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Group Activity 27th March 2021: Visit to Boongala Gardens Pip Gibian

On Saturday 27th March our Group will be visiting Boongala Gardens, 76 Pitt Town Road Kenthurst.

This is a magnificent native garden made by Mal and Jenny Johnston. It features an amazing range of native plants, all grown and displayed to perfection. Mal and Jenny have been very well known by native plant devotees for many years, because they previously ran a native nursery, Annangrove Grevilleas. Now they have this beautiful garden, which is open on weekends for a month in autumn and again in spring.

The name Boongala was the nursery name of Sid Cadwell's nursery, one of the very earliest native plant nurseries in NSW. Sid was Jenny's uncle. As well as the gardens, Mal has been planting rainforest in the gully for over 25 years, so much of it is quite advanced. They also sell a large range of native plants during their open days. Mal has offered to do an extra tour of the rainforest for anyone attending with the group. Boongala Gardens has a website which is well worth viewing for more information and photos <u>here.</u>

Admission for adults is \$3 with children free. The rainforest and bush tucker tour costs \$5. We will meet at the gardens at 2pm. Please bring your own afternoon tea such as a thermos and nibbles or whatever you fancy.

Here's some pictures of Boongala Gardens:



Bushwalk to Lane Cove Bushland Park Saturday 24th April 2021 Pip Gibian

For our April activity we are going to Lane Cove Bushland Park. The area of the park we are planning to visit is very different from our usual bushwalk haunts. It is still sandstone country, but this time it is a deep, heavily-shaded gully with a creek running down it. The vegetation type is wet sclerophyll forest. Tall trees, largely turpentines, provide the shade. Underneath these is a different world with a great many ferns and climbers. The

understorey features young trees and shrubs, some of which are also found in rainforest. Most of the leaves are larger, greener and softer than those seen along sandstone ridges. This is the park in which Ray and Elma Kearney documented a large number of fungi and found undescribed species. Fungi are ephemeral, sometimes they are there in large numbers, while at other times there are none. Hopefully we will see some fungi, which can be highly coloured, but there is no guarantee. It has been an unusually wet season, so we might be lucky.

Members are best to arrive at 1.45pm ready to start the walk at 2pm on Saturday afternoon 24th April. This park is surrounded by housing, and some of the streets are narrow with little parking available. Hopefully there is adequate parking in Osbourne Road, just south of Second Avenue, where there is an entrance to the



park's walking tracks. Lane Cove Council cares for its bushland better than some councils and the tracks are well made. There are

fairly gentle slopes and well-constructed steps. If there is continued rain, it may be wet underfoot.

This outing promises to be very interesting, and quite different from those in spring last year. Although COVID restrictions have eased, please book with Jennifer on 0407 456 577. We still need to have an accurate record of who attends.

Program for the remainder of 2021

- 27 March 2pm Visit Boongala Gardens rainforest and bush tucker tour
- 24 April 2pm Bushwalk Lane Cove Bushland Park
- 22 May 2pm Members' Meeting Gumnut Hall Propagation Workshop led by Lesley Waite
- 26 June Bushwalk location to be advised
- 24 July 2pm Members' Meeting Gumnut Hall Bushland Photography Lachlan Turner
- 28 August Bushwalk location to be advised
- 25 September Bushwalk location to be advised
- 23 October Visit Mt Annan Botanic Garden (to be confirmed)
- 27 November Members' Meeting

The Group's propagation at the Hills Council's nursery is still suspended, but the nursery is expected to reopen soon for volunteers. We'll let you know via Calgaroo when we can restart our propagation days.

Annual Report 2020

Jennifer Farrer

2020 started with our Annual General Meeting which was followed by a talk by Kathy Potter of the Frog and Tadpole Study Group. Kathy was an excellent speaker and had brought along a number of live specimens to illustrate her talk which fascinated most of the members present.

Our Group had volunteered to host the NSW Region Gathering on 21 March and planning for this had been completed when the COVID-19 lockdown brought life as we had known it to a halt. Hopefully we will be able to host this event some time in the future.

We were rather blindsided by the lockdown and were slow to recommence activities. In June we held a members' meeting via ZOOM. The speaker was Brian Roach who overcame some technical difficulties to present an illustrated talk on Native Plants for Pots and Containers. This meeting was only attended by 11 members. This was disappointing and resulted in the Committee deciding to instead offer outdoor activities in a safe environment.

The plan was to organise bushwalks to see locally endangered plants. We held walks in July to see *Acacia gordonii* at Neich Rd Glenorie, in August to see *Acacia pubescens* at Wategora

Reserve South Granville and in September to see *Banksia aemula* at Agnes Banks Reserve at Castlereagh. As well as these plants we saw many other beautiful plants in flower. All three walks were well attended. The last one by 15 people which was the maximum number allowed for outdoor activities at that time. Preparing lists of plants seen and identified on these walks has stimulated much discussion within the Group. Many thanks to Tony Maxwell for his work on these lists.

In 2021 we plan to organise more walks. We are also going to refine the plant lists and to record the lists and information about the walk on our website for future reference by members and other interested people.

The Propagation Group met in March last year at The Hills Shire Council Community Nursery before the lockdown commenced. It has not been possible to meet again since then. Ian Cox and Lesley Waite have been able to visit the Nursery occasionally to check the plants and to take some away for special care at Ian Cox's place. Ian took the initiative to advertise some of the plants on our website. This resulted in a large number of the plants being sold. (See Treasurer's report). We are hoping that The Hills Council will soon allow volunteers back to the Nursery.

In November 2020 The Hills Shire Council published a new draft Landscape Master Plan for Fred Caterson Reserve. Proposals included removal of significant areas of vegetation to increase the areas used by the sporting clubs. Our Group prepared a very thoughtful and well researched submission. The final plan adopted by Council has made few changes but does include acknowledging that the Reserve includes "some of the area's more valuable and sensitive flora and fauna......As part of the future implementation of the Master Plan, Council will ensure that all relevant approvals and statutory requirements are met prior in (sic) the delivery of infrastructure to maintain critical wildlife areas." We will need to ensure that this actually happens.

Two members of the Committee did not seek re-election this year. Sue Gibbons has decided to step down from the Committee. This is after many years serving on the committee in several positions including Secretary and President. In recent years she has served as Librarian. This has involved her in countless hours finding new homes for our library books. This was necessary as we no longer had a place to keep the library when we moved to Gumnut Hall. Her persistence and devotion to this task has ensured that it is now successfully completed. We appreciate the many years of service that Sue has given to our Group and wish her well. Leone Ferranti has moved to the Central Coast and is no longer editing Calgaroo. We appreciate the contribution she has made to the group particularly as our Editor over a number of years.

Thanks to the other Committee members, Tony Maxwell, Pip Gibian, Ben Turco, Daniel McDonald and Marilyn Cross for their work and support in what has been an unusual and difficult year. Thanks also to our webmaster, Sue Bell.

Treasurer's report for year ended 31 December 2020 Pip Gibian

Income	\$
Membership fees	450.00
Plant sales	590.00
Book sales, raffles, activity	105.00
Interest	<u>54.17</u>
Total Income	<u>1,199.17</u>
Expenditure	
Subscription for Sue Bell	56.00
Meeting expenses	182.35
Calgaroo printing and mailing	<u>89.00</u>
Total Expenses	<u>327.35</u>
Profit for the year	871.82

Assets at 31 December 2020

CBA Bank	1,678.68
Bendigo Bank Term Deposit	5,456.44
Petty Cash	<u>476.00</u>
Total Assets	<u>7,611.12</u>

We have 43 members.

Minutes of the Annual General Meeting of the Parramatta Hills Group of the Australian Plants Society

Held at Gumnut Hall, Cherrybrook on Saturday 27 February 2021 at 2 pm.

Present: Tony Maxwell, Pip Gibian, Ben and Jennifer Turco, Daniel McDonald, Joan Hayes, Ian Cox, Lesley Waite, Jeff O'Neill, Chris Coe, Alan and Jean Wright, Doug Meredith, Erica and Jim Nash.

Apologies: Marilyn Cross, Ron and Barbara Gornall.

The Secretary, Jennifer Farrer, presented the Annual Report. The Treasurer, Pip Gibian, presented the Treasurer's Report.

Election of Office Bearers

President: No nomination

Vice President: No nomination

Secretary: Jennifer Farrer - Nominated by Ian Cox, seconded by Lesley Waite Treasurer: Pip Gibian - Nominated by Jennifer Farrer, seconded by Ben Turco Conservation Officer: Daniel McDonald - Nominated by Ben Turco, seconded by Ian Cox Calgaroo Editor: Ian Cox - Nominated by Jennifer Farrer, seconded by Ben Turco Delegate to NSW Region: Tony Maxwell - Nominated by Ian Cox, seconded by Daniel McDonald

Committee members: Ben Turco, Marilyn Cross, Joan Hayes - Nominated by Jennifer Farrer, seconded by Ian Cox.

The positions of Publicity Officer and Facebook Editor will be allocated by the committee The Propagation group will continue to be led by a sub committee consisting of Lesley Waite, Ian Cox and Jennifer Farrer. Jennifer will represent the group on the committee. Tony Maxwell will continue to hold the position of Immediate Past President.

Sue Bell has indicated her willingness to continue as the group's Webmaster. This is not a position on the committee.

Committee members for 2020 were thanked for their contribution.

Symbiotic Relationship Between Native Woodland Plants and Native Woodland Birds

Pip Gibian

On Saturday 27th February Doug Meredith gave our Group a very interesting and informative talk with the above title. He concentrated on the Cumberland Plain, a large area of fairly flat land between Windsor and Picton, and the Nepean River and the inner west suburbs of the city, excluding higher ground such as the Hills District. Most of the remaining uncleared land is dry sclerophyll woodland. For the birds, vegetation supplies shelter, food, water, roosts, nesting sites and nesting material. For the plants, birds act as pollinators, disperse seed and help with insect pest control.

Cover is provided by dense foliage in which birds can hide, or spikey foliage through which little birds can fly but their larger predators can't. The wings of many small birds are different from those of larger birds, and allow the little birds to accurately fly through thickets of branches. Shelter can be by camouflage when the bird's colourings are very similar to the foliage. Quail can hide in long grass and be very hard to see, because their speckled colouring perfectly matches the patchy grass colours.



Left: Male Australian King Parrot at nest hollow - photo Doug Meredith. Right: Male Grey Fantail – photo Mark Fuller.

Nectar-feeding birds have long thin beaks to reach into flowers for nectar. As they do, the flower's pollen falls onto the feathers of the head and elsewhere. When the bird goes to another flower some pollen falls onto that flower's stigma, and the flower is fertilised. So the bird feeds and the plant's flowers are fertilised at the same time. Other birds eat seeds and fruit. The seeds pass through the birds and are deposited elsewhere, along with a suitable dollop of fertiliser to aid a young plant's growth. Mistletoe provides shelter for the mistletoe bird, which also eat the mistletoe fruit. The seed has a sticky substance on it which makes some seed stick to the bird's beak. Later the bird tends to rub off the seed on a tree branch elsewhere. That bird also has a digestive system, through which the seeds pass very rapidly, and remain viable. Larger birds like the yellow-tailed black cockatoo have strong beaks which can crack open the hard casuarina fruit to access the seed. Birds also get water from trees, especially in the early mornings when dew drips off the leaves. Water also collects in the forks between branches. Some acacias have glands on their leaves containing a sugary liquid and birds can access this, particularly the nectar-feeding birds.

Insect-feeding birds are very important to plants to reduce plant damage from insects. Birds eat lerps, caterpillars, aphids, and flying insects like moths, flies and bees. Some birds catch their prey on the wing. Others, such as a tree-creeper, hop along a tree trunk, probing cracks and crevices in the bark for insects. Others can tear off strips of bark to find insects beneath. Most birds feed insects to their young offspring in the nest. Large birds like black cockatoos have sharp strong beaks with which they tear into branches to find wood borers. How the bird can accurately detect just where in a branch it will find a borer is not yet understood.

Most birds nest in trees where height above the ground gives increased protection from predators. Nesting materials include bark, moss, leaves and twigs, grass, roots, cobwebs, mud and feathers. Most birds choose a nest site very carefully. Many have nests which blend in with the surrounds, and often the colouring on the bird's head and back is good camouflage making them harder to spot by predatory carnivorous birds, while they are sitting on their eggs. Some species nest in hollows on old growth trees. It can take 100 years for a tree to have hollows created when dead limbs fall. This is why retaining old-growth forest is so important for birds, and why replanting trees will not adequately replace old trees for a very long time. In most species the male finds a suitable nesting hollow and then will call and/or display to advertise it, trying to attract a female partner. Nest boxes are not adequate replacements for tree hollows, as they lack the insulation provided by a tree branch. Eggs and nestlings are very sensitive to changes in temperature and easily killed if the nest is not insulated adequately.

Doug's talk was crammed with specific and very interesting information. We now know that the lady yellow-tailed black cockatoo is more heavily coloured than her male mate, having a splash of bright yellow on her head. This is most unusual in birds. In all except a small number of species, it is the male which is the more brightly coloured.

Narrow Neck and Actinotus forsythii (Pink Flannel Flower) Ian Cox

Narrow Neck, just southwest of Katoomba, is a great place for tremendous views over the Jamison Valley on one side, and Megalong Valley on the other. It's also a good place for a bushwalk and to see native plants. However, the main reason Lesley Waite and I journeyed there on 24th February 2021 was to see the Pink Flannel Flowers.

Actinotus forsythii is an annual. This means it flowers once and then dies. It only germinates after a bushfire and suitable followup rain. Its habitat is on ridges on skeletal soils in the upper Blue Mountains at a

few locations such as Mt Hay, Newnes Plateau, Kanangra Walls and Kings Tableland, and at a handful of similar localities south to Victoria. It is not often seen. So, for native plant enthusiasts like us, the opportunity to see this special and alluring plant in flower was too good to miss.



The Pink Flannel Flowers were easy to find. Mostly they were sprawled amongst fireblackened remains of banksia, hakea and isopogon, not far from the fire trail. Each plant was about a metre across, and there were so many. In some areas the distinctive pink

Photo: Jill Dark

flowers seemed to cover the ground almost as far as the eye could see. They put on a great show, which certainly was worth travelling this far to witness.

After driving along the fire trail and parking several times to wander where the Pink Flannel Flowers were, we came to the locked gate and continued walking. There were very few Pink Flannel Flowers beyond the gate.

When Lesley and I go bushwalking we cast our eyes around, and will admire and photograph virtually anything. A scenic view, a tree trunk with unusual colours, a rock with stunning lichen, an attractive plant, animal or insect. We observe and appreciate the wonders of nature. There is no hurry. Today was a bit different too, because with the constant fog and light rain we could not see the usual stunning views over the edge. This meant we must concentrate on the ridgetop.

Some of the photogenic fungi we saw at Narrow Neck Plateau:





Just before we turned around, we ascended a small hill, at the top of which was a gigantic *Persoonia chamaepitys*. It was the largest and healthiest specimen you could ever wish to see!



On the moist bank next to the track were verdant specimens of *Lomandra obliqua* (left) and *Gleichenia dicarpa* (right):



.... and many ghostly eucalypts, some dripping with bark:





The Club Moss *Lycopodium deuterodensum* and an attractive lichen were also on the ridgetop at Narrow Neck:



As usual, our return walk to the parked car was much swifter than our outgoing journey. Everything we saw and admired at Narrow Neck had far exceeded our expectations. It had been a wonderful day - one to remember for a long time!

PS: Since writing this article I've reliably heard that visiting Narrow Neck to see the Pink Flannel Flowers has been so immensely popular that the National Parks Service has had to run traffic control at weekends, and the Area Manager estimates that 30,000 people have been through. Unbelievable!

Sale of Encyclopaedia of Australian Plants

We have a significant set of five volumes of the Encyclopedia of Australian Plants remaining from the Group's Library. These volumes are still highly regarded and often available for sale on the Internet.

We are conducting a silent auction for them as single volumes. Please send your bids to <u>apsparrahills@gmail.com</u> by 27 March.

Here are the details of the volumes which are available:

Encyclopedia of Australian Plants - suitable for cultivation - Volume 1 by Rodger Elliot and David Jones - year 1981 336 pages Encyclopedia of Australian Plants - suitable for cultivation - Volume 2 by Rodger Elliot and David Jones - year 1982 517 pages Encyclopedia of Australian Plants - suitable for cultivation - Volume 3 by Rodger Elliot and David Jones - year 1984 516 pages Encyclopedia of Australian Plants - suitable for cultivation - Volume 4 by Rodger Elliot and David Jones - year 1986 447 pages Encyclopedia of Australian Plants - suitable for cultivation - Volume 5 by Rodger Elliot and David Jones - year 1980 512 pages

The publisher of the books was Lothian.

On the internet the prices vary for each volume but typically they are around \$30 - \$80 each for a second-hand book. The complete set contains nine volumes.

This is one of my all-time favourite articles about plants. It contains powerful and compelling messages, and was published in the January 2020 newsletter of the Australian Flora Foundation, *Research Matters*.

I hope you enjoy reading it as much as I did.

- Editor.

The Joy of Plants

Assoc. Prof. Rosanne Quinnell School of Life and Environmental Sciences, University of Sydney

I have taught botany for over two decades on topics ranging from plant ecology and diversity to plant anatomy and physiology. Much of my 25 years of teaching has been working with students generating micrographs. I have educated first year students through to honours, and supervised higher research degree students. So, when invited to write this piece, my intent was to offer some background on botanical literacy, but as I was writing I felt my usual scientific tone drift to include my musings in recent weeks. Global discussions about climate change, and the political situation in Australia, which for too long has focused on short-term media cycles, accounting timelines, and 3-year political terms at the expense of our long-term survival, have rendered conversations about our environment an emotional space.

I offer this piece as a homage to plants.

There is no doubt that phototrophs support all life on our planet, and this makes the care of our botanical environment critical for the survival of animal life. Plants, and other photosynthetic oxygenic organisms sequester carbon from the atmosphere. But they cannot keep up with the amounts of carbon dioxide for which we humans are responsible. Carbon emissions are able to cross international borders, so this is collective 'we'.

Our Great Southern Continent in unique, and our plants and animals have adapted ways to survive here. These adaptations are being put to the ultimate test as fires increase in intensity and frequency, and there is emerging evidence that tree survival is diminishing because of this (Fairman *et al.* 2019). The recent fires that have raged across millions of

hectares have resulted in what ecologists would call a 'natural experiment', offering opportunities to assess diversity of biota of the scorched earth, to count the survival rates of vertebrates, and diversity of pollinators visiting the plants as they regenerate, in comparison to unburnt areas. As a plant scientist, I found the focus on animals (mainly koalas) to be strange. With the notable exception of the Wollemi Pine, it was as if the trees, the things that were burning, were invisible. This invisibility of plants is referred to in the scholarly literature as 'plant blindness' (Wandersee and Schussler 1999), the antidote to which is 'botanical literacy' (e.g. Mathes 1983).

Throughout my career, I have deliberately shied away from the term 'plant blindness', as it is a deficit definition (the inability to see plants or to recognise differences between plant species), and have instead focussed on devising ways to improve engagement of both students and the broader campus community with the botanical world. One innovation has been a mobile app called CampusFlora (currently undergoing redevelopment) where the plants growing on the campuses of the University of Sydney are presented as learning objects, making spaces outside of the classroom learning places for botany (e.g. Pettit *et al.* 2014; Cheung *et al.* 2015; Dimon *et al.* 2019). Alongside this initiative I offer reminders via Yammer posts to the university community prompting us all to stop, look and learn about the plants in our working environment, which in our campus context, is akin to a botanic garden.

Although I have taught botany for a long time, I feel obliged to share my knowledge, noting that I learn something new every year. I feel a bit sad knowing that I will never completely satisfy my botanical curiosity. As a case in point, on a recent field excursion to the Kimberley, it was such a treat to be able to see and touch Boab trees. Their mode of arrival to the Australian landscape remains a mystery to western science (see Baum *et al.* 1998). It is all so interesting to me.

I often ask myself the question: when did it become normal to not be able to recognise and appreciate plants? Does it start when we are young? I ask this because when I have looked at flash cards that are used to teach children to speak, I feel myself getting cross when, for example, the picture of the African savanna with a lion in it is only labelled as 'lion'. I recall seeing images spruiking national tree day where the inclusion of a bird in the tree branches seemed to be obligatory. Is it true that most people will only pay attention when an animal is present? A study out of the US provides some evidence to confirm that our (human) attention is skewed to animals rather than plants (Balas and Momsen 2014).

I wonder if there is a cultural element at play. Over the past five or so years I have been privileged to have been invited onto Country and, on every occasion, have been introduced first and foremost to the plants, considered as brothers and sisters (Martin and Mirrboopa, 2003). As a plant-lover, I can't tell you how much it pleases me that plants are in the forefront of these introductions. Maybe it is worth noting that my background is Celtic with forebears coming to Australia only about 150 years ago. It should also be noted that here I am relying on a fuzzy memory of things my mother told me years ago.

My mother, too, was a lover of plants. She would be moved to tears (literally) if she found an off-cut of a plant (a sprig) on the footpath. She would take it home and coax it to grow, usually with success. When my sister passed away, my mother grew one of the white roses from my sister's wreath into a healthy plant. I recognise that some might view this as dark. But beyond our very existence being contingent on plants (calories, nutrients, oxygen, medicine, shelter) our emotional and cultural wellness is connected with plants. In our celebrations we include plants, roses on Valentine's day, the bride's bouquet, chrysanthemums on Mothers' day. And plants are integral to our commemorations – lilies for death, rosemary for remembrance, trees planted as memory waypoints.

More explicitly, the Australian War Memorial offers an opportunity to purchase a progeny of Gallipoli's Lone Pine; sunflower seeds from the field in the Ukraine where MH17 was shot down were sent back to Australia to respectfully commemorate those who were not able to come home. There are many more examples. I find it acutely interesting that plants, particularly their flowers, offer us ways to express what our words cannot. Gently and with beauty.

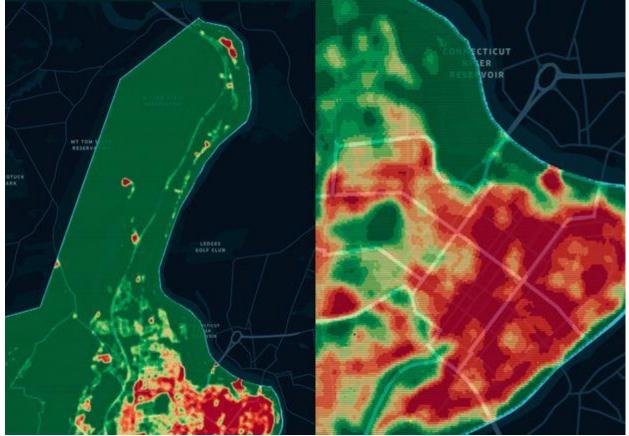
Sometimes, when I look at our Southern landscape, I edit out the buildings, the roads, the poles and wires, the dams, so that I can imagine what our country was pre-contact, pre-colonisation, pre-invasion. That humans are still able to survive and thrive in remote areas speaks volumes about the remarkable sophistication of Indigenous Knowledge Systems, and the resilience of a culture derived from and integrated with the land and the sea. I like to think of the time when we will reintegrate with the land.

When we die, we decompose. Our molecules are disassembled and become available for use by the macro and micro soil biota. Carbon released into the atmosphere is refixed via photosynthesis; our nitrogenous waste is taken up by root systems. Even those who are the loudest climate change deniers will realise their full environmental potential when their bodily chemicals contribute to nutrient cycles to be incorporated into lignin, cellulose, botanical genomes. Incorporated into branches and leaves, I like to think of us dancing joyfully in the treetops together.

And ... from *The Wall Street Journal*:

For Better Health During the Pandemic, Is Two Hours Outdoors the New 10,000 Steps?

The physical and mental damage inflicted by COVID has doctors, researchers and others racing to tap into nature's therapeutic effects. As people spend more time indoors, a mountain of scientific research says spending time in nature is critical to health and increases longevity. That means being in fresh air, under trees and away from cars and concrete—on a regular basis.



NatureQuant combines data and infrared technology to create vegetation heat maps to score how healthy a location is likely to be.

"There's an urgent need emerging in science and at the gut level to increase the nature experience. This field is just exploding," says Gretchen Daily, a professor of environmental science at Stanford University.

The benefits have been clear to scientists for some time, but the pandemic has made the matter more urgent. The physical and emotional toll the virus has taken, especially in urban areas with little green space, has galvanized doctors, researchers and others to tap into nature's therapeutic effects.

Spending time in the woods—a practice the Japanese call "forest bathing" – is strongly linked to lower blood pressure, heart rate and stress hormones and decreased anxiety, depression and fatigue.

It's your Calgaroo

Imagine . . . if trees gave free Wi-Fi, we'd all be planting like crazy. It's a pity they only give us the oxygen we breathe . . .



Parramatta and Hills District Group

Secretary - Jennifer Farrer: <u>apsparrahills@gmail.com</u> 0407 456 577

Editor - Ian Cox: <u>itcox@bigpond.com</u>

Join us on Facebook: here

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