

FRIENDS OF WAITE CONSERVATION RESERVE Inc.



COMING EVENTS

**Bushcare Days
Starting
19 March
Details enclosed**

**AGM
May 17th
7:30pm
Urrbrae House**

**Winter Solstice
Celebration
5:30pm
Sat. 24th June
52 Furness Ave
Edwardstown
BYO BBQ
RSVP to Clint**

clint.garrett@ozemail.com.au



THE UNIVERSITY
of ADELAIDE

President's message

Donations to the Friends group are now tax deductible. In formal terms, the Friends of Waite Conservation Reserve was added to the Register of Environmental Organisations for Deductible Gift Recipient status on 12th December. I wish to personally thank Treasurer Richard Brooks for his hard work and persistence in successfully navigating a number of hurdles to achieve this for us.

Time is precious; we haven't all got the time, or sometimes, the strength to contribute to our ideals. Although the Friends' collectively contributed more than 5,000 hours of volunteer time to the Reserve last year, there is always more to do. Donations are always welcome to help us further pursue our aims of:

1. assisting in the conservation and ecological restoration;
2. encouraging community use and enjoyment;
3. promoting research and education in the reserve.

Now, thanks to Richard your donations will be tax deductible

In order for us to maintain our tax deductible status, we must have 50 plus financial members. If you have not renewed your 2023 membership, please do so soon. Renewing is easy. Go to the Friends website: <https://friendsofwaitereserve.org.au> and click on the Membership link. This will link you to a PDF form that you can fill in and electronically pay your subscription.

Bushcare days

We're back! Bushcare days, or Working bees, recommence **Sunday 19 March** and happen thereafter every **first Saturday & third Sunday of the month 9.00am - 12.00noon**. Followed by lunch.

For the first two visits we'll meet at Gate 82 and walk southern and western hills and dales hunting seedling olives, African daisy and any other weeds that have recently snuck into the reserve unannounced. Those wanting a less energetic option can dig and bag Plantain on Sarah's patch just up from the Gate 82 entrance.

From 16 April we'll move up top to Springwood Park and chase the significant germination of olive seedlings, amongst other weeds in Stone Reserve and beyond. More walking. I'll bring all tools. See maps and directions on page 10. Expect the usual email reminders early in the week before each Bushcare day.

Program

Sun 19 March

Sat 1 April Sun 16 April

Sat 6 May Sun 21 May

Sat 3 June Sun 18 June

Pete Bird



FRIENDS OF WAITE CONSERVATION RESERVE Inc.

www.waite.adelaide.edu.au/reserve/friends/

Free talk preceded by brief AGM and followed by supper



WHERE:

Urrbrae House
Waite Campus
Urrbrae
Enter either via:
Walter Young Ave.
Or Gate 4 Waite Rd

WHEN:

Wednesday
May 17
7.30pm

Enquiries

Peter Bird
0418 853 834

Guest Speaker: Dr. John Read **Outsmarting the Feral Cat** **- innovative solutions to the extinction crisis**

Ecologist, conservation biologist and author Dr John Read shares his cutting-edge research to protect endangered Australian wildlife from feral cats. With fellow ecologist (and wife), Dr Katherine Moseby, they have co-founded four major conservation projects which collectively protect 100,000 hectares of wildlife habitat; successfully re-introduced several endangered species to the wild; demonstrated training of predator naïve wildlife to avoid feral cats; and designed and tested the revolutionary *Felixer* Cat Grooming Trap.

They are also currently helping develop the Population Protection Implant, another highly innovative technology to protect endangered species, and ADIMA Safepet tags to improve care and management of pet cats. John authored "*Among the Pigeons: Why our cats belong indoors*", described by Jane Goodall as "meticulously researched, extraordinarily informative and engagingly written." Don't miss this extraordinary speaker.

Seating Limited.

RSVP to info@friendsofwaitereserve.org.au



THE UNIVERSITY
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Long-billed Corella's Nature's Earthmovers

This article was prompted by the ever-observant Clint, who has seen Long-billed Corellas *Cacatua tenuirostris* digging up bulbs in the Waite Conservation Reserve. Clint suspected that they were digging up and consuming the bulbs of *Romulea*. There are two species of Onion-grass (*Romulea rosea* var. *australis* and *R. minutiflora*) in the Reserve and both are common and widespread.

Long-billed Corellas inhabit eucalypt woodlands and open country, usually near water, across south-eastern Australia (Higgins 1999). Birds feed in small groups or flocks of up to several hundred, often in company with their close relative, the Little Corella *C. sanguinea*. They mainly feed on the ground, consuming seeds, bulbs, tubers and corms, often digging into the ground with their long upper mandible.

My observations at Adelaide Airport suggest that corellas of both species and Galahs *Eolophus roseicapilla* also eat the bulbs of Soursob *Oxalis pes-caprae* and Thread Iris *Moraea setifolia*, both of which occur in Waite Conservation Reserve. Areas where corellas and galahs feed in this manner often look like they have been machine-tilled, such is the amount of soil disturbance. They may be replicating the soil disturbance of long-extinct small to medium-sized mammals and promoting nutrient cycling and water infiltration into the soil.

Long-billed Corellas, which have a somewhat comical or clown-like appearance due to their blue eye-skin and bright pink facial markings have an interesting history in the Mt Lofty Ranges. They were once restricted to the South-East of South Australia (e.g. Condon 1968), but from the 1980s sightings began to occur from the southern Fleurieu Peninsula and the Adelaide region. The Bird Report for 1982-1999 (Carpenter *et al.* 2003) noted: "An introduced population has established in the AP [Adelaide Plains] and MLR [Mount Lofty Ranges] where it often associates with the Little Corella or Galah." This tallies with an observation in the Bird Report for 1976, which indicated that about 30 Long-billed Corellas were accidentally released in about 1975 (Reid 1980).

So it seems that the now large population of Long-bills in the Adelaide region originated from 30 birds accidentally released about fifty years ago.



Long-billed Corella. Photo Steve Mabbs

I can remember a flock of 50 birds or so inhabiting the University of Adelaide and grounds at the Waite some 30-40 years ago, and it seems that this area represents favourable habitat for the species. The open areas of the Arboretum, agricultural fields and ovals offer plenty of feeding opportunities and there are many large gums in the University grounds and in the greater Urrbrae area for roosting and possibly nesting. Flocks congregate just on dusk in the big gums along Waite Road and have done so for many years.

Thanks to Peter Bird for his observations of Long-bills in the Reserve. He has seen them on about 10% of his visits, mostly in the spring and summer, and there are usually just a few birds, but up to 140 were recorded in November 2012. The majority of sightings are on the periphery of the Reserve, particularly on the southern Easement and Springwood Park boundary, almost invariably digging in the soil for bulbs, sometimes in company with Sulphur-crested Cockatoos *Cacatua galerita*. Pete has one breeding record about three years ago of a pair using a SA blue gum *Eucalyptus leucoxylon* hollow on Springwood Park near Quartz Hill.

References

- Carpenter, G., Black, A.B., Harper, D. and Horton, P. 2003. Bird Report, 1982-1999. *South Australian Ornithologist* 45: 23-36.
- Condon, H.T. 1968. *A Handlist of the Birds of South Australia*. Second edition. SAOA.
- Higgins, P.J. (ed.) 1999. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 4: Parrots to Dollarbird*. Oxford University Press, Melbourne.
- Paton, P. A. 2021. Birds of the Greater Reedbeds, Adelaide Plains. *South Australian Ornithologist* 45: 45-84.
- Reid, J. 1980. Bird Report, 1976. *South Australian Ornithologist* 28: 127-137.

Penny Paton

Amphitheatre Quarry

In the early days of European history quarrymen unintentionally created a window into deep time. The Amphitheatre Quarry is the window and its dark face is the pane on which the geological detail is written. Two stages are recorded:

STAGE 1: about 700 million years ago.

The breaking apart of the ancient continent of Rodinia, which left the Siamese twins of Australia and Antarctica facing an ocean that eventually would be the Pacific (the Palaeo-Pacific Ocean)

STAGE 2: 200 million years later, the disruption resulting from the Palaeo-Pacific Plate being forced into and under 'Austro-Antarctica'.

This tectonic event is known as the Delamerian Orogeny and it represented an early stage in the formation of Gondwana.

So what clues are revealed on the Amphitheatre Quarry pane? As is usual, later geological happenings superimpose upon previous ones, and so we see the results of the Delamerian Orogeny (Stage 2) superimposed upon one of the sedimentary rift basins, the Adelaide Superbasin (Stage 1).

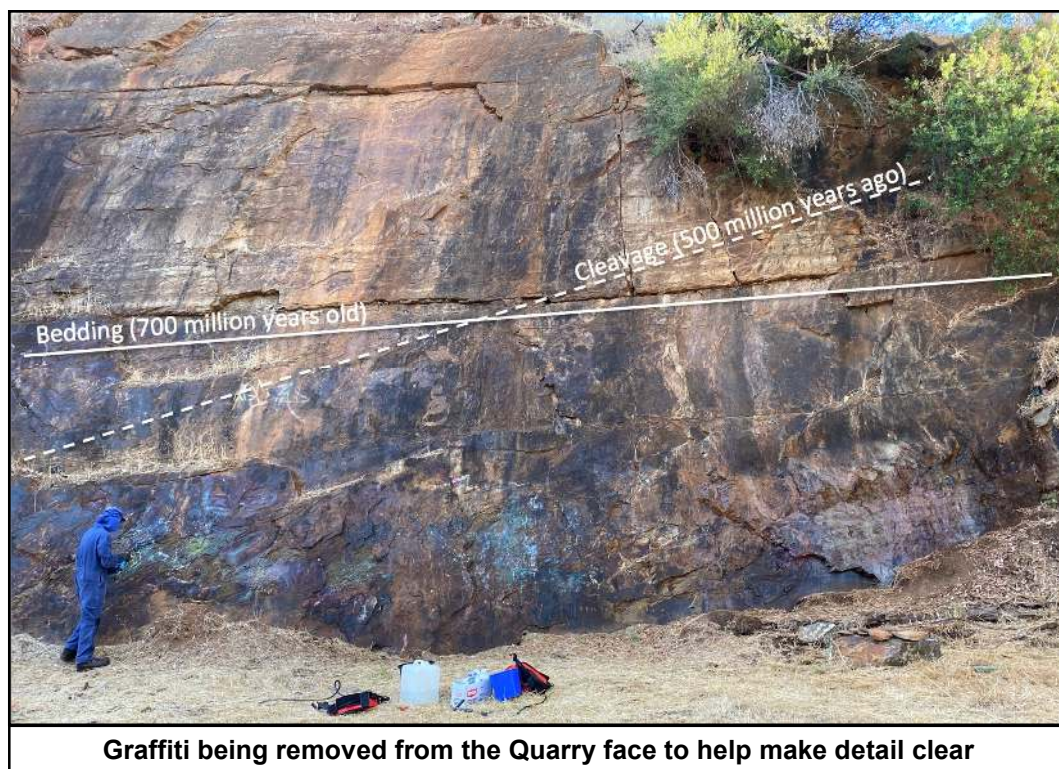
To the quarrymen a convenient vertical wall to work to is in fact the surface of a large crack that was formed 500 million years before, during the Delamerian Orogeny.

The crack resulted from the huge pressure exerted by the colliding Palaeo-Pacific plate a few hundred kilometres to the east. Additional Delamerian structures, which would have affected how the quarrymen took the stone, include faults, and folds, and the metamorphic cleavage that is inclined downward across the face.

In spite of the cleavage cutting across the near horizontal sedimentary beds which were deposited during Stage 1, there is enough to see to indicate that about 700 million years ago serious weather conditions resulted in sporadic but rapid erosion of the uplifted edge of the flooded rift valley. The sandy and silty debris was carried into water too deep for it to be affected by storm waves. However, sedimentary structures, which show earlier sediment beds being forcefully eroded by later ones, demonstrate that sediment supply was rapid and the basin slopes were steep.

Such are the clues as to what happened, and now it is the Amphitheatre Quarry that 'shows and tells' what took place all those aeons ago.

Colin Connor



Graffiti being removed from the Quarry face to help make detail clear

Around the Reserve

January was dry with lots of strong gully winds. As a result, there were more than the usual number of fallen branches which had to be cut up and moved from the trails. It is helpful that walkers contact me to let me know where there is a problem.

The dry weather was also ideal for oiling all of the tables and seats in the Reserve and for painting steps with non-slip paint. This is an epoxy resin with grit added and has to be applied when temperatures are above 17C. It has a consistency like thick custard and has to be applied by roller, which flicks little blobs of resin here there and everywhere. On the positive side, it lasts about 3 years.



At the end of 2021, there were 9 table settings in the Reserve and 5 seats.

They were distributed as follows:

Wild Dogs Glen	5 Tables, 2 seats
Trail Crossroads	1 table
Top of Tanks Track	1 table
Netherby Spur	1 table and 3 seats
Koala Gully	1 table.

Since then 2 new tables and 1 new seat have been added.

A table on Sheoak Loop—donated by Eva Kreminski

A table on Netherby Spur—donated by AWRI

A seat on Southern Boundary—donated by Alice Rolls and Bek Burchall

The original table and seats at the top of Tanks track were falling apart as the copper chrome arsenate of the timber had reacted with the steel of the bolts and screws and had corroded them.

The old table has been removed and new posts and decking have been installed by Clint and Charlie. The result is a safer and more attractive piece of Reserve infrastructure.



The two old seats on Netherby Lookout had a bad case of the wobbles, again due to corrosion between CCA and the steel bolts.

One of our walkers (John Whiting) used to regularly sit at one of those seats. After his death last year, the Whiting family offered to provide a replacement seat at that spot. Innovation Engineering have done an excellent job of creating a seat using Iron Ash rather than Permapine. The result is a seat which should last for many years.

Clint Garnett



On a Mistletoe Mission

Those familiar with the Loop Walk will know the interpretive sign advertising the 'mistletoe tree' at Netherby Spur. Sadly, the Grey Box tree has died along with the several semi-parasitic Box Mistletoe *Amyema miquelii* that it hosted, each clump reduced now to a twisted skeleton of dead sticks.



Mistletoe sign with dead tree & mistletoes behind it.

Although mistletoes often get a bad rap for contributing to tree death, on the flip side they add mightily to healthy woodland ecosystems. They provide nectar and fruit for a range of birds at critical times of the year; they are food for various insects including the beautiful Broad-margined azure butterfly; and their dense clumps provide secure nesting sites for various birds.

In the absence of any other local mistletoe trees, I hatched a plan to be like a Mistletoebird and attempt to repatriate mistletoes back to a tree near the forlorn sign. This involved harvesting ripe fruits from a conveniently low-hanging clump on Tanks Track, squeezing out the sticky seeds, then pasting them onto the underside of pencil-thick branches of two nearby Grey Box trees.



Mistletoe berries ready for transplanting

I transplanted 30 mistletoe seeds. Within a couple of weeks many had germinated, their bright green root-like haustoria already sniffing the air for a suitable anchoring site and ready to tap into the tree for moisture and nutrients. Time will tell whether any of these survive to maturity to become the living illustration of the sign.

At this early stage though, it looks like I'll need the secateurs to prune off the surplus. We don't want to over-burden the trees with too many mistletoes and risk the same premature death happening.



Mistletoe seed with green haustoria in the process of anchoring to the host Grey Box tree

Pete (Mistletoe) Bird

Love those trees

Valentine's Day marked the start of our 2023 re-vegetation program with 14 students sowing the first of our tubestock at the Urrbrae TAFE nursery. Two days later another 10 students completed the task, sowing 1700 tubestock of 100 species in all. All seed was collected from the Reserve.

After last year's plantings were smashed by kangaroos and deer, we sowed mainly grasses and other ground covers, hoping they might provide less of a target.

I'm hoping some of the plants might also ultimately contribute seed for our current direct seeding project in Stone Reserve.

Thanks to TAFE staff Rachel, Kim and Mareya for their assistance, in what is a very productive collaboration. TAFE students are back for weeding sessions in the Reserve from March and planting once it rains.

Pete Bird



Students at TAFE's Urrbrae Nursery, with their 1700 freshly sown tubestock

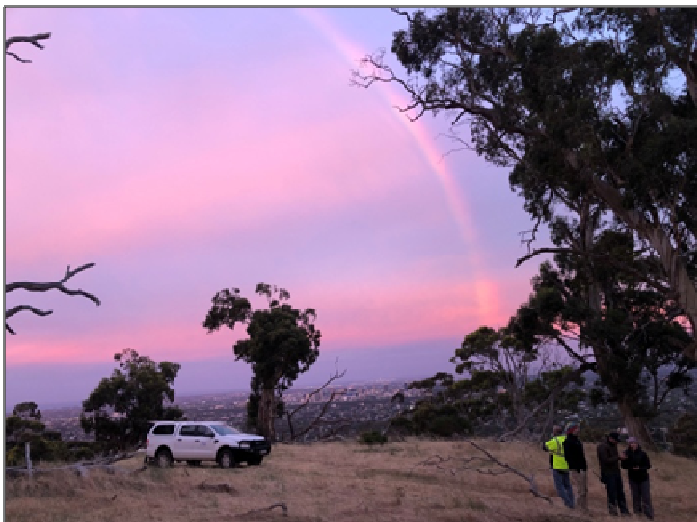


Box Mistletoe flower
Amyema miquelii.
Photo: Clint Garrett

Trialing drones & thermal technology

We're standing on Netherby Spur and I'm freezing. Hard to believe it's early December, although it is 4 o'clock in the morning. We're here in the dark with drone pilots Dillon, Steve and Molly to test the potential of drone-mounted thermal video to pick up the heat signatures of feral deer. This trial, and one the previous afternoon, will tell us how well we can locate deer, and whether this can improve the efficiency of our deer management operations.

The pilots are from the University of Adelaide's [Unmanned Research Aircraft Facility](#). They have programmed a series of parallel flight paths for the drone to follow across the western two-thirds of the reserve. After waiting in the biting wind doing pre-checks, the metre-diameter drone eventually rises in a 6-rotor whirr and commences its sequence of laps back and forth across the Reserve stopping at 50-metre intervals.



Dawn drone-watch on Netherby Spur with rainbow

The drone maintains a constant height of 180 feet, jerkily tracing the contour of the ground via a series of prescribed altitudinal waypoints to keep it safely above the trees and power-lines. At distance, the wind cancels out any sound but its brilliant flashing beacon allows us to easily follow it in the darkness.



URAF pilots trial drone-mounted thermal video for locating feral deer in the reserve

We peer over Dillon's shoulder looking for telltale shapes and colours on the video playing on his monitor. The landscape rolls past at 20km/h. The country is familiar. You can make out trees and rocks and ground, but the colours are a weird hodge-podge of fluoro pinks and purples and greens. Steve tweaks the colours, to better discriminate between background and target.

We eventually make out the odd kangaroo shape, and when he parks the drone above us, we can see ourselves glowing against the background. No deer, but there had been few sightings at the time. Not since the previous cull in October.

The technology is impressive and has the potential to revolutionise our deer management program, but the cost is prohibitive at this stage. We'll keep an eye out for cheaper alternatives but for now the old technology of eyes, ears and human ingenuity will have to suffice.

Pete Bird

Return of the Bushcare Jedi

I recently had the pleasure of going for a walk in the reserve with Phil Shearman. His name may not be familiar to you but Phil was there from the start, among the first Bushcare practitioners in the reserve more than 30 years ago. Phil was taught by the best – trained in bush regeneration techniques by Enid Robertson starting at Hardy Block (Quartz Hill) in January 1992. By the end of the year he was overseeing a crew of up to 10 university students and other workers removing olives in Wild Dogs Glen (then referred to as Tit Gully).

Over the next three years he supervised a total of 40 workers for over 6,000 hours, funded by Waite bequest funds and the Save the Bush program. At its height they had a ‘tent city’ at Wylie Trig to accommodate the work crew and cut down on daily travel. Apparently it was a fun place, although it sounds like Phil wisely opted to go home each night for a good sleep!

Although the main focus was on olive removal, they also controlled Bridal creeper, African weed orchid, Blackberry, Turnip weed and Cottonbush. Among other things, Phil also supervised 20 Australian Trust for Conservation Volunteers to dismantle the internal fencing (in the process recycling 15 tonnes of wire); commenced fox baiting; sought a Heritage Agreement for the main part of the reserve; and established the first 26 representative photo-points.

Phil was hugely influential in the early management of the reserve and has left a lasting legacy. Every time I struggle up Wild Dogs Glen and see the many old gnarled olive stumps I am reminded of the huge physical effort he and his crew put in to set us on the path towards their eradication. We are not there yet but I’m hopeful. It was an honour for me to share a visit to his old stamping ground.

Pete Bird



Phil Shearman: back in the Reserve after 30 years.

Bushcare days

Gate 82 will be the starting point for the first two Bushcare days of 2023.

Sunday March 19th

Saturday April 1st.

Then we shift to the eastern end of the Reserve for:

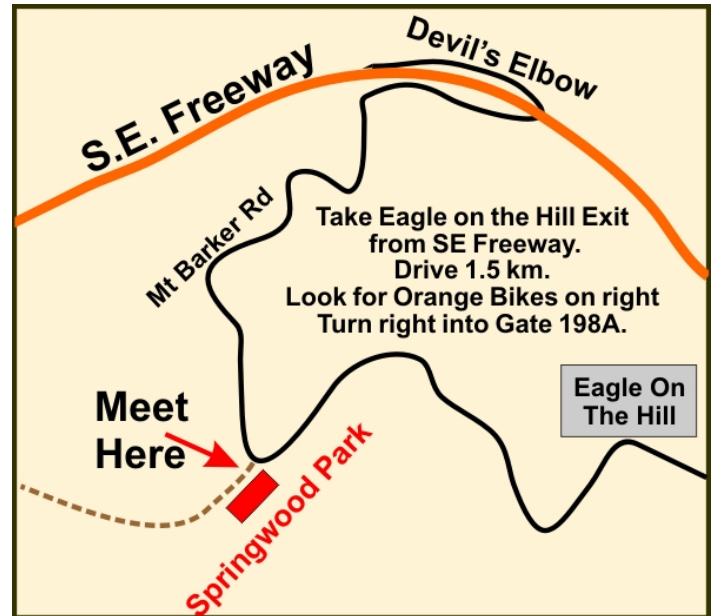
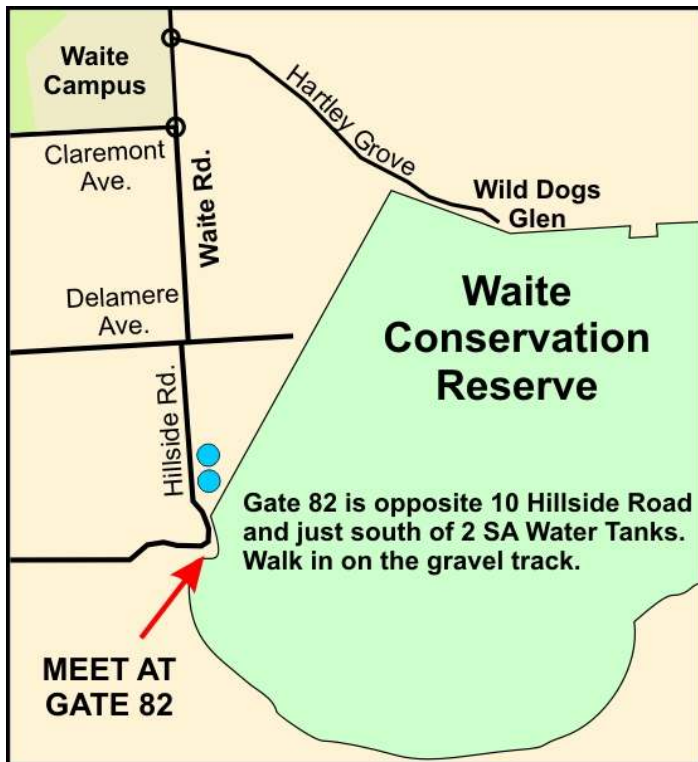
Sunday April 19th

Saturday May 6th

Sunday May 21st

Saturday June 3rd

Sunday June 18th



Friends hunt feral olive seedlings at a Bushcare day on the Southern boundary

Olives Controlled by Grant

Last year we received a *Revitalising Private Conservation in SA* grant for \$10,890 to help consolidate our long-term olive control program. Contractors Grant Joseph and Paul Finos completed the work in January.

The original contract was for an even split between follow-up chain-sawing of dead olives during the cool wet winter and Basal Bark Treatment of living olives during the warm dry spring.

As it transpired, the cool and wet continued well into the normally warm and dry, delaying their ability to commence the BBT spray program. When it became obvious that there would be insufficient time to complete the BBT, the grant supervisors kindly allowed us to make up the time with additional chain-sawing.

This allowed us to open up more of the dead olives for improved access and to clear fence lines in eastern Stone Reserve, Urrbrae Gully and the Western Slopes. The BBT targeted remaining olives in western Stone Reserve and Sheoak Slope. Thanks to Grant and Paul for their hard work, and to Kate for oversight, management and reporting.

Pete Bird



Before (left above) and after (right) chain-sawing near Urrbrae Gully boundary (Photos Grant Joseph)

Pete's Nature Diary

Cicada summer

On a warm night in early December I put up a UV light on Pultenaea Hill to survey moths and other invertebrates. Along with literally a thousand flying termites and various moths and beetles, was this beautiful **Southern Ticking Ambertail** *Yoyetta australicta*.

Only described in 2022 from the Flinders/ Mt Lofty Ranges and from eastern NSW, the STA is one of more than 300 Australian cicadas. Cicadas are nature's loudest insects, the songs of some species reaching 120 decibels. The STA is not one of them. Males produce a fast high-pitched ticking song to attract females for mating. Listen here: [Southern Ticking Ambertail song](#). Old ears need to turn up the volume



Swallow Followers

Sitting on a tractor for hours can be a lonely job.

But when contractor Alan Wickham came in mid December to slash our direct seeding site in Stone Reserve he was not alone. Wherever he went he was accompanied by a cloud of 40 **Tree Martins** wheeling and diving for insects put up by the slasher.

Tree Martins roost and nest in several of the large remnant blue gums that dot Stone Reserve. By the end of the breeding season there are often 20 or so birds at each home tree. To have 40 in a group though is rare. I'm not sure whether it was the result of an extended breeding season in a wetter than average year, or the coalescing of more than one group attracted to the pop-up food resource. According to Alan, this is not unusual and he often plays 'swallow whisperer' while slashing grass through the hills.

Peter Bird



Hard to tell but after cleaning my computer screen of smudges, I could still count 19 Tree Martins in this photo.



Fountain Grass *Cenchrus setaceus*

This issue's weed is another long-lived perennial grass, **Fountain-grass** *Cenchrus setaceus*. It is a summer-growing C4 grass, native to N & E Africa & SW Asia. It has been widely planted as an ornamental grass for its attractive pink 'pussy-tail' seed-heads. Someone in your street probably has it growing in their front yard. In SA it is a declared pest, prohibited from sale, due to its weediness.

Identification

- Plant:* dense, upright tussock to 1 m tall
Leaves: narrow, grey-green to 40 cm; collar of stiff hairs where leaf blade joins sheath
Seed heads: cylindrical purplish spikes 8-30 cm
Seeds: intensely hairy with barbed bristles
Roots: fibrous, creeping to 30 cm deep
Similar species: none when flower-heads mature



Current locations

- Mostly occurs on cliffs & steeper parts of reserve, including:
- a band below Harold's Lookout & Caves Gully - Mistletoe Gully
- Near an old quarry on upper Southern Boundary
- above the Union quarry below Sheoak Loop track

Monitoring & control

High seed production and long-lived seeds requires ongoing vigilance & control. Check all known infestations regularly from late spring-mid winter, i.e. all year round. Small isolated plants can be dug out but best controlled by spot spraying. SA Weed Control Handbook recommends 8mL 450g/L glyphosate + 2mL Pulse : 1L water. Report new infestations.



Peter Bird

Reserve App Challenges

Bringing the Waite Conservation Reserve (WCR) App to release was not without challenges. It was initially developed in collaboration with Carlos, the software developer with whom we worked to produce our very successful Waite Arboretum App 2015 - 2019.



We tested our WCR App in early 2017 and with a few tweaks it was ready for release, but suddenly Carlos was incommunicado. We subsequently learned that he had sold his house in Australia and moved with his young family to the USA where he had taken a position in an international company on an employer sponsored visa. Under the conditions of his visa he could not work for any other company, including his own, so he was under threat of losing his visa status if he continued to work with us and had passed our project to a colleague, Rafael, in Brazil. Rafael did his best but he didn't speak English and we don't speak Portuguese, so communication was typing via We Chat and a translation app. None the less, we were finally ready to release, but Rafael couldn't do it as the App was registered under Carlos's name: another stumbling block.

In July 2020 Marian McDuire secured the loan of an Arrow 100 receiver to trial Satellite Based Augmentation Systems (SBAS) which was under development. This enabled mapping with far greater accuracy than a standard GPS and worked under canopy and cloudy skies enabling us to map the Arboretum Palm and Cycad Collection for the first time.

We extended the loan of the receiver and with a private donation of \$2,000 to pay for Marian's time we re-mapped all the Reserve trails (including Clint's new Sheoak Loop) and features such as gates, seats and interpretive signs. 18 months later the SBAS, now called SouthPAN (Southern Positioning Augmentation Network) has recently been made available to the public.

Eventually Carlos was able to transfer his initial coding to the University of Adelaide and in 2022 with a grant from Green Adelaide, we engaged a local developer Chris Carthew to bring our project to fruition. The WCR app was finally released on 23 November 2022.

Jennifer Gardner

**YOUR
MEMBERSHIP
MATTERS**



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Treasurer: Richard Brooks **Editor:** Meg Robertson (Clint Garrett for this issue)

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