



LAND FOR WILDLIFE

SOUTH EAST QUEENSLAND

MAY 2019 VOL. 13 NO. 2

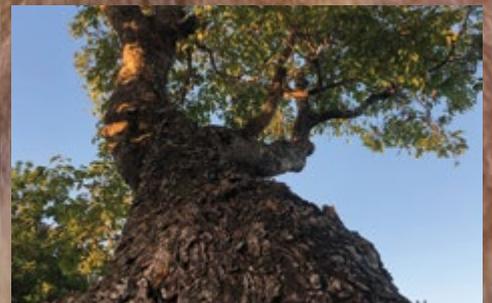


INSIDE THIS ISSUE

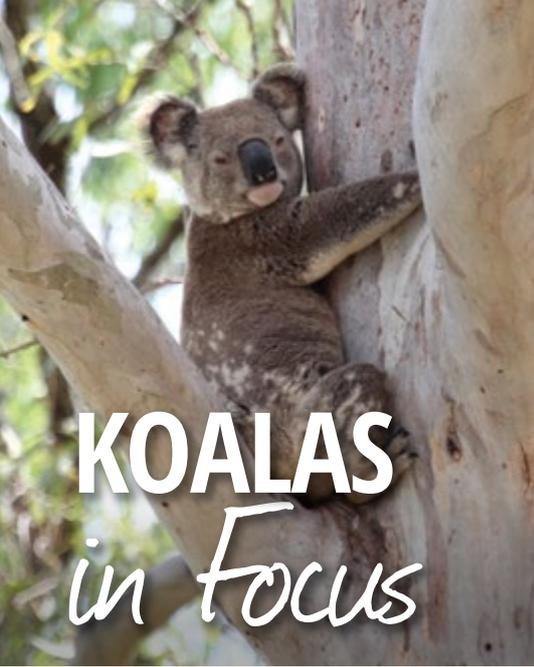
- 2 Koalas in Focus
- 3 Editorial and Contacts
- 4 Restoring Farms for Wildlife
- 5 Farm Restoration at Mt Mee
- 6 Macropods of SEQ
- 8 Red Cedar
- 10 Enchanting World of Fungi
- 11 Things to Consider Before you Buy a Property
- 12 Farewell Dr Les Hall
- 13 Book and App Reviews
- 14 Searching for Priority Species at Stony Creek
- 16 Program Highlights



Restoration and farming, p.4



Red Cedar trees, p.8



KOALAS in Focus

Koalas occur on hundreds of Land for Wildlife properties across SEQ and are one of our most iconic native animals. Despite threats such as habitat loss, vehicle strikes and dog attacks, hundreds of landholders are protecting this unique animal through conservation works on their land.

What can you do?

- Retain Koala habitat and food trees on your property – see *Land for Wildlife Note A4* for details of food trees.
- Plant Koala food trees.
- Work with your neighbours to create Koala corridors.
- Drive safely, especially at dawn and dusk.
- Install wildlife friendly fencing so Koalas can move safely through fences.
- Report sick or injured Koalas by calling 1300 ANIMAL.

In Brisbane...

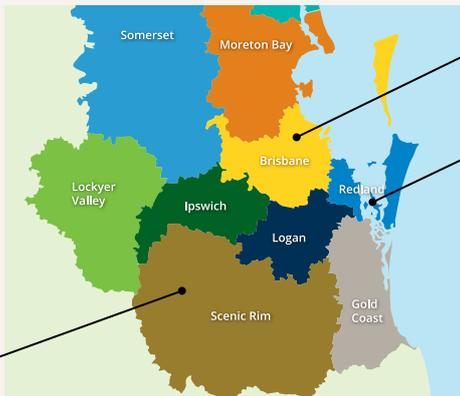
Issues faced by Koalas in urban areas are quite different to those faced in rural areas, which is why Brisbane City Council has partnered with Lone Pine Koala Sanctuary to establish the Brisbane Koala Science Institute.

Thirteen bushland areas have been surveyed using Koala detection dogs that detect Koala scats to inform on their health, genetic diversity, breeding and movement. In addition, Council has purchased areas of Koala habitat, planted many Koala food trees and are creating infrastructure solutions that are more wildlife friendly.

In the Redlands...

The Redland Koala Conservation Strategy and Action Plan is currently providing:

- Research on local Koala genetics, health, ecology and movements.
- Enhancement of corridor linkages including 250,000 plants.
- Support for the Redlands After Hours Wildlife Ambulance.
- Purchase and improvement of Koala habitat.
- Koala Conservation Agreements for private landholders.
- Community engagement and education, including schools



In the Scenic Rim...

Two key Koala projects are underway in the Scenic Rim.

At Aratula, Koala detection dogs were used to locate Koala scats along the Cunningham Highway. These scats were sent away for DNA research and found that the Koalas on either side of the highway are related. This poses a big risk of vehicle strikes for this population. Future research will look at how far these Koalas travel.

At Peak Crossing, research is being undertaken by the Queensland Trust for Nature and the University of Queensland using GPS collars on rural Koalas to understand their home range and where they travel. Health checks have shown that these rural Koalas may be worse off in terms of disease than colonies in other areas.



Koala researcher, Katrin Hohwieller with a Koala detection dog from the University of the Sunshine Coast - Detection Dogs for Conservation - on a Land for Wildlife property in the Redlands. Photo by Maree Manby

Land for Wildlife

South East Queensland SNAPSHOT*

3,481 Registered properties

943 Working towards registration

7,375 hectares under restoration

61,966 ha RETAINED HABITAT

As at April 2019

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

Land for Wildlife South East Queensland is a quarterly publication published by 11 Local Governments in south-east Queensland and distributed free of charge to their Land for Wildlife members.

Opinions expressed by contributors to *Land for Wildlife South East Queensland* are not necessarily those of the Land for Wildlife program nor any of the supporting agencies.

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.

ISSN 1835-3851 Print run - 4515 copies

Front Cover: A Red-necked Wallaby on a Land for Wildlife property, Scenic Rim.

[facebook.com/lfwseq](https://www.facebook.com/lfwseq)

It was with great pleasure that I accepted a shared role in January as Regional Coordinator for the Land for Wildlife South East Queensland program. I am delighted to be working alongside Deborah who has a wealth of knowledge that she is willing to share, as well as officers from 11 Local Governments who collectively drive this program forward with passion and expertise.

Coincidentally, both Deborah and I are currently studying at university. My studies focus on environmental management, Deborah's on philanthropy. In my recent environmental economics course, I was introduced to the intriguing concept of 'planetary boundaries'. Rather than valuing just the financial aspects of society (think GDP), it is a model that incorporates the whole of the environment. It brings home the concept that our natural resources are not boundless, but are in fact quite limited. Put simply, it is the idea that what we do at home contributes to the greater good and resilience of our communities and ecosystems.

With over 4400 properties (and growing), Land for Wildlife members in SEQ

collectively contribute to improving the region and its diverse ecosystems. Whilst we innately understand that our conservation efforts are beneficial locally, it's worth keeping in mind that when we do it collectively across the region, a positive contribution is made for everyone's enjoyment: fresh air, clean water, natural amenity, biodiversity, climate, agricultural productivity, tourism...the literature on the economic values provided by ecosystem services really is endless.

In SEQ we are fortunate to have 11 Local Governments participating in Land for Wildlife and as I talk with our incredibly skilled officers from around the region and look at the figures, it is clear that interest and growth in the program is not slowing down. This is great news for our landscape connectivity - as our regional membership grows, we increasingly have the opportunity to provide corridors and linkages that otherwise couldn't feasibly be purchased by government agencies. This is just one tangible benefit of private land conservation.

I am incredibly pleased to be working with Deborah and all of our Local Government

officers in this long-established and highly successful program and I am looking forward to seeing what the next ten years brings in terms of the environmental outcomes and landholder engagement.

At a grassroots level, it doesn't get any better than the conservation efforts of members in the Land for Wildlife program in SEQ. So, next time you are planting those trees along that creek line, don't forget to think about the contribution you are making, not only the environment and the fish downstream, but also the benefits to society as a whole.

As always, Deborah and I look forward to engaging with you through your stories, photos, insights and discussions. Please continue to send in your contributions and don't forget to 'like' us on Facebook.

Kylie



Contributions to:
Land for Wildlife
South East Queensland
deborah@seqlfw.com.au
kylie@seqlfw.com.au



Your Land for Wildlife Officers



Land for Wildlife South East Queensland Team, April 2019

Brisbane City Council - 3403 8888	
Amanda Maggs	Northern suburbs, Kholo, Mt Crosby
Fflur Collier	Southern suburbs
Catherine Madden	Upper Brookfield
Cody Hochen	Brookfield, Kenmore Hills
Peter Hayes	Team Leader
Susan Nolan	Southern suburbs
Tony Mlynarik	Anstead, Pullenvale, Moggill

City of Gold Coast	
Lara Solyma	5582 8344
Melanie Mott	5582 8915
Saul Hondow	5582 8022
Scott Sumner	5582 8896
Todd Burrows	5582 9128

Ipswich City Council	
Danielle Andlemac	3810 7173

Lockyer Valley Regional Council	
Martin Bennett	5462 0310

Logan City Council	
Rachel Booth	3412 4823
Peter Copping	3412 5321
Nick Swanson	3412 5355

Moreton Bay Regional Council	
De-Anne Attard	0438 910 715
Nicole Byrne	0419 700 213
Wendy Heath	3883 5636
Michael Mills	5433 2799

Noosa Council	
Luke Thompson	5329 6500

Redland City Council	
Maree Manby	3820 1106

Scenic Rim Regional Council	
Keith McCosh	5540 5436

Somerset Regional Council	
Darren McPherson	5424 4000

Sunshine Coast Council	
Alan Wynn	5439 6477 Southern region
Dave Burrows	5475 7345 Northern region
Nick Clancy	5439 6433 Southern
Danielle Outram	5475 7339 Northern
Marc Russell	5475 7345 Northern
Michael Reif	0437 112 071 Southern
Stephanie Reif	5475 7395 Northern

RESTORING FARMS FOR WILDLIFE

Establishing Planting Goals

De-Anne Attard
Articles and photographs
Conservation Partnerships Officer
Moreton Bay Regional Council



Have you recently purchased or inherited a property that has vast expanses of cleared land that you are keen to revegetate and restore for wildlife? Or perhaps you have an opportunity to revegetate areas of paddock previously used to graze livestock? If this is the case, it is important to first ask, what is the aim of my planting?

It is likely that you will have one of two main aims:

1. To set up vegetated corridors or 'shelterbelts' for wildlife and/or,
2. To provide more permanent nesting or foraging habitat for wildlife.

This article provides you with ideas to help you set up your own restoration and revegetation goals on your property using the book *Restoring Farm Woodlands for Wildlife* (reviewed page 13) as a guide.

What to Plant?

Planting native plants is the first rule of thumb for any restoration project. Planting native plants has the following benefits:

1. Eliminates the risk of planting exotic species which can become weeds on your property;
2. Certain native plant species may be planted to attract specific locally endemic or threatened fauna species;
3. Native plants attract native invertebrates that can provide prey for native wildlife, predate on pest species and assist with pollination of native plants.

Native plants should be planted with consideration to which species grow in the best conditions and locations on your property. It is often best to contact your local Land for Wildlife Officer and request a native species list that is indicative of what species are likely to occur in and around your property.

When considering what to plant, it is also important to consider the structure of your planting. For example, once a canopy is established, planting a shrub layer and understory similar to what is naturally found in surrounding woodlands.

Recent studies show that plantings with an understory of wattles (*Acacia* spp.) can limit the preference of foraging by aggressive Noisy Miner birds (Lindenmayer et al. 2010), a species which is known to drive away smaller native birds (Mac Nally et al., 2012). These native plants can also provide foraging resources for native mammals such as Squirrel Gliders and Sugar Gliders that may have nearby dens in more established vegetation in connecting areas of habitat.

Where to Plant?

When selecting areas to plant it is important to consider six key factors: proximity to surrounding vegetation and existing wildlife corridors; topography and aspect; future land use; potential fire hazards; future risks associated with planting near infrastructure; and planting shapes and sizes.

Often in a sparse and open landscape, it can be overwhelming when looking at the many possible planting locations. A few recent studies show that wide plantings tend to support higher species richness (specifically bird species) as opposed to planting narrow corridors (Lindenmayer et al. 2010 & 2016). For example, if you have a significant habitat or shade tree growing in an otherwise sparse and open paddock where livestock graze, an area surrounding this tree could be fenced off to exclude livestock and an island (or micro-planting) can be planted.

The success of wide plantings versus narrow plantings have been attributed to a number of factors including:

1. Wide plantings tend to have a better developed shrub and groundcover layer that provides shelter, refuge and foraging habitat for wildlife;
2. Wide plantings tend to have less edge effects from wind and extreme temperature changes throughout the day;
3. Levels of nest predation (for a variety of fauna) may be higher in narrow plantings where there are more edges.

In the broader landscape both small plantings and narrow plantings still have significant environmental values for native wildlife. These plantings provide valuable stepping stones and foraging habitat for wildlife and can sometimes supplement additional management interventions. For example, when fencing is removed around a micro-planting, supplementary planting can extend these areas and provide further habitat for wildlife over time. Working to maintain your existing land values and enhancing these values over time, with ongoing weed management or further planting, is one of the key principles to effective restoration and conservation management.

References

- Lindenmayer DB, Knight EJ, Crane MJ, Montague-Drake R, Michael DR & MacGregor CI (2010) What makes an effective restoration planting for woodland birds? *Biological Conservation* 143, 289-301.
- Lindenmayer DB, Michael D, Crane M, Okada S, Florance D & Barton PKI (2016) *Wildlife Conservation in Farm Landscapes*. CSIRO Publishing.
- MacNally R, Bowen M, Howes A, McAlpine CA & Maron M (2012) Despotism, high impact species and the subcontinental scale control of avian assemblage structure. *Ecology* 93(3), 668-78.

FARM RESTORATION CASE STUDY



Jenny discussing the ongoing management and assisted natural regeneration projects on her property.

On the road to restoration AT MT MEE

For the past 15 years, Jenny and Simon Hill have been managing their property for both conservation and grazing livestock. Jenny has completed a variety of revegetation projects on the property including:

- Revegetating areas near existing remnant vegetation surrounding the farm dam to improve water quality and to enhance and extend existing islands of vegetation for wildlife.
- Micro-plantings and stepping stone plantings for wildlife in paddocks and open spaces previously used to graze livestock.
- Undertaking significant and ongoing weed management works to reduce weeds in the understory of existing native revegetation and promote natural regeneration.

Since planting the areas surrounding the dam and throughout the property, Jenny has noticed a variety of bird species moving into previously unused areas of the property. She has noticed an increased number of parrots, honeyeaters, mistletoebirds and doves.

During my recent visit to the property I spotted a variety of waterbirds including Australasian Swamphen, Pacific Black Ducks and Australian Wood Ducks. I also heard a bronzewing calling from the dense Acacia regrowth in areas that have been fenced off from livestock and Rainbow Bee-eaters flying overhead as we admired the numerous Banksias in full bloom.

Whilst walking through the property with Jenny, she explained a recent technique she employs to improve pastures and promote stepping stones for native birds to move through her paddocks. Jenny has fenced off multiple large and emerging wattles in the paddock that provide shade for cattle as well as promote healthy grass growth underneath. In addition, the wattles provide perching and foraging habitat for a variety of avian species as they move through the property. It is these thoughtful management techniques that the Hills employ to promote natural, assisted regeneration and restore habitat for wildlife throughout their property.

The photos show a variety of planting techniques, the success that the Hills have been enjoyed in the past 10 years, and the benefits of restoring farm woodlands for wildlife. They also show the balance between managing the land to promote habitat for native wildlife while managing grazing paddocks for livestock.

For more information about how you can restore your farmlands or pasture to woodlands for wildlife (including case studies) have a look at *Restoring Farm Woodlands for Wildlife* (reviewed page 13).



Acacia regrowth in paddocks has been fenced off from grazing livestock.



This farm dam has been revegetated over the past ten years. In the background is a recently fenced area with natural Acacia regrowth (about five years old) and scattered in-fill planting.



Stunning flowers of a planted *Banksia spinulosa* shrub.



MACROPODS of SEQ

The word 'macropod' means 'big foot'. However unlike the mythical Big Foot of North America, there are many places in south-east Queensland (SEQ) where you'll have no problems seeing one of our home-grown species, better known as kangaroos and wallabies.

With around 60 species in Australia and New Guinea, macropods are one of the world's most successful radiations of mammalian herbivores. They occupy almost all available terrestrial habitats including rainforests, deserts, rocky outcrops and open forests. They have developed unique habits from living in trees (eg tree-kangaroos) to burrowing underground (eg hare-wallabies). Detailed here are the nine species of macropod found in SEQ.

Peter Hayes
Conservation Partnerships Team Leader
Brisbane City Council



Thanks to Tahlia Clarke for compiling information for this article.

Red-necked Wallaby (*Macropus rufogriseus*) (top left)

One of the most abundant of the region's macropods, this largely solitary species inhabits dry, open forests and grasslands as well as nearby open areas such as backyards, paddocks and roadside verges. They spend most of their day resting in the shade before aggregating to feed in the early hours of the morning and at dusk, when they are often seen grazing roadside grasses and herbs. Mothers carry only one young at a time and though breeding can occur all year round, more young are born in summer. Red-necked Wallabies get their common name from the red-tinged fur on their neck and shoulders. They can be distinguished from the other local macropods by their black nose and paws and white stripe on the upper lip. Photo by Deborah Metters.

Whiptail Wallaby (*Macropus parryi*) (above)

Also known as the Pretty-faced Wallaby, this macropod prefers hilly to steep terrain with open eucalypt forest or woodland and a grassy understory. A social species, they can live in groups of up to 50, comprised of sub-groups of ten or less including both sexes and their young. Females breed throughout the year but peak from October to March. During hot weather, Whiptail Wallabies feed in the early morning and late afternoon, taking cover during the day. However during the winter months they can be seen feeding at all times of the day, grazing primarily on grasses and other herbaceous plants. This species is readily identified by its distinct white cheeks, white ear-tip patches and long thin tail with a dark tip. Photo by Todd Burrows.



Agile Wallaby (*Macropus agilis*)

The Agile Wallaby is now restricted to a very limited range in SEQ, occurring only in dry open forest, dunes and heaths around Coomera and Jacobs Well, along with populations on some Moreton Bay islands. They have a varied diet and will graze on grass and foliage, dig up tubers and rhizomes, and forage for fallen fruits. They also regularly search in tidal areas for beach-washed mangrove seeds and seagrass. Photo by Todd Burrows.



Black-striped Wallaby (*Macropus dorsalis*)

This wallaby prefers dry forest with a dense understorey, such as rainforest margins, brigalow scrubs and open forests with dense wattle or lantana. Not surprisingly, they have a black stripe down their mid-neck and back. The Black-striped and Agile Wallabies are similar in general appearance to the Red-necked Wallaby and care needs to be taken to accurately identify this species. Photo by Chris Sanderson.



Swamp Wallaby (*Wallabia bicolor*)

Despite its common name, the Swamp Wallaby makes use of a variety of habitats, such as ferny gullies, shrubby watercourses and open forests and woodlands. They can be found throughout the region where suitable habitats remain, including some surprisingly urban areas of Brisbane. A generally solitary species, they emerge from dense vegetation to feed in open areas and are often seen at dusk and dawn. Swamp Wallabies have dark charcoal fur with an orange belly, yellow face stripe, black fore and hind feet and a white tail tip. Photo by Todd Burrows.



Brush-tailed Rock-wallaby (*Petrogale penicillata*)

As its name suggests, this wallaby prefers rocky habitats, including boulder piles, cliffs and gorges in dry eucalypt forest. The slopes of Mt Barney and the rocky creek lines around Crow's Nest are good places to see this species, usually as they bound away, ricocheting from boulder to boulder. They live in small family groups, with a dominant male bonding with up to four females.

Brush-tailed Rock-wallabies feed primarily on grasses and herbs, but will also browse on shrubs, flowers, fruit and seeds. This small, solid wallaby can weigh up to 8kgs and reach a body length of up to 55cm. They have dark grey-brown fur above, with a reddish flush on the rump. Ears, paws and feet are dark brown to black and the tail darkens along its length, ending in a black, brushy tip. Photo by Donald Hobern, Flickr.



Red-necked Pademelon (*Thylogale thetis*)

At the other end of the size scale to kangaroos are the pademelons. The Red-necked Pademelon grows to around 60cm tall and weighs up to 6 kilograms. They prefer rainforest and wet sclerophyll forests with dense areas of understory vegetation for shelter, often forming runways in the undergrowth. A shy and mostly nocturnal species, Red-necked Pademelons rarely move far from dense cover, coming out at night to feed on grasses, forbs and shrubs. They are usually solitary but may aggregate together in good foraging areas. This cautious macropod makes loud warning thumps with its hind feet when it senses danger. Breeding takes place throughout the year. They are easily recognised by their small size, brownish-grey colour with distinct reddish neck and shoulders and short tail.

Photo by Deborah Metters.



Eastern Grey Kangaroo (*Macropus giganteus*)

These are SEQ's largest macropod with males growing as large as 2.3m from head to tail and weighing up to 95 kilograms. Common across eastern Australia, they can be found in woodland, open forest and grasslands, though rural and semi-urban developed areas with lawns, water sources and shady areas also provide ideal living conditions.

These iconic Australian animals are mostly active in the late afternoon and early morning hours when the temperatures are coolest. During the warmest parts of the day they can be found resting under trees and other shady areas. Large mobs will gather at dusk to feed predominately on the young green shoots of grasses. Breeding occurs throughout the year peaking in the summer months. Eastern Grey Kangaroos verbally communicate via a series of clucking sounds. When they are aggressive or alarmed they produce a guttural cough and will thump their tails when they sense danger. Their woolly grey-brown fur is slightly darker on the shoulders and mid-back and the tail has a black tip.



Red-legged Pademelon (*Thylogale stigmatica*)

This pademelon is less commonly seen than the Red-necked Pademelon, as it prefers to feed in the dense cover of rainforest habitat. It has bright rusty red fur on its face, legs and the bottom half of the ears, but lacks the red neck of its cousin. The fallen leaves of rainforest trees make up a significant part of their diet.

Photo by Todd Burrows.



Of Moth AND MEN

The cry of 'timber' and the crashing of rainforest trees evokes a romanticised ideal of rugged, bearded men hacking their way through an impenetrable 'jungle' with their bullock teams and of loneliness, hardship and deprivation in their search for timber.

In the pioneering days of Australia, the 'Cedar Cutters' frequently preceded more permanent settlers and were often responsible for the 'opening-up' of new areas for the ever-expanding European arrivals. Unfortunately, it also resulted in the sad over exploitation of our rainforests with the most precious of rainforest trees, the legendary Red Cedar (*Toona ciliata*), or 'Red Gold' as it was known, being cut to commercial extinction by the beginning of the 20th century.

As early as 1802 (only 14 years after European arrival), Governor King issued restrictions on the felling of Red Cedar without authority. This didn't stop the decimation of these magnificent trees and they were systematically felled wherever they were found. Consequently, apart from the occasional magnificent specimen that was spared the axe and those in the most inaccessible of locations, the Red Cedar you find growing today were either flawed, too small to be felled at the time, are recent regrowth or have been planted. It will be another couple of human generations before these leftovers attain the awe-inspiring status of their forebears. In exceptional circumstances these trees attained heights of 60 metres, but more typically grew to 45 metres.

Looking at my Grandfather's Red Cedar table, it's not difficult to see why this wood was so prized as a cabinet timber and veneer. The wood is a magnificent, deep, rich red and you can almost lose yourself staring into its depths. The colour of the wood alone makes it a wood worker's dream, but Red Cedar has a couple of other attributes that made it so desirable. The wood is soft, making it easy to work and is pest and water-resistant.

The most accessible of the trees grew in fertile, deep, well-drained basalt soils east of the Great Dividing Range, primarily along rivers and creeks from southern NSW to northern Queensland. This allowed the cedar cutters to take advantage of one of its other attributes - it floated. The transport of cut logs was greatly simplified as they were rafted down these ready-made water highways.

Just as the timber from the related Mahogany's of Africa and India were becoming scarce due to over exploitation, Red Cedar was able to fill the void in nineteenth century England. This trend continued in colonial Australia, so even as Red Cedar was being shipped back to

England in the holds of convict ships, it was also being increasingly used in Australia to build and adorn the ever-growing number of houses and public buildings.

Red Cedar is one of the few deciduous native trees in Australia and even this fact works against it. In the intact rainforest, Red Cedar was able to disappear into the background, but come spring, having earlier shed its leaves to see out the dry winter, their flush of beautiful coppery-red leaves (see image below) made them stand out like signposts to the cedar cutters. This new growth of compound leaves, with a distinctive asymmetrical base then turned bright green to fuel the growth of this rainforest giant.

To help stabilise the immense size of these trees, most large Red Cedars are flanged or buttressed. At this time their trunk heads for the heights of the rainforest canopy with the first branches finally emerging high above the ground. The bark of older cedar is a scaly grey or brown and is often shed in oblong pieces giving the trunk a distinctive plated appearance.

The final twist of the knife in the story of the Red Cedar is the reason why so few of those trees found today will mirror their forebear's spectacular growth. It is also the reason why Red Cedar, despite being easily propagated, fast growing and quite hardy once established, is not being grown to any extent as a timber tree in Australia. The tree has a little understood relationship with a rather non-descript brown moth, the Cedar Tip Moth or Shoot-borer (*Hypsipyla robusta*) in Australasia and Asia, whose larvae attack the growing tip of the plant. In young Red



Photo by Stephanie Reif.

Photo by Pete the Poet, Flickr.



Red Cedar is one of a few deciduous native trees, losing their leaves in winter (left) and with bright green spring growth (above). Photos by Pete the Poet, Flickr.

Cedar this invariably includes the dominant growing stem tip (the apical meristem) that is responsible for stem elongation. Many centimetres of new growth can be destroyed as the larvae munch into the succulent sapwood. The destruction of this dominant growing tip triggers otherwise dormant lateral (axillary) buds to grow, resulting in a twisted and sometimes multi-stemmed tree developing.

Borer attack of young trees rarely causes tree death, but it does result in deformed trunks that are of no commercial value. Interestingly, Red Cedar gives off a chemical attractant that the female moths are able to home in on from many kilometres away. It is also believed that a combination of the destruction and disruption of the natural ecosystem, coupled with the extra light that seedlings are exposed to when grown in disturbed forest, revegetation areas or

forestry plots, results in the moth being able to single out young cedar.

In an intact forest, the majority of young Red Cedar are able to escape the moth until such time that they are too large for moth attack to make an impact on trunk growth. At this much later stage of cedar growth, the moth's larvae voraciously attack inflorescences, soft developing fruits, unexpanded leaves and growing branch shoots. So, due to a quirk of nature, only a fraction of these 'new' Red Cedars will mature into the straight-boled giants of the past. Do you have one on your property?



Tony Mlynarik
Conservation Partnerships
Officer
Brisbane City Council



Left: Planted Red Cedars, such as this one at Mapleton, are rarely straight-boled due primarily to insect attack. Photo by Stephanie Reif.

Above: The beautiful flowers of Red Cedar. Photo by Paul Donatui.



References & Further Reading

Bygrave FL & Bygrave P (2005) *Growing Australian red cedar: and other Meliaceae species in plantation*. Rural Industries Research and Development Corporation & Joint Venture Agroforestry Program.

Griffiths M (2001) *The biology and ecology of Hypsipyla shoot borers*. In *Hypsipyla Shoot Borers in Meliaceae*. ACIAR Proceedings No. 97, eds. R.B. Floyd and C. Hauxwell, pp. 74-80. ACIAR.

<https://poi-australia.com.au/australian-red-cedar-toona-ciliata-var-australis/>

www.planthealthaustralia.com.au/wp-content/uploads/2015/07/Shoot-borer-FS.pdf

www.smh.com.au/national/saving-grace-of-the-tall-timber-20040517-gdixt6.html



Pink Coral (*Ramaria* sp.) growing in a fairy ring adjacent to a veteran tree and alongside ground orchids on a Land for Wildlife property in the Redlands.



Golden-scuffy Collybia (*Cyptotrama aspratium*) found in a pocket of rainforest in the Mount Cotton area. Photos by Maree Manby.

THE ENCHANTING WORLD OF *Fungi*

The study of fungi is called mycology and those who study fungi are called 'fun guys' amongst their friends and peers, or more technically, mycologist. Believe it or not, fungi were thought to be on this planet prior to the first plants.

There are two categories of fungi:

1. Macrofungi - which can be seen and often appreciated by the human eye; and
2. Microfungi - which include moulds, smuts, mildew and plant rusts with microscopic fruiting bodies.

Fungi are literally everywhere - in the air we breathe, on the human body, in the sea and freshwater, in bushland and in your own backyard.

Fungi are not plant or animals and just like royalty they have their own Kingdom, the fungal kingdom, which is often referred to as the 'kingdom of decay'. Fungi play many important roles within ecosystems. They obtain nutrients from other living organisms or decaying matter. They help exchange nutrients, minerals and water between plants and

the soil. Ninety percent of plants are in a mutually beneficial relationship with fungi (mycorrhizal association). Plants provide fungi with food in the form of carbohydrates, and fungi assist plants in the transfer of water and in-turn provides them with nutrients, phosphorus and nitrogen.

Most of a fungus (singular of fungi) lies hidden in wood, leaf litter or soil in the form of mycelia, which creates a mat of fine threads (hyphae) that bind leaves, sticks and other materials together whilst also breaking them down. Mycelia help retain moisture in the soil and assist in the prevention of surface erosion. The next time you dig a hole in your garden and find a collection of interconnecting white filaments under your mulch or in your soil you will now know what it is.

Plants communicate with each other through the 'internet of fungi'. The mycelium (plural of mycelia) act as an underground network linking the roots of plants. They share nutrients and information through this network and they have been known to spread toxic chemicals through the network

to sabotage unwelcome plants to an area. They can also boost their host plant's immune system by using defence chemicals (this is called priming) to make them more resistant to disease.

Fungi reproduce two ways: 1) from broken hyphae and, 2) from spores that can be windblown, carried by animals or water.

Without fungal networks, soils would lose their productivity, animals would have less food, decomposition and nutrient cycling would cease, humans would lose medicinal resources and the world would be less aesthetically pleasing. I'm always excited to find a new species of fungus in the Redlands, like the Pink Coral (above), and I love to share their beauty and uniqueness with others.

Did you know, just like plants, fungi have introduced species to contend and compete with? If you see weed fungi, be sure not to touch or walk on them as you could end up spreading their spores to other areas that aren't currently infested.

Maree Manby
Conservation Partnerships Officer
Redland City Council



Orange Ping Pong Bats (*Favolaschia calocera*) is an introduced (weed) fungi. Try to avoid moving it into bushland areas. Photo by Maree Manby.



*Just Joking...
Why did the fungi leave
the party?
Because there wasn't
mushroom!*

The author, Maree, with one of the many polypores growing at IndigiScapes. Photo by Mim Skelly.



THINGS TO CONSIDER

before you buy

Phil Moran
Manager, Noosa & Districts Landcare
Land for Wildlife member
Cooran, Sunshine Coast



In Australia, many of us are lucky enough to be able to buy a piece of paradise. We may be about to retire away from the bustle of city life, or just want to move into the bush as a lifestyle choice. Often after years in the 'burbs, many of us are not really sure what we want to buy. I reckon after getting legal advice on the property (eg easements etc.) the local Council, and plenty of helpful advice from the estate agent, it would be a really good idea to talk to someone who knows a bit about the bush in the area you are moving to.

You can't beat long-term local advice.

I recently had a person in who was really excited about their new block. This is great to see. The block in question was bought in an extended dry spell. This person had no idea that it was notorious for flooding. Big floods. Right where they were going to put their shed. The flood mapping available from Councils is good, but does not cover everything.

If you intend running some cattle or horses, don't expect the green, lush paddocks you see in March/April to be like that after a drought year in October. Consider the carrying capacity of the land. Different country has different carrying capacity. Stocking rates will depend on grazing land type, whether you have native pasture or sown grasses. A rough average for a 450kg beast is one animal per two hectares. Indeed thinking of any production should demand a thorough appraisal before committing yourself. Try www.futurebeef.com.au or on the Sunshine Coast www.countrynoosa.com

Whilst we have very different weather patterns to Victoria, bushfire is still a risk. Consider the site of your house. Fire likes to burn up hill, so putting the house site on a ridge might give you a good view, but could increase the fire risk.

The big one that I really worry about is the presence of weed species on the block and the type of weeds. This is particularly true for lifestyle blocks. All those lovely light green trees along the creek could be Camphor Laurel. The vine with the pretty yellow flowers could be Cat's Claw Creeper. The pretty white ones could be Madeira Vine. These are all hard to get rid of, so you need to take this into account. The above three weed species are all listed as Category 3 Restricted Invasive Plants in Queensland. This means you cannot give away or sell these plants or any material infested with their seeds.

Some are sneaky and hard to identify to the untrained eye, and will cost a lot of money. I am thinking about the various *Sporobolus* species such as Giant Rat's Tail Grass (GRT) and Giant

Parramatta Grass. These are also listed as Restricted Invasive Plants and may take ten years or more, and up to \$20,000, to control effectively if you have a decent sized property. GRT is the gift that keeps on giving. It can set seed throughout the frost-free period of the year and can produce 85,000 seeds per square metre each year with seeds remaining viable for up to 10 years.

So, think, research, and get advice from a local such as a Landcare Group, regional NRM body or Land for Wildlife Officer – these are all great places to start!



In flower, Cat's Claw Creeper (top) and Madeira Vine (lower) look quite pretty. But looks can be deceiving. Once established, these weeds are very costly and time-consuming to control. Photos by Craig Hunter (top) and John Tann (lower).

Farewell

DR LES HALL

Dr Les Hall presenting at the 2015 Australasian Bat Night.



I knew of the late Dr Les Hall many years before I would actually meet him. I had read and referenced his research papers on bat ecology in Australia and Borneo during my university years. His books including *Flying Foxes, Fruit and Blossom Bats of Australia*; *Working the Night Shift - A Natural History of Australian Bats*; and *Bats: A Wild Australia Guide* all sat proudly in my reference collection. I had seen him passionately and eloquently advocate for bats in news articles on television and in print. He was known to many in wildlife carer groups as an encyclopaedia of knowledge on bat anatomy and biology. Les was a world-class academic, leading bat expert and an inspiration to many.

The first time I saw Les presenting was at the 2015 Australasian Bat Night.

Despite wrangling a toddler on my hip, I was determined to see Les' talk. His wealth of knowledge about flying foxes and his experience studying them was immediately apparent. I felt a touch embarrassed that I was disturbing the lecture by having my daughter there, but Les made me feel at ease by incorporating a little quip about flying foxes carrying their squirming pups just as I was attempting to. That's the thing about Les, he was always personable and kind. He had an infectious smile and a great laugh. He was a mentor and a friend to many wildlife carers, environmental professionals and young academics.

From 1974, Les worked for the University of Queensland researching and lecturing initially on cell biology and later on human and veterinary anatomy. He gained his PhD in 1988 on bandicoots and published over 200 journal articles. He also worked for the CSIRO Division of Wildlife Research.

Les was an exceptional photographer and artist. He generously shared his pictures to other authors and community groups for educational purposes. Les won a prestigious Whitley Commendation from the Royal Zoological Society of NSW for *Bats: A Wild Australia Guide*. In 2015, he was awarded the Natural History Medallion by the Queensland Naturalist Club for his contribution to Australian mammal science.

In short, he was a rockstar of the bat world.

Even in his retirement, Les was heavily involved in conservation groups. Hearing him speak about his research

and contributions to groups including IUCN Chiropteran Specialist Group, Bat Conservation International, Australasian Bat Society Flying Fox Expert Group and the Maleny District Green Hills Fund, I felt nothing short of inspired. Merely two weeks before his passing I started making enquiries about volunteering for remote bat research projects. I like to think that when I do start this work it will be my personal tribute to Les' legacy.

The last time I saw Les he joined us for a celebration at the 2018 Halloween Bat Night. With characteristic enthusiasm he was dressed in batty clothes with his face painted. Despite his numerous accolades, Les was a humble man. He would frequently volunteer his time and present at community events, simply to raise the profile of a group of animals he was deeply passionate about. He was committed to inspiring the younger generation and always made a big effort to engage them in captivating ways. That evening alone he helped us to educate over 300 people (predominately primary school children) about the importance of flying foxes.

Les is survived by his wife Rae, his daughter Clancy and his son Miles. On behalf of the Land for Wildlife community I'd like to extend my sincerest condolences to Les' family. May you find comfort in the wonderful memories of a truly brilliant man and take immense pride in all of his achievements, both personal and academic.

Farewell Les, thank you for sharing your knowledge and passion with us. You will be remembered as an absolute legend of the bat world and your contributions to ecology and conservation will be appreciated for generations to come.

Danielle Outram
Conservation Partnerships Officer
Sunshine Coast Council



Dr Les Hall's books are widely available for purchase. They continue his legacy of teaching and inspiring others about Australian bats.

Teaching Frankie the Flying Fox all about herself at the 2018 Australasian Bat Night.



Restoring Farm Woodlands for Wildlife

David Lindenmayer, Damien Michael, Mason Crane, Daniel Florance & Emma Burns

"The best time to plant a tree was 20 years ago; the next best time to plant a tree is now."

This is a powerful introduction to a book that provides landholders with an explanation of the importance of land restoration to benefit native wildlife. It provides a glimpse into the most effective and achievable ways to restore woodlands and native forests in previously cleared pasture and farm lands.

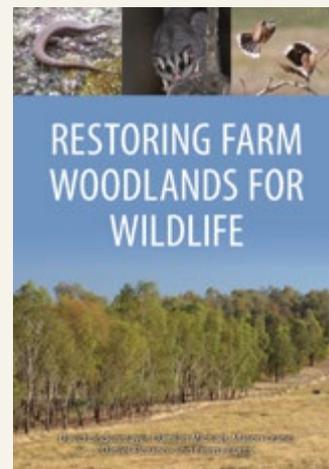
This book puts a spotlight on the significance of revegetation in cleared landscapes and includes specific guides on what to plant, how to plant and ways to manage your plantings over the short and long terms. The authors include all the elements a landholder would require to develop a revegetation management plan, including planning for fire management, feral and pest animal species, weed control, fauna friendly fencing, livestock and other complementary land-

uses and providing additional supplementary habitat for wildlife.

This book is one of a series recently published by CSIRO Publishing that focuses on the conservation and restoration of specific landscapes and ecosystems. Like other books in the series, it is accessible and easy to read regardless of your level of skill and knowledge in relation to land restoration.

For the pleasure of avid readers, this book also provides references for themes and topics discussed throughout the book. This book is a must read for anyone planning restoration or revegetation works on land previously cleared for agricultural purposes.

Review by De-Anne Attard



Paperback | Oct 2018 | \$39.99
136 pages | Colour photos
CSIRO Publishing

Rainforest Plants of Australia: Rockhampton to Victoria

Gwen Harden, Hugh Nicholson, Bill McDonald, Nan Nicholson, Terry Tame and John Williams

The *Rainforest Plants of Australia* app follows on from the USB version of the much loved and used red and green books. These books were the go-to resource for anyone wanting to identify a rainforest tree, shrub or vine back before computers or mobile phones helped organise our lives and plant ID!

The app covers rainforest plants - trees, shrubs, climbers, conifers, palms, mistletoes and tree ferns and climbing ferns - from Victoria to Rockhampton. It details 1140 species including 104 exotic species from subtropical rainforest, warm and cool temperate rainforest, dry rainforest and vine thickets and littoral rainforest. There is extensive information and photographs on the features used to identify plants including line drawings.

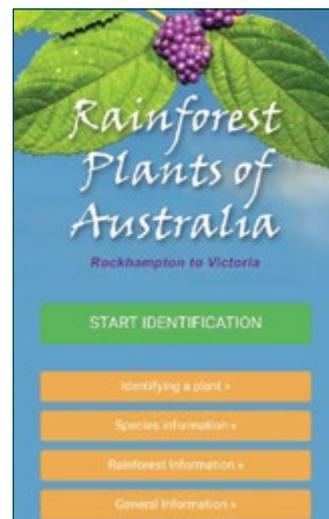
Like the USB, the app follows a Lucid key where you select different features that your plant has and, based on these features, it eliminates those that don't match your specimen's features. Features used can include leaf, flower, fruit, seed and bark characteristics and geographic distribution, rainforest type and plant family. The more features you put in the less options remain, until you are left with your one plant identified or a few plant profiles to refer to before you decide on your identification.

For those not used to the USB and using a Lucid key, this will be a change from using the red and green books' dichotomous keys based on leaf characteristics. However, all the plant identification terms remain the same. The main strength of a Lucid key is that other features like flower and fruit colour can be entered to speed up identification.

The app has many images (over 8000) that help with plant identification and each plant has its own fact sheet (see screenshot lower right of a fern fact sheet). Not all the photos from the USB have been included in the app due to storage restrictions.

At 400MB to download, you may need to free up some space on your device. The app takes a bit of time to get used to, but the tutorial does help. I will continue to use the green and red books as well as the app to identify rainforest plants as they complement each other. The beauty of the app is the amount of information it can hold all on one portable device. The same amount of information in a book would be many volumes long and cost much more.

Review by Stephanie Reif



Lucid Mobile available from:
Google Play | Version 1.0.25
Apple iTunes | Version 1.0.3
April 2017 | 487MB | \$49.99



Short-beaked Echidna, 15 Dec 2016



Brush-tailed Phascogale, 16 Mar 2006



Glossy Black Cockatoo, 2 March 2017



Grey Goshawk, 24 Nov 2016

Searching for Priority Species

AT STONY CREEK

In this article I wish to share with you some of the fauna that live on our Land for Wildlife and Voluntary Conservation Agreement property at Stony Creek, by focussing on priority fauna species of Moreton Bay Regional Council (MBRC).

There is a great document available that details all of the 119 priority flora and fauna species occurring in the MBRC area. If you are a MBRC Land for Wildlife member, just ask your Land for Wildlife Officer for a copy. It describes in detail the process by which flora and fauna were chosen as priority species.

First a little background information about us and how our property became registered with a Voluntary Conservation Agreement (VCA).

My wife and I (both named Kym, although I refer to her as the 'Boss') purchased our 16 ha, ex-dairy and logging property at Stony Creek in 1990. We aptly named it 'Prickle Farm' and began the task of removing large tracts of Lantana, Groundsel, Camphor Laurel, car and caravan bodies, and a household rubbish dump in a gully.

For ten years we attempted some hobby farm ventures, such as cattle and lychees, which were not very successful or rewarding. Then we began to realise that instead of working against nature we should work with it. This attitude greatly changed how we viewed where we live.

Our enthusiasm became stronger with positive feedback on the diversity of species on our property from visitors such as Anna Muscat (local Platypus expert), Ric Nattrass (former Queensland Parks and Wildlife ranger and naturalist), Caboolture Bird Observers, NatureSearch, SEQ Water and many other experts that visited. In addition, we were a soft release site for possums and gliders from local wildlife carers for several years.

In 2003, we decided to increase our involvement becoming a VCA property with a conservation covenant on our land title. We have since worked tirelessly to improve the environmental significance as custodians of our land.

We have planted and maintained thousands of trees, installed numerous nest boxes and, of course, are *still* attempting to keep the multitude of weeds at bay. Grants and advice from MBRC have been invaluable in educating and enabling us to continue our work.

We are fortunate to have a wide array of habitats ranging from wet sclerophyll and dry rainforest, which are present on hills, gullies and creek flats. Stony Creek, at the far end of our property, is a pristine waterway, containing the elusive Platypus and Water Rats. While we fight to maintain the riparian zone and an environmental flow, it is continually under threat from excessive water extraction for irrigation.



Sapphire Rockmaster (*Diphlebia coerulescens*) male,
25 Feb 2015



Sapphire Rockmaster (*Diphlebia coerulescens*) female,
8 Feb 2015



Richmond Birdwing (*Ornithoptera richmondia*) male,
13 Sep 2017



Richmond Birdwing (*Ornithoptera richmondia*) female,
13 Jan 2011



The photos in this article have all been taken by myself on our property. They represent just some of the priority fauna we have been privileged to observe and photograph over many years as some are not regular visitors.

Fauna that we have seen but haven't yet photographed include the Grey-headed Flying-fox, Little Red Flying-fox, Black Flying-fox, Feathertail Glider, Square-tailed Kite and the Australian River Mussel (the largest freshwater mussel in Australia).

What fauna do we dearly want to see on our property from the MBRC priority species list?

Our 'bucket list' includes the Spotted-tailed Quoll, Powerful Owl, Coxen's Fig-parrot, Swift Parrot, Green-thighed Frog, Giant Barred Frog, Common Death Adder, Regent Honeyeater, Long-nosed Potoroo, Marbled Frogmouth, Pouched Frog and the Sooty Owl.

We still have a long way to go but we know we are on the right track!!

Mr Kym Rawson
Land for Wildlife member
Stony Creek, Moreton Bay



Great Barred Frog (*Mixophyes fasciolatus*), 7 Jan 2014

SCENIC RIM'S

Diverse Landscapes

By Keith McCosh

The Scenic Rim is an area of diverse and beautiful landscapes – low rolling sandstone hills, mountains, open paddocks, rainforests and fertile flood plains. With around 300 Land for Wildlife properties and 12,000 hectares under agreement, it really is a remarkable location to be a Land for Wildlife Officer.

Many of the rainforests in the Scenic Rim are part of the World Heritage Gondwana Rainforest Reserves of Australia. These contain special links to ancient and unique species that evolved when the supercontinent, Gondwana, was still one big piece of land. These plant and animal species are significant as very few places on Earth contain so many species that remain relatively unchanged from their fossil records.

Amongst the highlights in this landscape are the mountain ranges of the high-altitude McPherson and Main Ranges, the lower basalt plateaus of Mount Tamborine and Beechmont, and the volcanic extrusions of the Moogerah Peaks. To top it off, the Scenic Rim also has the highest mountain peak in southern Queensland, Mt Superbus at 1375m. With all of these peaks, it's no wonder it contains headwaters for the Logan, Bremer and Coomera Rivers. This incredible landscape and geological diversity also mean there are 62 Regional Ecosystems listed in the region, with 13 being endangered.

Even though there are large National Parks covering most of the mountains, much of the remaining habitat in the region resides in private property. Conservation of habitat and managing land to protect local wildlife is essential, with healthy ecosystems underpinning all of the rural enterprises.

Thank you to all the Scenic Rim Land for Wildlife members for your stewardship in such a diverse and magnificent landscape.



Photos by the Queensland Museum courtesy of Scenic Rim Regional Council.



LITTLE LIVERPOOL RANGE Initiative

The Little Liverpool Range sits about 40km from the Ipswich CBD and borders Ipswich, Lockyer Valley, Somerset and Scenic Rim Council areas and provides a significant link between Main Range National Park and the Great Eastern Ranges. An initiative was created to conserve and appropriately manage a wildlife corridor that extends across the Little Liverpool Range.

Most of the land in the Range is privately owned and partnerships with Land for Wildlife members across the four Council boundaries will be key to the initiative's success.

In 2018, two walks were held at Aroona, a Land for Wildlife and Nature Refuge property owned by the Queensland Trust for Nature, which sits within the Range. The walks brought together local landholders, family members with long connections to Aroona and environmental experts. From the top of the Range, attendees could look out across the four Council regions and see the scope of the Little Liverpool Range. Aroona is a working example of how to manage a property for both grazing and conservation. Together with neighbouring properties, Aroona supports healthy populations of Brush-tailed Rock-wallabies.

Ipswich City Council is excited to be welcoming a new Little Liverpool Range Initiative Officer in the coming months. A priority will be working with landholders in the Range to develop a strategic plan and start implementing works to tackle key conservation threats such as weeds, fire and pest animals.

Land for Wildlife South East Queensland proudly delivered by:



Dedicated to a better Brisbane

