LAND FOR WILDLIFE
South East Queensland

Newsletter of the Land for Wildlife Program South East Queensland

JULY 2016
Volume 10 Number 3
ISSN 1835-3851

Two of the autumn migrants, a Yellow-faced Honeyeater (left) and a Scarlet Honeyeater (shown here is a stunning male). Photos by Todd Burrows.

Thousands of Honeyeaters Migrate

During April and May, a massive honeyeater migration was seen across South East Queensland. Due to the diminutive size of these birds, their migration could have easily gone unnoticed. However, if you tuned your ear in to their calls or looked skywards, it was truly a remarkable spectacle.

We are not exactly sure how many birds migrated this autumn, but counters near Sydney recorded nearly 50,000 individuals. One afternoon, on my friend's back deck at Mt Glorious, we counted 500 individuals in 20 minutes. That rate continued throughout the day.

While there is still much to learn about these fascinating wildlife movements, we do know that the main species involved is the Yellow-faced Honeyeater. While sedentary and feeding, they make a "chuck-up, chuck-up" call; one of the easier calls to remember. When flying, they make a single note contact call. Other migrants that made the journey from south to north include Scarlet Honeyeaters, White-naped Honeyeaters, Silvereyes, and Striated and Spotted Pardalotes.

It would seem that SEQ is both a short stop-over for some birds and a terminus for others. While populations are definitely boosted during autumn and winter, some of these species (e.g. Yellow-faced and White-naped Honeyeaters, Silvereyes and pardalotes) are found in SEQ year-round. Do migrating individuals mingle with the locals, or do they push our resident birds further north? We just don't know.

We do know that some individuals travel a long way. Silvereyes migrate from as far south as Tasmania and, surprisingly, many fly at night. Whereas honeyeaters travel from mid-NSW and fly during the day.

Land for Wildlife members can help researchers learn more about these migrations. Whilst sitting on your deck having afternoon tea, look up and listen for small birds flying over (heading north in autumn and south in spring). Often they pause on a tree top and this is your time to identify them using binoculars. Otherwise, you can simply count numbers, preferably over 20 minutes. Ideally, record your observations in eBird – it is an online database that is a pleasure to use. An enjoyable database seems like an oxymoron, but trust me, it isn't. Happy counting.

Article by Deborah Metters

CONTENTS

Published by SEQ Catchments through funding from the Australian Government's National Landcare Programme

Australian Government | National Landcare Programme

editorial

As conservation and ecological restoration fields in Australia mature, we should take time to ask ourselves why are we doing this, and is it working?

Tucked beneath the election and Brexit headlines I came across two interesting news stories last month, both of which move towards answering these questions. Firstly were findings from a six year study that found that properties whose owners had joined the Environmental Stewardship Program (ESP) had fewer weeds, more woodland birds and less erodible bare ground. The second was the unprecedented purchase of a degraded grazing property on Cape York by the Queensland Government to curb sediment flows into a Great Barrier Reef catchment.

Both stories have clear goals. The ESP aimed to conserve the threatened Box Gum Grassy Woodland ecosystem, and the Cape York property purchase aimed to reduce sediment flow to the reef. Both are commendable, but can we measure if they are working? The answer is yes. We can measure the diversity and abundance of birds and plants, and we can quantify soil (sediment) loss or gains through high-tech airborne laser scans.

We know from past surveys of Land for Wildlife members in SEQ that the program here is also working. Every property has slightly different goals, but in general we are all working to create, improve or manage wildlife habitats. Many Land for Wildlife members, such as Ian Gorrie (see pgs 14-15), started with a bare paddock and have re-created habitat by joining two patches of bushland together. Other Land for Wildlife members such as the Stumkats (pg 7) and the Hendersons (pg 8) have encouraged natural regeneration, controlled weeds and valued nature's inspiration for over 30 years.

Ecological restoration is not an easy task, but hopefully as our tools to measure outcomes improve, landholders will not only see first-hand the results of their efforts, but can have them quantified.

In addition to environmental outcomes, we must always consider social, health and financial results as well. We recognise that programs such as Land for Wildlife and the ESP contribute positively to the well-being of some members and we are always seeking new ways to do this.

I hope that the enclosed drawings inspire your creativity or interest. They tell the story that Land for Wildlife properties are refuges for wildlife of all kinds – big, small, threatened and common. And that Land for Wildlife members are on the front line of conservation efforts.

Thanks to all contributors, and as always, I welcome your feedback or contributions.

Deborah Metters
Land for Wildlife Regional Coordinator
SEQ Catchments

Landholder Registrations, Land for Wildlife SEQ - 1/6/2016			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
3189	863	58,647 ha	6,154 ha

Forward all contributions to:

The Editor
Land for Wildlife Newsletter
SEQ Catchments
PO Box 13204
George Street QLD 4003
07 3211 4404
dmetters@seqcatchments.com.au

Print run - 4685
Back copies from 2007 - 2016
available for download from
www.lfwseq.org.au
Back copies from 1998 - 2006
available upon request to the Editor.
ISSN 1835-3851

Land for Wildlife is a voluntary program that encourages and assists landholders to provide habitat for wildlife on their properties.

Land for Wildlife Officers South East Queensland

Brisbane City Council
All enquiries, 3403 8888
Amanda Maggs
Cody Hochen
Catherine Madden
Peter Hayes
Nick Swanson
Tony Mlynarik

Gold Coast City Council
Lexie Webster, 5582 8344
Scott Sumner, 5582 8896
Todd Burrows, 5582 9128

Ipswich City Council
Stephani Grove, 3810 7173

Lockyer Valley Regional Council
Kaori van Baalen, 5462 0376

Logan City Council
Nicole Walters, 3412 4859
Peter Copping, 3412 5321
Rachel Booth, 3412 4821

Moreton Bay Regional Council
Ainslie Dyki (nee Wyer), 5433 2288
Ben Green, 5433 5410
Zoe Samson, 5433 2244

Noosa Council
Conor Neville, 5329 6287

Redland City Council
Maree Manby, 3820 1106

Scenic Rim Regional Council
Keith McCosh, 5540 5436

Somerset Region
Darren McPherson, 5424 4000

Sunshine Coast Council
Alan Wynn, 5439 6477
Danielle Crawford, 5475 7339
Dave Burrows, 5475 7345
Marc Russell, 5475 7345
Nick Clancy, 5439 6433
Stephanie Reif, 5475 7395

Qld Murray-Darling Region

Toowoomba, Crows Nest and western regions
Sandy Robertson, Qld Murray-Darling Committee, 4637 6228

Burnett Mary Region

Gympie, Fraser Coast, North & South Burnett, Bundaberg and Baffle Creek
Burnett Mary Regional Group, 4181 2999

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Healthy Land, Healthy Water

Land for Wildlife South East Queensland is a quarterly publication distributed free of charge to members of the Land for Wildlife program in South East Queensland.

fauna vignettes

PRIZES!

SEQ Catchments is giving away *Birds of South East Queensland* booklets to selected Land for Wildlife members who contribute published articles in the January, April and July 2016 editions. Limit of three books per edition. Please send your article and/or photos to the Editor (details pg. 2).

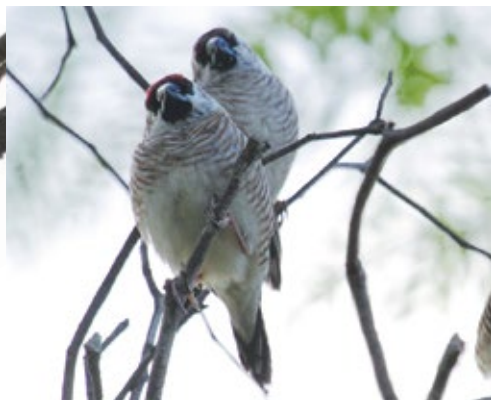
Sunning Frogmouths

Here are some photos taken late last year from our suburban Land for Wildlife property. The male Tawny Frogmouth was on the ground basking in the sun while mother kept watch over the baby.

He basked for about 20 minutes on a warm, dry, bare bit of dirt and rotated slightly from side to side, but kept his back towards the afternoon sun.

The basking bird was much bigger than the parent that stayed in the tree, so we assumed it was the male. Apparently they bask like this to get rid of parasites. The young one was out of the nest but still very dependent. The birds were very aware of being observed but were not bothered by us.

Joy Hinckley
Land for Wildlife member
Capalaba, Redland



Left to right: Zebra, Plum-headed and Double-barred Finches.

Three finches sitting in a tree...

In April I had the privilege to visit a wonderful Land for Wildlife property at Kalbar as part of a Bremer Catchment Association and SEQ Catchments workshop. Owned by Barry and Marjorie Jahnke for over 20 years, this property has undergone a remarkable transformation from a degraded salt scald to a thriving wetland. You can read their full story in the October 2014 LfWSEQ newsletter.

During my visit, I saw three species of finches. Arguably the most common finch in SEQ is the Red-browed Finch, but they were nowhere to be seen. These Kalbar finches were, dare I say, much more exciting. Zebra and Plum-head Finches are more common west of the Great Dividing Range but turn-up from time to time in SEQ. I was delighted to see both at Kalbar.

The wetlands and tall grasslands on the Jahnke's property were probably an attractive lure, given the dry conditions out west. The other finch seen is the aptly named, Double-barred Finch, which again is somewhat common in SEQ. Listen out for the nasally, persistent call of finches - it might just be an uncommon species.

Deborah Metters, SEQ Catchments

fauna profile

Golden-tipped Bats:
Their inter-relationship with invertebrates, birds and vegetation

A Golden-tipped Bat.
Photo by Dr Bruce Thomson.

The Golden-tipped Bat (*Kerivoula papuensis*) is a relatively unknown species. Until the 1980s it was thought to be extinct, however it is now found in low numbers across several locations. Currently these special bats are found in New Guinea and in Australia from Cape York to southern NSW. There are only two confirmed sightings of these bats in the Lockyer Valley. There is a growing understanding of the relationships that these bats have with vegetation types, understorey density, food and roosting requirements.

With a wing span of up to 25cm, weighing in at about 6g, funnel-shaped pointed ears and curly brown fur - each hair having a bright golden tip - these bats are beautiful indeed. Fur extends along the legs, wings and tail, with the tail being longer than the combined length of the head and body.

Golden-tipped Bats primarily eat orb-weaving spiders along with smaller quantities of beetles, moths, butterflies and flies. Surveys undertaken in the Richmond Range in northern NSW found that 90% of their diet was spiders. The abundance of food sources, particularly spiders, was found to be related to the density and health of understorey vegetation.

These bats have been recorded flying up to 2km from roosting sites to forage for food. Foraging occurs in rainforest, but is mainly confined to the upper slopes of sclerophyll forests. Golden-tipped Bats have the ability to fly slowly and hover, assisting them through thick vegetation whilst foraging.

Golden-tipped Bats primarily roost along rainforest gullies of small (first and second order) waterways, which are located close to wet and dry sclerophyll forests up to 1000m. They are noted to have multiple roosts and regularly change roosts. Roosting can occur as individuals or in small colonies (less than 20 individuals), either with a mix of male and females or just one gender.

A fascinating aspect of these bats is that they utilise the abandoned nests of Yellow-throated Scrubwrens and Brown Gerygones for roosting. Golden-tipped Bats modify the underside of these nests for access. They are also noted to roost under thick moss on the underside of trees, in dense foliage, tree hollows and in epiphytes. Unsurprisingly, Yellow-throated Scrubwrens and Brown Gerygones generally build their nests along first and second order streams within rainforests.

Golden-tipped Bats breed once a year and maternity roosts may occur away from water sources. These maternity roosts have again been recorded as using both the Brown Gerygone and Yellow-throated Scrubwren nests as well as tree hollows.

Threats to these amazing mammals include clearing and burning of riparian rainforest, clearing and modification of the understorey in sclerophyll forests, loss of connectivity between roosting and foraging habitat, and the loss of hollow-bearing trees.

We can assist these special bats by maintaining rainforest and sclerophyll forests along gullies, retaining dense understorey on sclerophyll slopes, maintaining linkages between roosting and foraging habitat, protecting hollow-bearing trees and excluding fire from rainforest. The identified inter-relationship between Golden-tipped Bats, Brown Gerygones and Yellow-throated Scrubwrens also indicate that healthy habitats for small rainforest birds will have a positive effect upon Golden-tipped Bats.

Once again the natural world highlights that inter-relationships are integral to life on Earth. We glimpse through the Golden-tipped Bat the inter-relationships between plants and animals in surprising and relatively unknown ways.

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Article by Kaori van Baalen
Land for Wildlife Officer
Lockyer Valley Regional Council

Restored riparian site where the Buff-footed Antechinus was captured (above left). One of the Elliott traps used to solve this marsupial mystery (above).

Mammals of Moggill Creek Catchment: A marsupial mystery solved

In the last year of my Bachelor degree at the University of Queensland in 2008, I undertook a project surveying the mammals and reptiles at bushland restoration sites in Moggill Creek and Cubberla-Witton Creek catchments, including several Land for Wildlife (LfW) properties. It was a fantastic and insightful opportunity to see what critters were living amongst us, particularly in restored riparian habitats, where countless hours of hard work had been put in to improve the biodiversity of these areas.

One of the small mammals I identified during these surveys was an antechinus. Antechinuses are mouse-sized, native marsupial carnivores (or dasyurids) that are short-lived and breed only once a year. They are quite unique and renowned in the animal world, in that all of the males die not long after bouts of frenzied mating over the space of just several weeks. It was exciting to catch these voracious predators during the study as they are generally uncommon in the Brisbane area. They face ever-increasing threats such as habitat loss and fragmentation, as well as predation by introduced species such as foxes and cats.

Back then I identified them as Yellow-footed Antechinus (*Antechinus flavipes*), and didn't realise that I may have been catching another species masquerading as the Yellow-footed Antechinus. For many years, Steve Van Dyck (former Senior Curator of Mammals and Birds at Queensland Museum) had been suspicious of these abnormally patterned 'Yellow-footed Antechinus' from around Brisbane. In 2012, he and two colleagues (Dr Andrew Baker and Thomas Mutton, QUT) genetically screened populations of antechinus and subsequently described and named a new species, the Buff-footed Antechinus (*Antechinus mysticus)*.

I hadn't really given much thought about the antechinuses I caught during those surveys until this 'new' antechinus appeared. After becoming aware of this cryptic species, I began to question what antechinus I had really caught in 2008. The restoration sites along Gold Creek where I had surveyed looked similar to the known habitat for Buff-footed Antechinus, such as in and around D'Aguilar National Park.

A few years of pondering this small mammal conundrum led to a some keen helpers and I trapping, with relevant permits, at the same restoration sites on LfW properties (thanks to the enthusiastic landowners for allowing access) along Gold Creek. We trapped for two nights in 2014 with no luck. Obviously, perseverance was the key in getting to the bottom of this marsupial identification problem so we gave it another try in April 2015. After several nights of trapping we were finally rewarded with the cute face of a Buff-footed Antechinus staring up at us.

So after years of not giving up, it was somewhat a relief to solve this dasyurid mystery, and quite a thrill to confirm the presence of Buff-footed Antechinus so close to the Brisbane CBD. Knowing this species occurs in the Moggill Creek catchment fills an important knowledge gap. It also shows that continued efforts of restoring bushland on public and private land, particularly along waterways, may contribute significantly towards the diversity of small mammals in Brisbane.

Reference

Rowland J (2015) Diversity and abundance of small, non-gliding terrestrial mammals at bushland restoration sites in western Brisbane. *The Queensland Naturalist* **53**.

Article and photos by Jesse Rowland
Ecologist, Queensland Herbarium

Cute! A Buff-footed Antechinus.

flora profile

Curtains of Richmond Birdwing Vines

You could easily be excused for thinking these curtains of vines hanging off this large White Fig (*Ficus virens*) is the common Monkey Rope Vine (*Parsonsia straminea*). However what you're looking at is actually a population of the Richmond Birdwing Vine (*Pararistolochia praevenosa*) that is over 200 years old.

As most of you who have tried planting this threatened species of vine know, it can grow at a painstakingly slow pace. So, the sight of these vines reaching well into the rainforest canopy is something to behold.

The Richmond Birdwing Vine is the principal larval host plant for its namesake, the vulnerable Richmond Birdwing butterfly (*Ornithoptera richmondia*). The vine itself has become threatened mostly due to extensive loss of lowland subtropical rainforest, grazing pressures and competition from invasive weeds since European colonisation. Like most rainforest plant species the Richmond Birdwing Vine is fire sensitive and vulnerable to inappropriate fire regimes. Prolonged drought and climate change have also caused further declines.

This old-growth population of Richmond Birdwing Vine is tucked away in a rocky gully on a Land for Wildlife property at Dulong. In 2007, the owners Ralph and Edwina Shannon, signed a conservation agreement for the establishment of Headwaters Nature Refuge, legally protecting almost 25 hectares of their property. Their Richmond Birdwing Vines form one of the oldest, secure populations that researchers know of.

The unique topographic and biological features of this particular site provide perfect conditions for the Richmond Birdwing Vine to grow. Firstly, the vines tend to grow particularly well alongside White Figs. This is because the vines like moisture and White Fig roots hold a lot of moisture. Secondly, the White Fig is semi deciduous (loses its leaves only for a very short period) which gives the vines a little boost of extra sunlight each year in spring.

In the wild, hardly any seedlings are naturally regenerating; the recruitment rate is almost at 0%. Why? Brush Turkeys bury the seeds by scratching (thus a dispersal agent), but if the turkeys eat the pulp of the fruit including the seeds and they pass through their gut, the seeds are no longer viable. Fortuitously, at this particular site, the vines are recruiting. The rocky substrate provides perfect protection for the vines' seeds and seedlings.

Dr Don Sands, a retired CSIRO entomologist, has spent much of his career researching the Richmond Birdwing and its host plants. He has seen the Headwaters Nature Refuge site on a number of occasions and suggests that it is a core breeding site for the butterfly (another being Mary Cairncross Scenic Reserve). Without these two sites, the Richmond Birdwing would struggle to survive.

Don also stresses the importance of community propagated and grown vines, such as those on Land for Wildlife properties. Planted vines, which are often watered during drought periods, are essential when wild vines are too tough and unpalatable for larvae.

Something interesting that you may not know about Richmond Birdwing larvae is that they are cannibals! They feed on other eggs, larvae and occasionally pupae. The risk of cannibalism in this species is less when soft, sub-terminal leaves of the Richmond Birdwing Vine are available. All the more reason to start planting and caring for some vines on your property.

The Richmond Birdwing Conservation Network (RBCN) is a community-based conservation group operating within the Wildlife Preservation Society of Queensland. The RBCN's goal is to re-establish healthy populations of the Richmond Birdwing and its lowland food plant, the Richmond Birdwing Vine across their natural ranges. RBCN members are doing this by establishing habitat corridors, collecting seeds, running workshops, recording sightings and investigating the impacts of climate change on the Richmond Birdwing.

You can help the RBCN by:

- Becoming a member.
- Adopting a butterfly – see www.wildlife.org.au for more information.
- Joining the RBCN Facebook group.
- Reporting sightings of the Richmond Birdwing and its host vines to birdwing@wildlife.org.au or 3221 0194.

References and Further Reading:

Richmond Birdwing Conservation Network www.richmondbirdwing.org.au

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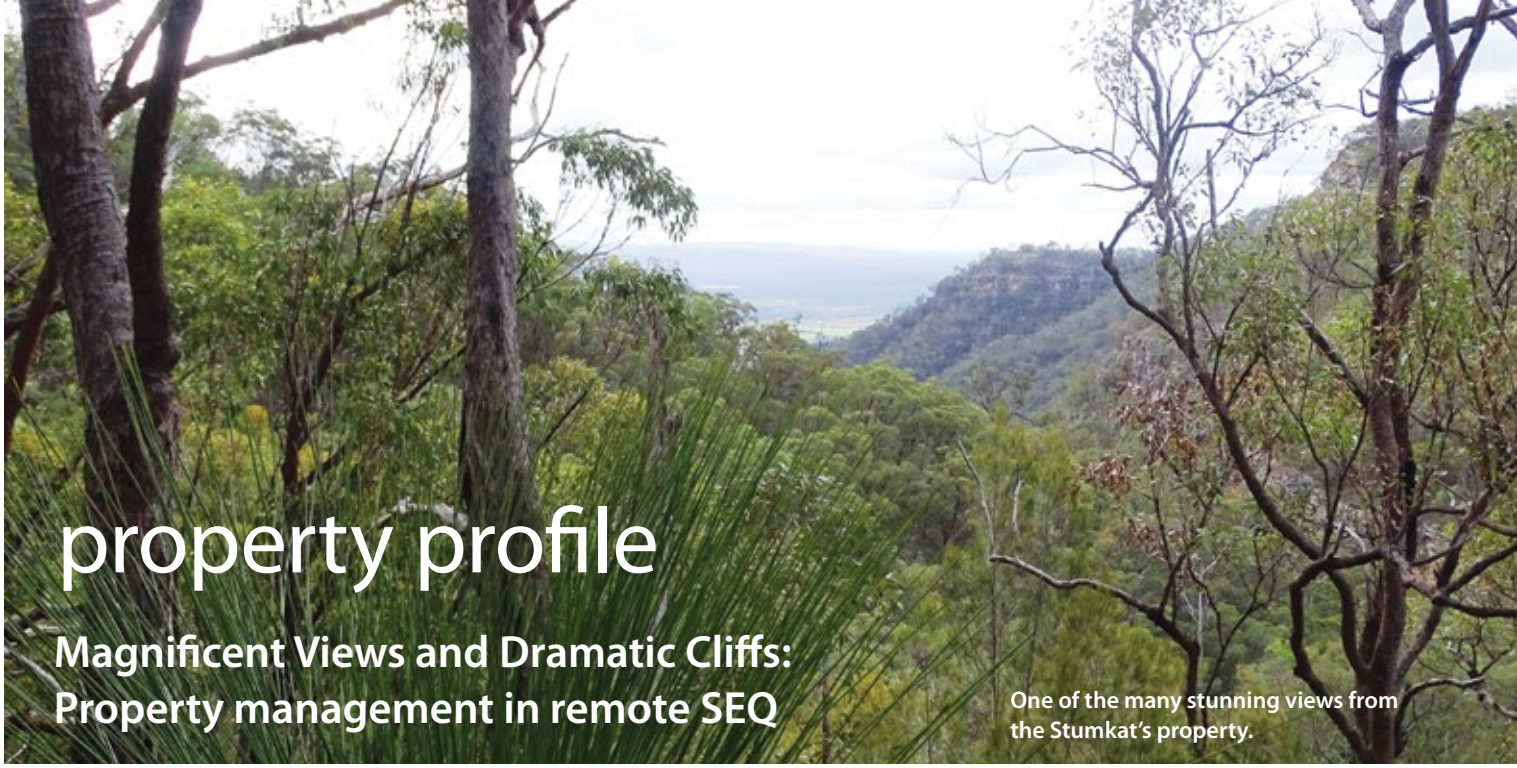
- January 2007 - *Richmond Birdwing Butterfly, Part 1: their ecology.*
- April 2007 - *Richmond Birdwing Butterfly, Part 2: their host vines.*
- July 2015 - *Foam Bark Gully Birdwing Corridor.*
- January 2014 - *Recovery of the Richmond Birdwing butterfly.*

Article by Danielle Crawford
Land for Wildlife Officer
Sunshine Coast Council



property profile

Magnificent Views and Dramatic Cliffs: Property management in remote SEQ

One of the many stunning views from the Stumkat's property.

Thirty-nine years ago my husband and I bought a property in the upper Lockyer Valley with the aim of raising our three sons on land that would engage and inspire them. We built our home, raised our sons and grew our love of our property over the following years.

Our property is 383 hectares with a diversity of vegetation communities and wildlife habitats. The property has palm tree lined creeks, waterfalls, caves, steep, audacious hillsides with boulders and rocky outcrops, dry vine rainforest and ironbark woodlands to name a few.

Before our ownership, the property was used for logging timber. Since purchasing our property we have breed herds of Cashmere and Boar Goats which supplied an income through fibre and meat. When breeding our goats, wild dogs were a constant problem. Observing goats and their foraging habits, we have found that with careful management the goats help clear and limit the spread of Lantana.

Over the years we have undertaken thinning on the flats, tree planting along creek lines as well as fencing, fire break and road maintenance. As a textile artist utilising our goats' fibre, I have found that the natural environment inspires me in my work with colours, textures and forms.

Prior to the 2011 floods the primary weed was *Lantana camara*. After 2011, weeds such as Mistflower, Madeira Vine, Pampas Grass and Brazillian Nightshade started to appear along the now more open, disturbed creek lines. We know that once these weeds, especially Madeira Vine, get a stronghold, it will be very difficult to curb an eventual collapse of riparian vegetation. Understanding this, we have been working with our Land for Wildlife Officer over the last two years on a targeted weed management program along the lower to mid-section of our creek.

We are exploring the upper tributaries with the aim of determining the source of these priority weeds so we can directly target the source. Our property is remote by SEQ standards, so access can be challenging and with limited resources, progress is slow. However, we are starting to see the benefits of our management program.

Recently, our Land for Wildlife Officer and I walked along one of the upper tributaries of our main creek system and I was reminded how special our property is. We passed through beautiful *Xanthorrhoea* forests, stared in amazement across magnificent views of the plunging creek, gingerly touched orchids and ferns that seem to drip off rocks and trees, and we sunk into thick native grass on a dramatic cliff face. Our senses tingled with delight while observing the plants, birds and butterflies that shared the space.

We love our property and will be passing it on to our children for their on-going management and enjoyment. We feel that places such as ours fill the heart and spirit with joy and nourishment, provides broader community benefit through sustaining biodiversity and air quality whilst also assisting farmers downstream through weed, sediment and water quality management. Being a member of the Land for Wildlife community supports us in our endeavours and provides a sense of inclusion in a broader community picture.

Article by Helen Stumkat
Land for Wildlife member, Flagstone Creek, Lockyer Valley, and
Kaori van Baalen, Land for Wildlife Officer, Lockyer Valley Regional Council

These two images illustrate the rugged terrain and effort required by bush regenerators to access and control weeds on this property. Photos by Kaori van Baalen.

property profile

Remnant Forest as Refuge

Living with wildlife in their natural habitat is one of life's great privileges. We have enjoyed that privilege for 35 years here on our two hectare property at Greenbank. After decades, I was convinced we had seen every bird or animal we would ever be likely to see, but I was wrong. This place continues to astonish, and after half a lifetime here I am still able to say "I never know what I'll see each time I look out the window".

Our property lies on Crewes Creek, a tributary of Oxley Creek. Along its banks, mature rainforest trees provide deep shade and daytime roosts for owls. Away from the creek, the forest is diverse: mature ironbarks, blue gums, bloodwoods, sugar gums (*Angophora leiocarpa)* brush box, swamp mahogany, casuarinas, red ash and callistemons tower over brown laurels, sandpaper figs and a variety of low growing shrubs and grasses. Silk pod vines colonise most of the trees, festooning the crowns with thick glossy leaves.

Over the decades, we have sighted over 140 species of birds. Of these, the most spectacular is the Powerful Owl. It is Australia's largest owl and is under threat in much of its range from habitat loss. These birds require a territory of 800-1000 hectares, preying on possums, gliders and other smaller animals. Since 1980, we have heard its penetrating call in the evenings and early mornings - a haunting 'woo-hoo', repeated at short intervals for up to 15 minutes at a time. In 1995, I photographed one with a decapitated squirrel glider in its talons (see image below). In late 2013, our Powerful Owl experiences culminated in the stunning sight of twin well grown owlets roosting side by side within just metres of the house for six weeks. Their plaintive whistling trills at dusk, begging for food, kept us enthralled.

Reptiles flourish here: Lace Monitors, Eastern Water Dragons, Carpet Pythons, Red-bellied Black-snakes, Green Tree Snakes and others. A large python inhabited our ceiling for many years, but when a rival male tried to move into its territory one spring, battle lines were drawn for several weeks. Three times we watched the two in ritual combat, writhing and twining around each other, but never inflicting injury.

Despite the decline of Koala populations in so many areas, they are still present here, though fewer in number and visible less often. This spring and summer the loud bellowing of a male at night close to the house on several occasions offered some hope that they may re-establish here.

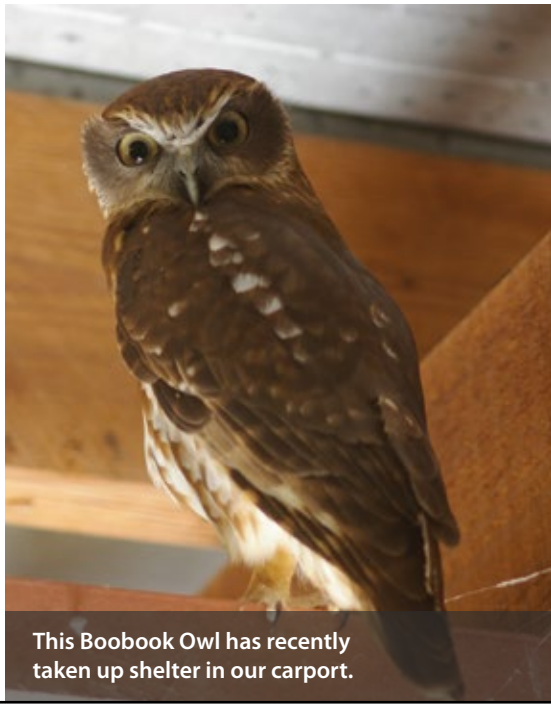
These male Carpet Pythons fought for nearly 3 weeks in a territorial dispute. When they chose our front verandah as an arena, I reached for the camera.

Encroaching development in this area, as elsewhere, is putting increasing pressure on wildlife, making tracts of remnant forest like ours more important than ever. Observation has led us to believe that some birds and animals are moving into this property as a refuge, providing safe breeding habitat and food. I suspect this is why we saw, for the very first time in November 2013, an exquisite Noisy Pitta fossicking in the leaf litter by the house. For several years now, small numbers of Eastern Grey Kangaroos pass through here periodically, a sight we had never seen until then. The wonders continue.

Article by Annette Henderson
Land for Wildlife member
Greenbank, Logan

Australia's largest owl, the Powerful Owl, clutching its prey.

Last year, a friend photographed this Koala near one of our walking tracks.



This Boobook Owl has recently taken up shelter in our carport.

letter to the editor

The Zen of Birdbath Watching

This isn't so much a contribution as feedback on the January 2016 edition of Land for Wildlife, which was as always excellent reading. Perhaps it was the combination of your editorial on actively making time for living, plus the wonderful bird photos that prompted me to spend a bit of time at the bird bath after I'd cleaned and re-filled it.

We've always had a couple of bird baths around the house garden. There appeared to be some kind of tacit agreement on the part of the users - larger birds such as magpies, butcherbirds, Pale-headed (Moreton Bay) Rosellas etc. liked one, and smaller birds such as honeyeaters etc. kept to the other. That was until a pair of wagtails took up residence and drove everything else away from one bath with their ferocious dive-bombing.

So I felt we needed to create a third bath just inside the scrub line. I already knew there were lots of what I categorised as 'little tweety birds' (wrens, robins, finches) but they rarely ventured out of the thicker vegetation. If I was down in the bushland, I was usually too busy digging out some form of weed or doing something that needed to be done to really stop and admire them.

Now, armed with my New Year's resolution I started to spend the odd hour or so actually sitting and watching the antics in the new bird bath. And it wasn't only what was happening in the bath itself. Tree creepers moved up and down tree trunks, whipbirds called and I had time to listen for the 'chew chew' response. The light changed through the trees...the zen of birdbath watching.

Gilda Cowell
Land for Wildlife member
Elimbah, Moreton Bay

Editor's note - Thank Gilda for sharing these delightful photos and your resolution to enjoy and recharge through nature. Birdbaths are incredibly important for our birds, especially through the recent hot and dry autumn.

Thank goodness for a cool drink on a hot day! A range of 'little tweety birds' enjoy this birdbath. Try to spot the Yellow-faced Honeyeaters, Red-browed Finch, Brown Thornbill, Silvereyes and White-cheeked Honeyeaters.

weed profile

Castor Oil Plant

We have a weed around here called Castor Oil Plant and it comes up all along our creeks. It has large-lobed leaves that makes it easy to recognise and identify. There are all sorts of different common names for native species and weeds alike and I didn't think this weed was the real Castor Oil Plant but rather some imposter that looked like a plant from 'the old country'. Much to my surprise, it is the real Castor Oil Plant – the plant we get castor oil from. After investigating further, I have a new found respect for this weedy nuisance.

Castor Oil Plant (*Ricinus communis*) is a plant not to be messed with. It packs a powerful punch full of nasty chemicals waiting for the fool-hardy. It also produces castor oil – that tormentor of small children with any hint of constipation or bad temper. "You need a good dose of castor oil" is sure to send shivers up many an old person. Happily it is not used for that any more (I hope).

Castor oil works as a laxative and purgative. The main ingredient, ricinolein, is a triglyceride (or triple-chain fatty acid), which can cause cramping in the bowel. It is usually safe but using too much is life-threatening due to chronic dehydration.

Other chemicals in castor oil include oleic acid (an omega 9 fatty acid found in avocados and olive oil) and linoleic acid (an omega 6 fatty acid found in the lipids of cell membranes).

The plant contains a number of mild toxins, some allergenic, and one real snorter, mainly found in the seed. Ricin is the lethal toxin in castor oil seeds. It is lethal to humans and stock. Ricin attacks the ribosome in cells, preventing the production of essential proteins, thus causing the cell to die. The seed is only toxic if the outer shell is broken and the seed is chewed. Ricin is thankfully destroyed by heating during the oil extraction process.

Castor Oil Plant is a member of the Euphorbiaceae family. It is a shrub to 3 metres, with large multi-lobed leaves (7-9 lobes) and red branches. Leaflets are toothed. Flower spikes contain separate female and male flowers. The female flowers have prominent red stigmas. Seed pods are green, round, spikey balls that explode when ripe. Seeds have a 'caruncle' – a handle for ants to grab and carry them away. Using ants to spread seeds is called 'myrmecochory'.

Castor Oil Plant originates from the Mediterranean, East Africa and India. It is grown commercially mainly in India, China and Brazil. Picking the crop can lead to long term health problems due to a build-up of toxins, and I doubt if there are many old castor oil pickers.

The weed has now spread around the world in tropical and subtropical areas, especially along waterways. Treatment is by hand-pulling (wearing gloves of course, and don't eat the leaves) or by foliar spray or cut-stump methods. Talk to your Land for Wildlife Officer about specific herbicides for Castor Oil Plant. I do wonder what, if anything, all this ricin from Castor Oil Plants is doing to our aquatic and riparian ecosystems?

Thankfully we no longer live in times when "everyone needs a good dose of castor oil", as the cure might be worse than the disease.

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

Header: Castor Oil Plants are a reasonably common weed in waterways across SEQ.

Far Left: A small Castor Oil Plant that should be able to be hand-pulled if the soil is soft. Photo by Andrew Willis.

Left: Castor Oil Plant flowers and spikey seed pods.

weed profile

Native Blue Tongue vs Exotic Asian Melastome

In recent years, the introduction of the exotic Asian Melastome (*Melastoma candidum*) has been a source of concern as it is similar in appearance and often confused with the native Blue Tongue (*Melastoma malabathricum* subsp. *malabathricum*). The purple fruit of native Blue Tongue is sweet and edible, and once eaten, it turns tongues a blue-purple colour, hence the common name.

Asian Melastome, native to tropical Asia, is cultivated as an ornamental shrub. Readily spread by birds, it has become an invasive garden escapee in tropical and sub-tropical areas including in Australia, Hawaii and Southeast Asia. Although not a declared weed species in Australia, Asian Melastome is known to rapidly spread, naturalise and form dense thickets in a variety of habitats including eucalypt forests, open land and wetlands.

When purchasing Blue Tongue, check to see if the plant is in keeping with the diagnostic features outlined below. In particular, examine the veins on the leaves. It is important to examine several mature leaves to confirm the number of veins present as there can be some variation. Only the introduced species will have five distinct longitudinal veins. If you are not sure, contact your Land for Wildlife Officer or the Queensland Herbarium to have a plant sample positively identified.

The recommended treatment for adult plants of Asian Melastome is the cut stump method with glyphosate 1:5 in water or Vigilant (Picloram) gel neat. Basal barking can also be effective with Fluroxypyr 333gL (e.g. Starane Advanced) 30ml per litre of diesel or other recommended mixing agent.

Article by Amanda Maggs
Land for Wildlife Officer
Brisbane City Council
Photos by Deborah Metters

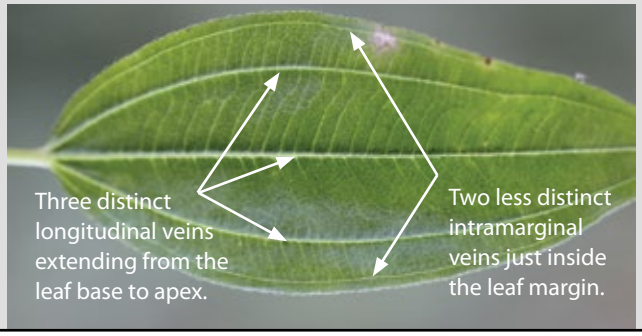
Blue Tongue or Native Lassiandra
Melastoma malabathricum subsp. ***malabathricum***
(was *Melastoma affine*)

Leaves: Generally 3 distinct longitudinal veins and 2 less distinct intramarginal veins. Leaves hairy but thinner than Asian Melastome. Leaf stalks purple or white with short hairs.

Flowers: Pinkish purple flower (also a white form). Five petals about 20-30mm long. Flowers all year round.

Fruit: Red and green outside, purple on inside, hairy to 10mm.

Habit: Shrub 1-2 metres high, growing in moist areas such as gullies and freshwater wetlands.



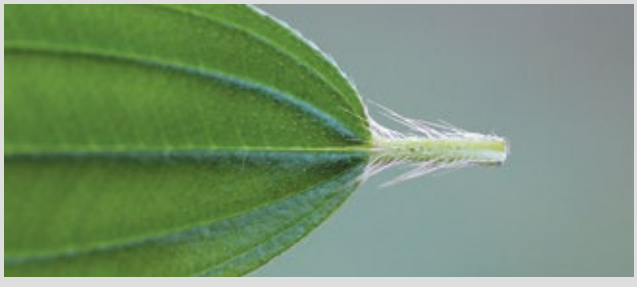
Asian Melastome
Melastoma candidum
(also known as *Melastoma septemnervium*)

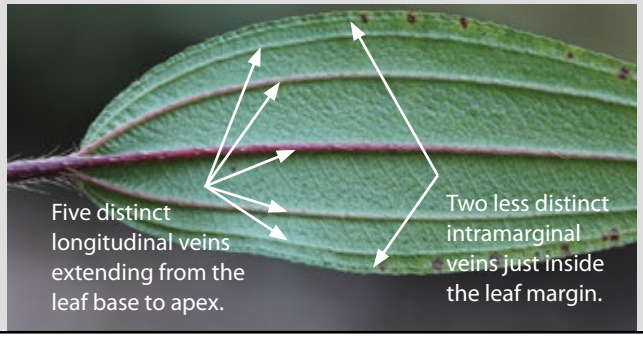
Leaves: Generally 5 distinct longitudinal veins and 2 less distinct intramarginal veins. Leaves hairy but thicker and stiffer than Blue Tongue. Leaf stalks purple or white with long hairs.

Flowers: More purple and a larger flower than the native Blue Tongue. Five petals about 25-32mm long.

Fruit: Bright raspberry red in colour.

Habit: Grows to 2 metres high and is more dense and robust than the native Blue Tongue.





flora profile

Mistletoes: Hanging on despite an unwarranted reputation

Flowers of Sessile-leaved Mistletoe (*Dendrophthoe homoplastica*). Photo by John Moss.

Australian mistletoes have long been considered an underdog of the botanical world, probably similar to grasses, sedges, and dare we say bryophytes (ie. mosses, liverworts and hornworts). No one ever mentions hornworts (but watch this space, as it is only a matter of time before an article is written!). Maybe it is because mistletoes have suffered, not from obsolescence (poor hornworts), but from disdain and ignorance. Many people still believe that mistletoes cause the death of their host trees, but this is a myth and far from the truth.

Mistletoes are 'hemiparasitic' plants that obtain water and nutrients from their host plant. They also photosynthesise enabling them to create their own carbohydrates so they do not have to extract carbon from their host. Healthy hosts and healthy mistletoes basically live in harmony. When one becomes stressed due to drought, overgrazing, insect attack, fragmentation of habitat or other factors, they both suffer. If a host tree dies, the mistletoe also dies; it is a lose-lose situation.

In rural areas, it is commonplace to see isolated paddock or roadside eucalypts in poor health, with lots of mistletoes attached. If the trees were healthy, with vibrant foliage, and in a forest, the mistletoes would simply blend in. A stressed tree with a load of apparent causal mistletoes, is actually a sign that other factors (usually human induced) are the root cause. For example, many isolated paddock trees are stressed by high evaporation rates due to poor vegetation cover, compacted soil, wind exposure and increased surface water runoff, resulting in less rainwater soaking in. Plus, wildlife that might eat mistletoe leaves, such as possums, are also fewer.

Australia has about 91 species of mistletoe, of which about 36 species occur in South East Queensland. Some mistletoe species have specific host plants, whereas other species are generalist and will attach to a wide range of plants. For example, the Mangrove Mistletoe (*Amyema mackayensis*) only occurs on Grey Mangroves (*Avicennia marina*), whereas the Yellow-flowered Mistletoe (*Dendrophthoe vitellina*) has about 100 different host species. Some mistletoes are even hosts for other mistletoe species. The diversity of nature!

Mistletoes attach to their host plant through a modified root called an 'haustorium' (see image below). This haustorium allows water and nutrients to flow from the host into the mistletoe.

Mistletoe leaves sometimes take on the appearance of the leaves of their host plant; this is termed 'cryptic mimicry'. This could be a result of the mistletoe receiving hormones from the host, or maybe the result of favourable mutations giving an evolutionary advantage, or maybe it is pure coincidence. We are not really sure.

The new frontier in revegetation - incorporating mistletoes. Shown here is a Brush Mistletoe (*Amylotheca dictyophleba*) artificially planted on Snow-wood (*Pararchidendron pruinosum*). Photo by John Moss.

That's a mouthful! Soon after eating this mistletoe fruit, this female Mistletoebird excreted the mistletoe seed, wiping it on a branch. The sticky fruit pulp helped adhere it to the branch. Eventually, the seed may germinate and start a new mistletoe plant. Photo by Deborah Metters.

Mistletoes are incredibly important in Australia's environment. Many animals depend on mistletoes for food. Leaves and fruit are readily eaten by possums, frugivorous birds love the fruit, and honeyeaters drink nectar from the flowers. Mistletoes are also host plants for a wide range of beautiful butterflies and moths, in addition to many other invertebrates. Often mistletoes are the only fruit or flower source available, especially during dry times. It is becoming clearer that mistletoes have a greater role in sustaining biodiversity than was previously realised. Recent research has found that mistletoes may increase soil fertility resulting in other flow-on effects through an ecosystem.

Mistletoe seeds readily germinate, but only a few successfully attach to a host. An interesting new frontier is the propagation and inclusion of mistletoes in revegetation and restoration projects. This has already been attempted with mixed results at one site in South East Queensland. Hopefully in the near future, one would be able to buy plants from native plant nurseries with attached mistletoes.

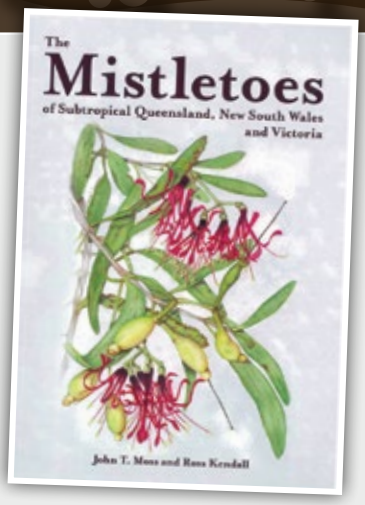
Feel free to contact us if you have a story about mistletoes from your place, especially if you have successfully propagated them.

Article by Deborah Metters, SEQ Catchments, and John Moss, co-author of *The Mistletoes of Subtropical Queensland, New South Wales and Victoria* (see review on facing page).

book reviews

The Mistletoes of Subtropical Queensland, New South Wales and Victoria

By John T. Moss and Ross Kendall



At last we have a book explaining the place of mistletoes in our ecosystem. This book is a must have for enthusiasts of our environment. In his forward, Ross McKinnon's words were like gentle rain upon a desert landscape.

"Mistletoes don't kill host trees!"

"Why would it (kill the tree) when the mistletoe's survival and food source is derived from the host plant?" writes Ross. Indeed.

There is far more to the mistletoe story and this book explains the important part mistletoes play in nature. This story includes birds and butterflies, reptiles, bats, mammals and invertebrates.

This book is well-structured with beautiful photographs, maps of occurrence and notes on host plants as well as interactions with butterflies and moths. The latter are often extensive.

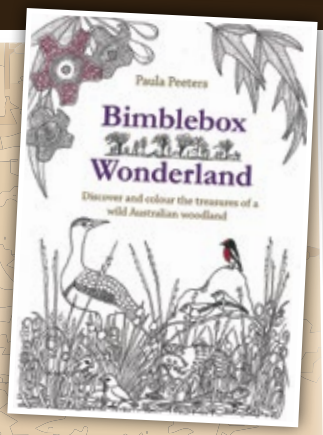
This is a book that has been crying out to be written and I commend it to all students of nature. I note on the back cover, I am not alone. Two local luminaries; Gordon Guymer of the Queensland Herbarium and Glenn Leiper of Native Plants Queensland share my enthusiasm for this book. Finally I now feel vindicated for years of telling people to "leave them alone".

Published by Butterfly & Other Invertebrates Club (BOIC), 2016
Paperback, A4 format, 134 pages
Price: $30
Available from BOIC at www.boic.org.au or by contacting BOIC at info@boic.org.au or PO Box 2113, Runcorn Q 4113

Review by Phil Moran
Manager, Noosa Landcare

Bimblebox Wonderland

By Paula Peeters



It would be 30 years since I last did colouring-in, but that all changed last Christmas when a colleague gave me a copy of *Bimblebox Wonderland*. It was then I started to notice adult colouring-in books in every newsagent and supermarket checkout isle. How did I not see them before? Was I lacking mindfulness? Mindfulness (i.e. focussing the mind on the present moment) can create a relaxed, expansive and content state of mind and can be achieved through various techniques including colouring-in.

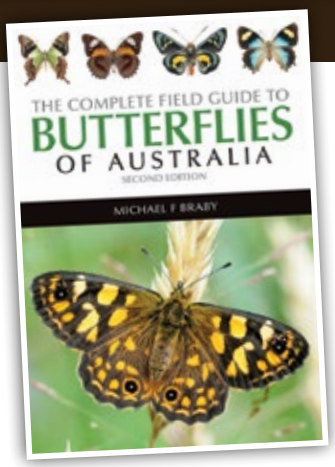
Regardless of whether you put pencil to paper, *Bimblebox Wonderland* is a pleasure to look at, especially if you derive joy from nature. It brings to life many Australian animals in realistic, creative and imaginary ways. If you are a fan of Where's Wally, you will also love this book. *Bimblebox Wonderland* inspired the commissioning of the enclosed artwork, to spark your creativity and raise awareness of the threatened and diverse animals, plants and fungi of SEQ.

Self-published, 2015
Paperback, A4 format, 32 pages
Price: $15.99 plus postage
Available from www.paperbarkwriter.com and select bookshops (see above website for bookshop details)

Review by Deborah Metters

The Complete Guide to the Butterflies of Australia (2nd ed.)

By Michael Braby



I was excited to see the second edition of this book published as I've made very good use of the first. I've had many eureka moments over the last decade making positive identifications by comparing my photos to the detailed images in the book.

This second edition expands substantially on the original with approximately 20 additional species and a comprehensive revision to reflect up-to-date current knowledge. Each species' description includes distribution maps, a list of larval host plants and high resolution colour images showing both the upper and under sides of each male and female butterfly.

I'll be buying myself a copy and I hope that the colour images are as vibrant as the original edition, unlike my review copy, which was a bit washed out. This is a must have field guide for anyone serious about identifying butterflies in Australia.

CSIRO Publishing, 2016
Paperback, A5 format, 400 pages
Price: $49.95
Available from CSIRO Publishing, other online bookshops and select in-person bookstores.

Review by Todd Burrows, City of Gold Coast

Left: Aerial photograph taken sometime between 1955 and 1960 shows Ian's family's old farmhouse in the foreground surrounded by sugar cane paddocks. In the background is a forested hill surrounded by sugar cane. The patch of large Queensland Blue Gum trees in the middle is now part of Ian's property.

Above: A recent aerial photograph shows Ian's property in the middle, now a forest of native vegetation, surrounded on three sides by avocado orchards. The trees to the top right are part of a corridor planting that Ian undertook in cooperation with his neighbour, connecting Ian's property to the forested hill.

property profile

Pioneering Conservation near Childers: challenging but rewarding

This 2.35 ha property at Doolbi near Childers has been owned by my family for 108 years with habitat rehabilitation starting in 1976. The habitat is now 40 years old and fabulous.

Historically, the Kabi Kabi lived in this area, and the name Doolbi apparently refers to Burdekin Plum (*Pleiogynium timorense*). In the 1870s, loggers felled the best logs and hauled these by bullock wagon to rafting grounds. In 1877, the Crown leased 40 ha with an obligation on the leaseholder to clear a farm. My habitat rehabilitation now occupies a corner of the original uncultivated farm paddock. It has fertile red soil and a small, seasonal spring-fed creek.

In 1908 my grandparents bought this property and in about 1916 they also bought the Childers sawmill. The mill burned down about ten years later and they didn't rebuild because the Isis Scrub and eucalypt forests that once grew around Childers had been so widely cleared.

In 1931 my parents married and moved north to the Atherton Tablelands. For the first year they lived in a tent and their only income was from sale of logs that my father felled using his axe, cross-cut saw and steel wedges. Early in 1938 my parents returned to Doolbi, but in 1976, they decided to sell the farm and retire. By 1976 the paddock had been reduced to 2.35 ha in size but it still had some big trees especially Queensland Blue Gum (*Eucalyptus tereticornis*) and Small-leaved Fig (*Ficus obliqua*). My father valued these trees as shade for livestock and he enjoyed having noisy flocks of lorikeets overnight there and nest in tree hollows.

In 1976 I bought the paddock from my parents to conserve the native vegetation on it – especially the big old trees. Shrubs such as Milky Bush (*Alstonia constricta*), Lolly Bush (*Clerodendrum floribundum*), Crows Apple (*Owenia venosa*) and Smell of the Bush (*Mallotus claoxyloides*) were present or on the roadside. Some natural regeneration of native plants was occurring.

My main aim in 1976 was to conserve the remnant trees as Queensland Blue Gums on fertile soils have been widely cleared. However, by 1982 I was working with the Commonwealth Government's National Tree Program and one of my tasks was to chair the editorial committee that produced the book *Think Trees Grow Trees* published in 1985. Based on this experience, I broadened my aims for the 2.35 ha paddock and decided not just to conserve it, but to revegetate it with plant species native to the Childers region. This process would attract more native wildlife.

My aim has never been to restore the paddock's vegetation to just what it was when Kabi Kabi people lived there, as there are uncertainties about what the site's vegetation would have been in 1860. Thus, I decided to use plant species and communities of the region. I defined 'the Childers region' as extending south to Maryborough and Hervey Bay, north to Bundaberg, and west to Booyal and Biggenden.

My aim was to grow a collection of native species but also to establish plant communities – including rainforest, riparian forest, wet eucalypt forest and drier forest. To do this, I researched many native plant species of the Childers region and compiled this information in an electronic, searchable database. I have been working on this database for 34 years and it includes information on how different plant species performed on the Doolbi site.

To rehabilitate the paddock I used conservation, planting, natural regeneration and direct seeding. I bought seeds from the CSIRO, collected some local seeds, raised seedlings myself and also bought seedlings. Most of this was done from my home in Canberra and I would do planting and seed collecting when I visited Doolbi during my holidays. I planted trees, shrubs, vines and groundcovers as they all contribute to the food pyramid for wildlife.

A nestbox designed for Sugar Gliders. Note the coil spring on tree attachment. These are essential when fitting nest boxes to young, fast-growing trees.

A nestbox designed for Feathertail Gliders. These animals built a nest of eucalypt leaves that filled this box.

> ***Nestboxes are very useful in revegetation projects. They can make a forest dominated by young trees into suitable habitat for cavity-nesting fauna.***

Once some native plants were established on the site, I was surprised at the amount of natural regeneration, which reduced the need to plant. Fruit-eating fauna also carried in native seeds.

With the cooperation of a neighbour, I planted another 1 ha of forest on his land and also a 3-row shelterbelt of native trees to be a wildlife corridor connecting my land with remnant bushland about 300 m away. In 1999 I joined Land for Wildlife, and putting the program's sign beside the road showed my identity as a person who did some environmental activity within society. I keep my Land for Wildlife magazines and re-read them for interest and for useful information and ideas.

In doing this habitat rehabilitation, a personal highlight for me was hearing the first call of a Brown Pigeon from forest on my land. This bird is mainly a fruit-eating rainforest species and its call showed rainforest was establishing. I was also excited the first time I heard a Rose-crowned Fruit Dove calling – another fruit-eating rainforest bird.

Also exhilarating was walking in the forest and seeing birds such as the Rufous Fantail and Black-faced Monarch which usually prefer dense vegetation. Birds such as these were not there back in 1982. Over the past 20 years I have observed a total of 129 bird species using the property in some way, and the most bird species observed in any week was 55 species.

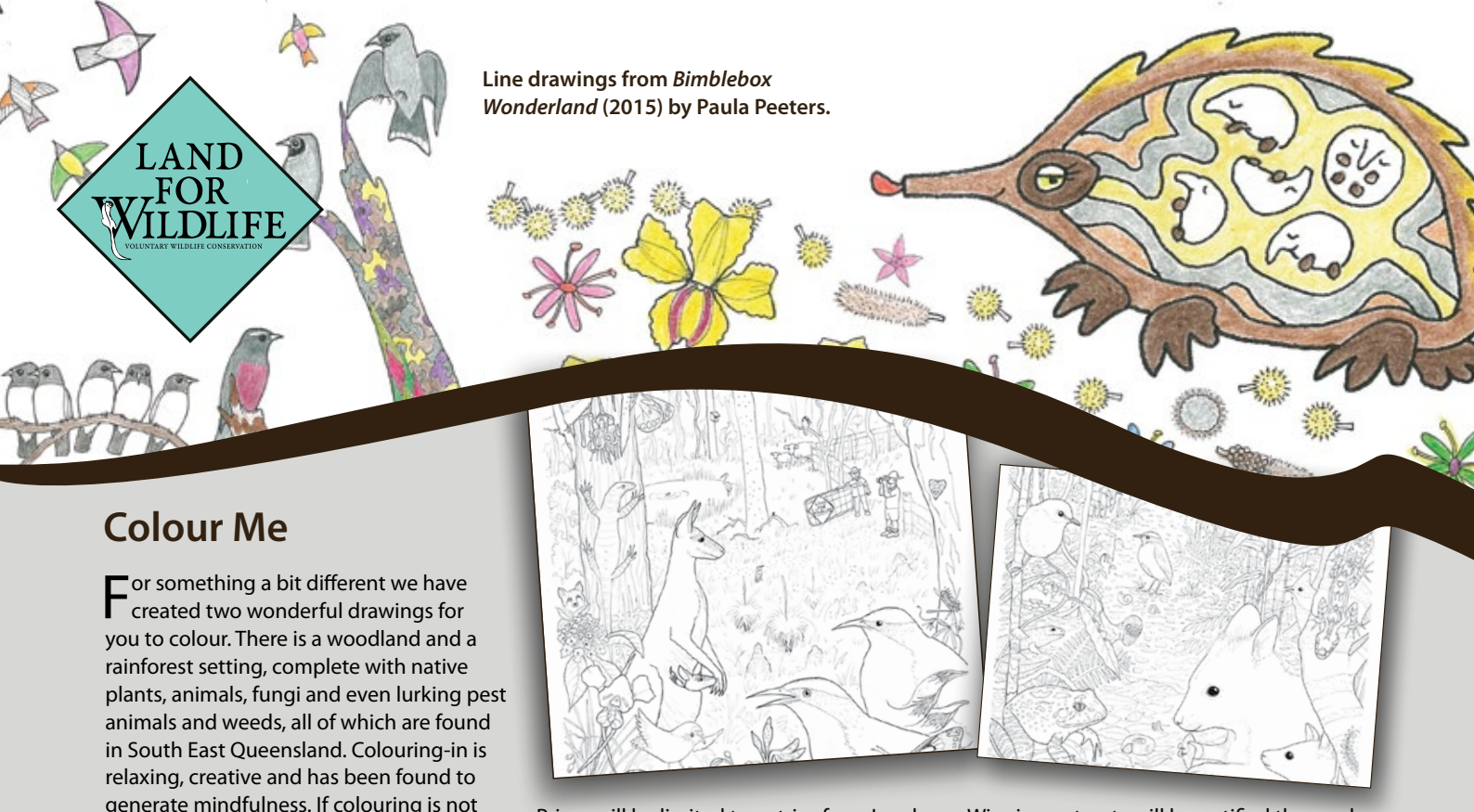
This ongoing 40-year-long habitat rehabilitation project to conserve biodiversity on private land should be a valuable information resource for the Childers region. However, community response to this pioneering work has been very mixed including bewilderment, laughter, derision, anger, contempt and indifference. Many saw me and my ecosystem rehabilitation work as a waste of time and even a joke. Others wanted me to leave town. On a positive note, Bundaberg Regional Council awarded me their Green Spirit of the Year Award in 2013, and I have learnt to value and appreciate people who realized what I was doing.

Critics often targeted my character and personal identity, but few of them had ever visited my land, and very few knew what ecosystem restoration was, or what I did. I was mystified that people who knew so little about an ecosystem restoration could oppose it so strongly. I finally realized they were actually describing their own personal beliefs, rather than my land.

Many regions lack a 'critical mass' of long-term ecosystem rehabilitation projects done on private land to conserve biodiversity. This lack can affect people's beliefs. Ongoing communication with individuals and the public then becomes a key part of ecosystem restoration. I believe that programs such as Land for Wildlife can help this communication process.

Article and photos by Ian Gorrie
Land for Wildlife member
Doolbi, near Childers

In addition to Land for Wildlife, Ian's property is conserved by a covenant on title under the Queensland *Vegetation Management Act (1999)* as indicated by the Significant Environmental Area sign.



Line drawings from *Bimblebox Wonderland* (2015) by Paula Peeters.

Colour Me

For something a bit different we have created two wonderful drawings for you to colour. There is a woodland and a rainforest setting, complete with native plants, animals, fungi and even lurking pest animals and weeds, all of which are found in South East Queensland. Colouring-in is relaxing, creative and has been found to generate mindfulness. If colouring is not your thing, try to find all the species in a 'Find the Fox' or 'Look for Leeches' game.

We would love to see your coloured artwork, so please consider entering our competition in these six categories:

1. Most Realistic (woodland & rainforest)
2. Most Artistic (woodland & rainforest)
3. Under 12's (woodland & rainforest)

Fabulous prizes include:

- Three double passes to Currumbin Wildlife Sanctuary, Gold Coast.
- Three brand new nest boxes thanks to Hollow Log Homes.
- Two copies, *The Mistletoes of Subtropical Queensland, New South Wales and Victoria* (2016).
- Six copies, *Bimblebox Wonderland* (2015).
- Two copies, *Planting for Wildlife* (2011).
- Two copies, *A Natural History of Australian Bats* (2012).
- Two copies, *Family Bushwalks in South East Queensland* (2015).

Prizes will be limited to entries from Land for Wildlife members, their friends or family. Winning entrants will be asked if or how their artwork relates to a Land for Wildlife property.

Email your entry/entries to SEQ Catchments at **admin@seqcatchments.com.au** or post (unfolded) to PO Box 731, Ipswich 4305.

If submitting an entry for the Under 12's category, please state the age of the artist. If submitting an electronic entry, please note that we may ask for your original artwork for high resolution scanning.

Don't forget the artist's name and contact details. If you post original artwork, you are welcome to collect it from the SEQ Catchments Office at 17 Lowry Street, North Ipswich after the competition closes, or it may be disposed of.

Competition closes on midnight Sunday 4th September 2016.

Winning entrants will be notified the week afterwards and announced in the October 2016 Land for Wildlife SEQ newsletter.

All entrants agree to their artwork, and any derivatives, being used for any marketing, communications or promotional purposes by the Land for Wildlife South East Queensland program or SEQ Catchments.

A big thanks to Currumbin Wildlife Sanctuary, Hollow Log Homes and CSIRO Publishing for donating or sponsoring prizes. Thanks also to local artist and ecologist, Paula Peeters, for creating these drawings. More of her work can be found at www.paperbarkwriter.com

Artwork was commissioned by SEQ Catchments through funding from the Australian Government's National Landcare Programme to raise awareness of nationally threatened plants and animals that are found on Land for Wildlife properties in South East Queensland.

Land for Wildlife South East Queensland is proudly supported by:

SEQ Catchments – Healthy Land, Healthy Water
Dedicated to a better Brisbane
City of Ipswich
Logan City Council
Lockyer Valley
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Scenic Rim Regional Council
Redland City Council
Sunshine Coast Council
Noosa Council

Land for Wildlife South East Queensland newsletter is published by SEQ Catchments through funding from the Australian Government's National Landcare Programme.

Printed on EcoStar Silk 100% post-consumer recycled paper, FSC certified, chlorine-free process and made carbon neutral. Printed by Greenridge Press, Toowoomba using vegetable based inks.