NEWSLETTER

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New members are welcome. Contact Jennifer Gardner, Manager Waite Conservation Reserve, above

President's Page

The heat of summer is a good time for rest and reflection; evaluation of past efforts and planning for future successes… or it should be! Unfortunately I have been busily occupied with more rest than reflection. Still… I did read a book which altered forever the way I will look at our reserve, and could have implications for the way we manage it. The book is Bill Gammage's *The Biggest Estate on Earth – how aborigines made Australia.*

This is by any estimation a landmark book. We all know that aborigines used fire to manipulate the environment. But I was unprepared for Gammage's argument, that this wasn't some haphazard waving of the firestick but a systematic, precise and universal tool used to generate remarkable predictability to the spatial and temporal distribution of resources for exploitation. Using dozens of early paintings and hundreds of early descriptions from throughout the country, Gammage paints a vivid and convincing case that aborigines intricately manipulated the landscape on an audacious scale. I was particularly taken aback by the degree to which aborigines were claimed to have managed grassy woodland like our own Waite Conservation Reserve.

Consider here the painting done by Martha Berkeley c1840. It depicts the view from East Terrace to Mt Lofty a mere 4 years after colonial settlement in South Australia. Waite reserve is visible in the foothills just to the right and below Mt Lofty. Remarkably, where today much of the reserve is densely clothed in Grey Box, Blue Gum and Red Gum woodland, in 1840 it was depicted as open grassland with a few scattered trees.

Mt Lofty from the Terrace Martha Berkeley c1840

Was this artistic licence or is this what the Waite landscape really looked like? Was it essentially grassland or did Martha simply run out of 'gumleaf' green in her paint box?

Is it possible all these years later to authenticate her work? To my untrained eye, a walk around the reserve reveals an obvious pattern, that very many of the Grey Box trees appear uniformly young and even-aged. This suggests a synchronous regeneration event which fits nicely with cessation of an imposed fire regime designed to suppress trees. Interestingly we are currently witnessing the creation of a new cohort of sapling trees and increasing density of the woodland associated with the removal of stock. Witness for example the swarm of young Red Gums at the base of Wild Dogs Glen but also the regeneration of eucalypts more generally throughout the reserve (saying nothing of the olives!).

What if any are the implications for how we manage the reserve if we accept the above thesis? I suspect the point is probably moot given that we are unlikely to be handed the firestick to manage the reserve as a grassland. It does beg the question though whether we should continue to plant so many larger shrubs and even whether we selectively remove some of the eucalypt seedlings that continue to regenerate en masse. Increasing tree density will reduce space, light, nutrients and moisture for ground layer plants which ultimately might be expected to lead to a loss of diversity.

Whatever your thoughts, Bill Gammage's book serves to emphasise that ecosystems are not static but constantly change through time and space. Systems are dynamic because of 'natural' processes such as weather and climate, but also because of man-made processes that may have been operating for tens of thousands of years.

One of the benefits of presidency is it gives me licence to ring up old mates to see what they are doing and to invite them to speak to the Friends group, eg. Terry Reardon and Peggy Rismiller. Terry recently oversaw our first attempt to survey the bats of the reserve, the results of which are later in the newsletter.

Also in this category is Andrew Crompton who has kindly agreed to speak at our AGM on 23 May. His talk: 'Thirty years in bushcare … and still lots to learn' draws both from his working life and his long experience caring for his own patch of grassy woodland at Mt Barker. Undoubtedly his long experience in bushcare will provide insights into how we might better manage the reserve.

Peter Bird

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Going in to bat for a friend

It has been a batty past few months. Enthused by bat ecologist Terry Reardon's talk at a past AGM, the Friends recently built and erected 14 bat roost boxes, then followed up with a bat survey of the reserve and surrounds.

Enthusiasm and a willingness to have a go made up for some fairly rudimentary carpentry skills at the bat box construction day last spring (*Editor's Note: Peter is being kind – rudimentary doesn't really cover the deficiencies shown by all but Peter).* Ultimately the carcasses of the desired number of boxes were duly crafted with surprisingly little loss of skin.

Erection of the boxes also occurred without incident despite a potentially calamitous mix of ladders, trees and steep and uneven ground. The boxes were erected one in each of the 14 vegetation communities sampled in the 2008 biological survey. Each box was screwed to the north-east aspect of a likely looking eucalypt trunk exactly 4.2 m from the ground. Why? Because this is the maximum height we can reach with the inspection camera we will use to regularly inspect the box contents without having to carry an unwieldy ladder.

Jack Bird erecting bat box in a Blue Gum (P Bird)

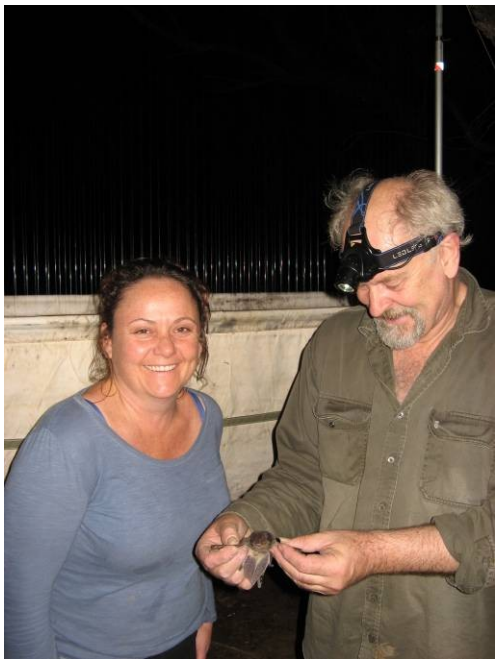
Our third bat adventure occurred on Saturday evening 23 March when we attempted to sample some of the local bat fauna with Terry. Bats regularly visit water to drink and cavort; ergo dams are a good place to survey. Waite Conservation Reserve is without water so we assembled instead at the nearest dam on 'Springwood Park' just east of Stone Reserve.

Four mist nets, 3 harp-type bat traps and 4 Anabat ultrasonic detectors were installed at the dam and in the reserve …and we waited expectantly in the cooler than optimal gathering dusk.

Terry Reardon explaining how a harp-trap works (P Bird)

Soon the Anabats started to buzz and click as the first tiny visitors wheeled over the dam. Occasional glimpses in the head torch and the odd audible call of a White-striped Freetail-bat was the closest most of the 20-odd present came to an encounter. Only after most had left did a bat trap yield a single bemused Gould's Wattled Bat at our normal BBQ site.

Peter Bird at the bat survey helping erect a harp-trap (P Paton)



Terry, Danielle & a Gould's Wattled Bat (P Bird)

Despite the lack of captures, the assembled mob were kept entertained by Ringtail Possums, a Koala, Barn Owl, Tawny Frogmouth and frogs, not to mention picnicking under the stars. Still, with the Large Forest Bat and Little Freetail-bat also recorded by the detector at the dam the species count already stands at four, with three bat detectors yet to be interrogated.

Thanks to Terry Reardon, our Springwood Park hosts Ray and Tina Spencer and to caterers Andy and Annette Baker for a special night.

List of Bats of Waite Conservation Reserve

Southern Freetail-bat *Mormopterus planiceps*
White-striped Freetail-bat *Tadarida australis*
Gould's Wattled Bat *Chalinolobus gouldii*
Large Forest Bat *Vespadelus darlingtoni*

Peter Bird

Committee Profile

Our Secretary – Helen Pryor

Helen in her favoured habitat, Waite Conservation Reserve, prior to the Bat Survey (Photo: P Paton)

Like Botany, I'll start with the family name. I'm told that physically I look like a Pryor, short and stocky, a body developed over centuries for tin mining in Cornwall. I do look like my grandmother, born in Quorn in 1893.

Her father, my great grandfather, William Pryor, was born in Wallaroo in 1863 but didn't follow with his father's mining tradition. He became an engine driver on the Great Northern Line (Ghan) which ran along the watering holes to Oodnadatta. My grandmother told me stories of flooded creeks, dust storms that seemed to sweep up all of the Willochra Plains and dry thunder storms that my g. grandfather said were like Judgement Day.

My father also broke with family tradition by studying at Roseworthy. (His father, also a Pryor was a teacher). He eventually bought a dairy farm on an irrigated swamp on the River Murray outside of Murray Bridge. This was despite a story of his father being able to step across the Murray River at Mannum in the big drought of 1914 because there was so little water. We were there for the 1956 flood and moved family and cow herd to Victor Harbor for the rest of the year. (Now there are no dairies on that swamp).

So I was brought up on a dairy farm, the eldest of 3 girls, with lots of jobs to do. However I, along with the children from the neighbouring farms, spent many days roaming freely through the scrub on the highland, above the cows on the swamps. It may be why I now volunteer on WCR, trying to capture that early childhood!

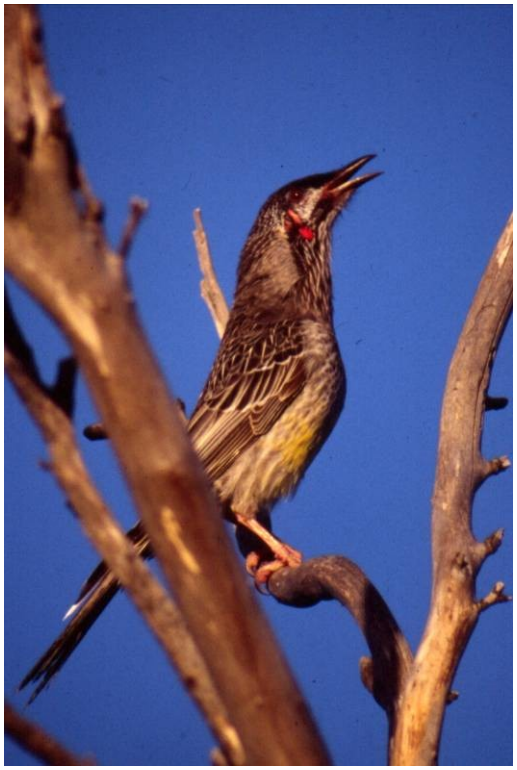
My given name, Helen, came from my mother's side of the family; the taller, thin Scottish side. My great, great grandfather, a crofter in search of land, arrived in the late 1840s in time for the Victorian Gold Rush. He was successful on the gold fields and returned to buy land outside Gawler which turned out to be in the rain shadow. Several daughters (one called Helen) became teachers. Every generation since, has had a Helen who was a teacher or a nurse.

I became a teacher, a Japanese Language teacher, after heading to near north Asia in the 1960s like many others of my generation. My Japanese language studies highlighted the value of plants, seasons and weather and the importance of the attitude to land which culturally underpins society. I now reflect on my settler relatives grappling with 'a land of droughts and flooding rains' while trying to replicate an old-world 'green and pleasant land' for economic and emotional security.

In retirement I've been fortunate to be able to look more closely and develop a deeper appreciation of the remaining patches of native vegetation around the Adelaide Hills. Bushcare and being a member of the FWCR allows me to do this while helping to preserve it.

Ornithologica III

As you walk in the Waite Conservation Reserve this autumn you may notice that the major eucalypt species, the grey box (*E. microcarpa*) is flowering and attracting a multitude of birds that feed on the nectar. If you are very observant, you may also notice birds, particularly Red Wattlebirds, feeding under the bark and along the branches and leaves of the grey box. For many years it was assumed that honeyeaters acting in this way were feeding on insects, but this is not the case.



Red Wattlebird (Photo: L Paton)

The ornithological literature from the early 1900s documents honeyeaters feeding on alternative carbohydrates – manna, honeydew and lerp (e.g. Darnell-Smith 1910, Tindale 1929, Hindwood 1932, Ryan 1951, Clark 1964, Swainson 1970 – see Paton (1980) for these references) – but this was largely ignored until Paton (1980) published the results of his PhD on the New Holland Honeyeater. He demonstrated that these alternative carbohydrates were important food resources for many honeyeater species and that they offered energy rewards similar to those from nectar. They are also widespread and occur in many habitats. The following information is largely drawn from this paper.

So what exactly are these carbohydrates? Manna is a white sugary blob and exudes from the leaves, petioles, buds and fruits of eucalypts where insect damage has occurred. Honeydew is a sweet secretion from the nymphal stages of insects called psyllids, eriococcids and coccids that live under eucalypt bark. Lerp is the waxy protective covering over many Australian psyllids and most people will be familiar with this, as it is common on the leaves of river red gums (*E. camaldulensis*) and is often implicated in eucalypt decline, as large infestations can turn the leaves pink and, in some cases, can kill small trees.

Lerp on river red gum leaves (Photo: D. Paton)

Many bird species feed on alternative carbohydrates, including a range of honeyeaters, lorikeets, pardalotes, parrots and treecreepers.

Crimson (Adelaide) Rosella (Photo: D Paton collection)

Along the River Torrens where I live, it is somewhat incongruous, but not uncommon, to see Purple Swamphens perched in river red gum saplings, taking lerp from the leaves. So next time you see birds gleaning on leaves or probing under bark, look carefully and you may be able to see what they are feeding on.

Honeydew on a eucalypt twig, Mt Lofty Ranges (Photo: D. Paton)

Of course birds do also take insects from leaves and branches of trees, but not as often as was first thought. All birds need some protein and neither nectar nor alternative carbohydrates contain much, if any, protein. Many honeyeaters hawk for insects, often at dawn and dusk in the summer and autumn when flying insects are more common.

New Holland Honeyeater (D Paton collection)

Reference

Paton, D.C. 1980. *The importance of manna, honeydew and lerp in the diets of honeyeaters.* **Emu** 80: 213-226.

Penny Paton

Noisy Miner (D Paton collection)

White-plumed Honeyeater in a river red gum (Photo: L Paton)