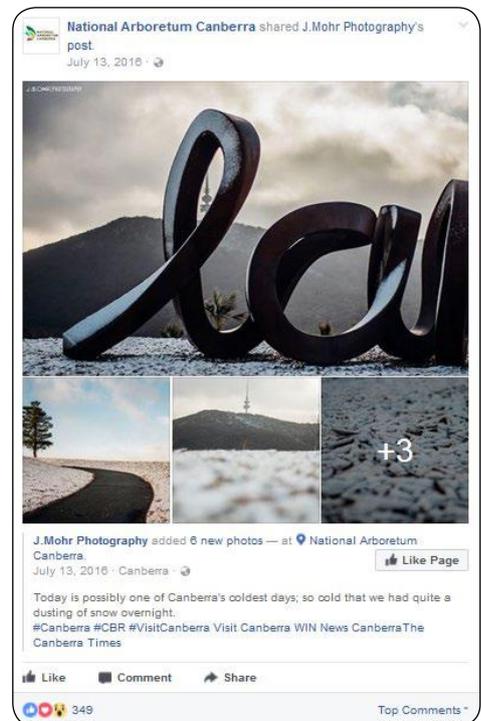
- events happening tomorrow or today
- photos with general story
- live updates
- immediate news such as road closures.

The average user's Twitter feed will only have tweets posted in the last few hours. Twitter is a fast-paced micro-blogging site that works well for news, immediate information and live updates.

Leveraging social media

Facebook analytics allows us to track which posts get the most feedback, reach and engagement. We post an average of 30 stories a month and our total daily reach can be up to 25,000. As an arboretum, we are slightly surprised that posts with the greatest reach aren't usually about trees. Our greatest reach has come from interesting human stories, stunning photos of the arboretum and the announcements of new projects.

The more likes, shares and comments on Facebook, the more a post will travel organically (free versus paid reach), so creating engaging posts with outstanding photos or videos is important. Getting organic reach on Facebook was significantly easier even just a few years ago and it is getting increasingly difficult. Facebook resists sharing content they assess as being of little interest. Boosting a post by paying Facebook to share it and gain extra reach is often needed. On average, a post will only be fed initially to 5% of followers and will only increase its reach based on engagement or paid boosting. We have a shoestring budget for social media so try to use the following strategies to maximise organic reach.



Passing through the Arboretum: Eliza and her daughter two donkeys and a horse walking 5330km along the Bicentennial Trail. One of our high trending posts.

Tips to maximise organic reach on a shoestring budget

- Use photos. A Facebook post without an engaging photo is unlikely to travel. All of our most successful posts have been beautiful photos of the arboretum. Our experience is that an exceptionally stunning photo can travel up to five times more than the average post.
- Use video. Good video content is gold on Facebook. Quality video will travel further than other posts. As most Facebook posts are viewed on mobile devices with the sound off it's a great idea to use subtitles so viewers can follow. Facebook live streams are also becoming popular and can be valuable coming from an event, but the risks are dull content and poor quality.
- Use targeted hash tags. If I tag your organisation in a post, I know my post will be read by your organisation and I stand a good chance of being liked, followed and shared by you and a comment placed on my post. Include trending hash tags, relevant media and local, domestic and international community/ organisations/ themed hash tags relevant to each post.
- Keep it short, and I mean short. Okay, I admit that this is where I struggle! Remember, 80% of all posts are viewed on small screens such as a mobile phone or tablet. The more text, the less likely the post will be read.
- Support each other by liking each other's posts. The organisation you work for may have strict rules on what can be shared, but liking and commenting on other posts creates goodwill between organisations.
- Ask questions. 'What's in flower at the moment?' This is a great way to increase engagement with your post. Asking questions requires more time from your social media manager to moderate, monitor and respond. It can be very time consuming, but it's an essential part of creating social media conversations and engagement. We tend not to ask many questions as we are resource and time limited.
- Engage and participate. This will increase your organic reach. It's also important to respond to comments promptly and to other people's posts and 'build community'.



A social media success story

Just before Christmas 2016, NAC decided to trial a new event *Arboretum After Hours* on 6 January. Due to the holiday shutdown, we had missed many print and digital deadlines. We created a Facebook event which reached 37,000 people; 5,500 viewed the event, 1,200 responded to the

event and over 800 people attended. We paid Facebook \$40 in advertising. The event exceeded expected numbers and was a roaring success. Facebook events are a great tool to promote, gauge and estimate numbers and to create an online buzz.

Constraints

The main constraint in managing our social media accounts is the time we are able to dedicate to it daily. Managing an account means managing a community and enquiries. Just like someone has to answer a question over the phone or email, someone needs to answer a question or respond to a comment on social media as efficiently and promptly as you would responding to a telephone call or an email. People expect a response on Twitter within two hours. Response time of less than 15 minutes will earn you a 'very responsive' badge from Facebook. People are much more willing to wait for an email response than a social media response.

Managing a successful social media presence requires a team approach with thought given to the team structure including: who will be the social media administrator, the content creators and editor and what the process of review and authorisation pre release.

Planning

We try to plan and produce posts well ahead of time. This involves writing posts, preparing images, ensuring materials are permitted and that they comply with organisational requirements, policy and privacy. We then schedule posts at peak times throughout the day and week. This uses staff resources more effectively.

Great content

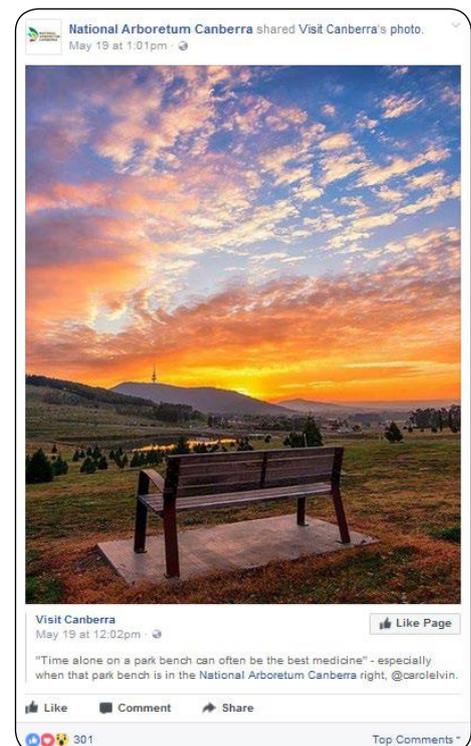
In an information-rich world we are all attention poor. To succeed, social media content must be compelling, either by being fun, beautiful, interesting or entertaining while delivering value through being informative, timely and interesting.

It's not all about reach

As social media managers we create, project and maintain our institution's brand and digital personality. All government and non-government organisations will define parameters to work within, but mostly social media is informal and should be upbeat, friendly and fun while being interesting, informative and entertaining.

Creating an online community with our followers is about responding to their comments, sharing their photos, thanking them for supporting our events and acknowledging their feedback. It's about inspiring our community and making each one of our followers an online advocate for the National Arboretum.

If you are new to social media, don't be daunted, just get started and have fun!



Growing the ANBG community with social media

Sabrina Sonntag, Communication and Visitor Services, Australian National Botanic Gardens

From free WiFi and Pokémon Go in the gardens to selfie-stations and *Instameets*, the digital world continues to bring new ways of engaging with and sharing real-life experiences within the Australian National Botanic Gardens (ANBG) and beyond.

Now that social media has become part of the fabric of our work, the question of whether and where to participate has shifted to tackling new challenges. Firstly, we want to be strategic in creating meaningful content through images and stories to both engage and grow our virtual visitors.

But we also seek new ways to tap into our community's passion, and further inspire them to talk about us and post their experiences in the gardens or by sharing our content. Lastly, we want to use the appeal of social media to reach and attract the younger crowds.

Like most institutions, we monitor our posts to see what kind of content generates the most 'likes' and engagement. We keep track of our audience demographics and monitor how it shifts over time in line with the content we publish. We know our community is multi-faceted.

Some are locals interested in finding out about the latest events in the gardens. Our local social community has grown as a result of targeted event-driven Facebook advertising. Others are lovers of all things plants, who love a good image and story about an Australian plant, whilst some are keen to learn about our behind-the-scenes work and others share our passion for conservation.

Part of the challenge of this diverse community is keeping the content fresh and varied, so that each audience stays with us and is not bombarded with too much of the other content. ANBG staff are becoming more acculturated to considering the sharing of their work and garden experiences through social media. From horticulturalists and taxonomists to rangers roaming the gardens, staff are now providing stories, images and even video that we can curate to go live. As part of our strategy-in-progress, we are developing a content calendar to schedule what and on which channel we will post, without eliminating the space for spontaneity.



It's about the story: A recent Facebook story for Fascination of Plants Day about the Canberra Spider Orchid inspired people to share images within their comments, and a high number of post shares. Photo: Tobias Hayashi.

Since ANBG began with social media in 2010, we have maintained our presence on Facebook for stories and events in the gardens. We share those posts to Twitter, but also use Twitter to broadcast more short-lived, to-the-minute information items like event updates when people need to know things quickly. We also use Twitter as a listening tool to see and engage with what others are doing and saying about the ANBG.

Unsurprisingly, our most user-generated content is via Instagram. We have had several initiatives aiming to inspire visitors to photograph, post and share their experiences in the gardens.

We ran an Instagram competition in the form of an ANBG snapshot scavenger hunt where visitors were encouraged to find and photograph as many scavenger hunt words as they could – like #threatened, #pollinator and #epiphyte to name a few. They uploaded their snaps onto Instagram or Facebook with the incentive of winning entry to one of our upcoming *afterDARK* or *Enlighten* events.

An ANBG *Instameet*, organised with our local tourism body VisitCanberra, generated not only beautiful images of the gardens, but loyal local fans who continue to share their stunning gardens snaps regularly. Recently, *Instagrammers of Canberra* chose the ANBG as their venue for their international *Instameet*, showcasing images and reflections on the theme of kindness.

Our most recent innovation was creating themed selfie-stations positioned in a few locations for our 2017 *Enlighten* event. We plan on refining our selfie-station approach and installing more permanent locations encouraging visitors to share their time in the gardens.

The use of mobile technologies is bringing new audiences to the ANBG for novel reasons. The recent Pokémon Go trend brought in significant numbers of younger visitors, particularly males, who may not have visited the ANBG before. Installation of ANBG-wide CBRfree WiFi gives us an opportunity to further target younger audiences, including encouraging nearby university students to visit and study in the gardens.

We continue to experiment with what interests and appeals to our different groups, but more importantly, what inspires them to act, to share and to engage. Social media gives us another set of tools to reach out and share the beauty and work of the ANBG, and connect and inspire people with plants.

Here is a summary of a few things we have learned that may be of use to others:

- Source content widely: engage regularly with volunteers, horticulture staff and partners to share their work and experiences through your gardens' social media channels
- Tap into the local tourism authority or council about what they are doing in social media; share and connect with them for mutual benefit
- Understand your social media audience and what inspires them. This helps to develop posts that meet both their needs and the gardens' goals
- Don't use social media solely as a marketing tool at the expense of a good story. People are interested in stories – keep the content fresh and varied.
- Promote your champions – recognise your virtual visitors who share their gardens experiences regularly and engage with their content.

Albury Botanic Gardens – a gardener's wonderful journey

Paul Scannell, Curator, Albury Botanic Gardens

Introduction

The bearded vegetable-loving Costa Georgiadis had just stuck his head inside an English Box plant and was talking to the small and enthusiastic group of school children from somewhere deep inside the foliage ...



It was 5 December 2012 and we were at the opening of the amazing Children's Garden at the Albury Botanic Gardens (ABG). Costa inspired everyone about the importance of plants and experiential education. He was especially taken with the imaginative creativity of the artist and the architects (Jeavon's Landscape Architects) who had produced the fantastic concept design. We were *all* very proud of what we had achieved together.

For me personally, opening the Children's Garden was the coming together of all aspects of my career in gardening. It had begun under my mother Betty's watchful eye, when I was nine years old. Weeding, pruning, mowing and edging the family garden set me up with a career path doing what I knew brought me my greatest sense of satisfaction.

Back in the here and now I am witnessing our latest Friends' gesture at our most recent *Music in the Gardens* event. They have just donated \$85,000 to the Tree House project in the Children's Garden. This is remarkable considering we have a core group of only six volunteers with Gwen Klinberg as our president. Fortunately, I was able to get Albury's Mayor to surprise Gwen with a Friends Life Membership, in front of 1,200 people.

Volunteers can do remarkable things for botanic gardens. Over the past 20 years, Albury Botanic Gardens' Friends Group has sponsored the Rose Garden redevelopment, the Children's Garden,

the 125th Anniversary celebrations and the ABG Florilegium and History publication. Well done, Friends! What better example of sustainability for our gardens can there be?



With my retirement rapidly approaching I recall the wonderful partnerships and friendships I have been privileged to be a part of, as Curator of ABG for the last 28 years. Lou and Lou, the two wonderful mums who approached me in 2006 and told me 'We're going to build a children's garden!' and then worked feverishly with the whole community to raise funds, do surveys and develop a design brief for the proposed site were incredible.



Lou Bull, Mayor Alice Glachan, Costa, Lou Newman and me.

Their initial work culminated in October 2007 with a concept design in place, over \$100,000 in donations and goods and Albury Council's approval to commence construction. Their drive and commitment were spectacular and live on in this garden legacy.

I find myself looking back and wondering what my legacy will be. I'd like to think I have had an impact on people and plants as well as on these wonderful botanic gardens ... as others have impacted on me over the years.

In 1995, I was provided the greatest opportunity to travel to Perth to attend the International Botanic Gardens Congress. Meeting passionate scientists, horticulturalists and educators changed my 'small town' views to 'big picture' scenarios.

I'd like to think I have had an impact on people and plants as well as these wonderful Albury Botanic Gardens.

It made me think – how can I make a difference? What can I incorporate into our ABG scenario, without impacting on the essential ongoing maintenance schedule?

I needed more insights and am thankful to my Parks & Recreation Manager who empowered me with a free hand to pursue my passion to communicate with like-minded individuals. I approached the newly formed Council of Heads of Botanic Gardens (CHABG) grants committee in 1999 who provided funds for a four-day workshop for regional botanic gardens staff to be held at Australian National Botanic Gardens.

Sixteen participants were treated to fantastic hospitality, amazing presenters, staff and managers with clear visions. The outcomes for the participants were remarkable and the impact on my professional development was profound.

As a member of the Australian Network for Plant Conservation committee, I went on to meet people who could give me the skills needed to assist with translocating

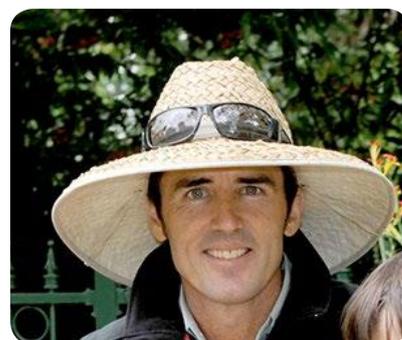
the last remaining population of Golden Moth Orchids from Eastern Hill. I have monitored our endangered Crimson Spider Orchid population for the past 22 years with honour, commitment and support.

At the ABG, staff and Friends Group volunteers took on six conferences over the years and in 2011 jumped in to host the BGANZ Congress. It's amazing how well our small crew works together, on so many occasions, to provide so many wonderful learning opportunities for each other and delegates.



For 28 years I have been lucky to have a succession of senior horticulturalists, who have been equally passionate about the care and commitment to the maintenance and development of these gardens. None more so than Jason Kimball – to whom I am so grateful.

Over 18 years in the ABG, Jason has proved that there is no substitute for excellent customer service and keeping abreast of latest horticultural information. Jason has always been receptive to change and has flexibly sought improvement



Jason Kimball.

in all aspects of garden management. Our long term staff have been equally committed and our achievements as an inclusive team, have been formidable. My sincere and humblest thanks to all the staff of the ABG!

So what are the Albury Botanic Gardens and what makes a visit to them so special?

ABG's vital statistics

Just four hectares in size, the 140-year-old ABG packs a punch in the Albury's CBD. The original land allocation (in 1864) included the riverside parks along the Murray, an area of around 50 hectares which is now being planted as an arboretum.

With over 350,000 visitors per year, the gardens are an intrinsic component of the Albury and Murray River experience. The ABG tree collection of European and Asian exotics, blended with Australian, sub-tropical, rainforest, timber trees is majestic. The autumn display is magical and the palms scattered throughout are eye-catching focal points.



Our 140 year old Elm Avenue is soon to be replaced with a *Ginkgo biloba* Avenue.

ABG's guiding document

In 1995 I was asked to investigate the cost of having a management plan prepared. The cost was prohibitive, so we set about gathering all the historical data, photos, plans and newspaper articles we could source. I conducted interviews with the Horticultural Society, Friends of the Gardens and surveys of patrons and our community, to establish the ideas for the next 50 years for our wonderful ABG.

We approached John Patrick Pty Ltd and they prepared the final document for community feedback and then presented it to Council. This 1998 Conservation and Management Plan (C&M Plan) has been the common ground, on which all management decisions have subsequently been prioritised and funded.



FEATURE GARDEN

ABG has undertaken almost 80% of the key actions from this 1998 C&M Plan. Almost \$2.1million has been spent over the last 28 years, ensuring the ABG remains viable and sustainable into the future.

Preserving and renewing the tree collection holds the highest priority in our 1998 C&M Plan.



The Mates Sundial and the sweeping Palm Crescent.

Preserving and renewing the tree collection was seen as the highest priority in our 1998 C&M Plan and we carry out an annual review of tree health and useful life expectancy. This helps us to manage risk issues, plan maintenance works and coordinate our all-important succession plan – planting for the future.

Our shrub collection contains many older styled genera that continue to perform well in our region. *Spiraea*, *Viburnum*, *Camellia*, *Strelitzia*, *Cycad*, *Salvia* and *Hydrangea* are the most prominent and well-represented on site. In our future plantings, we will continue to enhance these collections and maintain our ethos of reducing chemical use and saving water.

Our conservation program is intrinsically focused on in situ programs, monitoring and actions. As well as plant research we are able to study our endangered ecological communities: Grassy Box Woodlands, Murray River Wetlands and Box Gum Woodlands.



Hydrangea 'Hen and Chicken' and *Spiraea bumaldii* 'Flowering May'.



Karen Somerville (Mt Annan) hand pollinating *Caladenia concolor*.



By researching wild pollinators we have been able to assist in developing a broader, more complete knowledge of our bushland's co-dependencies. Working with ANBG Canberra staff we carried out the successful translocation of Golden Moth Orchids. And, working with the ANPC, Royal Botanic Gardens Victoria and RBG Sydney staff, we have been able to assist in the conservation of the endangered Crimson Spider Orchid.

All these key actions have been carried out in partnerships with La Trobe University and our wonderful Wiradjuri community.



Col Bower and Glen Johnson from Victorian Multi Species Recovery Team, setting flower pheromone lures for researching wasps that pollinate orchids.



Wiradjuri Community Wagirra Team surveying for Crimson Spider Orchids.

Keeping abreast of the technological changes, within the ABG we have set up a Climate Watch Trail with an app, allowing data to be recorded with the Wildlife Atlas program. We are soon to launch our Flickr website, *The Flora and Fauna of Nail Can Hill* for use by students of all ages and local conservation groups.

Some personal highlights

To me our gardens are much more than just plant collections and over the past 28 years we have developed some wonderful relationships within our local community, as well as internationally. Bhutanese refugees, settling in Albury, have been able to carry out work placements, develop their language skills and pass on to us their amazing gardening skills.

French university students, from Agrocampus Ouest in Rennes, have assisted us with construction of the Children's Garden, conservation research with our Crimson Spider Orchid monitoring and education programs.

But, best of all, was working with Dr Jane Goodall on her publications. Our Crimson Spider Orchid story has featured prominently in two of her books and she has also assisted us by filming the lead to our 'Care for Nail Can Hill' advertorials, featuring at our local cinema and as TV ads.



Climate Watch Trail App



Bhutanese refugees, Gore and Abi, renewing the vegetable gardens in the Children's Garden.



French students Lauren and Antoine learning about flora and fauna.

The Children’s Garden has been proven as the centrepiece for an increase in both family involvement and visitation. The community is so very proud of the garden, that they ensure all their visitors are brought to the garden to marvel for themselves. The reactions, comments and statistics are phenomenal.

In conclusion

Within the next three years, we can expect to see the completion of the new heritage fence, enabling the ABG to be locked at night and the associated welcome reduction in vandalism. The replacement of the 140-year-old Elm Avenue with the Ginkgo Avenue is also on track.

These major projects and all the ongoing efforts of all the staff, Friends and volunteers ... and, of course, visitors will ensure the ABG remains the jewel in the crown of Albury, for residents and the number one tourism destination of our local region.

So it’s goodbye from me and watch out fish 😊!!

P.S. And as this issue is themed Social Media I’ll just leave you with this feedback from a family of United States of America Goway Travel Agents who visited Albury on their journey from Sydney to Melbourne. I might add their experience at the Botanic Gardens surpassed all other site visits including accommodation, dining and other attractions.

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With Dr Jane Goodall at Government House in Melbourne.



Botanic Gardens Reports

2nd Botanic Gardens Australia and New Zealand Open Day – thank you

BGANZ Open Day 2017 was a great success, with over 70 botanic gardens and arboreta involved this year. Many gardens built on their success in 2016 and an increased variety of programs was organised across Australia and New Zealand. Feedback from members, in the run up to the event, was very positive and I would like to thank everyone who answered an email, sent through their event details and ensured the Open Day 2017 was the best yet.

The event runs on the last Sunday in May each year and we hope your garden has it locked into schedules for 2018.

BGANZ Congress member grants applications NOW open

The popular BGANZ Congress grant program will operate ahead of the 2017 BGANZ Congress to be held in Adelaide in October. The program aims to assist members to attend the BGANZ Congress. For more details and application form [click here](#). Closing date for applications is 30 June 2017.

BGANZ Awards program 2017 Value \$2,500 – Don't miss out!

BGANZ members are entitled to apply and gain more than one award. For full details of the all awards application and selection process go to [BGANZ Awards 2017](#).



His Excellency General the Honourable Sir Peter Cosgrove AK MC (Retd) launched the 2017 BGANZ Open Day, with Lady Cosgrove, Dr Judy West, Director, ANBG, John Sandham, BGANZ President and Jerrabomberra Primary School students in attendance.

BGANZ developments

1. BGANZ's new website is in the final stages of development. The website will enable BGANZ to improve its communication and strengthen member networks. Regional groups will be able to update their information on the website using Wordpress. Training will be provided.
2. BGANZ is working to improve, institutional and member benefits through alliance with a number of partners. Watch for more details in the coming months.

Calendar of conferences and events

8th BGANZ Congress 22–25 October 2017

The 8th BGANZ Congress will be hosted by Botanic Gardens of South Australia. This is the first BGANZ Congress to be held in Adelaide. All information including program, keynote speakers and registration details can [be found here](#).

Australasian Botanic Gardens Volunteer Guides Conference 15–19 October 2017

This will be held in Canberra and hosted by The Australian National Botanic Gardens. Find out more information on [conference details](#).

Australian Garden History Society 38th Annual National Conference 27–29 October 2017

Marvellous Melbourne: the challenge of change. The conference will examine the effects of pressures on public and private gardens and cultural landscapes, with special reference to Melbourne. [Details here](#).

Farm Health and Safety Conference 30 October – 1 November 2017

Farmsafe Australia holds a biennial Conference to bring people together to look at ways to reduce injury on Australian farms. The Conference aims to facilitate the exchange of information, research and innovation, with the desired outcome being to develop practical solutions for addressing farm safety. This year the 2017 Conference (to be held in Cairns) will look at 'Creating a resilient, safe and healthy agricultural community'. [Details here](#).



www.bganz.org.au