Newsletter 40

Winter 2018

FRIENDS OF WAITE CONSERVATION RESERVE Inc.

COMING EVENTS

Working Bees
See page 4 for details

Committee Meeting
June 18th 6:00pm
Volunteers Room

President's message

Last newsletter I recounted how in reviewing old photopoint images I discovered areas formerly cleared of olives where the olives had been allowed to reinvade. This time I want to share with you another pair of images featuring the northerly view from photopoint 24 at Netherby Spur. Look closely at the first image taken in December 1993 showing a small dead tree (arrowed).

When I re-photographed the photopoint this year, I was amazed to see the tree still there. Apart from the top-most branchlets less than 5mm in diameter, the diminutive tree was still very largely intact. Twenty-five years later! On closer inspection it proved to be an olive. No surprise; presumably the local detritivores (termites and fungi etc) are ill-adapted to break down the exotic and very hard timber.

This has ramifications for our ongoing olive control. In the past all olives treated in the reserve using 'Drill and Fill' have been cut and burnt at the time, leaving a clean slate for follow-up control.

Last season's Basal Bark Treatment (BBT) instead left the olives standing. While this provides lasting habitat for small birds, the demonstration above suggests the olive architecture will remain for many decades to come, potentially hampering future efforts to treat re-growth and seedlings.

Last year we treated 4.5-ha using BBT. The University with help from the Friends is currently drafting an Olive Control Plan which hopes to see the remaining 13.8-ha treated over the next 3-4 years, mostly using BBT.

While it will be wonderful to see the end of mature olives in the reserve, it will provide challenges for ongoing maintenance. Later strategic clearance of some free-standing BBT-killed olives may be a way of improving access. Either way, the Friends group will be critical to ensuring that reinvading olives are kept out.

Peter Bird

AGM 2018: President's Report

The Friends of Waite Conservation Reserve work to support the University of Adelaide to maintain and restore the Waite Conservation Reserve. For those unfamiliar with the reserve it is 121 hectares of magnificent Grey Box, Red Gum, Blue Gum and Drooping She-oak Grassy Woodland uphill from Waite Campus and stretching 2 km from the freeway in the north, south to Carrick Hill. In parts the reserve is well preserved – it supports around 200 native plants – but in other parts it reflects years of sheep grazing and cropping. That's where the Friends come in. For over 20 years we have weeded and planted, nurturing the reserve to protect the native plants and animals that live there.

To support this we do a variety of tasks. In 1993 the first of 51 photopoints were established across the reserve to measure long-term change. We re-photographed these in March. The photos show a gradual decline in the extent of our worst weed, feral olives, and their replacement with native understorey shrubs, many planted by the Friends group. They also show the odd hiccup where olives once removed, were allowed to re-invade and undo past hard work.

A large part of what we do as a Friends group is not to let this happen again. Feral olives are a nightmare weed in the reserve and it has been a tortuous process to remove them from 100-plus ha over the past two decades. As in past years, the focus of our bi-monthly working bees has been to systematically remove olive seedlings from previously cleared areas. Last year in 16 working bees, 25 volunteers re-visited the entire cleared portion of the reserve and removed thousands of seedlings. We also re-treated a thousand re-sprouting olive stumps and controlled other woody weeds – especially Buckthorn, Hawthorn and Blackberry. While this is likely to be a never-ending job, I am pleased to report we are winning, with fewer each year.

A number of new weeds turn up periodically and others occur in restricted areas. These we aim to eradicate or at least keep contained by ongoing control - Fountain Grass, Coolatai Grass, Perennial Veldt Grass, False Caper, Boneseed and Silver-leaf Nightshade among others. We re-treated all known populations of these weeds and removed another handful of new weeds that cropped up in the reserve over the year.

Over the past two summers we have trialled Basal Bark Treatment – a relatively new technique for primary olive control involving spraying the trunk and lignotuber with herbicide in a BioOil carrier. The university with help from the Friends group treated 4.5 hectares last year using this technique. Preliminary results look spectacular and we are currently working on a plan with the University that will see the remaining 13.8 hectares of olives treated over the next 3 to 4 years. I am confident the Friends' group is well-placed to do the follow-up necessary to finally see the end of mature olives in the reserve over that period.

While we have done very little tree-planting in recent years, we did plant 300 she-oak, chenopod, everlasting and wallaby grass seedlings last winter – surplus plants grown by neighbours Carrick Hill and Burnside Council.

Feral deer are a major issue for us, damaging native vegetation and dispersing many thousands of olive seeds and other weeds through the reserve. We worked closely with the Australian Deer Association to remove deer during the year. I thank Andy Baker for his ongoing efforts to ensure this is carried out safely and effectively.

I also thank Clint Garrett for his work to re-engineer the stiles at several reserve entrances and to improve safety on some eroded sections of walking track, as well as for his usual weed spraying.

During the year we joined with the family of long-time supporter Enid Robertson to commemorate her life and contribution to the establishment of the reserve and early bushcare training by unveiling a plaque mid way up Wild Dogs Glen.

In other matters Jennifer Gardner is continuing to oversee the development of a Reserve App highlighting the spectacular 4 km Loop Track and I thank her and others who have contributed text and images. I look forward to its release in the coming year.

Finally I'd like to thank the entire committee for their contributions – to indefatigable Secretary Helen Pryor, Treasurer Lynda Yates, Vice-President Peter Lang, Newsletter Editor Clint Garrett, and to Penny Paton, Luke Day and Meg Robertson. Not only do they provide great expertise but they provide the heavy lifting at working bees.

And thank you also to the many others who participated at our working bees. In all, our labours amounted to around 1400 volunteer hours worth close to $50,000 without which the condition of the reserve would be much the poorer.

One last thank you. To Kate Delaporte, University Manager of Waite Conservation Reserve who last year had the unenviable role of stepping into Jennifer Gardner's massive shoes. She has done a great job and I thank her for her strong support of the Friends group. It has been a pleasure working with her.

And just to finish off, I'd like to encourage you all to visit the reserve. It conserves one of the largest Nationally-endangered remnants of Grey Box Grassy Woodland in South Australia and only 7km from Adelaide. Why not come and see us at a working bee on the first Saturday or third Sunday of the month? Or you're welcome to join me during the week.

Peter Bird

PAWS Walk in the Reserve

On a beautiful April afternoon President Peter Bird, accompanied by Curator Dr Kate Delaporte and Dr Jennifer Gardner, lead about 30 Postgraduate Association of Waite Students (PAWS) on a walk around the Loop Trail. We stopped from time to time for Peter to talk about the plants, animals and weed control techniques.

On Urrbrae Ridge we were greeted by a family of three kangaroos and a larger group were seen by some on the way back. This was a special treat for the international students.

At the deer rutting site Peter described the damage these feral animals do to the native vegetation and their dispersal of huge numbers of olive seeds by regurgitation.

Deer activity in the Reserve is monitored on camera and when conditions are right the deer are culled by professional shooters.

At Netherby Spur the students enjoyed a snack while taking in the stunning views over the campus and Adelaide Plains.

Before the walk only three students knew of the Reserve, but at the end the general response was most enthusiastic. Each student was given a backpack with the Trail Guide, membership application and fliers. Hopefully some will come along to the AGM or a weekend walking bee.

Jennifer Gardner

PAWS on Netherby Spur

Photographer Kara Levin

Working Bees 2018

Four working bees down and we are steadily mowing down the crop of olive seedlings that emerge annually to torment us. But numbers of seedlings are down. In the 28 percent of the reserve completed to date we have only accounted for a couple of thousand seedlings, plus assorted African Daisy and Cottonbush.

At this rate we should complete the 107 hectares of olive-cleared reserve at record speed leaving time to do other things. Especially if we can continue to attract numbers like the 12 who came to our last working bee. We welcome Carolyn Bishop and Christina Hagger to the working bee crew.

One of the things I'd like to do is to pick up some of the old rolls of fencing wire that litter the reserve. Most of it was removed when the fences were dismantled early on but a few remain to be trucked out and disposed of with metal recyclers, and some will be repurposed within the Urrbrae House Gardens, enabling an attractive and useful second life.

The next round of working bees will commence from the Springfield Park entrance via Eagle-on-the-Hill Rd. See the map at right.

Peter Bird

Winter/Spring Working Bees 2018

June: Sunday 17th

July: Saturday 7th & Sunday 15th

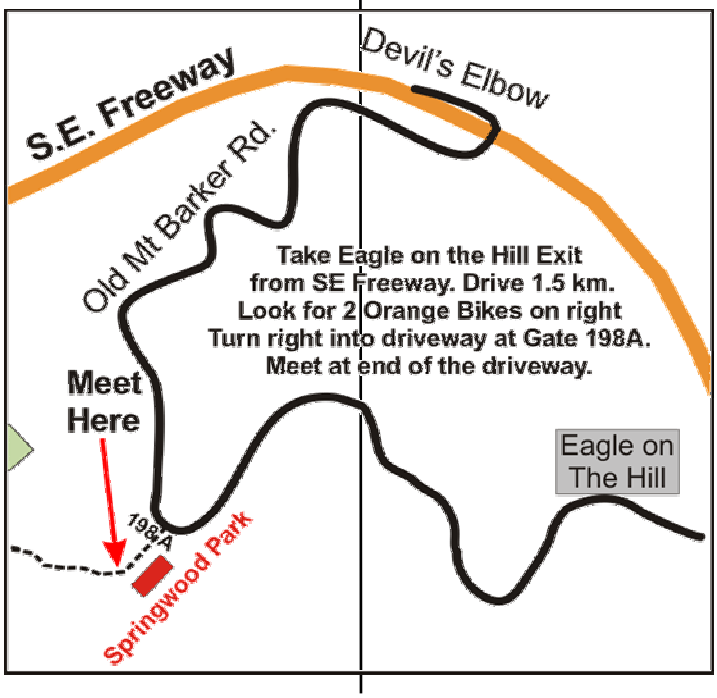
August: Saturday 4th & Sunday 19th

September: Saturday 1st & Sunday 16th

Meet at Springwood Park 9:00 am

Koala photographed on the PAWS walk

Photographer: Kara Levin



Rufous Whistler

While not on the official bird list for the Reserve, a Committee member is fairly sure that he has heard the Rufous Whistler in Wild Dogs Glen over the past little while. They do have a very distinctive call and, with the dry weather experienced over most of South Australia, it is not unexpected for species to move into wetter areas than where they are normally found.

The scientific name for Rufous Whistler is *Pachycepahla rufiventris* – the generic name means 'Thickhead' from the Greek and *rufiventris* means red belly from the Latin. Whistlers do indeed have a large rounded head and the Rufous Whistler has a pale rufous belly. Males are brighter than the females, with a white chin surrounded by a black mask, a pale grey back and a rufous chest and belly. Females and immature birds are grey-backed with darker brown vertical streaks on a pale rufous chest and belly. Their calls are melodious and loud, belying their small size (a bit bigger than a sparrow), and the most distinctive call is a clear "ee-chong" often given in response to a loud noise, like a car door slamming.

Rufous Whistlers are widespread on mainland Australia and occur in a variety of habitats, including woodlands, forests and shrublands. They generally occur in the drier parts of South Australia, although some seasonal and/or nomadic movements occur. White (1919) regarded them as rare autumn visitors to the Reedbeds area of the Adelaide Plains, where he lived and observed birds for many years. In our nearly 40 years of observing birds at Gilberton, we have only recorded the species once or twice in our garden in the autumn months. Observations over a 30 year period at golf courses near Adelaide Airport include five records, one bird in November and four in April/May, which supports White's notion of autumnal visitation to the Adelaide plains.

Male Rufous Whistler

Photographer: fir0002 |https://commons.wikimedia.org

While they are sometimes in pairs, it is not uncommon to see single Rufous Whistlers, as they search for invertebrates in the canopy of eucalypts, acacias and other shrubs.

The more common whistler at the Waite is the Golden Whistler – a bird of similar size to the Rufous, but the male has a golden chest and belly and the female is an overall pale grey/brown, without any streaking. While predominantly found in the wetter parts of the State, including the Mt Lofty Ranges, they also come down in small numbers to the Adelaide plains over autumn and winter, particularly in some years. The autumn/ winter of 2018 has seen larger numbers than usual of Golden Whistlers on the plains, probably due to the dry state of the Ranges. We have had at least 3 different birds in our garden at Gilberton, including two males, and they have stayed around for at least a month, which is unusual. Golden Whistlers have a loud, sweet and melodious call, which often alerts observers to their presence, as they search leaves for their insect prey.

References

White, S.A. 1919. 'Birds recorded from the early days up to the present time for the Reed Beds District.' *South Australian Ornithologist*, 4(4): 101-114.

Penny Paton

TERN at Waite

Australia's national terrestrial ecosystems sample library is housed at Waite. Tens of thousands of soil and vegetation samples collected by TERN's ecosystem surveillance monitoring are now housed at here and openly available for researchers to use

In October 2016, the TERN (Terrestrial Ecosystems Research Network) Ecosystem Surveillance team undertook its first survey in the Waite Conservation Reserve. The site is identified as SAAFLB0003.

TERN is Australia's land ecosystems observatory, a collaborative effort by a group of Australian agencies collecting data and samples from sites across Australia. The ultimate value of this and all data is many-fold, including:

- providing a baseline of land condition across Australian bioregions to enable changes and threats to be detected early helping ecosystem researchers to understand and describe our landscapes and their ecology, particularly given the anticipated impacts of climate change
- to use this knowledge to inform decisions made, at all scales, about land use – and to

potentially improve the condition of our landscapes by providing genetic resources and information that may have future applications, ground-truthing satellite derived vegetation and soil data

There are 580 sites in the TERN network currently, with sites selected using a robust stratification procedure that progresses from a national to local level of information. The Ecosystem Surveillance team based at the Waite systematically work their way around the plot. Each plot is one hectare, and the procedure for data and sample collection follows the *AusPlots Rangelands Survey Protocols Manual* (White *et al.* 2012).

Consistency in collection methods means the data can be used in a range of ways both in monitoring the Waite Conservation Reserve over time, but also to allow comparison to similar communities in the region, and others across the continent.

All of the data TERN collect is freely available online through the data portal at www.aekos.org.au. It can also be viewed on the Soils to Satellites website which contains a range of useful visualisations sourced from the Atlas of Living Australia http://www.soils2satellites.org.au/.

What use is being made of the data?

Data from the Waite plot has not yet been used – it is one of the newest plots (completed at the end of 2016) and there is often a bit of a lag from publication of the site to when the data and samples start to be used. This will likely change very soon though, for a couple of reasons.

Later this year the site will be revisited as part of the TREND transect. This is a plot series that goes from north of the Flinders Ranges to Deep Creek. While the plot at Waite was not part of the original 42 sites it sits squarely within the spatial and climatic gradient of the transect. This visit to the plot, will add temporal depth and make the data more useful.

Secondly, TERN recently completed surveys of *Eucalyptus microcarpa* (greybox) woodlands on the footslopes of the eastern tablelands (NSW). Once finalised, this data will enable comparisons with the grey box woodland sampled at the Waite. As in the Mt Lofty Ranges, these woodlands face a range of threats such as fire, introduced plant species and development pressure.

The plot at the Waite Conservation Reserve is quite diverse. It has notably few woody weeds, which is a credit to the work done by the Friends of Waite Conservation Reserve. While the under-story is largely dominated by introduced grasses and forbs, native species are still relatively abundant.

Any of the Friends who want to come out and help with re-visiting the plot later in the year would be more than welcome. Some of you would have seen the star pickets that mark the corners of the plot between the Old Coach Road and the Urrbrae Ridge. Contact Sally O'Neill to register your interest in volunteering (sally.oneill@adelaide.edu.au)

A report on the site (follow link below) has information about what we collect and why, as well as a species list that details the native and non-native species. A species field guide generated from the virtual herbarium based on our species list may also be of interest.

http://www.ausplots.org/science-outputs/#Waite

More information can be seen at: https://www.google.com/maps/d/u/0/viewer?mid=1eZjVTbaPOCJIiNG8SkUZI2t8GqKmy_cb&ll=-32.176837971534354%2C144.24121990917968&z=6

Angela Gackle

AGM Re-Introducing Quolls & Possums

David's project to re-establish Western Quolls(idnya) in the Flinders Ranges had a long history and is an elegant solution to an environmental problem. Western Quolls were once widespread across Australia before European settlement and were found on about 70% of the continent. Land clearing, feral cats, poisoning for rabbit control, hunting and a possible disease have reduced their range to the South-west corner of Western Australia. Quolls disappeared from the Flinders Ranges by the 1880's.

Earlier research by Henzell and Lay showed that rabbits even at a very low density have a major impact on plant regeneration. The costs of physical control (warren ripping etc) are high. Calici virus has been a very useful method of reducing numbers, but is not the complete answer. What David could see was needed, was a predator which would control rabbits on an ongoing- no/low cost basis. Enter the Western Quoll. He conceived of this project in 2007 and for the next 7 years worked on it in his own time. David had previously worked as a ranger in the Flinders Ranges and had been involved with Operation Bouncback. He theorised that the reduction of fox numbers as a result of that program would create a niche that Quolls could re-occupy.

In 2014, 41 Western Quolls were trans-located by air from Western Australia to Wilpena. A number of females with pouched young were deliberately chosen for this project so as to maximise the impact of the re-introduction. Further introductions of 37 and 15 individuals were done in 2015 and 2016. The Quolls were radio-collared to enable tracking. That proved to be valuable in assessing how well the animals were doing and what the causes of death were.

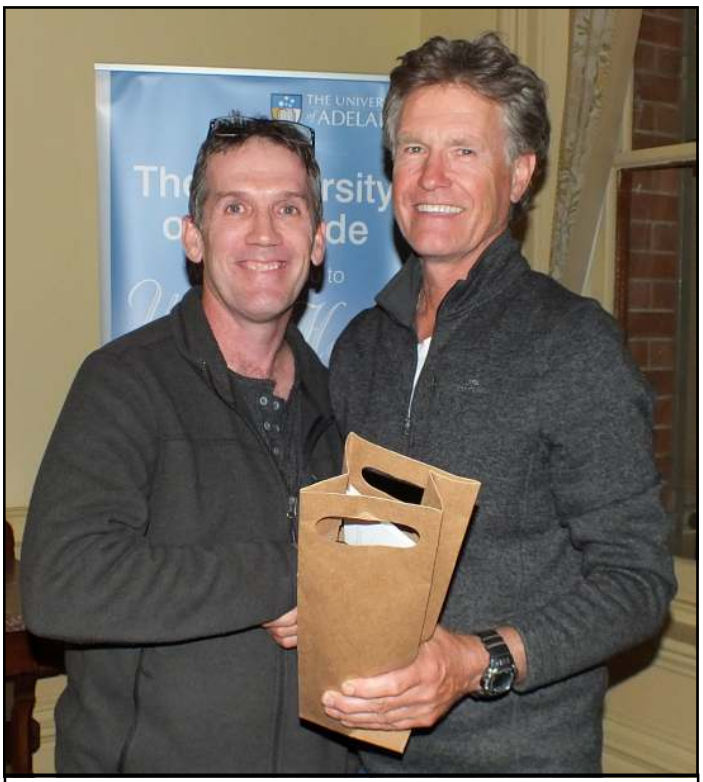
The project has been an outstanding success as the quolls have settled into their new environment and have begun to breed. One young male has been found at Arkaba, which is well to the south of the original release area. On the downside, there have been some quoll deaths mainly due to predation by feral cats. Aerial baiting using Eradicat baits has been useful in controlling cat numbers. Fortunately, Quolls are not severely effected by 1080 poison as it is a normal part of plants in their environment, but cats are killed by it.

However, if baiting programs for cats and foxes were to be stopped, then David felt that the Quolls would quickly go extinct again.

The other species which has been re-introduced is the Brush-tailed possum. Possums can be a nuisance in suburban areas, but they went extinct in the Flinders Ranges in the 1940's. 79 possums (some with young) from the Yookamurra Sanctuary were trans-located to the Wilpena area and have re-established a breeding population. Although possums spend a lot of time in the trees, they come to ground to move from one tree to another, at which point they are vulnerable to cat predation. For this reason on-going cat control is vital to the success of the project.

David's efforts, along with Dr Katherine Moseby, Dr David Paton and PhD researchers have made a valuable contribution to re-establishing the ecological system of the Central Flinders Ranges. The Foundation for Australia's Most Endangered Species (FAME) and DEWNR have helped fund the re-introduction of quolls and possums to the Flinders Ranges.

Clinton Garrett



David Peacock being thanked by Peter Bird for his presentation to the 2018 AGM.

Wild Dogs Glen

Walkers have reported issues with the state of the walking trail in Wild Dogs Glen. Erosion had created some steep and slippery sections on the trail, as can be seen in the photograph at right.

Over the last month Clinton has been improving the safety of the walking trail as well as making it easier for walkers to use.

Old steps have been improved and new steps added. In some places where people had slipped on the trail, jarrah retaining structures has been put into place.

At the seat 1/2 way up the climb, the old stone wall has been partly repaired. A new stone step has been cemented into place and a new low wall built to clearly define the trail. The reaction of walkers to the improvements has been over-whelming positive.

Steps like this were dangerous
Photographer: Carolyn Schultz

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