

CALEYI



NORTHERN BEACHES GROUP

austplants.com.au/northern-beaches

May 2022

Australian Plants Society Northern Beaches
northernbeaches@austplants.com.au

President	Dr Conny Harris 9451 3231
Vice-President	Russell Beardmore 0404 023 223
Secretary	vacant
Minutes Secretary	Eleanor Eakins 9451 1883
Treasurer	Lindy Monson 9953 7498
Regional Delegate	Harry Loots 9953 7498
Librarian	Jennifer McLean 9970 6528
Website Administrator	David Drage 9949 5179
Membership Officer	Jan Carnes 0416 101 327
Talk Co-ordinator	Russell Beardmore 0404 023 223
Walk Co-ordinator	Anne Gray 0466 309 181
Catering Officer	Georgine Jakobi 9981 7471
Newsletter Editor	Jane March 0407 220 380

APS Northern Beaches Group acknowledges the Traditional Owners of the land on which our activities take place. We pay our respects to Elders past, present and emerging, and recognise the continuing connection to lands, waters and communities.

CALENDAR

Thursday May 5, 2022 APS Northern Beaches meeting at Stony Range Regional Botanic Garden.

7.15 pm Lesser plant family - Liliacea Russell Beardmore.

7.30 pm Presentation Ian Thompson Garden Insects and Bugs - a close-up look .

8.30 pm AGM

Saturday May 21, 2022 - APS NSW Quarterly meeting & AGM hosted by Parramatta and Hills Group at Gumnut Hall, Gumnut Place, Cherrybrook. Details page 7.

NB. 2022 Stony Range Spring Festival

Saturday October 8, 2022 set-up

Sunday October 9, 2022 Festival

If you have any photographs, articles, links or suggestions for CaleyI please feel free to send to me Jane March march@ozemail.com.au 0407 220 380.

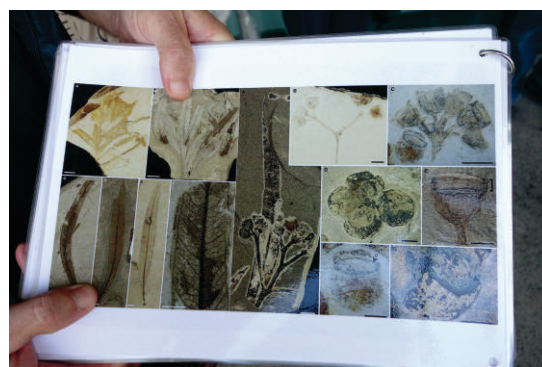
VISIT TO THE ROYAL BOTANIC GARDENS SYDNEY WED 30TH MARCH 2022

Jan Carnes

An intrepid group of 13 members (plus one grandchild) braved the inclement weather to visit the gardens for a guided tour by horticulturalist and volunteer guide, Paul Nicholson – a natural raconteur and very funny man – on Australian flora before and after the rise of the eucalypts. The gardens are the oldest in Australia (opening in 1816) and stand on Gadi(gal) land – one of the 29 Eora tribes that existed before Europeans set foot on it.

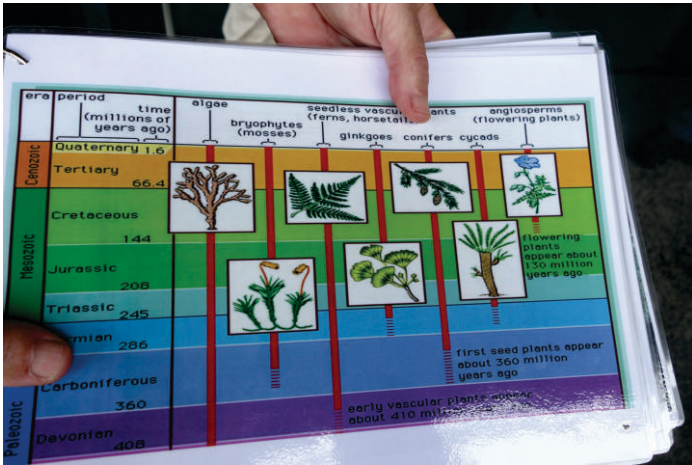


Many microfossils (pollen) of eucalypts have been discovered but there is a paucity of macrofossils. The oldest yet found is of a *Corymbia* species at



Laguna del Hunco on the border of Chile and Argentina dated to 55 Ma in the Tertiary period when Gondwana had already split into its separate continents. Appropriately, we began our walk in the Rainforest section which was planted

by the Friends of the Botanic Gardens in 1983. The forest is similar to that found in the Tarkine area of Tasmania with conifers like *Nothofagus* species, cycads and ferns. I got to taste the fruit of *Davidsonia johnsonii* (extremely tart) and Paul showed us the large nut of *Hernandia bivalvis*. This type of rainforest is very ancient but also dynamic having the largest number of flowering plant lineages eg: *Bolwarra* (*Eupomatia laurina*). Flowering plants emerged 140 – 160 Ma but began to dominate after the Chixulub Event approx. 66 Ma when 75% of all animal and plant species became extinct.



Another early flowering lineage is represented by *Idiospermum australiense* (Ribbonwood) which now only grows in a few spots in the Daintree. Unfortunately its seeds are even too poisonous for cassowaries to eat – it needed now extinct megafauna to spread its seeds.

Paul told us of the Sahul/Sunda plates which divide the Asian and Australian biogeographic regions. Some species have crossed over like *Neolamarchia cadamba* (Leichhardt Pine), *Musa banksia* (our own banana) and *Proiphys amboinensis* (Cardwell Lily) which has large deeply veined leaves and white flowers in umbels on tall stalks, perfect for that shady spot in the corner of my garden!



Into the fernery where we finally meet the fern with the longest fronds in the world – *Angiopteris evecta* or Giant Fern. It dates back to 355 Ma and has a disjunct distribution in Australia of the Carnarvon Gorge, Atherton Tablelands, Fraser Island and a single known plant in NSW (I'm not telling!) All ferns need spores and water to propagate so the drying of Australia reduced their distribution.

On to the palm grove which contains the 2nd largest cycad in the world – *Lepidozamia peroffskiana* or Pineapple Cycad, another lover of the wet, growing on rainforest margins and wet sclerophyll forests. For a fascinating short talk by Paul about the interesting propagation of this plant by the Botany Bay weevil, go to:
<https://www.youtube.com/watch?v=-dXFREPexmU>



Darlingia ferruginea (Rusty Silky Oak) is our introduction to rainforest Proteaceae. These also include *Macadamia*, *Athertonia*, *Alloxylon* and *Grevillea robusta*. Unlike other genera, the Proteaceae adapted to the drying of the continent. They are plants of The Big Scrub and have a Gondwanan inheritance, not related to plants from Asia – the Suhla region.

Now for the Araucariaceae family. The late Jurassic (152 Ma) was the heyday of the *Araucaria* genus but they only exist in the southern hemisphere today (39 species). Did you know that jet jewellery is made from the fossilised remains of extinct northern hemisphere *Araucaria*? An extinct species of *Agathis jurassica* was found in the late 1880s at Talbragar Fish Beds near Gulgong. The tallest tree in the gardens is a Queensland Kauri (*Agathis robusta*) which was planted in 1853. Apparently the only way MacArthur could work out how to collect the seed was to cut down the type specimen growing in Maryborough!

Included in the *Araucariaceae* lawn are *Bunya bidwillii* (Australia), *Araucaria luxurians* (New Caledonia), *A. augustifolia* (Brazil), *A. hunsteinii* (Papua New Guinea). New Caledonia has the greatest number of species. DNA sequencing has produced a theory that they are all descended from a single Norfolk Island Pine parent by seed rafted from Norfolk Island!

Our continent is moving 2cm north per year. About 45 Ma Tasmania separated from the rest of Australia and the Antarctic Circumpolar Current no longer circled around the northern subtropics drawing warm, moist air with it. This meant Antarctica became colder and Australia drier. Fire became the greatest story in the evolution of Australian plants. Our famous *Wollemia nobilis* retreated into small protected pockets (Paul says it was not named after David Noble, its discoverer. If that was so, its species name would be nobillii. A serendipitous surname!)

The *Eucalyptus* family slowly began to dominate. Speciation depended on the fire regime of each species' location. Today 75% of Australia's floral biomass is made up of *Eucalypts*, *Corymbias* and *Angophoras*! All species that occur outside Australia (Papua New Guinea, Indonesia, The Philippines and New Caledonia) have been rafted there. The genus is now extinct in South America.

The last fascinating story Paul told us was about the Black Bean (*Castanospermum australe*). It is a Big Scrub remnant species with poisonous seeds that only humans have learnt how to treat and eat. They need streams and rivers to distribute their seed. But populations of trees are found away from water courses. DNA research has found that northern NSW trees are directly related to the trees in Cape York. Aborigines transported these valuable food seeds to these areas showing that humans can be part of the story of the distribution of Australian flora.

We then enjoyed lunch at the Botanic Gardens Café where we tried to digest the enormous amount of information Paul had imparted.

THE SPIDER THAT LOOKS LIKE BIRD POO – and other amazing (and gross) tricks animals deploy to survive the conversation April 6, 2022 Romane H. Cristescu, University of the Sunshine Coast



Flickr

Animals do all sorts of disgusting things. While these gross behaviours might turn our stomachs, they're often crucial to an animal's survival.

I and my colleague Nic Gill have done the dirty work, and collected a bunch of unexpected facts about how these behaviours help animals live their best lives: making a home, finding mates and food, and surviving predators.

Our new book – titled *Poo, Spew and other Gross Things Animals Do* – is aimed at kids, but much of it will be news to adults, too.

So what does it take to survive and thrive in the wild? It's not always about being the biggest and fiercest. Many animals have evolved much more entertaining – if not impolite – strategies for evolutionary success.

Grossness in love (and self-defence)

For wild animals, finding a mate is no laughing matter. But the lengths to which some animals will go to obtain one can be.

Female lobsters wee on their potential mates' face for an invitation into their lairs. Even stranger, a lobster's bladder sits below their brain – so the wee squirts from their face.

Hippopotamuses, meanwhile, have become YouTube sensations for their rather unpleasant "dung showering" behaviour. Hippos spin their stumpy tails to propel a mixture of wee and poo up to ten metres – using the technique to mark their territory. Hippos have also been observed flinging poo directly into their love interests' face during courtship.

Living in the wild can be tough. Unless you're a top predator, something, somewhere nearby, probably wants to eat you. Some animals are fast enough to run away from predators – or, like echidnas, protect themselves with armour.

Others have developed more revolting survival strategies. Sperm whales for example, are known to defecate into the water "for a startling length of time". This creates a "poo-nado" – a cloud of excrement that conceals them from perceived attackers (or unlucky snorkelers!).

And some spiders have taken advantage of the fact that birds, unlike some other animals, don't like to eat their own excrement. As its name suggests, the bird-dropping spider has evolved to protect itself from bird predators by looking like bird poo. The spider bears a black, brown and white colour pattern and a squat shape. It sits still on leaves and other exposed locations during the day, tricking predators into assuming its a blob of poo.

But if there was a competition for most repulsive yet effective self-defence mechanisms, it would go to Eurasian roller chicks. When frightened, these baby birds spew a foul-smelling orange liquid all over their aggressor, and themselves. This not only deters the predator, it warns the birds' parents of danger around. Vomit as an emergency beacon – who knew?



Eurasian roller chicks have a unique way of warning their parents of danger. Shutterstock

Poo detectives

Scats (poo) and reject-pellets (spew) contain a surprising wealth of information for researchers looking at hard-to-study species.

The presence of poo or spew can help researchers determine where in the landscape a species lives – especially when, like in the case of wombats' cube-shaped poo, it's helpfully engineered to not roll away.

Poo and spew can also reveal important information about an animal's diet, through identification of the bones or genetic material present. Taking this to the next step, info from poo and spew has even been used to describe whole ecosystems.

For example, scientists have used owl spew to monitor the threatened mammals present where the bird lives. And information on an animal's disease status and gut microbiome can all be extracted from poo and spew.

These methods also have the benefit of being non-invasive – meaning researchers can check an animal's health without physically handling it.

Conservation dogs are becoming an increasingly popular method of detecting these data-rich, smelly goldmines.



Wombats leave curiously cube-shaped poo. Shutterstock

3 more poo particulars

Still unconvinced by the power of poo? Consider these facts:

1. Creating white sandy beaches: Parrot fish have some of the strongest teeth in the animal kingdom, which they use to graze on coral. Their digestive system turns it into fine white sand, meaning parrot fish poo helps create beautiful beach destinations

2. Threatening the outdoor dining scene: In the 1950s, scientists realised native beetles were uninterested in eating poo from introduced cows. This left the country covered in cow poo – a perfect breeding ground for disease-carrying flies.

At one stage, flies were so numerous that outside dining was forbidden to protect public health. Eventually, poo-eating dung beetles were flown in from overseas to solve the problem.

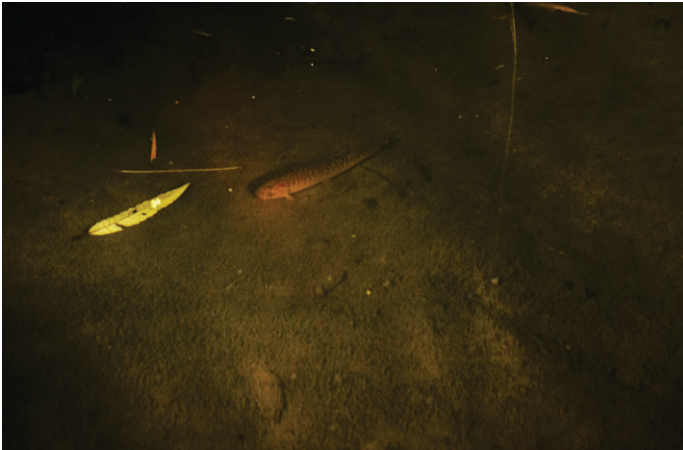
3. Cooling the planet: Researchers have shown bird poo can help fight climate change. They discovered that in the Arctic, ammonia produced from tons of seabird poo helps form clouds that can partially block sunlight.

So now you know a little about how grossness makes the animal world go round. Feel free to share these tidbits with your friends – though perhaps not while they're eating. Poo, Spew and other Gross Things Animals Do by Nic Gill and Romane Cristescu, illustrated by Rachel Tribout, is published by CSIRO Publishing.

THE BELL NOW TOLLS FOR MANLY DAM'S UNIQUE CLIMBING FISH.

Save Manly Dam Bushland Facebook page.

The sad news is that on April 21st, The NSW Land and Environment Court approved the construction of 24 luxury units at 181 Allambie Rd (DA 2020/0552). Two development applications were lodged, both were rejected by Council (and the Local Planning Panel) before the case was then taken to the Land and Environment Court on appeal. It has subsequently been "rubber stamped" with minor amendments.



Shaped almost like leaves, the climbing galaxias fish have survived against the odds in the Manly Dam creeks. The galaxias line goes back at least 60 million years. Credit: James Brickwood

Fears are now that the ONLY population of Climbing Galaxias Fish in Sydney (which live in just one creek below the development) will not be able to cope with the likely siltation and run off from the construction site (see SMH article below). The fish are thought to have survived here for circa 90 million years (since the time of the Gondwanan super-continent)! Nothing can stop the downward flow of muddy water during heavy deluges (such as which we have recently experienced)- which puts Manly Dam's reservoir, itself, at great risk from pollution too.
<https://www.smh.com.au/.../manly-dam-s-ancient-climbing...>

The developer is additionally authorised to bulldoze areas of bushland containing threatened species (such as the Eastern Pygmy Possum) by simply purchasing "offsets" in the discredited Biobanking Scheme. With nearly 2,000 plants, animals and ecosystems currently threatened with extinction in Australia, you'd expect our legal system to put a greater emphasis on protecting biodiversity.

Details of the case (with development conditions in annexure A) can be examined here:- <https://tinyurl.com/2abx2fu8>

Thank you to the very many community members who made detailed submissions against this proposal and those who also appeared at several hearings. We just have to hope now that Council rigorously upholds the (rather flimsy) conditions of consent.

GREEN CORRIDOR WOULD LINK MT ANNAN GARDENS TO WESTERN SYDNEY PARKLANDS

www.smh.com.au/April 26, 2022 Julie Power

A green corridor of walks, trees and sanctuaries for native flora and fauna would cool and connect Sydney's west from Blacktown to Campbelltown under a masterplan for Mount Annan botanic gardens by the Royal Botanic Gardens and Domain Trust.

Denise Ora, the trust's chief executive, said she was looking at every opportunity to connect the northern border of the Australian Botanic Garden Mount Annan's 416 hectares to the southern border of Western Sydney's Parklands' 5280 hectares.



Set for expansion: Australian Botanic Garden Mount Annan in Sydney's south-west. Credit: Oscar Colman

The trust would soon start talks with stakeholders about the plan that would probably involve expanding the gardens by 12 hectares. The new corridor would provide the growing population of western Sydney with "beautiful connected walks and cycleways", Ora said. This included opportunities to expand "existing pockets of arboreta, increase biodiversity, and support viable seed production for native and threatened species."

Ora said the plan for Mt Annan would also do more to conserve Cumberland Plain Woodland, vegetation that once covered much of western Sydney unique to the area.

A report by Deloitte Access Economics estimated the "social asset value" of the trust's three gardens was \$4.5 billion over the next 30 years. The trust's 752 hectares are spread across the Royal Botanic Garden Sydney and the Domain in Sydney's CBD, Mt Tomah in the Blue Mountains, and Mt Annan in Sydney's south.

Using a new method, Deloitte included the value of the gardens and its research to those who visited as well as its contribution to Sydney as a clean and green city.

Visitors to the gardens at Mt Tomah and in the city fell by nearly a million a year during the pandemic because of the absence of overseas tourists. In contrast, visitors to Mt Annan rose. In one month in lockdown when the public was limited to exercising in a five-kilometre area, Mt Annan had 33,000 visitors, a 63 per cent increase on the same time in the previous year.

This financial year, Mt Annan is expected to attract more than 700,000 visitors, a 512 per cent increase on 2012 when free entry began. In a survey of 2000 Australians commissioned by Deloitte, 42 per cent said they had spent more time in public green spaces than in the past, and 64 per cent agreed they valued it more.

Ora said the pandemic and black summer bushfires had highlighted the value of parks and green spaces. She was concerned about unequal access to green space across Sydney. She saw the trust's work in western Sydney as contributing to increases in tree canopy and protecting residents from increasing summer heat.

The Minister for Infrastructure, Cities and Active Transport Rob Stokes described Mt Annan as a "bit of a hidden gem". Stokes said it could become home to Greater Sydney's next generation of native trees when combined with initiatives by the new National Herbarium of NSW at Mt Annan and the award-winning Plant Bank.

Campbelltown photographer Glenn Smith welcomed news the trust was investigating extending the green corridors from Mt Annan. He said koala populations had been impacted by new housing development with more underway nearby. "They've already halved some green corridors," he said.

Residents Deborah Peaker and her husband Brian visit Mt Annan two to three times a week. "There is plenty of space, but it would be lovely to enlarge it," she said. With new housing increasing and a dual carriageway planned, Peaker said "anything that keeps it nice and green is good".



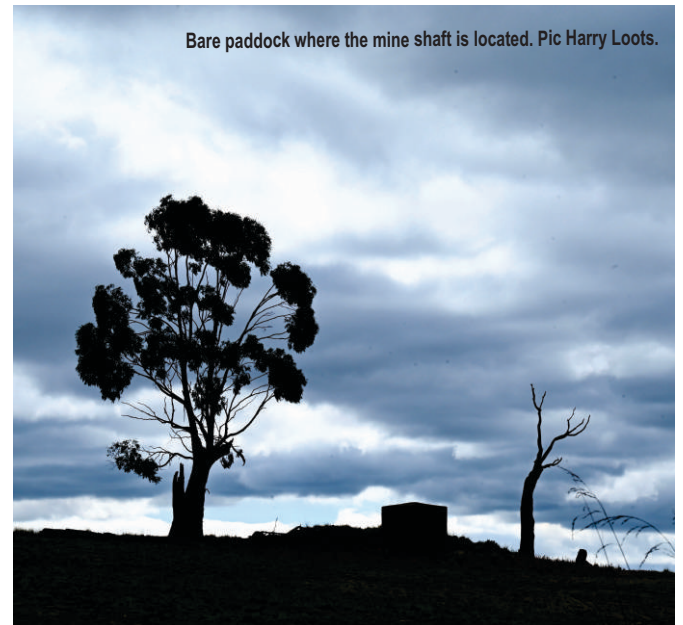
Deborah and Brian Peaker live near Mt Annan and visit 2-3 times a week. Credit: Oscar Colman

The NSW government forecasts unprecedented growth in population and housing for the area near Mt Annan. Now known as Western City Parklands, the area including Blue Mountain, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly has been described as an "economic powerhouse". The population is forecast to rise from 740,000 in 2016 to 1.1 million by 2036, and will exceed 1.5 million by 2056. Housing and industry will also boom, and the construction of the Western Sydney International (Nancy-Bird Walton) Airport at Badgerys Creek will result in new suburbs, schools and jobs.

The suburbs serviced by Mt Annan's parklands are also growing rapidly. Campbelltown's population will rise by more than 50 per cent to 272,303 by 2041. Camden's will grow by more than 100 per cent in the same period, while the Narellan Smeaton Grange area will rise more than 30 per cent.

The APS in the Central West

Harry Loots



Bare paddock where the mine shaft is located. Pic Harry Loots.

In April 2022 forty-four people who were passionate about preserving the Australian bush explored the ecological devastation reaped upon the Central West of NSW. They were Australian Plants Society members more familiar with gardening suburban blocks or urban bush regeneration than agricultural practices. They travelled to see how land had been restored.

Over two hundred years of European occupation the land has been raped to produce the gold, food and clothing that sustained the economic development of Europe and transformed Australia into a capitalist environment. Gold produced in such places as Forest Reefs, 22 kilometres south of Orange, produced the bullion necessary to establish the gold standard. The huge quantities mined in the late 19th century gave the global trading economies a monetary stability based on the gold standard.

The group visited Forest Reefs and Narromine. Miners at Forest Reefs had cleared the woodland then pastoralists overgrazed cattle and sheep destroying what was left of the soil. The land about Narromine had been clear felled to graze sheep for wool to export to Europe's textile mills. Wheat was grown to feed Europe's growing population. Farmers exploited the land's resources for survival and sometimes personal aggrandisement caring little for the land's long-term sustainability.

But changes in attitude are afoot. The group first witnessed land rehabilitation at Forest Reefs. Jean and Basil Baldwin have established a 500-tree hazelnut plantation that produces a good income when water is available. The plantation thrives on a rich basaltic soil and is irrigated with a plentiful supply of bore water. The remainder of the property is devoted to fat lamb production on less fertile sedimentary rock derived soil. The bedrock consists of angular stone fragments cemented by finer limestones from a period when the area was an active sedimentary basin on the margin of an oceanic island arc. A limestone derived soil is considered a poor soil.

The volcanic andesite intrusions of the Late Ordovician to Early Silurian period into these sedimentary rocks resulted in a rich basaltic soil and the plantation's productivity. The intrusion also caused gold mineralisation. The neighbouring Cadia Hill goldmine that has brought Orange city an economic boom is the second largest open cut mine in Australia. An old mine shaft still exists on one of the Forest Reefs hills. Here sheep grazed caring for their new born lambs that are destined for the abattoir.

Along two of Jean and Basil's property boundaries and a public access track Basil showed us six-metre-wide strips that have been fenced for bush regeneration. These sequestered areas were planted with local tree species. A successful grove of eucalypts and acacias has been established that has improved the paddock's micro-climate to provide shelter for the sheep. The pastures grew a variety of local and exotic grasses.

Jean and Basil's house has a luxuriant kitchen garden. I managed to collect a bag of small raspberries among the thorns from three long trellises. The raspberry flavour was much stronger than I had experienced before. A thriving vegetable garden and many fruit trees provides a healthy diet. The tomatoes were all shapes and colours quite different from the tasteless clones grown for supermarket sale.



Eucalyptus erythrocorys in flower at Burrendong Arboretum. Pic: Harry

Eucalyptus sideroxyton at Burrendong. Pic: Harry

After visiting the Burrendong Arboretum above the Burrendong dam on the Macquarie River near Wellington the group drove further west towards Narromine. In the late 19th century the western plains woodlands in the Narromine district were stripped bare to graze sheep and grow wheat. This country is ideal for industrialised broad acre farming. Over the 14-week harvest period during the 2021-22 season the Narromine Grain Corp facility received 133,000 tonnes of grain. This was a record harvest. Since the 1980s cotton has been the dominant enterprise of the Macquarie Valley with Narromine the centre of the cotton growing industry. This industry relies on high capital input and intense management practices as well as great quantities of pesticides, fertilizers and irrigation. Roundup Ready® technology is essential. The irrigation of land to the west of the Macquarie River ultimately affects the viability of the Macquarie Marshes further downstream. However, water allocations are heavily regulated and depend upon water levels in the Burrendong Dam. When the Burrendong Dam levels dropped below 20% farmers did not receive a water allocation. They were forced to turn from cotton to cereal crop production. Cotton is an opportunistic annual crop that expands and contracts to meet varying annual water allocations.

When Rob Webb spoke, it was obvious that he would never contemplate growing cotton. He wanted to preserve the land that his family had farmed for four generations since 1874. He did not wish to make the mistakes of the past. He explained how overgrazing and poor land management has destroyed the soil's fertility. During the Federation Drought from 1895 to 1903 the bone bare land lost many centimetres of rich soil that was blown away. He told heart rending-stories of houses and people buried in dust. Tragedies of the past were obviously seared into his heart. He had seen friends lose their farms, land and habitat destroyed and family farms eaten up by agri-corporations. Considering that Robb and Rosemary's five children have chosen not to be farmers he might be the last Webb to farm the 'Clearview' property on Webb Siding Road. Angus is a doctor, Russell a nurse, Clare an occupational therapist, Adam a construction manager and Owen a commercial lawyer.

When writing to a parliamentary committee Rob wrote "In the early 1980s we experienced an horrific drought which made me realise that the continuous high stocking rate that we had practised would simply not be able to be sustained. We were forced to destock into a very depressed market which created a deal of economic hardship. Fortunately, my wife was able to continue with her teaching which allowed for some degree of financial security to be achieved.

The difficult climatic conditions during that drought provided me with an opportunity to rethink our long-term management. We planted thousands of trees in corridors in and around our property. We also set about planting 202 hectares of Old Man Saltbush. This is a hardy perennial edible shrub which provides a buffer against the wind erosion that we had experienced during the 1982 to 1983 drought.

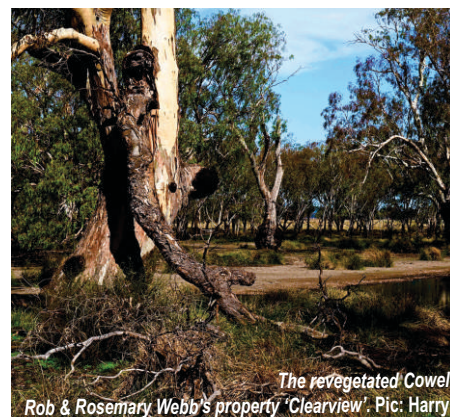
We also set about a rehabilitation program in the 20 ha of Backwater Cowal (i.e. a swamp) on the Dappo property."

Robb also said "We had a very changed attitude towards maintaining stock numbers. We were able to shed numbers when conditions became too severe."

On their 600 hectares the Webbs run 1200 white Dorper ewes for 'Saltbush lamb' and 50 steers.

Rob Webb and his Narromine neighbour Bruce Maynard wanted to preserve their pastures and re-establish some of the natural habitat. They were not interested in using herbicides or superphosphate. Their method was to help the land recover and become sustainable. By planting deep rooted saltbushes on pasture they stabilized the soil and provided feed when the grass had been depleted. They were drought-proofing their pastures. Oldman saltbush (Atriplex nummularia) seedlings grown at Narromine Transplants were transplanted on both the Maynard and Webb properties to guarantee a sustainable future for their pastures.

Rob had previously managed the small Dappo property of 130 hectares next to his father's 'Clearview' farm. He produced a range of crops including wheat, oats and barley as well as lucerne, hay, fat lambs, wool and Premier Digit seed. After his father died, he sold the Dappo farm and started afresh on his father's farm. On his 'Clearview' property he produces 'Saltbush lamb' and native cut foliage. The Australian floriculture industry produces high value products. Rob grows Eucalyptus macrocarpa that sells well for its large cut flowers and grey menthol-scented foliage.



The revegetated Cowal Rob & Rosemary Webb's property 'Clearview'. Pic: Harry

Rob Webb's farm sits over an ancient billabong that can be traced from a bend in the Macquarie River. Its remnant appears as Backwater Cowal which once flowed 80 kilometres west across the plain past Nevertire where it peters out. Ancient river gravels beneath the Macquarie flood plain soils act as aquifers for the river's waters. Most of the swampy depressions have been transformed into arable land however some wetlands still exist. At Rob's southern boundary he and a neighbour have restored the Cowal to form a large natural wetland where eucalyptus trees have been planted. This is a natural bird habitat with plenty of water and trees.



Keynote speakers
September 2022



The ANPSA 2022 Biennial Conference dates are Saturday 10 September to Friday 16 September 2022 at the Kiama Pavilion.

We are delighted to announce our starting roundup of speakers. They will bring life to our theme of Australian flora - past present future.

Costa Georgiadis, lover of nature, landscape architect, permaculturist teacher, and the well known host of Gardening Australia, will share his insights into the future of Australian native plants. Costa has a gift for engaging people of all ages to connect with nature.

Professor David Keith, a leading botanist and ecologist working in the areas of vegetation dynamics, population and ecosystem modelling and fire ecology, will open the conference and provide an overview of the past present and future of Australian native plants.

Professor David Lindenmayer is a world-leading expert in forest ecology, conservation science, and biodiversity conservation. He will share his research into Fire, forests, plantations and biodiversity, a critical challenge for all Australians who care about the country on which we live.

Clarence Slockee, a Cudgenburra/Bundjalung Aboriginal man from the lush Tweed Valley and also a long time Gardening Australia presenter, will bring to life the world of the First Nations people, how they lived and nurtured the land for thousands of years.

And many more speakers to come!

The theme of the conference is Native flora - past, present, future. David will try and distill thousands of years of history and project into the future to give delegates a taste of what they will learn during the week.

Registrations now open!

We are hosting tours pre- and/or post-conference to beautiful places in NSW, like the South Coast, Blue Mountains, Lord Howe Island, Warrumbungles/Pilliga and Sydney.

Schedule of activities

We kick off the conference on the Saturday 10 September, with:

A complimentary tour of the Kiama region, which is part of the package for people attending the whole conference. This includes lunch at Shoalhaven Heads winery lunch with visits to Berry School nursery and Bombo Headland

A market fair - a combined farmers market and native plant sale - on the Sunday

A cocktail event to welcome people on the Sunday night

Conference sessions and excursions from Monday to Friday - conference days are Monday, Tuesday and Thursday, and excursions on Wednesday and Friday.

Together, we can make a difference to the world of today and the one we hand to our children and grandchildren.

BOOKINGS OPEN : [Book conference](#)

APS NSW GATHERINGS

Saturday 21 May – APS NSW Quarterly gathering and AGM hosted by Parramatta and Hills Group at Gumnut Hall, Gumnut Place, Cherrybrook.

10 am Boongala Gardens in Kenthurst.

12-1 PM Bring your own lunch to enjoy at either the Boongala Gardens or the Gumnut Community Centre, where plants will also be for sale.

1-1.30 pm AGM

1.40-2.30 pm Presentation by Peter Olde, OAM - "Grevilleas suitable for pots and patios". Peter is a recognised world authority on grevilleas, a life member of APS NSW, a recipient of the ANPSA Australian Plants award, and co-author of a number of books on the genus.

2.35 pm Afternoon tea, pls bring your own cup. Kindly provided by the Parramatta Hills district group, the hosts of the meeting.