

pic Andre Porteners

NORTHERN BEACHES GROUP

austplants.com.au/northern-beaches

June 2022

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

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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 June 2, 2022 APS Northern Beaches meeting at Stony Range Regional Botanic Garden.

7.15 pm Lesser plant family Lobeliaceae - Conny.
7.30 pm Presentation Trevor C. Wilson, ABRS (Australian Biological Resources Study) postdoctoral fellow. 'Ajuga. What is the Australian Bugle?' Long awaited scientific progress for an untrumpeted flower of the southern hemisphere. (See page 3)
Supper Penny & Jan C.

Saturday June 19 APS Northern Beaches walk 10.30 am Chiltern Track. Penny will email details later.

NB. 2022 Stony Range Spring Festival Sunday October 9.

Many thanks to Jennifer McLean, Jan Carnes, Trent Liang, Russell Beardmore and Harry Loots for their wonderful words and photographs for this edition. If you have any contributions for Caleyi please feel freetosen to send to me Jane Marchmarch@ozemail.com.au 0407 220 380.

CAR-RANG-GEL A place of significance for the Gayamagal people.

Jennifer McLean

Some lateral thinking was required to rescue our April walk from oblivion. Having been postponed from the week before, steady rain in the morning was threatening a cancellation, however the lure of lunch at North Head Sanctuary's Bella Vista Café prompted the reversal of the order of the day. Meet for lunch first and hopefully the rain will have cleared for walking afterwards, which it duly did. Twelve participants I think, not too bad considering.

Satiated, and guided by our dedicated Walk Co-ordinator, Anne we set off to explore the **Eastern Suburbs Banksia Scrub, (ESBS)**, of **North Head Sanctuary**. One of only a few remaining pockets of the ESBS, a dry sclerophyllous heath/scrub community that once covered about 5300 hectares between North Head and Botany Bay. The path features a metal decked walking surface to protect the endangered ecosystem. Short side tracks allow for viewing different aspects of the Harbour.

The fresh young growth after a hazard reduction burn some four years previously, has been sculptured by the wind giving it an appearance of having been carefully landscaped. Banksia marginata, Banksia aemula, Banksia





ericifolia and Banksia serrata are prolific, their autumn and winter flowering much appreciated by the birds and animals. Flowering Acacias we identifed were A. suaveolens, A. terminalis and A. ilicifolia. Monotoca scoparia is prevalent and also Persoonia lanceolata, some still had a few late flowers among the green fruit.





Of the smaller plants we saw there was the prostrate Astroloma humifusum which has red tubular flowers followed by green berries, the shrub Bossiaea heterophylla, a pea flower with standard and wings of orangey yellow and a dark red keel. Lasiopetalum sp has brown flowers, Leucopogon ericoides' flowers are woolly petalled and white and a Philotheca buxifolia with one lone pink flower. A Grevillea buxifolia that we saw had one unseasonal grey spider flower and the *Haemodorum* planifolium, which emerges after fire events had black capsules.





There was Bossiaea scolopendria, Dillwynia retorta, Goodenia heterophylla and Hibbertia linearis, all yellow flowered, and the lovely cream-bell flowered Billardiera scandens. We saw a few red spider flowers on the Grevillea speciosa and some red Lambertia formosa blooms. We identified Xanthosia pilosa from its grey hairy foliage and saw many other plants, which weren't flowering, but that are common in the heathy scrubs of Sydney.





We did a circuit of the Hanging Swamp which had been engulfed in the flames of the devasting hazard reduction burn of eighteen months ago. Black skeletons of burnt trees surround the area, and although the vegetation is recovering well, the area is much more open than it had been the last time we visited. Grasses, sedges and rushes are growing well. We noted Lepidosperma laterale, Caustis pentandra, Imperata cylindrica, Gahnia sieberiana, Schoenus ericetorum and Restio fastigiatus and many others. Leptospermums and Melaleucas were also in abundance.



The rain had held off for the whole of the afternoon, so we were feeling very satisfied with our day, and especially more so when we came across a Eucalyptus camfieldii, recognized as such by Conny. New foliage was sprouting from a lignotuber on the edge of the path. Its aboriginal name is Bai'ayli and the dark green juvenile leaves are heart shaped on a long petiole. E. camfieldii is a rare species which grows into a small tree in only a few places. Its conservation status is Vulnerable.



A very pleasing finale to our monthly walk.

Thanks to eagle-eyed Lindy we encountered a minute, fingernail sized, frog at North Head. Also thanks to Trent Liang for this impressive photograph that enabled Jodi Rowley to make an identification. Here is the description from frogit. Ed.

Crinia signifera - Common Eastern Froglet www.frogid.net.au



Description

This tiny frog species is often heard but rarely seen, it is the most common frog species submitted to FrogID. Reaching up to 3 cm in body length, it is extremely variable in appearance, with a brown, grey, cream, beige, reddish or mustard yellow back, with or without longitudinal stripes, spots or patches. There are small dark triangular patches along the upper lip. The belly is grey, with white and black speckling or mottling. The pupil is nearly round and the iris is gold. Fingers and toes are unwebbed, both without discs.

Breeding Biology

Eggs are laid as small clusters in a wide variety of water bodies including streams, flooded ditches, grassland, permanent ponds, and dams. Tadpoles can reach a total length of up to 3.5 cm and are variable in colour and pattern, being spotted or uniform black, gold or grey. Tadpoles remain at the bottom of water bodies, and take around two and a half to three months to develop into frogs. Breeds during any time of the year.



THE LILIACEAE FAMILY

Russell Beardmore

This is a large family which, for many years, was used as a "wastebasket" for flowering monocots that could not be easily placed anywhere else. Robinson says approx 4000 species worldwide, Wikipedia gives 610 evidently the "wastebasket" has been emptied, or at least substantially cleaned up!

There seems to be little agreement on the number of families in Liliaceae in Australia with PlantNet giving just one family - Lilium.

PlantNet shows Burchardia, for example in the family Colchidaceae. At least they all appear to be in the order Liliales. So let's just forget about the family and focus on the genera. Common characteristics include beautiful flowers with six petals, six prominent stamens, clumping growth habit, usually with linear leaves and a tendency to die off in winter although there are obvious examples where this is not the case, such as the Dianellas.

Species that are like to be seen in our northern beaches area are:

Blandfordia nobilis
Burchardia umbellata
Caesia parviflora
Dianella caerulea
Hypoxis species
Laxmannia gracilis
Schelhammera undulata
Sowerbaea juncea
Thelionema caespitosum (Robbie spells it caespitosa)
Thelionema umbellatum
Thysanotus tuberosus
Tricorne simplex













Some are fairly common e.g. *Burchardia, Thysanotus* while others are decidedly uncommon e.g. *Schelhammera, Laxmannia, Tricorne*. (If anyone finds examples of these, I would like to hear where they are and I will be there with my camera).







Here is a modified list with the genera grouped according to the current classifications in NSW Flora On-line (PlantNet) - for anyone who wants to get into the detail.

Blandfordia nobilis (Blandfordiaceae) Burchardia umbellata (Colchicaceae) Schelhammera undulata (Colchicaceae) Caesia parviflora (Asphodelaceae) Dianella sp. (Asphodelaceae) Thelionema caespitosum (Asphodelaceae) Thelionema umbellatum (Asphodelaceae) Tricoryne simplex (Asphodelaceae) Hypoxis sp. (Hypoxidaceae) Laxmannia gracilis (Asparagaceae) Sowerbaea juncea (Asparagaceae) Thysanotus sp. (Asparagaceae)

So for our purposes, none of the plants on the list are in the *Liliaceae* - it is a zero family. The largest family is *Asphodelaceae* with five members. At least we can say that that is a "lesser family".

WHAT IS THE AUSTRALIAN BUGLE?

At the June meeting Trevor C. Wilson will introduce long awaited scientific progress for an untrumpeted flower of the southern hemisphere.



Trevor C. Wilson's Quick Bio:

Trevor's research interests lie in understanding the fundamentals of the earth and its organisms, such as how we classify and communicate what we observe and identifying the processes that create them. This is encapsulated by such terms as evolutionary biology, systematics, biogeography and taxonomy, all of which have been applied by Trevor across major plant groups such as the Bryophytes, Conifers and flowering plants ever since he began his research career in Canada. In his current position as an ABRS (Australian Biological Resources Study) postdoctoral fellow, Trevor studies the mint family (Lamiaceae), one of the largest vascular plant families that consists of a great number of economically valuable plants. The mint family is well-represented in Australia, but the group needs requires significant attention regarding the knowledge of its biodiversity, identification and conservation.

GARDEN INSECTS AND BUGS

Jane March

At the May meeting Ian Thompson gave us a comprehensive, though thoroughly amusing, introduction to **Arthropod** life in our gardens.

Arthropods are all invertebrates possessing an exoskeleton. This phyla represents 90% of all living species. Insects account for the majority of these.

lan speedily separated the true **insects**, eg. beetles (6 legs, 3 body parts, sometimes wings) from the others **Arachnids**, eg. spiders (8 legs, 2 body parts etc); **Myriapods**, eg. centipedes (many legs, many body parts); and **Crustacea**, eg. slaters (never less than 8 legs) - all wingless.

Next the division in the insects themselves due to their life cycles.

Incomplete metamorphs - egg, nymph which emerges as smaller wingless version of adult. developing features including wings with each moult to full adult.

Complete metamorphs - egg, larva, pupa, adult.

Definition continued into the recognisable groups we find in any garden.

Lepidoptera - Butterflies & Moths. Complete metamorphs the adult exhibiting antennae and wings. The larvae eating leaves etc while adults gain nutriments from flower nectar by means of their proboscis. Curious facts caterpillars sense food sources through their feet and breathe through the spiracles along the side of their bodies.



Common Crow Butterfly - Iarva, pupa & emergent adult. Pics: JM

Coleoptera - Beetles
(30,000 species in Oz)
Dictyoptera - Mantids,
Cockroaches.
Hemiptera - Bugs Suckers not biters
Hymenoptera - Ants, Bees, Wasps.
Social insects.
Orthoptera - Grasshoppers,
Crickets.
Diptera - Flies.
Odonata - Dragonflies, Mayflies.
Phasmida - Stick Insects.

Plus many other Orders.



Harlequin bugs Tectocoris diophthalmus. Pic. JM

lan reminded us of Martyn Robinson's presentations with his graphic accounts of some insect mating antics.

There are many wonderful books about Australian Arthropods. Also Facebook pages including Amateur Entomolology Australia, and specialist groups for native bees, Butterflies & Moths etc.

2022 Committee elected at APS Northern Beaches AGM

President – Conny Harris
Vice President – Russell Beardmore
Treasurer – Lindy Monson
Secretary – Pamela Dawes
Minute Secretary – Eleanor Eakins
Delegate to Company – Harry Loots
Elected members – David Drage
Penny Hunstead

Other positions

Librarian – Jennifer McLean Membership Officer – Jan Carnes Talks coordinator – Russell Beardmore Walks organiser – Anne Gray/Penny Hunstead Catering – Georgine Jakobi Newsletter Editor – Jane March

ENDANGERED TREE SEEDLINGS PLANTED IN SECRET LOCATIONS ON NSW NORTH COAST

Australian Associated Press May 8 2022



The endangered nightcap oak tree is notoriously difficult to grow, and grows slowly, but 50 successful seedlings have been developed. Photograph: The Guardian

Seedlings of an endangered tree are being planted in secret locations on the New South Wales north coast in an attempt to save the species after devastating bushfires.

The critically endangered nightcap oak trees date back to the Gondwana supercontinent era and can grow up to 40 metres tall, but are only found in northern NSW. The only known wild population is located in rainforest north-east of Lismore. About 20% of them were destroyed or damaged during the 2019/20 bushfire season, however seeds were collected and propagated.

Despite being notoriously difficult to grow, and growing slowly, 50 successful seedlings have been developed. National parks on the north coast will house 20 of the seedlings at four secret sites. The replanting is part of the NSW Saving Our Species initiative and the locations were selected by national park officers and Australian Botanic Gardens species experts, choosing sites based on their long term climate resilience.

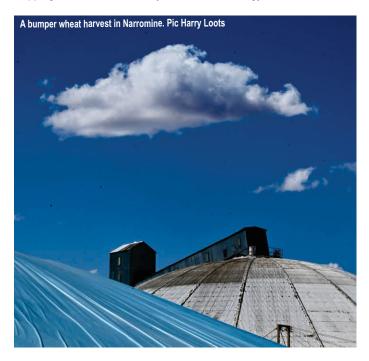
"The nightcap oak is the ancient rainforest equivalent of the Wollemi pine in terms of evolutionary significance, and it's yet another great example of a critical species that we're helping to bring back from the brink," the NSW environment minister, James Griffin, said.

The remaining seedlings are due to be planted in coming months.

The APS in the Central West Part 2

Harry Loots

Bruce Maynard's 'road to Damascus' as a conservationist began when he was a young man. Bruce realised that farmers investing in fertilisers, herbicides, pesticides and irrigation while deep-ploughing their land to grow a high yielding crop was not sustainable. Farmers were still going bankrupt and in the process destroying their land. Their soil's biomass, the source of fertility, was being exhausted in their craving for profit. Change came in the 1990s when Bruce adopted a holistic approach to agriculture. He treated cropping and grazing as one entity. He developed the No-Kill cropping method to actively reduce the impact of cropping and animal husbandry on his farm's ecology.



Bruce and Roz Maynard, known as 'the lazy farmers from Narromine', have successfully integrated a number of innovative farming techniques on their property. Bruce is a fourth-generation mixed enterprise producer (i.e. cattle, wool, lamb, cereals) who farms at Willydah, near Narromine. Bruce has dedicated much of his 35-year career to developing a farming system that conserves as much of the natural landscape's function as possible. His No-Kill cropping system involves planting a crop in a natural grassland.

Bruce told the group, "In monoculture cropping you obliterate everything else and you've only got one product coming off the paddock. But with No-Kill you have the potential of multiple products at 10% of the regular cropping cost."

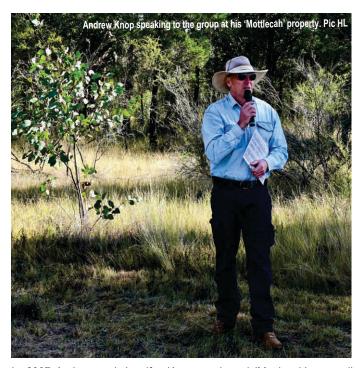
"There's also a synergy with livestock, because No-Kill changes the whole feed base. It's not just about the extra dry matter; there's also dietary diversity. Weed populations dwindle because the animals keep on consuming plants they wouldn't otherwise eat."

By retaining the natural grassland biomass their land's carrying capacity has been boosted while reducing input costs. No-Kill cropping is based on five main principles: sowing dry, using straight-running, coulter-type seeding equipment, no pesticides or herbicides, no fertilisers and good grazing management. The cropping of cereal oats and rye involves dry disc sowing into natural grasslands. Reasonable yields were maintained in 2009 during the millennium drought using this method. A row crop header can harvest these crops or the property's mixture of shedding and hair breed sheep and mixed breed cattle can be grazed. Bruce's 1,500 ha property averages a carrying capacity of 18,000 dry sheep equivalent.

Bruce Maynard is working towards a 'triple layer' cover of grasses, shrubs and trees across his property. When initiating his holistic farming method the Maynard farm lacked a shrub layer. It had either been removed for cropping or grazed by livestock. In 1998 Bruce began experimenting with planting saltbush in various layouts as a means of reestablishing shrubs in the landscape. This proved to be an evolving process by which he started with blocks of saltbush then transitioned to alleys before eventually adopting curved plantings that were more effective in providing windbreaks. The family established more than 300,000 saltbush plants on less than 15% of their property. After 25 years of planting salt bush, it is still his main perennial shrub.

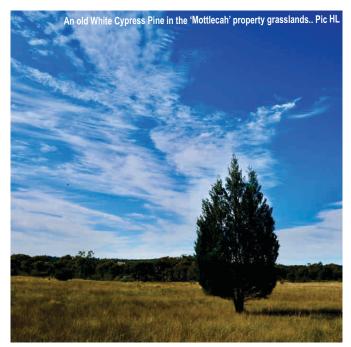
"In the very wet times (animals) enjoy having shrubs," he said. "It's a year-round thing not just kept for the drought times; it's also a windbreak, shelter and shade." Bruce also claims that a varied diet has produced animals that taste better.

Andrew Knop immediately impressed the group that he was a man on a mission. He was not a farmer but a passionate conservationist. He has lived in the Central West since the 1970's and was a Senior Catchment Management Officer with the Central West Catchment Management Authority for 15 years. More recently he had been a Senior Land Services Project Officer with the NSW Local Land Services in Dubbo. One of this department's duties is to award grants for the rehabilitation, restoration or enhancement of native vegetation, threatened species habitat or areas of threatened ecological communities. Since 1992 Andrew has been involved in regional Landcare activities supporting many local groups as a volunteer on activities such native plant seed collection, tree planting and wetland rehabilitation projects.

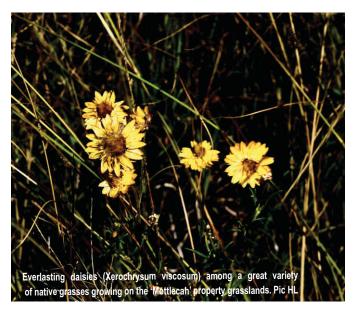


In 2007 Andrew and Jennifer Knop purchased 'Mottlecah', a small grazing property near Tomingley south west of Dubbo. The 730-hectare property runs along one of the granite ridges of the Sappa Bulga Range. While Mottlecah's granite outcrops, densely forested areas and neighbouring Momo State Forest is a poor pastural proposition the property was ripe for conservation. 'Mottlecah' became Andrew's altruistic conservation project. In 2010 Andrew and Jennifer signed a permanent conservation agreement with the Nature Conservation Trust of New South Wales.

Andrew said, "A covenant protects native bushland and the wildlife it supports for future generations and helps to preserve all your hard work.



Putting a covenant on my property means the restoration works will be protected forever." The covenant was granted for a significant remnant of native vegetation in a landscape that has been largely cleared and modified for agriculture. There are two Endangered Ecological Communities on the property: Box-Gum (Eucalyptus microcarpa and Eucalyptus melliodora) Woodland and Fuzzy Box (Eucalyptus conica) Woodland. Kurrajong (Brachychiton populneus) also grows on the property. Threatened bird species including the endangered Glossy Black Cockatoo are present. The property possesses potential habitat for many more threatened animal and plant species.

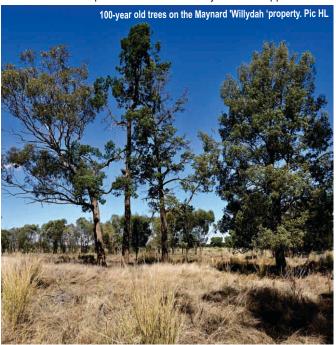


The Knops will receive \$135,000 incentive funding over a 15-year period to maintain the property. This can be spent on building boundary fences, the destruction of dams and the culling of kangaroos, wild pigs and goats. The intensity of kangaroo grazing has necessitated their cull. Their numbers were building up as no natural predator limited them and they were destroying the habitat of small native animals. The property's dams were breached to discourage kangaroos seeking water. Although a pig shooter had been employed, I saw evidence of pig grubbing in the grassland.

To bring the land back to what existed before farming Andrew had researched the records of the early explorers on the types of vegetation they saw in their travels in the area. Evans, Oxley, Cunningham, Sturt and Mitchell all led multiple expeditions from 1813. Journal entries that provide eloquent descriptions of the country's appearance, its

surface, soil, animals, vegetables and minerals, indeed everything that relates to the animal and Indigenous populations has inspired Andrew. The reports have given Andrew an insight into the species present before European farming.

On the 'Mottlecah' property Andrew has found a great diversity in grasses, herbs and shrubs. The Ironbark (Eucalyptus sideroxylon) Woodland and Grey Box (Eucalyptus microcarpa) Woodland have a dense and diverse wattle and pea bush understory. This not only provides a complex habitat as the wattles and peas fix the atmospheric nitrogen creating nutrient pathways that move through the soil and the digestive tracts of browsing animals. The thinning of the overstorey of White Cypress Pine (Callitris glaucophylla) and Grey Box (Eucalyptus microcarpa) has been necessary to encourage the restoration of ground cover. When walking down the track through the grasslands we were shown areas where Callitris had self-seeded en masse. These would eventually dominate and become impenetrable if not weeded out. Here the conspicuous Western Donkey and Wax-lipped Orchids



put on a spectacular floral display amongst the herbage. The large tussocks of Red-anther Wallaby-grass (Rytidosperma pallidum) provide shelter and protected foraging sites for insects, geckos, skinks, dunnarts and marsupial mice (Antechinus). Fallen logs have been cut and placed in revegetation areas to construct wood debris habitats suitable for small animals. Positioned as habitat stepping-stones, logs have allowed ground dwelling fauna to colonise areas that do not have natural timber.

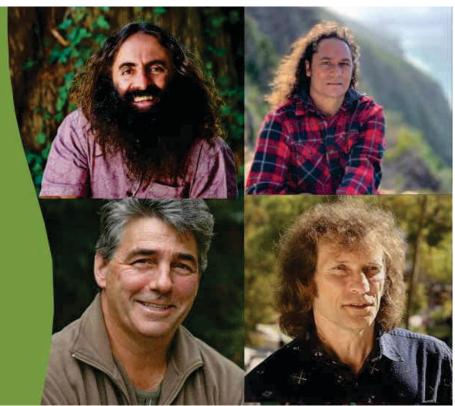
Later on the tour the group was invited to afternoon tea at Andrew and Jennifer Knop's home 'Merebone' on the High Park Estate in Narromine. However, we were not to savour Jennifer's amazing cakes and finger food before we had inspected the vegetation rehabilitation on the Knop and Channell properties. These neighbouring properties have both been registered as conservation areas. Eighteen hectares of Grey Box Grassy Woodlands close to the Macquarie have been restored.

The highlight of the visit to the Knops was Jennifer's high tea for the Australian Plants Society group. The table with various edible creations impressed everyone. Jennifer is a professional cake decorator with a business called Heavenly Scent Cake Decorating. The centrepiece was a Woodland theme cake made of orange buttercake covered in Wylde orange buttercream under fondant with hand crafted decorations and Australian native woodland foliage. There were also cupcakes, handmade chocolates, macarons, meringues, delicious handmade shortbread biscuits, cheeses and dips. The table held a cornucopia of visual as well as tasty delights. I must have made a pig of myself but Jennifer did encourage me.



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 Conference Kiama 12 - 16 September - Volunteers needed

We have some members already volunteering but we need more. Don't feel intimidated - there are lots of jobs. Welcoming with smiles, set up/tear down chat rooms, checking people on and off buses for excursions, giving out information, are just the tip of the iceberg.

To volunteer contact **Margaret Gaul** at **mgaul7@gmail.com** and get yourself booked in for the introduction and training zooms. It will be fun.

APS Conference material

Have a look at more of the information videos put together by the APS NSW team.

(links to youtube videos.) https://youtu.be/YN12XFt2yy8 https://youtu.be/EytodEbYm7Q