

FRIENDS OF WAITE CONSERVATION RESERVE Inc.



COMING EVENTS

**Summer Solstice
Celebration**
7:30pm
Monday
22nd December
52 Furness Ave
Edwardstown
BYO BBQ
RSVP to Clint
clint.garrett@ozemail.com.au

**First Working Bee
For 2022**
Sunday
March 20th.
9:00am



THE UNIVERSITY
of ADELAIDE

President's message

Cool, breezy and threatening showers but the 50 Friends who gathered at Netherby Spur on the morning of 11 September didn't care. Buoyed by coffee and high-end biccies there was universal agreement the panoramic views over Adelaide were spectacularly worth it. That was the tone for the visit by Vice-Chancellor Professor Peter Høj when he unveiled a new picnic setting as part of ongoing celebrations for the Friends 20th anniversary.

It was only the second time in those 20 years that the Friends had hosted a University of Adelaide Vice-Chancellor. Also present was Professor Martin Cole, recently departed Head of the School of Agriculture, Wine and Food, which oversees management of the Reserve.

The picnic setting commemorates the inaugural President of the Friends group, the late Dr Scott Field. In his speech the VC acknowledged Scott's contribution in shaping the early days of the Reserve as well as being an esteemed member of the university alumnus.

He also thanked the dedication and huge effort by the Friends to conserve, restore and maintain the reserve for the community.

Only two days earlier the site had been bare. Following delivery onsite by Graeme of Innovation Engineering, Clint, Jeff, Simon & Pete armed with crowbars and shovels had dug their way through half a tonne of rock to install it. Again, the pain of installation was largely offset by the frequent stops to admire the view. Thanks to all who helped out on the day and especially to Clint for the vision and energy to make it happen. Go see for yourself.

Peter Bird



Hole digging in preparation for siting the table



The Vice-Chancellor & President unveil the new picnic setting at Netherby Spur

Membership Cup overfloweth

Thank you to all those who have signed up or renewed memberships in the past couple of months. After several generous donations, the Committee started the process of seeking Deductible Gift Recipient status to enable donors to claim tax deductibility. However with only 38 members it quickly became obvious that we were well below the threshold 50 members to qualify.

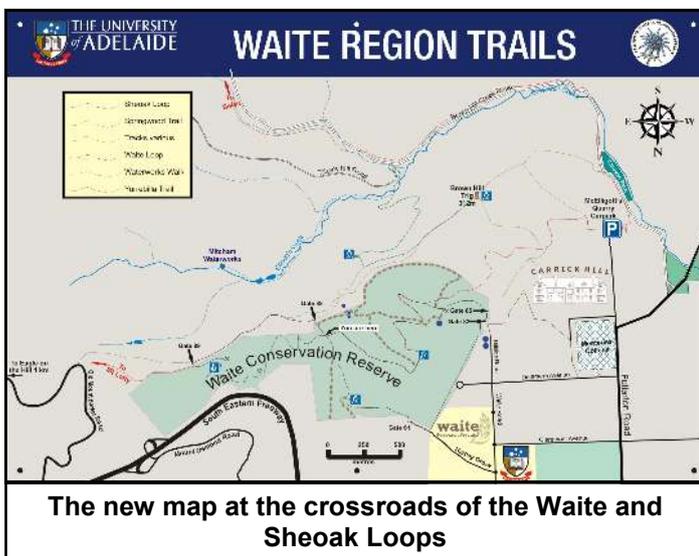
Following an email request and some gentle urging on the trail by Clint, memberships quickly surged past the magic number. And then some! We are currently sitting at 72 members and still climbing. This first hurdle safely negotiated, Richard Brooks from the Committee is again on the case to achieve tax deductibility for donors. Stay tuned.

A reminder that our membership year goes from January 1st to December 31st. If you have renewed since June 30th 2021 we are counting that renewal as being your 2022 membership.

Below are two signs that the Winefield donation has funded.



One of the 5 new directional signs

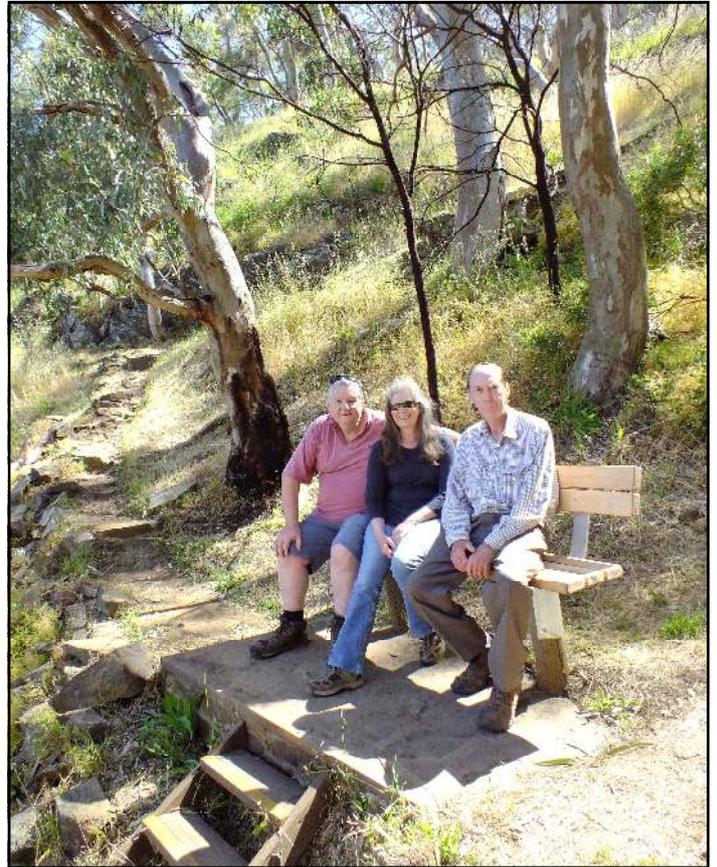


The new map at the crossroads of the Waite and Sheoak Loops

New Seats

This new seat and a second new seat at the top of Wild Dogs Glen are the result of a generous donation from Steve and Martha Mabbs.

For those of you who don't get to walk up there on a regular basis, these seats replace old simple permapine benches. Both of those were wobbly and had very cracked timber.



Steve & Martha Mabbs with Clint at the dedication of the new seats in Wild Dogs Glen.

Graeme Bubner from Innovation Engineering had an on-site meeting in Wild Dogs Glen with Clint two months ago and came up with a design and gave us a price of \$2300 for the replacement seats.

At that stage Steve had donated \$1000 to the Friends for trail work. Clint spoke to him about using his donation as part funding of the cost of the new seats. Steve's very generous response was to offer to pay the full cost of the work.

Thank you Steve and Martha for your donation and for making life better for our walkers. People for years to come will also thank you for your generosity.

Thanks are also due to Graeme Bubner for the seat design and the high quality of the work. The design is elegant but robust – it should outlast the posts. The timber is Australian Iron –Ash, this is treated *Eucalyptus regnans*, not timber from a South East Asian rainforest. We are grateful for his good work.

Sowing seeds for success

On 12 November, 15 Friends attended Urrbrae TAFE nursery to literally sow the seeds for our 2022 revegetation program. Together we seeded 900 tubes and planted 50 cuttings of 30 species all up. TAFE students will seed another 40-odd species in February. Last year we successfully propagated 50 species so we're well on track to surpass that. Thanks to Neil, Noel, Sarah, Jeff, Meg B, David, John and Jake in addition to those pictured. Thanks also to Sam Bywaters and Ben Cavuoto from TAFE for providing facilities and looking after us on the day.

The process of replenishing seed supplies has already started. Three groups of TAFE students will be collecting seed over three days 29 Nov - 1 Dec led by lecturers Sam and Ben. Already it looks like a good year for seed production so let me know if you'd like to help out with seed collection in December.



Andrea, Ben, Rebecca, Sally, Clint, Maura & Jennifer, preparing cuttings of *Goodenia albiflora* and dividing *Asperula conferta* at Urrbrae TAFE

...and striking cuttings

As well as TAFE, we also collaborate with City of Burnside to help propagate some of our difficult to grow species. Mark Ellis oversees a spectacular nursery specialising in growing local native plants for their council gardens and reserves. We share with them seeds and cutting material from the Reserve so that they can increase both their species and genetic diversity. In return we receive some of the surplus to plant out in the reserve.

Mark is currently striking the following cuttings for us: *Acrotriche serrulata*, *Calandrinia calyptrata*, *Chrysocephalum semipapposum*, *Goodenia albiflora*, *Hibbertia crinita*, *Hydrocotyle laxiflora*, *Myoporum petiolatum*, *Pultenaea pedunculata* and *Scaevola albida*.

Hopefully most will survive to plant out next winter.

Thank you to Mark for your expertise, specialised equipment and passion.



Mark Ellis & 'humidicrib' with Waite cuttings

Peter Bird

Visitors in the Reserve

PAWS Walk

Nine delightful PhD and Masters students walked the Loop Trail on 22 October, part of the annual visit by the Postgraduate Adelaide Waite Students (PAWS) group. While most of the students are involved in traditional agricultural research projects such as agronomy, two researchers are completely off the planet. Both are attempting to solve the problem of how to grow plants in space! I wonder if they've tried olives – reckon they'd thrive.



Horticulture Interns

University of Adelaide horticulture interns Jade, Alissa, Genevieve & Nick joined us on 6 September to help with under-storey monitoring. They scored percent cover on 10x10-metre quadrats on Sarah Thomas' newly adopted patch on the southern boundary. The students even had time to pull a few weeds, building on Sarah's efforts to restore this diverse 1.2-ha patch.



TAFE Olive Busters

On 24 November the Friends trained up another batch of Urrbrae TAFE Conservation and Land Management students in the dark arts of olive control. The 13 students rotated between four control techniques: Drill & Fill with Helen and Meg; Tree-popping saplings with Jeff; Backpack spraying of regrowth with Grant; and Basal Bark Treatment with Pete. Unfortunately the threat of rain prevented students from undertaking actual spraying and BBT but they got the gist that we don't much like olives. Thanks to lecturers Giles Goldney and Rachel Eckermann for another great collaboration and to the Friends above for sharing their olive control wisdom.

Peter Bird

Working Bees

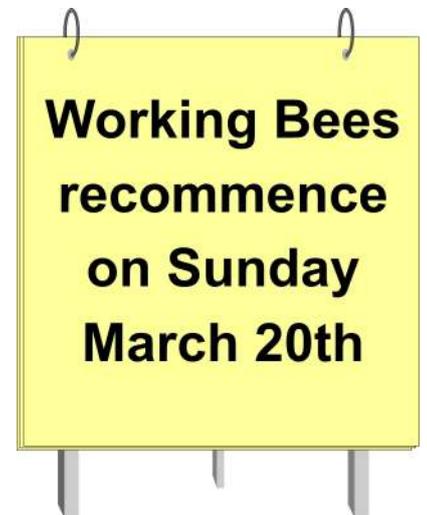
With one more working bee still to go we have already smashed attendances at working bees for the year. Sixty-two people have participated in normal weekend bees contributing 733 hours of volunteer time. This doesn't count several other Friends who have helped out in other ways and at other times. Or the many TAFE students and lecturers, interns and sundry others who have conducted work in the reserve under the auspices of other organisations.



Phillipa Horton, Peter Bird and Alexander Pring protecting the orchids on Quartz Hill



Andrea Long with Cape Tulips from Urrbrae Ridge. In the background are two of her very helpful children; Jaslyn and Nikita



Our efforts over the past three months have very much focused on singularly bad weeds in good places: Synnotia, Cape Tulip, Sparaxis, African Weed Orchid and Perennial Veldt Grass as each has emerged, grown and flowered. We have especially worked on Quartz Hill, Pultenaea Hill, Urrbrae Ridge and surrounds.

Although there are no formal working bees over summer I am frequently in the reserve collecting seed, weeding and watering plantings, spraying regenerating olives, monitoring vegetation and especially pulling olive seedlings. I am always happy for helpers. Ditto for Clint.

Peter Bird

Waite Walkers

Since Peter and I installed the Traker counters at Gates 61 and 88 at the end of February 2020, there have been 75,637 visitors pass them. This is an under-count of total visitors for 2 reasons.

1) People passing in 2's or 3's are counted as 1. From observation, the under-count is approximately 13%. I can safely adjust the figures up by 10% and feel quite confident that they are not overstated. In which case, visitation has been about 83,200.

2) There aren't counters near gate 82 or at the Carrick Hill Yurrebilla Trail entry. From my observations at Netherby Lookout and in Koala Gully, we are not counting about 15% of our walkers. That means we have had nearly 100,000 visitors over the last 20 months.

Since the Spencers commissioned me to organise new signage on Springwood Park, there has been a 20% increase in the number of people who are walking up Brown Hill, onto Springwood Park and then returning to McElligott's Carpark via the Reserve.

The map on the next page shows the results of getting postcode information from 4938 walkers at the crossroads of the Waite and Sheoak Loops over the period May 2020 to October 2021. This is usually done on a Sunday.

The map shows that the Reserve serves a wide catchment. I have not included our visitors from country SA and interstate. As would be expected, the largest numbers of walkers come from our closest postcodes, but there are people who come to the Reserve almost every weekend from the beachside suburbs. I am sure that there is a difference in distribution between our weekend and week-day walkers. If I were to do the surveys on weekdays, the distribution would be more closely clustered around Waite.

Covid has had an impact on numbers of walkers. Prior to Covid, when I was working on the trail, I would see 10-15 walkers on weekdays. In peak Covid, (April 2020) this number rose to 80-90 per day. Now it has reduced, but is still around 35-55 per day.

The stile at Gate 83 had wire mesh on both its north and south sides. This mesh was buckled and had become a trip hazard, as Peter and I observed recently.

This mesh has now been removed and wooden palings have been put in its place. A new and much smoother hand-rail has been put in on the southern side. There seems to be little point in having mesh on that side as there are no longer sheep in the Reserve.

Clint Garrett

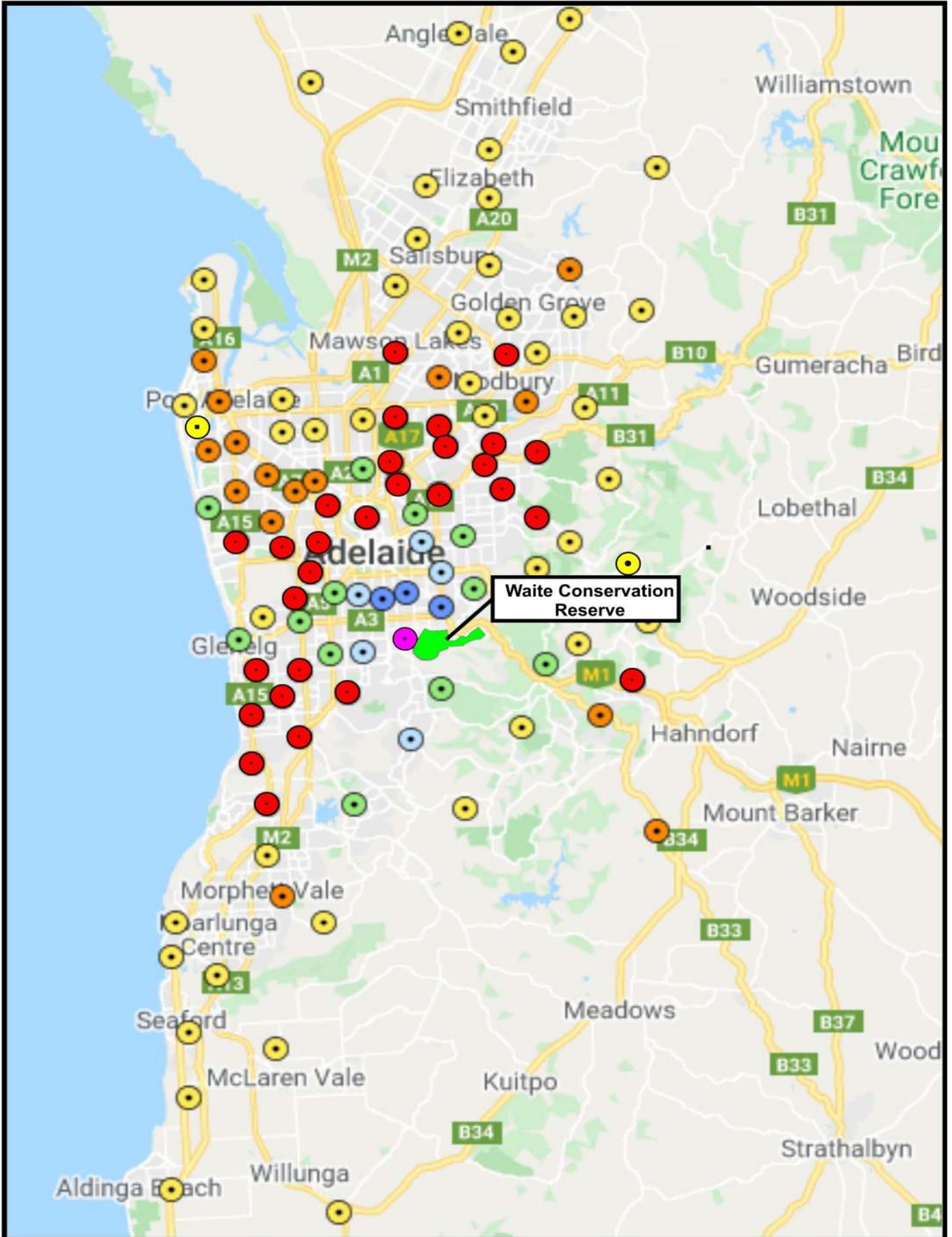


Stile 83 before and after



10 percent of our visitors this year are children

4938 Walkers by Postcode May 2020 - Oct 2021



Pete's Nature Diary

A ferny thing happened

Not the most spectacular addition to the reserve plant list but they all count. The latest discovery, **Least Adder's Tongue** *Ophioglossum lusitanicum*, was found at the base of a Grey Box during a working bee near Quartz Hill summit on 4 September. The colony of 100 tiny plants, each only a single leaf, occupied less than a square metre illustrating their diminutive size. The plants mostly live beneath the soil nourished by fungi, occasionally sending leaves above ground. Being ferns they have spore-bearing stalks rather than flowers. Their common name comes from their stalks apparently resembling a snake's tongue. Beats me! The plant may be one of the smallest going around but what they lack in size they make up in chromosome number. The genus *Ophioglossum* has one of the highest known numbers of chromosomes with up to 720!



Icky Ixia

South African plants of the Iris family are nightmare weeds. Think Sparaxis, Cape Tulip, Thread Iris and Guildford Grass. Until a couple of years ago we had 8 widespread weedy irids in the reserve. In 2019 this became 9 with the discovery of a small population of Variable Ixia *Ixia polystachya* in the far North-east corner of Stone Reserve. A couple of intensive bouts of weed-pulling over the next two years and we seem to have averted a disaster. Not a single plant appeared this year despite the wet winter. Of course it will require periodic follow up for several years to be sure we got it all.



Imagine our horror then when Clint learned from a walker that there was an extensive patch of Ixia growing along the Yurrebilla Trail in Carrick Hill a mere 100m from our southern boundary. Not waiting for the seed to find its way into the reserve, Clint took swift action and dealt with the infestation. Again, it will take long-term follow up to ensure that the plants are eradicated.

Bird's Birds

Black-faced Cuckoo-shrikes, Tawny Frogmouths and Wood Ducks all bred in the reserve this year. Our second **Olive-backed Oriole** was calling incessantly from the summit of Pultenaea Hill on 8 October. And we had seen individual **Square-tailed Kites** on a couple of occasions since 2013 but Clint saw our first ever pair soaring over Netherby Spur in August (pictured). Still waiting for them to set up camp and breed in the reserve.



Peter Bird

Koala Gully Works

Over the last few months, Clint, with help from Charlie Vassallo, Roger Antoniou and Paul Holloway, has repaired and upgraded approximately 250 metres of trail in Koala Gully. The sections that have been worked on are those on the steeper slopes where the edge has been broken or where it is obvious that someone has slipped off the trail.



Broken edge, which migrates further into the trail as later walkers break the inner edge of the collapse.

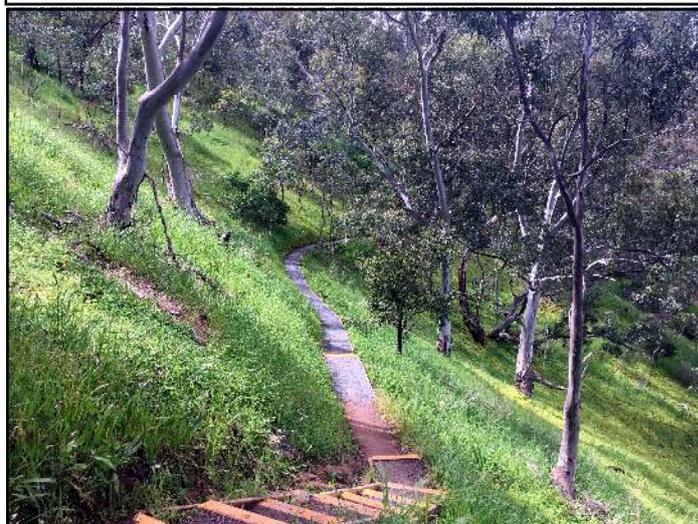
Over time, the trail has eroded, with the lower side dropping further and further. This creates a steeper side slope, which, when it is wet, causes walkers to slip off the trail. One of our walkers ended up with her feet above her head when she took a fall in Koala Gully. In some places this erosion has developed a side slope of 19 degrees, more commonly 15 degrees. Ideally the side slope on a trail should be 5-6 degrees. Enough to encourage water to run off, but not enough to create a slip hazard.

Koala Gully is not the only part of the trail with these issues. There are many similar problems in Netherby Gully, which I will work on once the soil is again moist.

Clint has developed a device which makes it easy to work out the 5° slope. A spirit level sits in an aluminum channel, which has a shaped block fixed to one end. When the level reads level, the trail is actually sloping 5°. It also is 600 mm long, which gives a consistent trail width.



5° Slope device in use.



Part of the reconstructed trail

A 75 mm board and pegs are put on the lower edge of the trail to support it & then the trail is “leveled”. After that dolomite sand is carried in and put on the trail to provide a sound walking surface. More than eight tonnes of this material that has been bucketed/wheel-barrowed to the area being worked on.

Almost all of this work has been funded by donations from walkers who have also carried in some of the dolomite. I am most grateful for their donations and for their help.

Clint Garrett

Never give them an inch

By any measure Australian Bull Ants in the genus *Myrmecia* are memorable. Often called Inch Ants due to their size, they are among the world's largest, primitive and most formidable ants. Three species of *Myrmecia* occur in the reserve, The Black Bull Ant *Myrmecia pyriformis* (see images), the 'Toothless Bull Ant *M. mandibularis* and the much smaller but equally intimidating Jumper Ant *M. pilosula*.

Anyone who has spent much time in the reserve will be familiar with the Black Bull Ant. Their enormous size, long, multi-toothed mandibles, glossy black gaster and alert and aggressive attitude is diagnostic.

Black Bull Ants are nocturnal, typically leaving the nest around dusk and returning at dawn. Adequate light at those times enables them to navigate using landmarks aided by their huge eyes.

Black Bull Ants deserve our undivided attention. Venture too close to their nest and you will be instantly and painfully alerted. It isn't the jaws you need to worry about but the re-tractable stinger located at the tip of the abdomen which delivers potent and potentially life-threatening venom.

Several deaths from anaphylaxis have been caused by *M. pyriformis* and *M. pilosula* stings. Indeed *M. pyriformis* has been dubbed the most dangerous ant in the world by no less than the Guinness Book of Records. Best to keep out of their way lest things go pyriform (refer caption)!

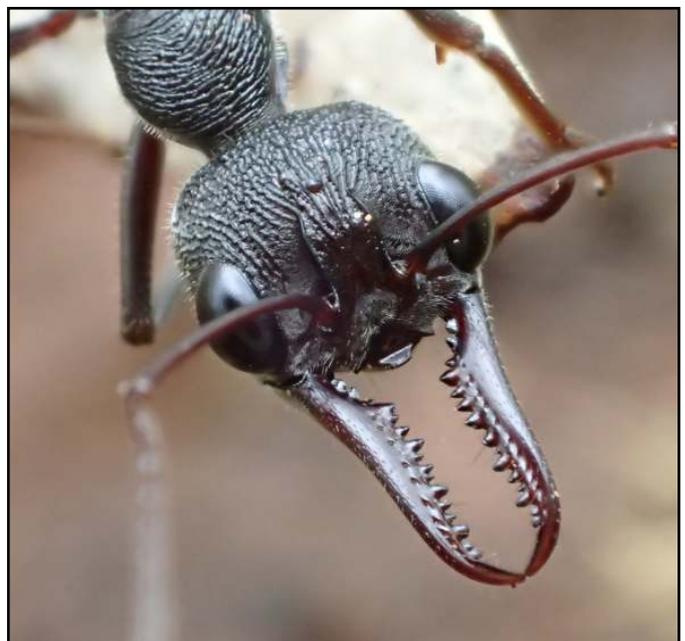
Anyone with known allergies to ant or bee sting should carry an epipen® when in the reserve.



The Black Bull Ant *Myrmecia pyriformis*.
Pyriform means pear-shaped referring to the pronotum, the body part behind the head.

Black Bull Ants are active throughout the year unlike most of the 90-odd species of *Myrmecia* which are dormant in the winter cold. Despite having all the equipment to be serious predators, adults eat mostly 'honeydew', the sugary liquid secreted by psyllids and other sap-sucking insects. The ants forage alone usually in Eucalypts located within a short distance of the nest. The larvae however are carnivorous, the adults feeding them on insects and other invertebrates.

Others have done the tricky work to count the 200-1400 Black Bull Ants in each colony. Their nests are most abundant in the best parts of the reserve including Quartz Hill. Watch out for mounds of excavated soil with one or more entrance holes, often lurking partly hidden amongst vegetation. Nests are sometimes raided by Echidnas which eat the eggs and larvae



Restoration provides hope

While not a substitute for reducing emissions, ecological restoration is an imperative part of fighting climate change. So says the (international) Society for Ecological Restoration (SER) when responding to a recent report by the UN Intergovernmental Panel on Climate Change which acknowledged that the impacts of climate change were now worldwide and universal. Among other things SER says:

Restoration is fundamentally a hopeful activity that can improve the natural world

Restoration says that we can take a degraded place and make it better not just for humans or the environment, but for all life and every human being. For some, participating in restoration is a step towards changing their relationship to nature and understanding their place in the world.



Regenerating Kangaroo Grass gradually taking over where once there were feral olives in Stone Reserve

Restoration is a vital response to the climate crisis

Hotter temperatures, longer droughts and extreme weather events will increasingly become the norm. Restoration can blunt the negative impacts of climate change while also offering benefits to nature and biodiversity. For example, removing invasive species can reduce the impact of wildfires and increasing appropriate vegetative cover can reduce heat.

Restoration offers a better path forward...

...by offering employment opportunities, improving the equitable distribution of benefits and increasing involvement of marginalized communities. This can increase social-ecological resilience and reduce climate impacts to the most disadvantaged people during a time of increased instability, and food and water insecurity.

Restoration is a key tool to limit or reverse the progress of climate change

Healthy ecosystems are recognized for their power in capturing and holding carbon. Restoring ecosystems can accelerate carbon sequestration while also offering a host of broader benefits to the living world.

The need to reduce the degree of climate change and to mitigate its worst effects has never been clearer. The UN Decade on Ecosystem Restoration should inspire all generations to undertake and promote restorative activities in their communities. SER calls on anyone feeling frustrated, cynical, hopeless, or powerless to consider how they might engage in or support restoration happening in their community.

Works for me as I go about attempting to restore the reserve!

Peter Bird

Friends burning to help

Seven Friends gathered in Pittosporum Gully on a sunny day in late August to burn 5 large piles of chain-sawed olives, killed using Basal Bark Treatment a year or two earlier. Their combined effort of 35 hours was a far cry from the previous year when 24 people spent 260 hours to burn 73 piles over 6 days.

Why the difference? Partly that fewer olives were felled, but mostly that branches were not piled up for burning, instead perched onto the tops of adjacent un-felled olives retained for bird habitat. This was done both to save time and to reduce our carbon emissions while still improving access for follow up olive control.

Thanks to the hard workers pictured.

Peter Bird



Jennifer Gardner, Simon Treloar, Chloe Park, Jeff Glasson, Sage Lawless & Jake Howie take a well earned break from burning olive piles in Pittosporum Gully
Photo: Pete Bird

Please renew your membership if you paid before June 30 2021

MEMBERSHIP

Individuals	\$15
Families	\$20
Corporate	\$40

Form included with this newsletter

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