Newsletter 48

Winter 2020

FRIENDS OF WAITE CONSERVATION RESERVE Inc.

COMING EVENTS

Working Bees

June 6 & 21

July 4 & 19

August 1 & 16

September 5 & 20

See page 9 for details

THE UNIVERSITY of ADELAIDE

President's page

We're back! The university allowed the resumption of working bees just in the nick of time for us to hold our first working bee of the year on 6 June. While these crazy COVID-times may have robbed us of some working bees and our face-to-face AGM (see report of our teleconference meeting inside), I hope some of you have still managed to spend time in the reserve.

Amazingly, the number of visits to the reserve has never been higher. People, encouraged to get out and exercise but locked out of gyms and sporting clubs, have taken to walking in their local parks and reserves. Big time! Our newly-installed people counters have logged an amazing 10,000 visitors over the last 3 months (see Clint's article). This number includes the 80-odd students and teachers below who walked the Loop Trail in early March, just prior to the COVID-19 restrictions.

Adelaide had its wettest April in 22 years. This following two dry, nutrient-accumulating years has made for spectacular growth. The seedlings planted by Urrbrae TAFE students and the Friends on the Western Slopes last year are booming. The students are back to plant another 1,500 seedlings on 10, 12, 20 & 22 June. Let me know if you wish to help.

Predictably but frustratingly, the weeds have also responded to the rain. Salvation Jane is flourishing in the disturbed ground around most of our planted seedlings, the weed bulbs have emerged, and doubtless the next crop of seedling olives is germinating as we speak. Looks like we'll be playing Corona-catchup at working bees for the rest of the year. Come join us. Dates inside.

Pete Bird

Back in a time before social distancing was a thing

Annual General Meeting — President's address

Over the past year the Friends group has engaged in a range of activities to help the University of Adelaide manage Waite Conservation Reserve. Among other things we:

- walked the entire reserve removing olive seedlings and re-treating olive stumps. The seedlings continue to diminish with 7,000 last year compared with 50,000 only two years earlier;
- treated various other weeds including Buckthorn, African Daisy, Cottonbush, Hawthorn, Boneseed, Silverleaf Nightshade and Perennial Veldt Grass;
- supported the University's olive control program which saw 3.4 ha of new olives treated on the Western Slopes, Caves Gully and Stone Reserve, and another 6.7 ha re-treated. Less than 5 ha now remain. Thanks to David Gunner and Jeff Glasson for assistance;
- cut and piled killed olives in Pittosporum Gully and the Western Slopes for later burning. Thanks especially to Simon Treloar;
- contributed $2,000 to contract Grant to undertake seasonal weed spraying;
- planted and guarded 1100 tubestock on the Western Slopes and Koala Gully with Urrbrae TAFE students and the Kaurna Ranger program;
- hosted our first Bushcare's Big Day Out planting day. We hope to register again this year. Thanks to Penny for organisation;
- completed monitoring of understorey condition on 51 vegetation quadrats;
- gained a Communities Environment Program grant of $4063 to re-route and upgrade the old Peregrine Point walking trail. Thanks to Clint Garrett who sought the grant and constructed and sign-posted the re-branded Sheoak Trail, as well as upgrading the existing Loop Trail;
- finalised the previous year's Volunteer Grant by installing two people-counters just before the COVID-19 restrictions. Visitation since has been off the charts as people discovered the reserve for their regular exercise. Thanks to Clint for assistance and to the Federal government for the two grants;
- re-built the internal fence east of Quartz Hill to allow for strategic crash-grazing of Stone Reserve in winter-spring to suppress weedy annual grasses. Thanks again to Clint and to neighbouring manager Terry Jefferies;
- met with the local DEW fire management staff and with University ecologists to explore the possibility of a prescribed burn;
- conducted a geological tour thanks to leader Colin Conor who is working on part 2;
- surveyed the local kangaroo population which resulted in 109 sightings;
- monitored feral deer and conducted three control operations thanks to Andy Baker and Errol Mattig;
- cleaned up and disposed of 3 trailer-loads of fencing wire;
- produced 4 newsletters, maintained the Website and Facebook page and continued work on the Loop Trail App thanks to Meg, Clint, Glenn and Jennifer.

(Continued on page 3)

The Friends readying for one of 16 working bees held during the year *Photo: Pete Bird*

AGM President's address — *continued*

In all around 50 volunteers participated in our 16 formal working bees and other activities, not including TAFE students. In total they contributed a record 3,400 hours of volunteer labour worth a whopping $145,000. Thank you all.

I'd especially like to thank the committee for their contributions: to long-serving Treasurer Lynda Yates, botanical guru Peter Lang, Newsletter Editor Meg Robertson, ecologist Penny Paton, weed magician Grant Joseph, general techno-roustabout Glenn Gale and outgoing member Andrew Walters. And thank you also to University reserve manager Kate Delaporte for her strong support.

I'd like to single out two people this year, firstly co-opted committee-member Clint Garrett for his super-human effort maintaining and upgrading our walking trails during which he volunteered an amazing 870 hours. And secondly, Helen Pryor who is hanging up the boots after 13 years on the committee, the last 9 as Secretary. She has been a tireless worker and passionate advocate for the reserve, distributing flyers and walking trail brochures and putting her heart and soul into the job. And not forgetting the sweat. In all those years she rarely missed a working bee, while also caring for her own Bush For Life patch. Thank you Helen and welcome Glenn Gale who takes over as Secretary and Richard Brooks who joins the committee.

Peter Bird—6th May 2020

Physical distancing during lunch after our first working bee for 2020 *Photo: Chris Thompson*

Introducing new committee member—*Richard Brooks*

I am married and live in Pitcairn Ave, Urrbrae (right next to the Waite). Caroline and I have three wonderful adult daughters, who thankfully have all left home. My childhood was spent in Waikerie and then on a small farm at Wistow near Mt Barker and so I consider myself more of a country then a city person. I played footy and cricket in the Hills in my youth and also did a bit of horse riding.

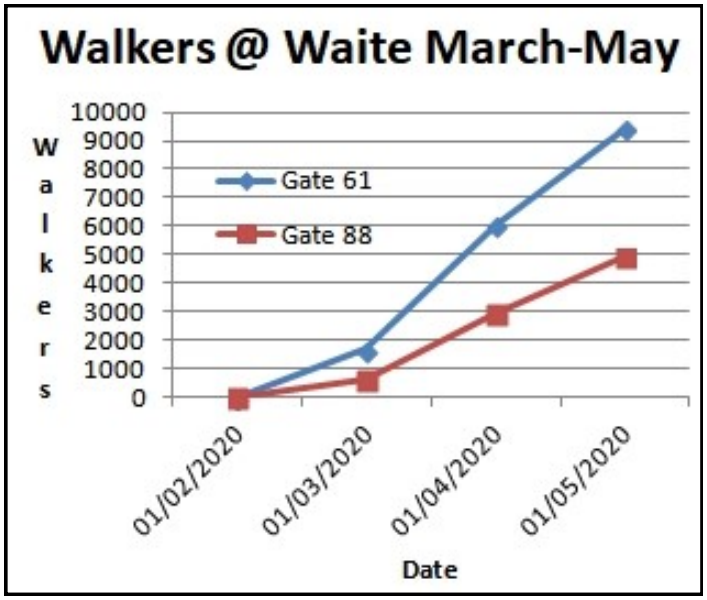
I have a Bachelor of Economics (Adelaide Uni 1984), and am a Chartered Accountant and a Registered Tax Agent. I have worked as an accountant for most of my life and currently have my own practice which I operate from home.

These days my exercise tends to involve seeing how many times I can climb up and down Wild Dogs Glen and wandering the Waite slopes searching for olive seedlings.

Counting our walkers — *Clint Garrett*

At the end of February, Peter and Clint installed 2 Traker People Counters, one in Wild Dogs Glen and one near Gate 88. Since that time, more than 10,000 people have walked through WDG and more than 5,000 through Gate 88.

Clint suspected that the counters were undercounting and spent time cross -checking the electronic counter. He found that the counter was under-counting by 13%. This is due to people who walk past in groups of 2 or 3 abreast – they get counted as one. Children under a metre high also do not get counted. We can safely add 10% to the figure shown on the counter in the knowledge that this is still an under count.



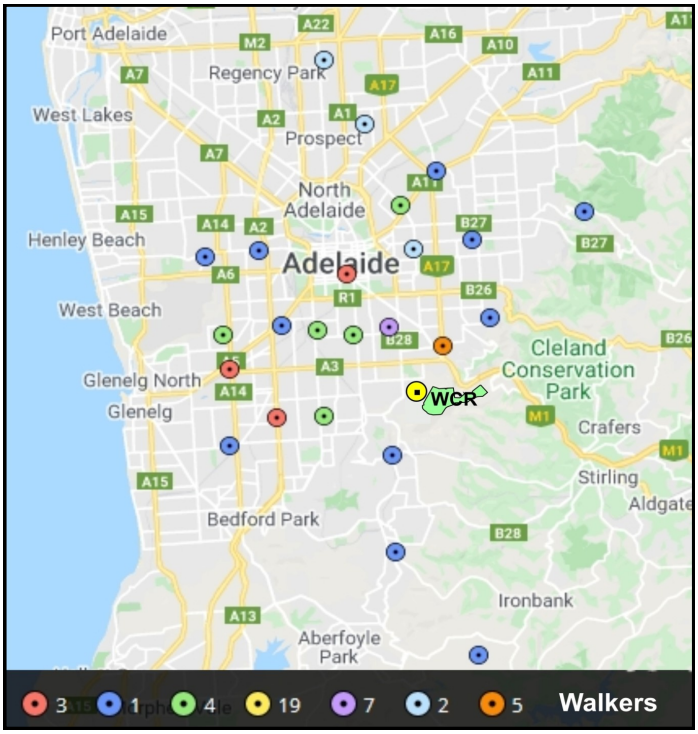
2,002 people were counted at the crossroads of the Waite and Sheoak Loops over 7 Saturdays and Sundays. This showed very clearly that most people choose to walk the Waite Loop in a clockwise direction, from Gate 61 to Gate 82 and return. The Sheoak Loop is well used and gets good comments from those who use it (15%). A surprise was the number coming into the Reserve from the Brownhill Ridge Track and then exiting by the Yurrebilla Trail. They are 18% of our walkers. Relatively few walkers are purely using the Yurrebilla Trail (8%).

Most of our walkers are women, (more than 50%) while men make up 35% of walkers. It has been pleasing to see the number of children, (from 2 weeks old) and upwards walking (being carried) with/by their parents.

The map at the crossroads has been well used
Photo: Clint Garrett

Clint has spoken to many people while doing the counts; they have been seeking both information and directions. A surprising number only have the vaguest idea of where they are and were grateful for the map at the crossroads. The Covid 19 restrictions have meant that many of our walkers are in the Reserve for the first time and they are genuinely grateful for the opportunity to walk in a beautiful area. The map below shows where 88 of our walkers came from by post-code. Each dot is colour-coded to represent between one and nineteen walkers, which un -surprisingly shows that most of our walkers come from the closest suburbs.

What will happen when restrictions ease will be interesting.



What Roos do

Following last November's count I share here a little kangaroo biology to help interpret some of what you see them doing in the reserve. Ours are Western Grey Kangaroos which are broadly distributed across southern SA.

Group dynamics: Western greys occur in loose groups of 2-25 with considerable to-and-fro by individuals. Groups comprise both sexes during the spring-summer mating season but are mostly single-sex at other times. Rather than defending territories they occupy overlapping home ranges usually 40-70 ha (roughly half the 121 ha WCR). There is strong site fidelity, although home ranges may drift over time; I often see the same individuals in much the same place over several weeks.

Courtship & mating: The coughing 'Ha' vocalisations of sparring males mark the start of the main mating season in spring. The air is thick with their pungent curry-like odour. Only males ≥6 years old and weighing ≥60 kg will get a piece of the action. Ritualized behaviours help to establish dominance hierarchies but evenly matched males will wrestle and kick their way to the top for mating rights. WGK are polygynous; the victor mates with many females. He travels between groups assessing the reproductive condition of females then guards those in oestrous from rivals prior to and immediately after mating.

The Wild Dogs Glen mob *Photo: Pete Bird*

Life at the top is short-lived for the dominant male. Maintaining status is energetically costly with little spare time to fit in up to 10 hours of grazing each day. His condition suffers, especially during dry times, as evidenced by a couple of couple of monster carcasses in the reserve last year.

Reproduction: Females produce a tiny 0.8 g jelly-bean baby 31 days after mating. The previous joey vacates after 11 months in the pouch. Average reproductive output is thus about one young per year. The young at foot continues to suckle for another 6 months and the clever mum produces two kinds of milk to cater for her disparately-sized offspring.

Female with joey *Photo: Jeff Glasson*

Diet: WGK mostly eat grass. They're not fussy and have happily made the jump from native perennial wallaby, spear and kangaroo grasses to introduced annual grasses and forbs. This prodigious resource together with abundant man-made waters and reduced predation has seen WGK numbers boom. They are also well-adapted to browsing shrubs and trees when grass becomes limiting. Drooping Sheoak seems to be a favourite in the reserve.

Pete Bird

De-garlanded lilies likely caused by kangaroo grazing

Photo: Clint Garrett

Adapting to climate change

In a previous newsletter I talked about climate change and the seriously higher temperatures (+2.5˚C) and seriously lower rainfall (-25%) predicted for the reserve over the next few decades. The next step is to consider what, if anything, we could or should do about it. Are there management actions we can perform to be proactive or do we simply hang on for what looks to be a very bumpy ride?

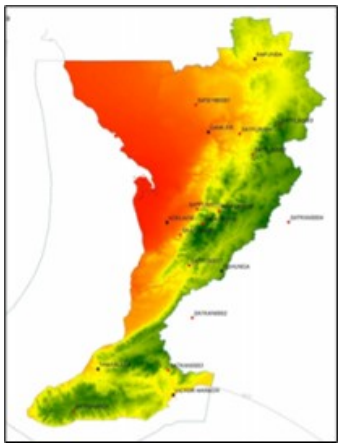
One way we could respond is to introduce plants from warmer drier climates. I'm not talking about adding to the 200 plant species already present but rather introducing genetics from existing ones. Several candidates spring to mind, e.g. Acacias, Bursaria, Dianellas - all species which occur in areas such as the northern Mt Lofty Ranges where current climates are similar to those predicted for the reserve (see temperature & precipitation maps). Golden Wattle *Acacia pycnantha* would be a good start. A keystone species, you need only waft a butterfly net over a plant in winter-spring to see how important they are for local biodiversity.

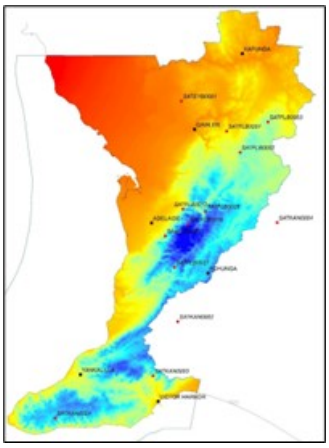
This flies in the face of the 'local provenance' message that we have followed and promoted for decades. Unfortunately not only are things likely to get climatically ugly but sticking with local provenance may be doubly deleterious when many of our plants come from such restricted gene pools.

For example when Peter Lang compiled his fantastic flora of the reserve, the population of Wreath Wattle *Acacia acinacea* stood at two. There are now a few more as a result of our plantings but I wouldn't be surprised if the entirety of the seed came from those two original plants. And even if someone jumped the fence and collected a few seeds from neighbouring Carrick Hill, it is still a tiny gene pool upon which to let loose a climatic apocalypse. Wreath wattles are one of many species in the reserve with small, isolated populations that might benefit from an injection of genes to increase their resilience.

Whatever the future climate, I think we can be sure of one thing. Olives will continue to thrive.

Pete Bird





Garland lily in bloom. *Photo: Clint Garrett*

Recently emerged Wanderer Butterflies on cottonbush.
Photo: Peter Bird

Red-heads have more fun

Red is the colour of love. Or at least it is for the female **Red-headed Mouse Spider *Missulena occatoria***. While *she* dresses in formal black, *he* comes knocking resplendent in military red and gunmetal blue. Wild Dogs Glen seems to be a hot-spot for wandering males on the prowl for females – I have encountered several over the years, especially after autumn and winter rains. The females are rarely seen, securely tucked away in deep burrows. Female mouse spiders can live for a couple of decades but, sadly the males die soon after mating. Love can be cruel!

Photo: Clint Garrett

Spiders come in two main groups. Most are Araneomorph which typically have two lungs, complex silk and *inward*-facing fangs. The RHMS is a Mygalomorph with four lungs, simple silk and more-or-less *parallel*, *downward*-facing fangs. Its fangs constrain it to life on a firm substrate, usually the ground, where it can strike downwards to pin its prey. They hunt by ambush, grabbing invertebrates that wander too close to their burrow. Mouse spiders are closely related to the Funnelwebs and share with them highly toxic venom.

The RHMS is the most widespread of the *Missulena* species, helped by the fact its spiderlings are wind-dispersed. Soon after they hatch the tiny spiderlings climb to a high point, aim their bums skyward and shoot several strands of fine gossamer silk into the air forming miniature parachutes. These catch wind currents and the mini-adventurers balloon off into the wild blue yonder to start life elsewhere. Beats walking!

Pete Bird

Greenhoods appear

With a wetter start to the season than we have seen in a long while, greenhood orchids are flourishing in the Reserve. A large-flowered species of shell-orchid is coming into flower now, and over a hundred flowering stems were seen on the last working bee - a very good year for this species certainly. This greenhood [figures below] is currently on the WCR plant list as *Pterostylis robusta.* It is regarded as a possible new species (*Diplodium* sp. 'Adelaide Hills') by some orchid enthusiasts (who also recognise a separate genus for the shell-orchid greenhoods, *Diplodium*)*. The differences are slight but our species does tend to be taller and more subdued in coloration than typical *P. robusta*.

Rosettes

The shell-orchid greenhoods form colonies of leafy rosettes that can extend over large areas - effectively plant clones connected by rhizomes. The rosettes greatly exceed the number of flowering stems, which bear quite different leaves and lack a basal rosette.

Peter Lang

See * https://nossa.org.au/tag/pterostylis-robusta/

'Pterostylis robusta' at Waite Conservation Reserve

Flower

Photo: Peter Bird

Habit

Photo: Peter Lang

Chuffed by new bird

Walking down Urrbrae Ridge Track on 10 April I was intrigued by a congregation of large black birds in the distance. Ravens, or possibly currawongs? But then one bounded up onto a low branch, revealing the diagnostic white wing-panels of a **White-winged Chough** (pronounced 'chuff') *Corcorax melanoramphos*. I counted at least 13, a first record for the reserve.

White-winged Choughs foraging on Urrbrae Ridge.
Photo: Pete Bird

The group spread out in a loose arrowhead formation and marched north along Urrbrae Ridge. I followed at a discreet distance watching as they raked the leaf litter and probed fallen timber with their long curved bills foraging for invertebrates and seeds. All the while they chatted among themselves in soft whistling and grating calls.

Many birds occur in flocks but choughs take communality to the next level. Each group comprises a monogamous breeding pair and their progeny, usually several generations. Making ends meet in the nutrient-poor and climatically-erratic Australian bush can be tough. Choughs and many other Australian birds enlist other group members to help with nest-building, incubation and provisioning of chicks to increase reproductive output. In the quest for more helpers choughs are even known to kidnap fledglings from neighbouring groups to boost their numbers.

It is interesting to speculate from whence this group has come. Choughs typically forage further afield in autumn following spring-summer breeding as the season dries and food becomes scarce. The expert panel of ornithologists below suggests the closest populations occur in the Scott Creek/ Mt Bold area. Chough movements are limited by fairly modest powers of flight, so this seems probable. But it is also possible they are refugees from the Cudlee Creek bushfire. Either way, the reserve probably provides good habitat for choughs so it will be fascinating to see whether they hang around. Keep an eye out and let me know.

Thanks to ornithologists Graham Carpenter, David & Penny Paton, Peter Watton and Jim Spiker for knowledge of local chough distribution.

Pete Bird

Join the Friends of Waite Conservation Reserve!

Not a member? Do you:

- Enjoy being in the Waite Conservation Reserve?
- Value the conservation of indigenous species?
- Think biodiversity matters?
- Want to learn more about local plants and animals?
- Want to make a practical difference?
- Want to work cooperatively with like-minded people?

Ordinary membership $15

The Membership/renewal form can be found at:

www.communitywebs.org/friendsofwaiteconservationreserve/

Print, complete and forward to this address:
Friends of Waite Conservation Reserve,
University of Adelaide, Waite Campus,
PMB 1, GLEN OSMOND 5064
Email: arboretum@adelaide.edu.au

Non-members are welcome at our activities

WORKING BEES

After missing our first couple of working bees to Coronavirus restrictions, we resumed on Saturday 6 June, subject to some extra paperwork and basic safety precautions. COVID-19 safe guidelines have been developed by the university and are paraphrased here:

- groups limited to 20 (not normally a problem!)
- stay at home if you have symptoms
- practise good hygiene, esp. washing hands
- maintain social distance ≥ 1.5 m
- bring own gloves
- use own tools if possible (e.g. secateurs, chisel)
- hand sanitiser supplied.

Upcoming jobs include:

- *hand-pulling olives and other weeds* - easy now with the wet ground;
- *dragging up cut olive branches for later burning* - for those wanting to get a bit more physical;
- *digging weed bulbs* - a nice way to see our best areas;
- *helping with tree-planting* - see below

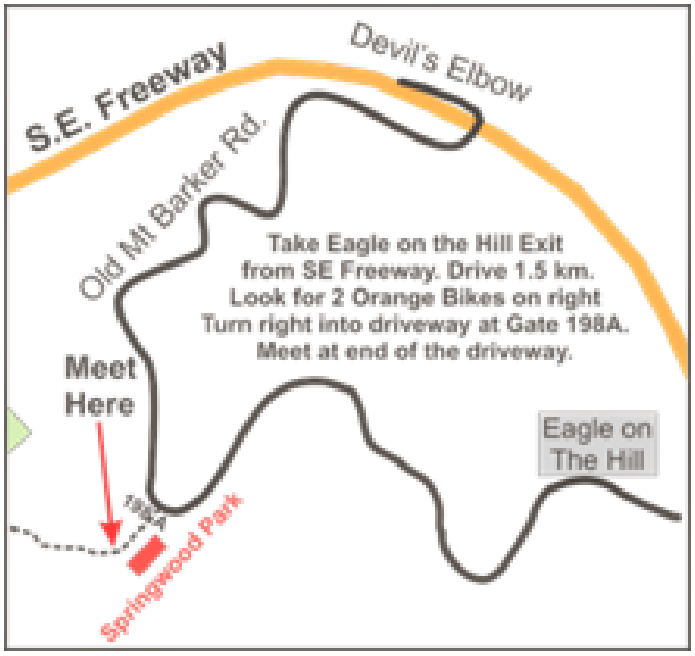
Working bees will meet 'up top' at Springwood Park, 198A Mt Barker Rd, Leawood Gardens unless advised otherwise – see map for directions or use Googlemaps. I will email reminders usually on the Tuesday before each, so any changes will be conveyed then.

DATES:

Sat 6 June	Sun 21 June
Sat 4 July	Sun 19 July
Sat 1 Aug	Sun 16 Aug
Sat 5 Sept	Sun 20 Sept

As well there are always options to volunteer on week days. At the moment we need help with TAFE tree-planting on 10, 12, 20 & 22 June, and with preparations on days beforehand.

Contact: Pete Bird 0418 853 834



New members

The Friends of Waite Conservation Reserve welcomes new members who have joined recently including:

Hugh Kneebone
Liz Cousins
Jake Howie
Karen Collins

FWCR contacts

President: *Peter Bird (0418-853 -834) pbjbird1@bigpond.com* ***Secretary:*** *Glenn Gale (glenn@margale.net)*

Treasurer: *Lynda Yates* ***Editor:*** *Meg Robertson*

Committee: *Kate Delaporte, , Grant Joseph, Peter Lang, Penny Paton, Meg Robertson, Richard Brooks, Clint Garrett*
Address: *Friends of Waite Conservation Reserve, University of Adelaide, Waite Campus, PMB 1, GLEN OSMOND 5064* ***Phone:*** *8313-7405*
Email: *kate.delaporte@adelaide.edu.au* ***Website:*** www.communitywebs.org/friendsofwaiteconservationreserve/