LAND FOR WILDLIFE
South East Queensland

Newsletter of the Land for Wildlife Program South East Queensland

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In SEQ, there are several species of small, green-coloured frogs, such as the Graceful Tree Frog (left) and the Eastern Sedge Frog (above).

Where do frogs go in winter?

Summer nights after rain are great times to go frogging. Walking around creeks and swamps at night is not everyone's idea of fun, but with a little preparation and the right equipment, going frogging can open up a nocturnal world of wildlife. A long sleeve top, long pants, boots, insect repellent and a good head torch (with spare batteries) are a must.

Just after heavy rain is the best time to go frogging, especially if night-time temperatures remain high. Frogs and other cryptic animals emerge on such nights to forage, breed and travel. It is a wonderful wildlife experience to be surrounded by hundreds of calling frogs on a good night. In addition to frogs, there is a chance that snakes, spiders and mosquitoes will also be active, hence the long pants, boots, repellent and a good torch.

Identifying frogs can be tricky and it is sometimes easiest to match their call to a known recording. *The Frogs of Australia* app by Hoskin, Grigg, Stewart and MacDonald contains photographs and recordings of nearly all 238 species of frog described in Australia. By detecting your location, the app can narrow down the frog species that are likely to occur in your area. You can then flick through the recordings or photos to help identification.

A tadpole can take weeks to metamorphose into an adult frog, but after the first decent summer rain, hundreds of adult male frogs are singing their hearts out. Where have they emerged from? The answer is that they have been waiting since last autumn. Some bury themselves deep into the ground or underneath leaf litter at the end of summer, especially along the edges of creeks. Others climb up trees and find shelter in deep hollows with moisture. There, they enter a state of torpor, like hibernation, where they significantly reduce their metabolism during the cooler months. Remarkably, when they emerge after rains, their muscles have not wasted and their digestive system is fully functional.

So if you are out frogging this summer, think about how these comparatively small and sensitive animals have spent up to nine months lying dormant in the same spot waiting for rains. No wonder they are now out eating, breeding and calling.

Article and photos by Deborah Metters

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Australian Government | National Landcare Programme

editorial

In November last year, a contingent representing the Land for Wildlife South East Queensland program attended the National Private Land Conservation (PLC) Conference in Melbourne. Twenty years ago, such a conference would not have been possible. There was no such industry as private land conservation. These days, it is a different story.

A keynote speaker from the International Land Conservation Network spoke about the rise of private land conservation in the USA, led by land trusts. Land trusts are non-government organisations (NGOs) that either purchase and manage land for conservation, or help register a conservation easement (covenant) over privately held land. These NGOs have transformed the USA's landscape by collectively conserving over 50 million acres and welcoming 6 million visitors annually.

In SEQ, the private land conservation landscape is led by the Land for Wildlife program and associated conservation covenanting programs (VCAs) through Local Governments. In addition, the Qld Trust for Nature also offers conservation covenants to private landholders. The two big PLC organisations in Australia, the Australian Wildlife Conservancy and Bush Heritage Australia, both have reserves in SEQ. I believe that our industry will only continue to grow and improve activities such as visitor programs, ecological monitoring, attracting investment and assisting with intergenerational transfers of properties.

FYI, this year's National PLC Conference will be held in Hobart in October.

I hope you enjoy this edition and the thought-provoking article about dense grasses (weedy or native) along waterways, which offer habitat for inconspicuous birds like rails and crakes. Landholders at Peachester share their positive experience of controlling Parramatta Grass and students from Kenmore State High School reflect on their restoration efforts along Moggill Creek. Plus lots more.

I would like to thank Kaori van Baalen who has been an enthusiastic and creative Land for Wildlife Officer in the Lockyer Valley for almost seven years. She accepted other work closer to home, but leaves a legacy in the Lockyer of innovative community events, the Land for Wildlife Landholder Assistance Program and supporting hundreds of landholders in their conservation goals. All the best Kaori.

As always, I welcome your contributions to this newsletter and I wish you and your families a happy and prosperous 2017.

Deborah Metters
Land for Wildlife Regional Coordinator
Healthy Waterways & Catchments

Landholder Registrations, Land for Wildlife SEQ - 1/12/2016			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
3244	876	59,547 ha	6,434 ha

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fauna vignettes

PRIZES!

Healthy Waterways & Catchments has three copies of *Australian Wildlife After Dark* to give-away to selected Land for Wildlife members who contribute published articles about nocturnal wildlife. Please send your article and photos to the Editor (details pg. 2) by 1st May 2017. Winners announced in the July 2017 edition.

Koalas, Conservation & Grain Production

Dad had often said to me "I have always seen a few Koalas", making me envious as I had never seen one on our property.

It wasn't until 1994 when the Noisy Miner birds had alerted us to what we thought was a Lace Monitor or Carpet Python. Then we saw him, a male Koala perched sleepily in a Gum-topped Box (*Eucalyptus moluccana*). Since then, Koalas have become permanent residents on our 540 acre Land for Wildlife / grain production property.

We are privileged to see on any given day in our Forest Red Gum (*Eucalyptus tereticornis*) woodland, up to 11 Koalas. Two to three joeys are seen each season, with usually the first joey sighting in April.

With several management practices in place including regeneration, revegetation, weed control and local wild dog baiting programs, we hope to ensure the survival and prosperity of this unique Australian marsupial on our property.

The Zackreson Family
Land for Wildlife members
Wondai, Burnett Mary region

Barbed Glider

Some 10 years ago we did some fencing to exclude cattle from Wild Mountains. Most of our 76 ha Land for Wildlife / Nature Refuge property in the Border Ranges is unfenced and due to the steepness of the terrain and other natural deterrents we hardly ever get cattle up the mountain. But on the odd occasion when they are short of feed they do wander up, perhaps once every 5 years. However the main "threat from entry" did require some 200 metres of difficult fencing.

Qld Parks and Wildlife Service (QPWS) helped erect the fence with support from our International Student Volunteers and a Green Corps team. It all got done and has so far stood the test of time. At the time we went with plain wire for the top strand, which according to Chris Evenson from QPWS, would minimise injury to wildlife.

And sure enough, earlier this year and all these years later, what should I see half way down the mountain and impaled on the top barbed wire strand on a neighbours fence? … One dead glider.

This unfortunate entanglement occurred next to a steep dirt road, just below a ridgeline. Most wildlife entanglements in barbed wire fences occur near ridgelines or around dams or other watering points. If you can put plain wire on the top strand near these places, you minimise the risk of wildlife entanglements.

Richard Zoomers
Wild Mountains
Land for Wildlife member
Rathdowney, Scenic Rim

fauna profile

Invisible but Valuable: Secretive rails in our waterways

Header: Excellent rail habitat is provided by the native Marsh Club-rush (*Bolboschoenus fluviatilis*), shown in the foreground.

Insert: The Lewin's Rail is rarely seen, only occasionally venturing out into the open.

Much attention is given to improving the condition of our waterways. Having native vegetation, good water quality and healthy populations of fish and invertebrates in our creeks and rivers is universally agreed to be beneficial, enhancing our natural assets. Lately, some of us who have an eye and ear for native birds have been promoting complementary perspectives.

Biodiversity value is readily apparent in trees and other plants along waterways, and in the conspicuous - or frequently surveyed - animals that they support. But SEQ waterways also harbour inconspicuous, indeed almost invisible, animals that thrive in dense low vegetation. Prevailing climate and native plant communities determine that our wetlands include habitats that humans can barely walk through and generally avoid entering. Thanks to tree clearing, agriculture and urbanisation, the spread of weeds has increased the prevalence of this thick cover along waterways.

At ground and water level, the hidden wildlife of such habitats includes a peculiar group of birds known as crakes and rails. Relatively small in size (from 15 to 33 cm in total length), crakes and rails are less well known than their larger relatives: swamphens, moorhens and coots.

Crakes and rails mainly live in wetland habitats but some range widely outside, for example in thick dry grass or under lantana. Their bodies are laterally compressed, which helps them slip through dense low vegetation like reeds (hence the old expression 'thin as a rail').

Preferring to walk or run rather than fly, nonetheless they are capable fliers, some family members having colonised oceanic islands, others migrating between continents. Where concealing habitat is permanently wet or damp, some crakes and rails can find invertebrate food and nest entirely within that vegetation.

Due to loss of wetlands, changes to habitat structure and predation by cats - but also ignorance of their existence - crakes and rails have declined in range and abundance. In the metropolitan area, Brisbane City Council has designated them as significant species. Its *Conservation Action Statement* on crakes and rails draws attention to their ecology and provides guidelines for habitat management.

The largest of this bird group is the beautiful Buff-banded Rail. Probably the best known, it is bolder than most others and may be seen in the open for short periods, nervously flicking its stubby tail. An opportunist, sometimes it is quite tame in urban parks and gardens, or camp grounds. You may have heard its sharp calls (penetrating short squeaks) in your creek at dawn or dusk.

Second-largest and rather drab, but with a powerful voice, is the Pale-vented Bush-hen. Apparently a seasonal visitor in SEQ, it may be revealed in spring-summer by cacophonies of braying, squealing sounds or a long sequence of 'pook' (as in 'look') notes emanating from your waterway.

The smallest, Spotless Crake, is a shadowy red-eyed bird that also seems to be quarrelling when it emits its signature, fast rattling call.

Arguably, the star of the group is the Lewin's Rail. Yet you might never see this red-necked, bar-breasted bird. Exceptionally secretive, Lewin's Rail nevertheless can be detected from recognition of one of its eight or ten calls. These include fast 'chit' sequences, braying trumpet-like notes, soft grunts and 'raspberry' sounds (much as children may make, blowing through closed lips), and unusual soft 'galloping' sounds. An excited bird may utter several of these in succession!

For conservation and land management in SEQ, Lewin's Rail is a good indicator of the presence of all four crakes and rails. Better still, in authorised surveys it has proved highly responsive to playback of its calls, frequently replying within a few seconds. Research in south-western suburbs of Brisbane over the past 1.5 years has delivered around 200 records from 80 sites.

This work has shown that Lewin's Rail can be found year-round where waterways are permanent. In creeks, it likes areas where water trickles and avoids reaches that are often subject to raging flash floods. Low-set terraces in the waterway bed are favoured, especially along tidal waterways. Rails are at greatest density where habitat is continuous for at least 100 metres and at least 30 metres wide, close to similar blocks of cover, and where the vegetation is very thick. Opportunities to wander under low cover beyond the creek zone may also contribute to their occurrence.

Background image: This creekbank is full of exotic grasses and other weeds, but is great habitat for rails and crakes.

Insert (left to right): The Buff-banded Rail with its distinctive orange breast band, and the comparatively plain Pale-vented Bush-hen.

Native plants that provide good habitat for Lewin's Rail and its allies include Common Reed (*Phragmites australis*), Bulrush (*Typha* sp.), Marsh Club-rush (*Bolboschoenus fluviatilis*), mat-rush (*Lomandra* spp.), taller beds of Blady Grass (*Imperata cylindrica*) and mangrove shrubs.

Structure and form are more important for these birds than plant species. Exotic vegetation is commonly, and in some cases it would seem preferentially, inhabited by rails. This includes dense beds of Para Grass (*Urochloa mutica*) or Mexican Petunia (*Ruellia simplex*) in wetter zones and Guinea Grass (*Megathyrsus maximus* var. *maximus*) in the drier margins. Emergent introduced woody and semi-woody shrubs like Brazilian Pepper (*Schinus terebinthifolius*) as well as Glycine (*Neonotonia wightii*) are common elements of rail habitat but may not be the main reason for these birds being present.

Common features of both native and exotic habitats for birds such as Lewin's Rail are that the vegetation is low (less than 2 metres high) and dense, thereby providing continuously damp or wet substrate and probably limiting predator access.

Landholders and managers of public areas may recognise the existence of rails and other 'invisible' birds in their waterways and integrate the requirements of these species in rehabilitation plans. As weeds are a prominent feature of rail habitat, this presents some challenges and possibly adjustments to conventional approaches.

The following guidelines may encourage the occurrence of rails in your waterway:

1. Check the waterway for presence of rails and other birds before planning works that will alter existing habitat structure.
2. Where possible, consider retaining habitats that presently support rails.
3. Encourage the growth of native plant species that support rails.
4. Increase the width of linear waterway vegetation and buffer zones by planting native species of low height.
5. Avoid cutting back creek-side vegetation, causing the cross-channel width of this zone to gradually decrease; total width of 20 m may be useful but 30 m or more will be far better for rails.
6. Avoid channelling the creek or quickening the flow of water: swampy waterways are good for rails.
7. If weedy habitat presently inhabited by rails must be replaced by natives, consider alterations in patches and/or replace weedy areas in stages.
8. Planting of tall shade trees may eventually exclude rail habitat; to encourage rails, plant trees well back from the water and leave multiple tree-less gaps of 30-50 metres along the waterway.

Rehabilitating waterways by planting native forest undoubtedly will benefit forest birds and improve overall condition. Allowing some gaps to remain, where native or weedy low cover can support crakes and rails, will sustain or increase the total biodiversity of the waterway. As a landholder or visitor, you may then be fortunate to enjoy the proclamations and conversations of these invisible and curious creatures.

Further Reading

Brisbane City Council (2014) *Crakes and Rails.* Conservation Action Statement. Available from www.brisbane.qld.gov.au

Article and photos by Roger Jaensch Wetlands and waterbirds conservation specialist, Indooroopilly.

practicalities

Sniffing Out Solutions: Detection Dogs for Conservation

Land for Wildlife members from the Sunshine Coast Council (SCC) region attended a Koala Conservation Workshop, whereby each member received up to 40 Koala food trees while learning about Koala conservation and seeing Maya, the detection dog, in action. L to R: Marc Russell (SCC), Ray Orloff (Land for Wildlife member), Romane Cristescu (USC), Stephanie Reif (SCC) and Marlon Gray (Land for Wildlife member).

When Romane Cristescu was doing her PhD on land rehabilitation and its benefits for Koalas, spending days upon days searching through the leaf litter for Koala scats (poo), she thought to herself, "If only there was a sniffer dog for Koala scats, this field work would be so much quicker." It wasn't long before wondering turned into searching and Romane found herself calling dog trainers and other ecologists to find out if this had been done before. Her enquiries were met with a resounding "no" almost to the point of disapproval. But if dogs can sniff out narcotics, track missing people, even detect prized truffles more efficiently and effectively than people then why not a threatened species? That's where Romane's journey with Maya started and she is now one of the trail-blazing researchers pioneering this new method of ecological data collection.

Maya was a border collie cross, abandoned and alone in a RSPCA shelter and on death-row, when her ball-crazed tendencies caught the eye of dog trainer Gary Jackson. Gary trained Maya to seek out Koala scats and she became the first Koala detection dog in Australia. Not only did Maya have to learn to find Koala scats, but she also had to learn not to react (chase or bark) to wildlife, given that her work would be in Conservation Reserves and National Parks.

So what's the use of finding all these Koala scats? The presence of Koalas and Koala habitat can have significant implications for development and land clearing applications. Given that Maya is over 20 times faster at finding Koala scats than a trained ecologist and 150% more accurate, she is a valuable tool in the fight to protect remaining Koala habitat. Maya's supporting research team from the University of the Sunshine Coast (USC) state,

"We hope soon no-one attempts to look for Koala habitat without a trained detection dog. Because each time humans survey Koala habitat and make a mistake, we lose a little bit more of Koalas' home."

Not only do scats tell us whether there is a presence or absence of Koalas in a particular reserve or property, but analysing Koala scats can also tell us about their health, genetics, diet, reproductive status, stress and sex. All that from a bit of poo!

The Detection Dogs for Conservation team at USC are training other dogs in detection of Koala scats, Koalas and water dragon eggs. They have also had enquiries about training detection dogs for frogs, tree kangaroos and even death adders.

In other parts of Australia, dogs have been trained and used for numerous conservation projects. Gary Jackson (who trained Maya) also trained Angus (a black labrador) to sniff out Red-eared Slider Turtles and their eggs to help eradicate these pests from South East Queensland waterways. He trained and donated Sparky the first Northern Quoll and Spotted-Tail Quoll detection dog to ecologist Amanda Hancock. Gary trained the first three Cane Toad detection dogs, including one that is used on Moreton Island to ensure it stays toad-free.

Mareemas (Italian sheepdogs) are used on Middle Island in Victoria to protect Little Penguins from foxes – a story recently made famous through the Australian movie 'Oddball'. Dogs are being used to detect invasive plants and animals too. The possibilities are endless and the mind boggles!

Around the world dogs are used for a broad range of ecological conservation purposes. Detection dogs are used in the fight against illegal poaching and trafficking in Africa. In New Zealand, dogs are used to locate Kiwis and Kakapos to relocate them to safer islands. In North America scat detection dogs are used to monitor Grizzly Bear and Black Bear populations. It's not only terrestrial animals that these canine conservationists help researchers with – in the United States, dog trainer Heath Smith trained Tucker (a labrador cross) to detect Orca scats from a boat! Romane has a dream of one day training a dog to detect Dugong scats here in South-East Queensland.

There are many ways Land for Wildlife members can get involved with Detection Dogs for Conservation. Firstly, if you live in the Sunshine Coast, Noosa, Gympie and Fraser Coast regions there is an opportunity to nominate your property as a potential site for a Koala scat survey. Contact rcristes@usc.edu.au if you would like to express interest. Secondly, the team at USC is wanting to rescue more dogs from shelters and train them to be conservation detection dogs. You can help give a dog a home and a career by donating to the project – see more on www.usc.edu.au/DDC

By Danielle Crawford
Land for Wildlife Officer
Sunshine Coast Council

Further Reading:

www.wildhelpers.com/Koala-detection-dog.html

www.usc.edu.au/DDC

Sunshine Coast Council employees (left to right: Julie O'Connor, Stephanie Reif, Danielle Crawford and Marc Russell) with Romane Cristescu (in the green shirt) and Maya from USC.

Author Danielle Crawford with Maya at a Koala Conservation Workshop for Sunshine Coast Council Land for Wildlife members.

"Around the world dogs are used for a broad range of ecological conservation purposes."

Romane Cristescu demonstrating Maya's ball-obsession to Land for Wildlife members.

Researcher Anthony Schultz from USC with Maya talking to Sunshine Coast Land for Wildlife members about their work.

weed profile

Parramatta Grass: A new control method

Parramatta Grass plants in the foreground are either dead or dying as a result of treatment with a selective herbicide. Photo by Brian Stuart-Nairne.

Parramatta Grass, along with most of the weedy Sporobolus grass family, has become a huge and increasing problem for landholders. This article discusses a couple of control methods and is not intended to be a definitive article on this grass family.

We own a 32 acre property in Peachester on the Sunshine Coast. We bought our property 12 years ago and started an extensive program of weed removal and replanting with endemic species. Our property could have been mistaken for a Camphor Laurel farm and their removal is ongoing, along with all the other usual suspects, mainly Small and Large-leaved Privet, Lantana, Yellowberry, Ochna, Castor Oil etc.

We also started improving the pastures. Two years later we noticed a one metre high tussocking grass with large black seed heads starting to appear in a few paddocks. It was not noticed until we completely rested one paddock, allowing this tussock grass to grow to its full height. Before spelling they were eaten off to low levels and were not obvious.

After investigation we confirmed that these large tussock grasses were Parramatta Grass (*Sporobolus africanus*), one of the weedy Sporobolus grasses (WSG) family. This WSG family is better known for the infamous Giant Rat's Tail Grass (*Sporobolus pyramidalis*) and Giant Parramatta Grass (*Sporobolus fertilis*).

Once identified we started to notice Parramatta Grass in patches in all the cattle grazing paddocks with increasing proliferation over the next year. All weedy Sporobolus grasses are spread rapidly by stock, vehicle movement, wind and flood water. These grasses grow rapidly, are frost and drought resistant and carry approximately 80,000 seeds per plant. They have the ability to infest paddocks and ultimately overtake other more productive grasses and render properties virtually useless for stock. They are one of the biggest developing flora problems facing landholders in eastern Australia.

Thankfully there has been the development and availability of a WSG specific selective herbicide called fluproponate, which is marketed as Taskforce, Scuffle and other commercial names. Fluproponate will also work as a pre-emergent on the remaining soil seed bank as well as the parent plant. This chemical is successful but takes between 3 and 15 months to kill WSGs depending on weather conditions. It is washed into the soil by light rain and is subsequently taken up by the plants surface roots. It is most effective during summer months as the plant takes up the chemical more quickly. However, it may be washed out of the soil before becoming effective if application is followed by heavy rain, as is likely in the summer months.

Fluproponate is applied by spray and can be boom or spot sprayed. However it requires careful application. It must be applied at the precise rate as described by the manufacturer which requires calibration of boom sprays and this is seen as somewhat difficult to most landholders. If applied too heavily it may affect the other desirable grasses, too lightly and it is ineffective.

A new product called GP Pellets is now available. These pellets are a granular form of fluproponate and have a fast release outer coating and a slower release inner. It can be applied by hand, mixed with fertilizer and spread accordingly but is very difficult to apply accurately with these methods. A hand-held spreader, such as the Scotts brand, is a much more accurate method of application but is not practical for larger areas.

The GP Pellet manufacturer offers a service using distribution by helicopter. This method applies the pellets very accurately using calibrated pods on the helicopter and GPS grid navigation. It applies the pellets very accurately in open fields and can apply them successfully through wooded areas and rough country which are usually not sprayed with boom sprays. This method may sound initially very expensive but when costed out the cost is almost the same as buying the pellets for the area. It has the advantage over other methods of very accurate distribution and huge time saving.

We treated our property using GP Pellets distributed by a helicopter, as well as our neighbours on either side (this is ideal), in March 2016. Shortly after treatment we had 5-10 mm showers every week or two and an unseasonally warm autumn, which resulted in a very active extended growing season. Three months after application there has been a very noticeable change in the Parramatta Grass infestation with most Parramatta Grass turning brown, dying or dead.

The base of dying or dead Parramatta Grass tussocks are now being overgrown with grasses and legumes, demonstrating that the fluproponate has only affected the Parramatta Grass. The manufacturer recommends a second application two years later to ensure near total eradication.

Weedy Sporobolus grasses have the ability to seriously degrade properties and doing nothing is not an option. They are considered Restricted Invasive Plants under the Queensland *Biosecurity Act 2014* (formerly Class 2 Declared Pests), which means that the landholder must take reasonable and practical steps to keep their land free of this pest, and that plants must not be given away, sold or released into the environment.

Weedy Sporobolus grasses need to be addressed and GP Pellets along with their distribution by helicopter gives landholders a viable, practical and economical tool to control this major problem.

If you have WSGs on your property, we suggest that you refer to all resources available including local Land for Wildlife Officers, the Queensland State Government, Department of Agriculture and Fisheries and other landholders.

Article by Brian & Christine Stuart-Nairne
Land for Wildlife members
Peachester, Sunshine Coast

> *"Weedy Sporobolus grasses have the ability to seriously degrade properties and doing nothing is not an option."*

Giant Rat's Tail Grass can quickly spread across paddocks turning fertile pastures into unproductive land.

Correctly identifying weedy Sporobolus grasses can be difficult. Identification often requires examination of the seed head by microscope, best done by the Queensland Herbarium. Above is a Giant Rat's Tail Grass, right is a suspected Giant Parramatta Grass. Photos by Bruce Lord.

Watch out for native Sporobolus Grasses!

All Sporobolus grasses are difficult to identify, so it is best to let a plant go to seed and send the seed head and some leaves into the Queensland Herbarium for identification. This is a free service and is available to all Queensland residents. To find out more about this service, ask your Land for Wildlife Officer. Remember that there are many native Sporobolus grass species with common names similar to WSGs, such as Slender Rat's Tail Grass or Native Parramatta Grass (*Sporobolus creber*).

Weedy Sporobolus Grass must-have resources

AusGrass is an excellent database of all Australian grasses, including 19 native Sporobolus species and 6 WSGs. www.ausgrass2.mysepecies.info

Dept. of Agriculture and Fisheries (2016) *Rat's Tail Grasses*. State of Queensland. www.daf.qld.gov.au

Dept. of Primary Industries and Fisheries (2007) *Weedy Sporobolus Grasses: Best Practice Manual.* State of Queensland. www. futurebeef.com.au

property profile

Moggill Creek Blooms Thanks to Kenmore State High School

Left: How many water dragons can you count in this photo? Image taken looking along Moggill Creek near Kenmore State High School.

Above: Kenmore State High School students, Charlotte and Georgie, stand on flood debris in the Moggill Creek forest.

Lower: This Grey Butcherbird sits in a fig tree that was planted the week before.

The Environment Sub-committee of the Kenmore State High School P&C Association, established in March 1998, works to an environment that is both beautiful and practical for members of Kenmore State High School.

Initially, the Committee focused on projects within the school, providing shade cover through planting trees. However, the focus has shifted to the restoration of the banks of Moggill Creek and McKay Brook. Since the first restorative working bee in 2000, regular working bees have revegetated various areas fringing these banks. This has been achieved through the generous efforts and funding of volunteer groups such as Brisbane City Council (through the Land for Wildlife Program), Moggill Creek Catchment Group, Conservation Volunteers Australia, ANZ Staff Foundation, Green Corps and groups of international student volunteers.

In the past year, the Committee has installed a native beehive and nesting boxes, and has successfully planted 900 native plants. These achievements have assured the positive impacts of their work in re-establishing and supporting native ecosystems.

These achievements, however, have not come without their share of challenges. Periods of extreme weather have stressed plantings, necessitating more regular watering. Progress has also been slowed by dwindling numbers of student volunteers. Additionally, overwhelming amounts of weeds and flood debris, much of which remains un-cleared, has provided a daunting challenge. Nevertheless, for the remainder of 2016 and beyond, the Committee aims to reinforce ecosystems along Moggill Creek and McKay Brook to the point of self-sustenance. The goal requires increased student support, preferably encouraging every student to participate in at least one working bee during their time at Kenmore State High School. In my experience, as a student, the sense of achievement and community as well as skills gained from such an experience are certainly worthwhile.

Despite setbacks, the environment has begun to reflect the workers' toil. The revegetation efforts have been so substantial that the density of tree cover now restricts weed growth, negating the need for constant maintenance. This year has marked the beginning of revegetation to this degree! Although only a small area, near the intersection of Moggill Creek and McKay Brook, has reached this stage, it shows great promise. With increased support from students and community, more extensive revegetation can be achieved.

Sightings of native fauna over the past year suggests successful nurturing of native plants, further vindicating the use of nest boxes, more of which are being constructed by students for future placement. Plastic waste collection has decreased in quantity, suggesting efforts of systematic removal have successfully depleted the area's build up of non-biodegradable waste. This tangible display of the Committee's work indicates an exciting future for our environment.

As a student of Kenmore State High School, I have seen the amazing work of the Environment Sub-Committee, and the passion of those behind it. Having attended a working bee and planted a tree or two myself, I can confidently say their efforts have not gone unnoticed by the school community, both human, animal and plant species. Thanks to a tour by Mr Dymock, I witnessed the amazing revegetation accomplished near the intersection of Moggill Creek and McKay Brook. The Committee's achievements certainly align with their mission statement, but beyond this their work brings the community together; flora, fauna and people alike.

So take a moment to appreciate their achievements at the next working bee, and maybe plant or nurture a tree of your own.

Article by Charlotte Davies
Student, Kenmore State High School
Land for Wildlife property
Kenmore, Brisbane

fauna profile

Leafcutter bees cutting out soft leaves to construct their nests.

Leafcutter Bees: The mystery behind circular holes in leaves

There are about 27 species of leafcutter bees in Australia. They are found in all states in both coastal and drier inland areas. They range in size from 6-15 mm and most are black with white or orange-gold stripes of hair on their abdomen. They carry dry pollen on special bristles under their abdomen.

Leafcutter bees and resin bees look similar but leafcutter bees can usually be distinguished by their relatively wide abdomen, which tapers into a point while resin bees have a narrower, cylindrical abdomen. Leafcutters alight on flowers with their wings spread, while resin bees fold their wings.

Very similar to leafcutter bees is the introduced African Carder Bee. It is 5-8 mm long and has white abdominal stripes that lack hairs, unlike the hairy bands on the native leafcutter bees.

Bee watchers often first discover leafcutter bees when they notice rows of neat circular or elongated cuts on the edges of some leaves in their garden. Leafcutter bees use the discs of leaf to build nests. They particularly like the soft leaves of desmodiums, sennas, roses, ginger, bauhinia, buddleia and bananas. They very quickly snip the leaf and then carry it in between their legs to their nest site.

Leafcutter bees may nest in many different spaces such as existing holes in timber or masonry, hollow stems, gaps in door/window frames, old folded towels left outside, rock walls and outdoor furniture. They may also use artificial bee nests consisting of varies size holes drilled in untreated hardwood and/ or bundles of hollow stems (e.g. bamboo), hung in trees.

Each female builds her own nest. The cut leaves are used to make a tube as a nest for the eggs or to line an existing hole with it. The leaves are cut in various shapes, round and elongated, to suit the construction of the cell for the egg. The cell is then stocked with a mixture of nectar and pollen in which the leafcutter bee lays her eggs.

She lays female eggs first and the last couple are male. More circular leaves are cut to close off the cell. She then moves on to constructing the next cell until the hole or tube is filled with cells. The hole is then plugged with rough leaf cuttings.

When the eggs hatch, tiny larvae eat the provisions and, when fully grown, they spin silky cocoons and then develop into pupae, finally emerging as adult bees. Male eggs mature earlier and the adult male bee breaks open the nest to emerge first. Immature bees may hibernate through winter and finish developing into adults the next spring.

You can attract native bees to your property by providing a diverse range of native leafy plants, creating small rock walls, leaving hollow branches and fallen timber on the ground and, possibly, consider constructing a small native bee wall.

References

Dollin A, Batley M, Robinson M & Faulkner B (2000) *Native Bees of the Sydney Region: A Field Guide.* Australian Native Bee Research Centre.

Personal communication - Dr. Michael Batley, Australian Museum; Dr. Ken Walker, Victoria Museum and Dr. Anne Dollin, Australian Native Bee Research Centre. www.aussiebee.com.au

Article and photos by Erica Siegel
Native bee enthusiast

This leafcutter bee is covered in pollen showing the valuable role native bees play as pollinators, dropping pollen from flower to flower.

The introduced African Carder Bee looks very similar to native leafcutter bees, but has hairless, white abdominal stripes.

This leafcutter bee nest (total length about 6-8 cm) shows the neatly layered leaf discs.

Colouring Competition Winners

Annabelle Dennehy

Carolyn Parsons

Jan Connor

Thank you to everyone who entered our first Land for Wildlife Colouring Competition. Thirty entries were received and 19 people received prizes, so the odds of winning were high. Our youngest artist was Isabella Davies (aged 3), with Gillian Crossley from Gympie showing that artistic talent never wanes (she is a spritely 83).

Brand new nest boxes thanks to Hollow Log Homes were won by Carolyn Parsons and Annabelle Dennehy for their rainforest and woodland artworks, respectively. Three double passes thanks to Currumbin Wildlife Sanctuary were won by Jack & Annabelle Hodges, Chelsea & Ainsley Steward and Lincoln & Eloise Brown. Enjoy your visit!

Thanks again to the talented artists among the Land for Wildlife membership - here are a few examples of winning entries.

Eloise Brown (Under12s)

Nicholas Davies (Under12s)

Annabelle Hodges (Under12s)

Chelsea Steward (Under12s)

Flynn Davis (Under12s)

book reviews

Australia Wildlife After Dark

By Martyn Robinson and Bruce Thomson

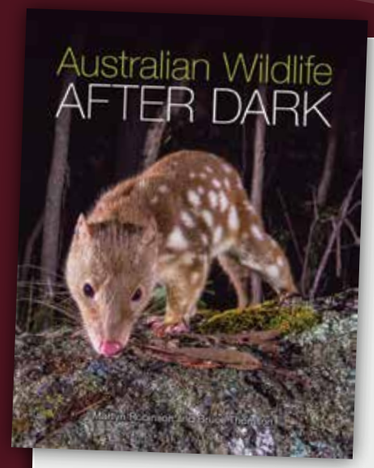
How many wildlife TV shows are there about zebras and lions compared to koalas, antechinus and possums? Answer: a lot! African mammal migrations are visually spectacular but it certainly helps that they happen during the day time. In contrast, most Australian animals, certainly our mammals, frogs, reptiles and moths are mostly active at night.

This book discusses why our continent's wildlife have developed a preference for being nocturnal and the adaptive strategies they use that enable them to travel, eat and breed at night. Chapters are divided by these strategies, such as animals that have excellent night-time vision, and those that use smell, touch, hearing and even electricity to be active at night.

Well written and packed full of stunning, large-format, colour photographs, this book is engaging and easy to read. All types of wildlife are covered such as geckoes, owls, frogs, microbats, quolls, native mice, snails, spiders, possums and even native blind marsupial moles. Cleverly, the book minimises dense text but instead centres on short, yet comprehensive, stories about specific animals. The reader can pick up the book at any page, become engaged with a wildlife story, and then put the book down again having learnt something new.

The final chapter encourages the reader to get out in the field to look for nocturnal animals. It discusses equipment and techniques, although I was surprised that it did not recommend covering a bright white beam with a red filter to minimise disturbance to the animal if observing for long periods. Bright white light temporarily reduces night vision of birds and mammals, which may impede their movement or foraging.

I would certainly recommend this book to Land for Wildlife members who want to know more about the nocturnal animals that share their property as well as other regions of Australia.



CSIRO Publishing, April 2016
Paperback, 134 pages
270 x 210 mm
Price: $35
Available from CSIRO Publishing and other online or in-store bookshops.

Review by Deborah Metters

Aboriginal Campsites of Greater Brisbane

By Dr Ray Kerkhove

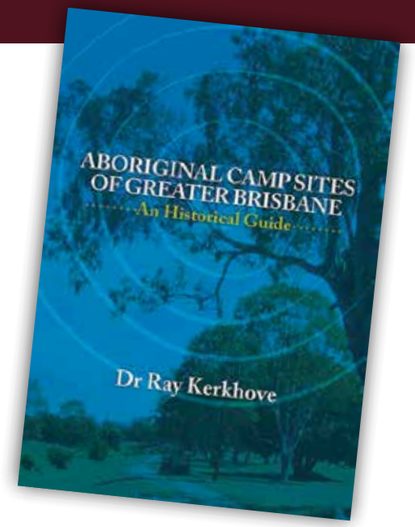
I picked up a new little book the other day on Aboriginal campsites in Brisbane, and was pleasantly surprised by the detail.

Through extensive research on written eye-witness accounts of life in the new and expanding Brisbane, Dr Kerkhove has detailed many habitation sites of the first peoples. Maps and photographs link with detailed references to provide a comprehensive guide that belies its small size. As you can probably guess, I like maps.

A picture is painted of complex interactions between new comers with modern technologies and original residents with intimate knowledge of food resources and landscape processes. Indigenous camp sites remained in use for many years through this period of dislocation, some even up until the 1950s. This all happened in spite of the flood of European immigrants into Brisbane (mine included).

A number of camp sites are still there today - set aside as reserves a long time ago because people lived there. Cultural heritage no doubt abounds in these locations. Many of today's citizens would have no inkling of the historical nature of the local park. Modern park managers would do well to comprehend the ancient nature of these areas, and the roll they played in forming the early culture of Brisbane.

As a student of the local history (both indigenous and non-indigenous) of Brisbane and South East Queensland, I found the book quite enlightening and a delight to read.



Boolarong Press, May 2016
Paperback, A5 format, 127 pages
Price: $29.99
Available online from Boolarong Press or from select in-store bookshops.

Review by Keith McCosh
Land for Wildlife Officer
Scenic Rim Regional Council

property profile

Settling in for Lunch along Wonga Creek

Celebrating the unveiling of Cody's Corner cairn is (left to right) Glenda Muller, Bridget Shanley, Laurie Muller and Cody Hochen.

Its been an interesting and fulfilling couple of years and it all started when Cody Hochen from the Brisbane City Council gently talked Glen and I into joining Land for Wildlife in 2013. He also quietly suggested there might be some Community Conservation Assistance (CCA) funding available for worthwhile projects.

Our property in Savages Road Brookfield is some 16 acres of high, densely forested ridgeline, split by steep gullies and a creek flat with with deep rich red volcanic soil. Wonga Creek flows through it and floods regularly. It was such a flood several years back which bought with it an infestation of the dreaded Elephant Grass, which grew so high that you could hide a small herd of elephants in it.

I suggested to Cody that tackling the job of clearing it was beyond my aging frame but if a CCA grant funded team of young blokes could get rid of it, I would plant up the creek line with native rainforest species and rejuvenate what is a quite beautiful creek. He took me up on the offer.

And this is what happened.

After the heavy duty clearing, the follow-up spraying of regrowth and the hand-cutting of the creek bed weed infestation we were ready to plant in mid-2014. Cody and I selected native plants that are indigenous to the Brookfield district and would also attract birds, butterflies and provide a secure wildlife habitat.

Some 200 tube stock seedlings were grown out in larger pots in a scrub turkey and possum proof greenhouse for about twelve months, so they had some height and vigour about them at the time of planting. Hare, wallaby and deer were showing interest, as were the ubiquitous scrub turkeys and bandicoots - but casualties were few.

These were planted in May 2014 after a good wet season with good soil moisture content and mild weather. Whilst the winter had a couple of serious frosts the trees and shrubs took to their new surroundings with gusto and grew strongly, many reaching three metres within six months.

Another good wet season over the summer of 2014-15 encouraged us to consider a further planting in September of 2015. A further 150 natives were raised again in the greenhouse and planted among the flourishing forest from the previous year and these too took to their surroundings and quickly integrated into the the burgeoning creek line. The hoped for ecosystem and creek habitat was becoming a reality.

A pair of Pacific Black Ducks raised a brood, the Azure Kingfishers nested and the Brown and White-headed Pigeons fed with the creek's namesake, Wonga Pigeons. The old Eastern Long-necked Turtle raised his head and nodded. All was well.

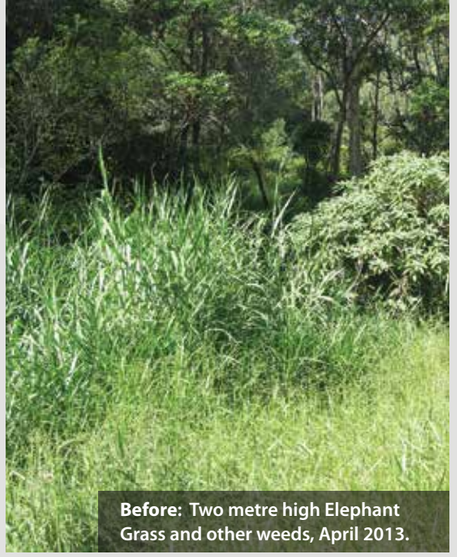
Casualties amongst the two plantings, totalling nearly 400 plants, were less than five percent and the growth has been quite astonishing over the two years. The taller species are some five to six metres tall and the understory shrubs have filled in the spaces, bushed up, flowered and fruited, creating a smorgasbord for birdlife, butterflies, small animals and reptiles.

The unfenced creek paddock is highly visible from Savages Road and the refurbished creek has attracted great interest from the locals and visitors alike and it has inspired others to have a go. It is not uncommon to have people walking through, picnicking beside, or simply gaining pleasure from it. It has given us both great pleasure in sharing it with them, such as the two DPI blokes who settled in for lunch one day.

We couldn't let Cody's enthusiasm and encouragement go unrewarded so there is now a cairn of creek boulders, stacked on a bend and inscribed "Cody's Corner".

The story of the refurbishment of Wonga Creek as it passes through our place is testament to the importance of Land for Wildlife in our community and for the value of a young enthusiast named Cody Hochen, who was the catalyst for it all. We are sure he shares our sense of satisfaction.

Article & photos by
Laurie & Glenda Muller
Land for Wildlife members
Brookfield, Brisbane



Before: Two metre high Elephant Grass and other weeds, April 2013.

Prep: Clearing Elephant Grass to make space for planting, early 2014.

Trees in the Ground: The first planting, May 2014.

Flood: Wonga Creek, May 2015.

Growing: 18 months after planting, Sept 2015.

"The refurbished creek has attracted great interest from the locals and visitors alike and it has inspired others to have a go."

Flourishing: Some trees have grown to over four metres high, April 2016.

Introducing four new Land for Wildlife Fire Notes

Header: Fire rakes can be used to rake away leaf litter from the base of habitat trees to minimise the risk of the tree catching alight.

Hot off the press are four new Land for Wildlife Notes focussing on fire ecology and fire management. Copies are available for all Land for Wildlife members, just ask your Land for Wildlife Officer, or download them from www.lfwseq.org.au

Note F1 – Fire in the Australian Landscape. Fire has always been part of the Australian environment whether started by lightning strikes or humans. This Note introduces key terms used to describe fire regimes as well as concepts such as patchiness, mosaics and refuge areas. This Note is an excellent starting point for thinking more about fire in today's landscape.

Note F2 – Fire, Flora and Fungi. Generally, in SEQ the vegetation can be divided into two broad categories – those that are fire sensitive (e.g. rainforests) and those that are adapted to certain fire regimes (e.g. eucalypt woodlands). This Note discusses strategies that fire-adapted plants have developed to help them survive fires as well as concepts such as post-fire regeneration and boundaries between vegetation communities.

Note F3 – Fire and Fauna. For most animals, their ability to survive fire depends on three things: i) their mobility, ii) their ability to find suitable refuge, and iii) the intensity, season and extent of the fire. This Note explores this in more detail and introduces the important concept of 'successional preference', whereby some animals prefer to live in recently burnt areas, whereas other animals prefer to live in long unburnt areas. Recent research examples are provided for different animals including birds, mammals, invertebrates and reptiles.

Note F4 – Fire and Your Property. This Note is relevant for landholders who choose to burn vegetation on parts of their property, and landholders who choose not to burn. It provides practical advice for anyone living near native vegetation in SEQ and encourages everyone to develop an Individual Property Fire Management Plan, even if you choose not to burn. For those choosing to do a planned burn, steps are outlined from getting a permit through to working with your Rural Fire Brigade. A must-have Note for all Land for Wildlife members.

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