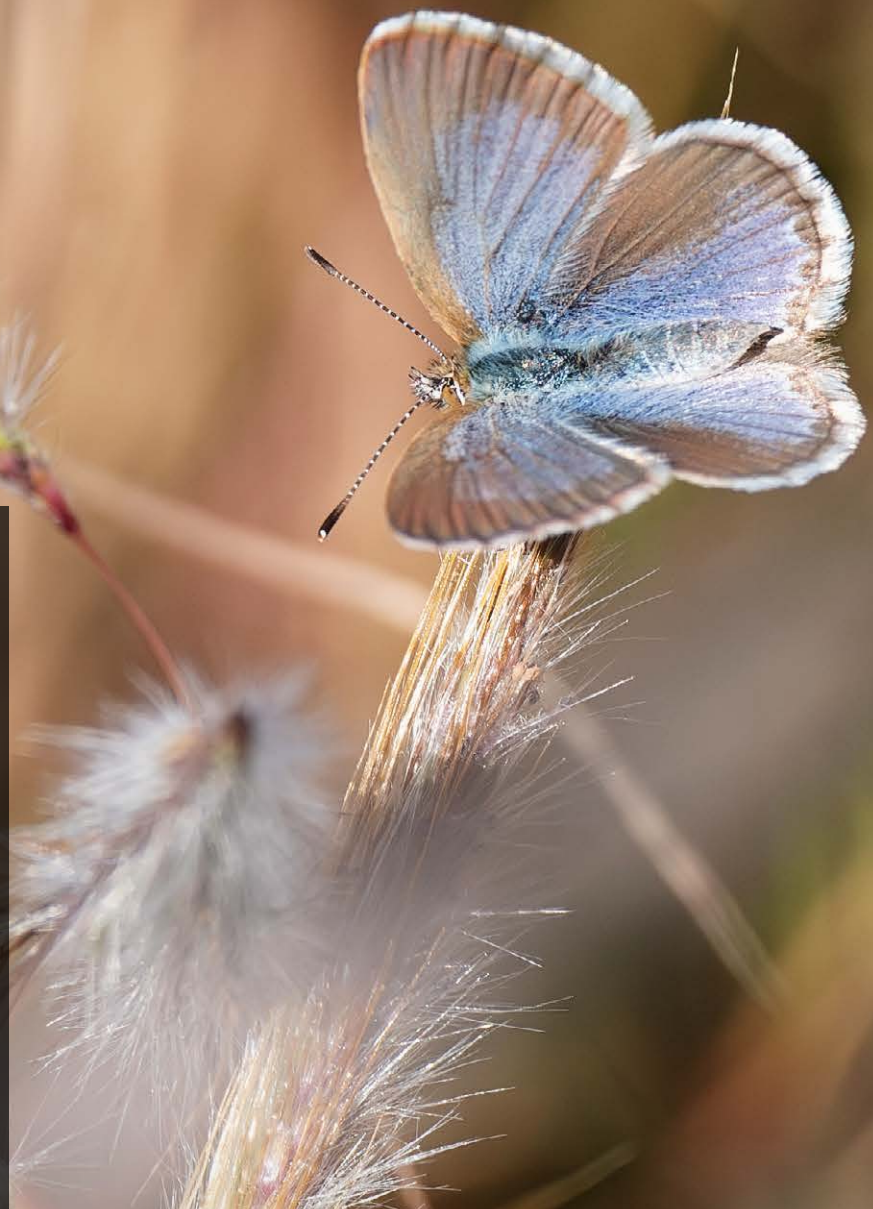




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Your Officers



Brisbane City Council

Amanda Maggs ☎ 3178 6767
Andrew Wills ☎ 3407 0215
Cody Hochen ☎ 3178 1001
Fflur Collier ☎ 3178 2489
Susan Nolan ☎ 3403 6777
Tony Mlynarik ☎ 3178 4294

City of Gold Coast

Lee Piper ☎ 0424 778 713
Mallika Robinson ☎ 0481 293 303
Melanie Mott ☎ 0466 866 032
Sascha Erhard ☎ 0422 454 550
Saul Hondow ☎ 0481 400 222
Todd Burrows ☎ 0439 226 250

Gympie Regional Council

Bree Galbraith ☎ 1300 307 800

Ipswich City Council

Ko Oishi ☎ 3810 6666
Joshua Pethel ☎ 3810 6666

Lockyer Valley Regional Council

Martin Bennett ☎ 5462 0310

City of Logan

Alexander Vanek ☎ 3412 4488
Craig Welden ☎ 3412 4975
Jennie Bacon ☎ 3412 4522
Jason Creamer ☎ 3412 5034
Kimberley Howard ☎ 3412 4906
Nick Swanson ☎ 3412 5355
Peter Copping ☎ 3412 5321

City of Moreton Bay

Adam Richardt ☎ 5433 2072
Chris Joyce ☎ 0477 988 942
Debbie McQuattie ☎ 0436 336 733
Nicole Byrne ☎ 3094 3632
Stefan Hattingh ☎ 0460 019 720
Wendy Heath ☎ 0409 268 838

Noosa Council

Dave Burrows ☎ 5329 6500
Paul Sprecher ☎ 5329 6500

Redland City Council

Maree Manby ☎ 3820 1102 / 0438 776 535

Scenic Rim Regional Council

Catherine Madden ☎ 0458 486 008
Greg Tasney ☎ 5540 5111

Somerset Regional Council

Darren McPherson ☎ 5424 4000

Sunshine Coast Council

Chad Oliver ☎ 0417 774 278
Michael Mills ☎ 0477 795 231
Michael Reif ☎ 0437 112 071
Nadia Joyce ☎ 0427 569 990
Nick Clancy ☎ 0407 754 193
Rhonda Bordonaro ☎ 0459 737 626
Stephanie Keys ☎ 0408 665 826

Toowoomba Regional Council

Shania Watson ☎ 4688 6514
Sandy Robertson ☎ 0415 277 145



Land for Wildlife South East Queensland Team,
December 2024

Land for wildlife SOUTH EAST QUEENSLAND SNAPSHOT


 **5,679**
TOTAL
PROPERTIES

 **4,535**
REGISTERED
PROPERTIES

 **1,144**
PROPERTIES
working towards
RESTORATION

 **84,076^{ha}**
RETAINED HABITAT

9,859^{ha}
Habitat **Under**
RESTORATION

 **68,611**
iNaturalist
OBSERVATIONS

 **13,429**
Facebook Followers

www.inaturalist.org/projects/lfwseq

To join contact your local LfW Officer

Land for Wildlife South East Queensland acknowledges this Country and its Traditional Custodians. We acknowledge and respect the spiritual relationship between Traditional Custodians and this Country, which has inspired language, songs, dances, lore and dreaming stories over many thousands of years. We pay our respects to the Elders, those who have passed into the dreaming; those here today; those of tomorrow. May we continue to peacefully walk together in gratitude, respect and kindness in caring for this Country and one another.

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

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Front Cover: Common Grass Blue (*Zinina otis* ssp. *labradus*) on native Queensland Blue Grass (*Dichanthium sericeum*), photo by Deborah Metters.

Front Cover Inset Photos: An antlion, photo by Deborah Metters. A funnel-web spider, photo by Sandy Robertson.

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 www.lfwseq.com.au

 facebook.com/lfwseq

I recently heard the term “old growth grass”. They were not meaning that the grass had set seed and was dying back, but they meant that the root stock, or the grass tussock itself, could be hundreds of years old. When you look at a sea of native grass in a forest, the majority of grass clumps are growing from a robust root stock. They are not small grass seedlings that have germinated from seed.

It has made me look at our forests in a completely different way. Prior to this conversation, I only thought of trees or big gnarly vines as the old growth vegetation of forests. I was overlooking the thousands of grass tussocks, which resprout after each fire, munch from a wallaby or when a drought breaks. This new concept challenged my thinking and humbled me.

I honestly don't know if research has been done to age individual grass tussocks, or if it is possible, but if you know of any, please drop me a line.

The story by Tim and Cathie (p. 6-7) talks about how they transformed their property into a meadow of native grasses, sedges and herbs after being sprayed and mowed for 20 years. Had some of these old growth grass clumps been simply waiting for the right moment to resprout, or did all the grasses germinate from seed? It makes me wonder.

Regardless of the root stock vs. seed germination question, native grasses are an essential part of many Australian ecosystems. They provide food, nesting materials and shelter for countless invertebrates, reptiles, birds and mammals. They hold the soil together and help build soil nutrients. They store carbon and are the fuel for pastoral industries. They are often overlooked despite being the essential background of forests. I hope some of the images in this edition make us look at native grasses in a new light, for their beauty, diversity and their ecological importance.

Thanks to all the contributors to this edition. I hope you gain some inspiration and joy from reading about how Tim, Cathie, Ben, Ariane, Maureen, Fabienne, Mark, Catherine, Deb and Errol are managing their properties to restore past land degradation and to bring back our wildlife. Thank you all. If you wish to tell your story, please get in touch.

Finally, I want to say a quick thank you to the 570 members who responded to our recent survey developed by James Cook University and University of Tasmania researchers. This research will help us to demonstrate some of the benefits of the LfWSEQ program, which will hopefully, in turn, ensure that the program continues to be resourced to help landholders look after country and our wildlife.

All the best for the new year.

Deborah Metters
Land for Wildlife Regional Coordinator

We welcome all contributions.

Please send them to:

The Editor

✉ deborah@seqlfw.com.au

☎ 0437 910 687



Climate & Weather

REGIONAL OUTLOOK Feb - Mar 2025



Daytime and Night-time Temperatures.

Above average daytime and night-time temperatures are very likely with an increased chance of unusually high night-time temperatures.



Rainfall. Above average median rainfall is likely.



Streamflow. Forecasts range from high flows near the NSW border to low-median flows elsewhere in SEQ.

Climate Influences

- ENSO-neutral is likely to persist through to April 2025.
- The Indian Ocean Dipole (IOD) is neutral.
- Australia's climate has increased by 1.5°C between 1910 and 2023 leading to an increased frequency of heatwaves.
- Global sea surface temperatures remain substantially above average. Very warm ocean temperatures are likely contributing to rainfall and temperature patterns.

Sources

www.bom.gov.au/climate/outlooks/ and www.bom.gov.au/water/ssf/

Weeds to Watch

Feb - Mar 2025

Spider Flower (*Tarenaya houtteana*) is another exotic garden plant that has jumped the fence and is now in bushland areas of SEQ. The summer rains have bought on their flowering and growth - they can grow to 1.5m high. It has a distinctive flower with long, thread-like stamens that give a spider-like appearance.

Look for the palmate leaves with 5-7 tapered leaflets when not in flower. They are sticky and smell a bit like a skunk.

Control by hand-pulling the whole plant or foliar spray with herbicide.



Photos by Greg Tasney.

CORRECTION

The hardwood nest box shown in the article *Inviting Contributions to a National Research Project* (November 2024 Vol 18 No 4, pg 16), was made by Biodiverse Environmental, not Hollow Log Homes. Biodiverse Environmental salvage class 1 timbers to construct hardwood timber nestboxes. Find out more at www.biodiverse-environmental.com.au



Using Avenza Maps TO FIND A PATH TO THE CREEK

In 2013, we moved into our 40-acre property on the headwaters of the Mary River at Boorobin. At the time we had no experience in bush regeneration and no knowledge of the native rainforest growing around us, but we realised it was special and we had a responsibility to look after it.

Over the last 10+ years we have been clearing lantana (mostly) starting closest to the house and moving outwards. Our aim has always been to find a walkable access down to the Mary River. However, our efforts over the years have been hindered by walls of lantana and our inability to navigate our way through the bush and over a very steep terrain.

A couple years ago, we came across a Land for Wildlife article by Nick Clancy about Avenza Maps. Following a recent visit by our Land for Wildlife Officer, Wendy Heath, she provided us with a georeferenced map of our property with contour lines. The map shows a drop of 100m from the house to the river. Once we loaded the map into Avenza, we could use the phone to navigate our way through the property. This was a game changer for us!

Our first step was to use the contours on the map to work out the least steep access to the river. We were then able to target our efforts and clear an initial path for the first 70m through a sea of lantana. We were rewarded with access to a mature

rainforest with tall strangler figs, bunya pines, black bean trees etc...and of course to a beautifully flowing river.

Our next step was to define a project for the Land for Wildlife grant application. The aim of the project is to clear the large pockets of lantana all the way down to the riparian zone. We've broken down the project into multiple stages for the purpose of the grant application.

As the areas to be cleared are surrounded by rainforest, our effort will focus on maintaining the cleared areas and watch the rainforest regenerate itself due to the healthy seed bank. This will allow us to walk through the rainforest to access the river more regularly as well as discover and learn more about the flora and fauna. It will also be useful for external parties wanting to carry out surveys in the rainforest.

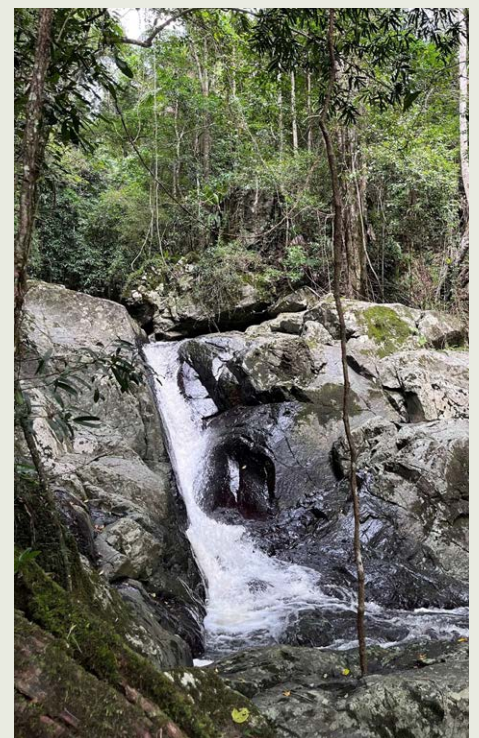
Our favourite features of Avenza Maps are:

- Using the device built-in GPS thus no need to access a mobile network.
- GPS tracking our walk down to the river therefore making it easier to follow the same path repeatedly.
- Using placemarks (including photos) to record the GPS location of a tree, plant or any landmark (large boulder, turkey mound etc...) so we can easily find it again.



Avenza Maps is easy and free to use, and we would highly recommend it to landholders as a tool to help navigate through their property and plan their bush regeneration projects.

**Article and photos by
Fabienne Henderson
Land for Wildlife member
Boorobin, Moreton Bay**





Flowers and fruit of *Solanum singulare*.

A new Species of Nightshade

FOUND ON LAND FOR WILDLIFE PROPERTIES

Land for Wildlife members and cousins, Deb and Errol Stenzel, have had their eye on an unfamiliar-looking nightshade (*Solanum* species) growing on their adjacent properties at Coochin for years. Deb said that they have tried to key the plant out in the past but could never identify it to a species level. They have sent pictures to botanists in the past but did not receive a species identification.

Last year, the Stenzels gave Queensland Herbarium taxonomist, Tony Bean, an opportunity to botanise on their property accompanied by Land for Wildlife Officer Martin Bennett, myself and citizen scientists. This visit came as a result of the 2022 Scenic Rim Bioblitz held on Deb's property.

Tony Bean is a Senior Botanist and Curator at the Queensland Herbarium with a specific interest in nightshades (*Solanaceae*). Errol said that he had been wanting to show Tony this plant for quite some time and took Tony to a shaded cattle rest on a hillside where a healthy population of the nightshade was growing. Nightshades thrive in disturbed areas, and it seems that the cattle have provided this species a niche to flourish in.

Tony took a collection of the plant from the hillside location and after careful examination confirmed that it was indeed a new species.

But there is more to this story. Tony noted that this species had been previously collected by Martin Bennett at Ivory Rock lookout in 2003 and also by Harry Hines, Senior Conservation Officer from Queensland Parks and Wildlife, from another Scenic Rim Land for Wildlife/Nature Refuge property in 2014. Both collections were sitting unnamed or misidentified at the Queensland Herbarium until this year. To assist Tony in his taxonomy work, Harry swiftly recollected a specimen from his location for Tony to use.

Fast forward nine months to September 2024 when Tony delivered a paper describing this nightshade as a new species, *Solanum singulare*.

The discovery of a new species is always exciting but finding a new native plant species in Southeast Queensland is particularly unique because so much ground has been explored in the past by many knowledgeable botanists.

Discovering a new plant species is a cherry on top for Deb and Errol who are both long-time Land for Wildlife members. Deb and Errol have contributed much to local biodiversity through many years of excellent land management as well as sharing knowledge and education with the community by hosting visits from flora and fauna experts.

**Article and photos by Greg Tasney
Land for Wildlife Officer
Scenic Rim Regional Council**



Tony Bean and Errol Stenzel discussing the new nightshade species.



Citizen scientists and Deb Stenzel gather on Errol's property for a botanical tour.



Mowed to Meadows

PART 1

Time is something to value, though day-to-day priorities often dictate use of this resource. This was true for us, having lived on our property for over twenty years, we had spent most of our time away for work or leisure. At retirement, time suddenly became flexible, and we began to see our property in a new light. This was our place of being, not something to escape.

Nature though had not stood still in the time of our abandonment. Our two acres of bushland was infested by a diverse range of weeds covering ground to canopy. Balloon Vine was well established and our gullies were strewn with Yellow Bells, Tipuana, Leopard trees, Chinese Elm, Inch Weed, Coral Berry, Cobblers Pegs, Creeping Lantana and Mother of Millions. Our native plants were struggling to breathe.

Desire to alter the balance kicked in and the initial steps of our journey took us down an ill-informed path. Eradicating the weeds in one big effort and replanting was our goal. Two important things occurred in this early stage that altered our path.

Firstly, we joined Land for Wildlife. Through the wonderful expertise and encouragement of our LfW Officer, Amanda Maggs, we received critical resources to understand our property. This included the aggregate wisdom of those who were much further down the path of bush regeneration, as well as a dose of common sense. Critical, was acceptance that weeds can play a temporary role, and an approach of pacing weed removal with native regrowth can be beneficial to fauna and flora.

Secondly, we met Jim Williams, an experienced bush regenerator in the Bradley Method. He mentored us in this very gentle method of re-balancing nature so that native plants get the advantage. It is based on the premises of not over clearing, working from areas of native strength (determined by both overall quantity and diversity of native plants) and minimal disturbance. In practice, it involves careful hand weeding and manual removal, ringbarking, and 'hooding' (black plastic bag over stump) of weed trees and vines without the use of any herbicides. Bradley 'islands' are created, and these are weeded, then maintained allowing the native plants to strengthen and work outwards expanding the size of each island.

Ultimately, we are undertaking a balance of our initial thinking alongside the Bradley Method. Across two thirds of the property, we have established islands that are being maintained. Weed sterilisation is being undertaken around the perimeter of these islands, allowing them to naturally expand. In the remaining third - where natural regeneration was going to be the most challenging - we have cleared the weeds, or kept them sterile and planted around 300 native plants to supplement existing habitat.

There are six gullies on our property, two fairly major ravines with the remainder being smaller. Steep slopes are a dominant feature with access being challenging - there is a 30 metre drop from highest to lowest point. To ensure less disturbance, we made the decision to create paths to all the slopes. In some cases, these are to be well-used paths, and others will be transitory, to be abandoned when no longer needed. We use our main gully floor as a 'highway'. Initially, the floor was impassable with weed trees and vines; it even had a piece of Mount Crosby-Brisbane water pipe from the 1950s!

It is almost three years since we began our regeneration project, and at the start we were warned that it would take 10-20 years to reap the full benefit. What motivated us was that as the native plants gained advantage the amount of effort would be reduced in return for a beautiful, native bush property reward. Fastidiously, we worked on our islands, created paths, sterilised weeds and planted for the first 12 months. In the dry spring of 2023, we resigned ourselves to the fact we may be facing a year or more of drought, and we reined in our expectations.

Nature, however, surprised us with bountiful summer and autumn seasons. Our islands are lush with native regrowth. One island alone (30m²) has 45 different native plant species, including 35 new eucalypt saplings. A slope previously full of Yellow Bells is now covered in Basket Grass, with ferns emerging in every crevice of the gully floor. Foambark saplings that self-seeded in the first year are growing across the property, alongside numerous Soap Tree saplings and another hundred or so saplings of other tree varieties.

There is an abundance of naturally occurring dry rainforest and open eucalypt forest native tree species on the property, including, for example, around 20 vulnerable Lloyd's Olive (*Notelaea lloydii*), and 40 of the fascinating 'batwing' leaf shaped Pine Mountain Coral (*Erythrina numerosa*). However, it's the native ground-covers which have taken our breath away. In the areas which were subjected to 20 years of spraying and mowing (of predominantly weeds), sweeping meadows of native grasses, sedges and herbs have come to life - with no planting at all.

Nature's own transformation from 'mowed to meadow'.

So far, 23 different native grasses and 8 different sedges have been observed - here is just a sample.

Article by Tim and Cathie Albers
Land for Wildlife member
Mount Crosby, Brisbane City Council
[Part 2 will be in the May 2025 edition]



Photos L to R, top to lower

1. Queensland Blue Grass (*Dichanthium sericeum*)
2. Pitted Blue Grass (*Bothriochloa decipiens* var. *decipiens*)
3. Love Grass (*Eragrostis spartinooides*)
4. Nodding Hedgehog Grass (*Echinopogon nutans*)
5. Scented Top (*Capillipedium spicigerum*)
6. Weeping Grass (*Microlaena stipoides*)
7. Black Spear Grass or Tanglehead (*Heteropogon contortus*)
8. Basket Grass or Shade Grass (*Oplismenus* sp.)
9. Slender Chloris or Windmill Grass (*Chloris divaricata*)
10. Sticky Sedge (*Cyperus fulvus*)

High Rise Living

FOR COCKATOOS AT CALVERT



Mark Headridge and Josh Pethtel standing with the huge Glossy Black Cockatoo prototype nest box. Standard size nest boxes are in the background.

This nest box is a big deal. It was so heavy it had to be lifted out of the ute by two people. When it was placed on the ground it towered over the other 'standard' sized nest boxes like a wooden monolith.

The enormous scale was to simulate a large tree hollow, something that would take more than 200 years to form in the wild. This special nest box was tailored for Glossy Black Cockatoos. It was something of a prototype, modified by Hollow Log Homes from a Palm Cockatoo nest box – and the heaviest one there was.

Two of these incredible nest boxes were installed on a 20 hectare property at Calvert, Ipswich, owned by Mark Headridge who joined Land for Wildlife in 2023. Mark said he hoped the nest box would be used by the rare Glossy Black Cockatoos that often visited his property.

"We get them at dusk, they feed on the she-oaks trees at the front and then congregate around the dam," he said.

Slowly, the giant nest boxes were raised high and secured in tall trees. In addition, another four standard nest boxes for other species were also installed. Glossy Black Cockatoos are a wary species, often spending a long time 'checking out' new nesting sites before using them. The nest boxes and installation were funded through Ipswich City Council's Nature Conservation Grants.

As well as installing nest boxes, Mark's grant has allowed him to carry out conservation improvements on his property, especially lantana control.

In some parts of his property the lantana is immense and impenetrable, especially in the gullies. With the support and advice of a weed contractor, Mark is making huge inroads with the lantana control. Different techniques are being used in different areas, from mulching with a brushcutter, hand-weeding, foliar spray and cut and paste of stumps and regrowth. Looking at his neighbour's weed-free paddock, Mark says it's what he aspires to in five years' time.

Mark's property is mapped as being within a Koala corridor, but he has yet to see one in the four years he's been on his property. He hopes that by removing the dense lantana that Koalas will be able to move more easily across his property.

The grant is also helping Mark to improve the habitat values of a dam through plantings and creating leaky weirs on the slopes to disperse runoff.

Mark is new to conservation but has already made significant progress. He is tackling three significant projects at a scale that would not have been possible without the support of the grant.

**Article by Jane Pinder
Environmental Education and Communications Officer
Ipswich City Council**



Mark standing in a sea of lantana that is slowly being controlled.

Native Grasses

FOR BEAUTY AND BIODIVERSITY



Native Lemongrass or Barbwire Grass (*Cymbopogon refractus*) has stunning maroon-coloured stalks and a tangled seed head, similar to the barbs on barbed wire, hence its common name.



Like all finches, Red-browed Finches, feed on grass seeds. This one was observed on a Land for Wildlife property in South Maclean.

Native grasses play such a crucial role in landscapes across Australia. The ability of our native grass species to adapt to various environmental conditions, from drought-prone areas to sandy soils, makes them suitable for smaller gardens through to larger properties. Native grasses are particularly stunning when they are grouped together in a garden or across the landscape. The swaying of Kangaroo Grass (*Themeda triandra*) in the breeze is an incredible sight.

Grasses support local wildlife, such as providing food for grazing macropods and butterfly larva, and nesting materials for birds. They add another layer of habitat to gardens and landscapes and help prevent soil erosion. It's a beautiful example of how landscaping with native species can create not just aesthetic appeal but also support local biodiversity.

There are a great many native grasses found in Logan as shown by the guide that one of our Land for Wildlife Officers produced in iNaturalist at www.inaturalist.org/guides/15632 - Logan Native Grasses.

Observing the often-overlooked beauty of grass flowers reminds us to appreciate the intricate details of nature that surround us every day. It's a wonderful reminder to take a closer look at the small wonders that contribute to the richness of our natural environment.

**Article and photos by Craig Welden
Land for Wildlife Officer
City of Logan**



Many different species of native grass are food for caterpillars of butterflies such as this Evening Brown. The adult butterflies can regularly be seen flying low to the ground at dusk.



The Bandy Bandy is a striking nocturnal burrowing snake that is infrequently encountered and usually observed after heavy periods of rain in the warmer months.



The stunning Giant Barred Frog is a threatened frog found in close proximity to running water, along creeks and rivers in areas with decent stands of wet sclerophyll forest or rainforest.



The keen group of 'froggers' surveying a creekline on Tracy and David's property.



Find a Frog in February REGENERATIVE AGRICULTURE INTEGRATES CONSERVATION

This time last year, Land for Wildlife members and others gathered at the Gheerulla Community Hall for the annual Find a Frog in February workshop. Delivered by Sunshine Coast Council in partnership with the Mary River Catchment Coordinating Committee (MRCCC), landholders learnt about frogs and practical solutions to help minimise the threats our local frogs are facing. After the presentations, everyone went on to survey the creeks and dams on Tracy and David's nearby Land for Wildlife property.

Tracy and David manage a 117 hectare cattle farm that integrates grazing, regenerative agriculture and nature conservation. The property contains 1.85 kilometres of Belli Creek frontage as well as frontage along Cherry Tree Creek. Their property contains ecologically significant habitat, including core Koala habitat, endangered Regional Ecosystems and Critically Endangered Lowland Rainforest of Sub-tropical Australia.

Some of the highlights found during the surveys included a Bandy Bandy (*Vermicella annulata*) much to the crowd's delight, as well as threatened Tusked Frogs (*Adelotus brevis*), Ornate Burrowing Frogs (*Platyplectrum ornatum*), Green Treefrogs (*Litoria caerulea*), Eastern Sedgefrogs (*Litoria fallax*) and Graceful Treefrogs (*Litoria gracilentata*).

Follow-up surveys detected an exciting find – a healthy population of threatened Giant Barred Frogs (*Mixophyes iteratus*) and Great Barred Frogs (*Mixophyes fasciolatus*) along nearby rocky creek lines. This was despite recent flooding, significant rainfall and fast flowing waterways, creating tricky conditions for both the frogs and those out looking for them!

David and Tracy's property successfully demonstrates how agriculture and conservation can be effectively combined for

The Find a Frog in February program runs annually in the Sunshine Coast, Noosa, Gympie and Fraser Coast council regions. It is delivered by the Mary River Catchment Coordinating Committee (MRCCC) and has involved over 1800 people since its inception nine years ago. To get involved, contact MRCCC via email findafrog@mrccc.org.au or online <http://mrccc.org.au/frog-in-february/> or phone 5482 4766.

the benefit of the environment and native wildlife, whilst also supporting livelihoods.

As Tracy said, "From a farming point of view, working with the Land for Wildlife program makes sense – we all want the same outcome, to be sustainable. It's about being kind to country and working with mother nature not against her."

Supported by Sunshine Coast Council's Landholder Environmental Grants, Tracy and David have installed stock exclusion fencing and off-stream watering points to restrict cattle access to sensitive riparian areas. Weed control works targeting Small-leaf Privet, Camphor Laurel, Lantana and Chinese Elm have resulted in a noticeable improvement to the health and condition of riparian vegetation by providing direct benefits such as reduced erosion and improvements to water quality downstream.

"Without the assistance from Sunshine Coast Council grants and incentives, such outcomes are unlikely to have been achieved due to competing priorities that come with managing a property like this", said Tracy.

The Sunshine Coast Council Conservation Partnerships Team has also facilitated several fauna surveys on David and Tracy's property finding Platypus, Koala and a Brush-tailed Phascogale plus lots of other wildlife. With more revegetation and weed control planned for this year, we look forward to continuing this rewarding partnership with Tracy, David and their family.

**Article and photos by Stephanie Keys
Land for Wildlife Officer
Sunshine Coast Council**

From Bedrock TO FROG HABITAT

In 2016 we bought an acreage block of land which had been subjected to extensive earthworks, resulting in no topsoil, yet plenty of weeds. We had limited knowledge about regeneration and native plants as well as a limited budget, but we were enthusiastic about the opportunity to create a sanctuary both for ourselves and the local wildlife.

After rainfall, we noticed ponding occurring in a few areas at the base of a rocky hill, so we dug out various small ponds that connect to form a seasonal 'creek bed' approximately 50m long. We spent many hours digging, weeding and relocating rocks to form the dry parts of the creek bed. The vast majority of this work was hard manual labour - our wheelbarrows have well and truly earned their keep!

We've tried to minimise the use of herbicides for various reasons and have therefore resorted to many other weed removal methods including

whipper snipping, flame weeding, hand weeding, solarising with black plastic and smothering with cardboard/mulch.

We have planted hundreds of native tubestock and have imported and spread hundreds of cubic metres of mulch.

Like everyone I'm sure, we've worked hard on particular areas, only to neglect them and have to re-weed, re-mulch and plant all over again. We've lost plants due to drought and then conversely lost some more in wet times.

Six years (and three kids) later, our 'creek' and property is still a work in progress and our soil is still pretty average - but it is a vast improvement on where we started. We are very happy to be visited by wallabies, bandicoots, echidnas, antechinus, a myriad of birds and insects as well as goannas, water dragons and many other reptiles.

During frog season, the noise from the creek is deafening - there are so many

frogs that you can see them on the rocks, in the water, hanging in branches and often even inside our house! Given that we're at the top of a hill with no permanent water nearby, we have often wondered where the frogs came from and how they survive the dry months to be so abundant in the wet season.

All together, we are looking after 3.15ha of habitat across the property but this is an area we have been able to focus on and transform for now.

We are extremely grateful to Brisbane City Council's Land for Wildlife team for their support and encouragement over the years, and to also our local creek catchment group Save Our Waterways Now which has been the source of many of the endemic tubestock.

**Article and photos by Ben and Ariane
Land for Wildlife members
The Gap, Brisbane**



Funnel-webs

OF SEQ

In the shadowy depths of Australia's forests and urban landscapes lurks a creature that strikes fear into the hearts of many - the notorious funnel-web spider. With its sleek, glossy exterior and venom potent enough to send shivers down the bravest spine, this arachnid has earned its place as Australia's and possibly the world's deadliest spider.

Funnel webs are closely allied with trapdoors and tarantulas. There are 36 species of Australian funnel-web spiders. The most commonly known and encountered species is the Sydney Funnel-web (*Atrax robustus*) because its location overlaps with the major population base of NSW. In southeast Queensland, there are six species of funnel-web spiders:

- Northern Tree/Northern Rivers Funnel-web (*Hadronyche formidabilis*).
- Lamington Funnel-web (*Hadronyche lamingtonensis*).
- Border Ranges Funnel-web (*Hadronyche valida*)

These above three species occur in rainforests of southern SEQ such as at Lamington, Mount Tamborine and Lower Beechmont.

- Toowoomba Funnel-web (*Hadronyche infensa*), which is found across SEQ and the Darling Downs. It is the most commonly encountered funnel-web in Brisbane.
- *Hadronyche monteithi*, which occurs in the Killarney region.
- *Hadronyche raveni*, which occurs in the Conondale Ranges.

The Sydney Funnel-web spider venom is high in neurotoxins and an effective bite can kill an adult in an hour. University of Queensland researchers are studying the Long-toothed K'gari Funnel-web, which is currently classified as the same species as the Toowoomba Funnel-web. However, due to its isolation on an island, it may actually be genetically different. The Long-toothed K'gari Funnel-web venom is potentially up to six times more powerful than the Sydney funnel web.

This concurs with a personal communication I had with Dr Ron Atkinson from University of Southern Queensland back in the 1990s where he indicated that his research was showing that the Toowoomba Funnel-web venom was equally, if not more, toxic than the Sydney Funnel-web.

That said, the antivenom which is based on the Sydney Funnel-web, works as well for *Hadronyche* envenomation. No one has died from a funnel-web bite since the development of the antivenom in the early 1980s. The male and female venom is of equal toxicity, but the venom is more toxic in summer after they finish their overwintering fast and when the males are out searching for a female.

First aid for a funnel-web bite is a pressure bandage, same as for a snake bite treatment, and, of course, seek immediate medical assistance.

Article and photos by Sandy Robertson
Land for Wildlife Officer
Contractor to Toowoomba Regional Council

Photos from top:

- 1 & 2. A female funnel-web. Females are quite large in size - up to 5cm across, with males generally being smaller. Female funnel-webs are long-lived spiders - up to 20 years. The females live in burrows in the ground in cool, moist habitats usually under logs, rocks or other ground-based shelters. It should be noted that there is an exception to this - the Northern Tree Funnel-web lives in rotting wood and holes in trees, up to 30m off the ground.
3. An old car tyre lying on the ground was the perfect spot for this family of funnel-webs to live. There were seven nests under this tyre (unfortunately it was in my horse obstacle course!).
4. Female funnel-webs can have multiple entrances to their burrows, all with trip lines extending out. I have personally observed burrows with three or more entrances.



A female funnel-web. Females are quite large in size - up to 5cm across, with males generally being smaller.



An old car tyre lying on the ground was the perfect spot for this family of funnel-webs to live. There were seven nests under this tyre (unfortunately it was in my horse obstacle course!).



Living with Wildlife: A Guide for Our Homes and Backyards

By Tanya Loos

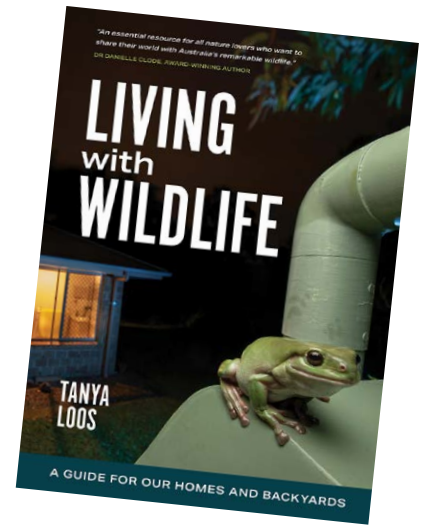
I feel lucky to have the joy of living alongside wildlife, but it does bring some annoyances. I've had possums weeing through the light fitting, antechinus eating through packages on the kitchen bench and a python dropping out of a ceiling gap to try and taste a new pet kitten. Well, those are some of my experiences living on a bushland property. Many Land for Wildlife members face similar problems when there is an overlap of our homes and the homes of wild animals.

In *Living with Wildlife*, ecologist Tanya Loos explores commonly asked questions and issues about encounters with wildlife. She offers practical advice and solutions that are wildlife-friendly and based on evidence from wildlife carers, recent research and are fact-checked by other wildlife experts.

At 190 pages with colour photos and illustrations, this guide is comprehensive in its coverage of common issues from the east coast. It covers encounters with venomous snakes, living with spiders, microbats inside houses and how to help baby birds that have fallen from nests. It also covers more complex issues such as control options for pest rodents without using second-generation anticoagulant rodenticides, which can be fatal to owls and other predators that eat poisoned rodents.

Some of the wildlife 'problems' are not relevant to those here in SEQ such as cassowary visits or wombats digging under your house. Surprisingly, this book omits conflicts with the notorious Brush Turkey, but the chapter on possum-proofing your garden provides relevant advice.

Of particular value are the sections on feeding wildlife, responsible pet ownership, taking care when driving and how to help wildlife in trouble and in extreme weather events. I recommend this book to all seeking a peaceful co-existence with wildlife. To all those who don't slow down when driving through wildlife areas I say: may your chooks turn to Emus and kick your dunny doors down!



CSIRO Publishing 2024
208 pages
Paperback (\$40) and eBook (\$40)
Available from CSIRO Publishing and other retailers

My Father and Other Animals: How I Took on the Family Farm

By Sam Vincent

This is a heartfelt memoir brimming with honesty, warmth and wit. This story traces the author's journey from farmhand to fig orchardist and to grazier on 'brittle' country in New South Wales.

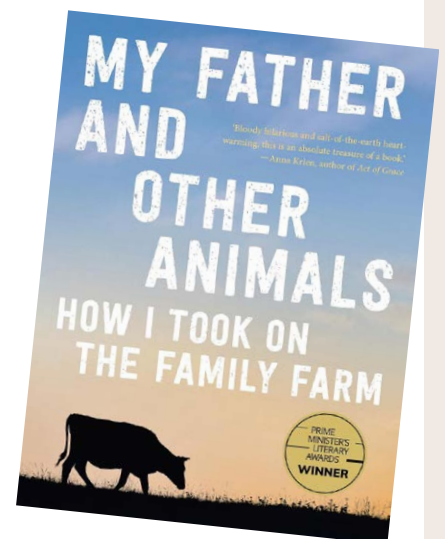
As a 20-something writer living in the inner city, Sam returns to the family farm he grew up on, to be an apprentice farm hand to his father, initially for one day a week. Over the years that follow, he deepens his connection to his father, to the land, to Traditional Owners, and to nature, and he moves in with his own family.

Told with great humour throughout, Sam Vincent explores the issues facing contemporary agriculturalists in Australia, including how to learn to be a "grass farmer", using leaky weirs, rejuvenating clapped out soils. He explores the complexities of dealing with drought, the terror of the black summer bushfires, global warming, and how to grow enough local produce for restaurants in Canberra to make a living.

I thoroughly enjoyed this well-crafted and uplifting story which is a love letter to country, to family and regenerative agriculture, so intimate it felt I was on a personal tour of Sam's farm.

A poignant question that inspires Sam is from Kentucky farmer and author, Wendell Berry, "How can we help nature help itself?"

This book will resonate with everyone living on land, who seeks to regenerate natural areas and productive soil systems, grow their own food or food for others. It's a well-deserved Winner of the Prime Minister's Literary Award for 2023, but be warned: reading this book may cause cravings for fresh figs!



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271 pages
Paperback (\$33) and eBook (\$13)
Widely available online

Reviews by Fflur Collier
Land for Wildlife Officer
Brisbane City Council

Antlions

AN ANT'S WORST NIGHTMARE

The contrast between the larval stage of insects and their mature adult form is something that we seem to take for granted. Without knowing it, who in their right mind would pick that a butterfly starts its life as a crawling, vegetation chomping caterpillar or that a fly hatches from an egg as a legless maggot before its seemingly magical transformation into one of the masters of the sky?

This is also the case with larval forms of the order Neuroptera. Their fearsome larva bares zero resemblance in lifestyle (apart from being carnivorous – the majority of adult Neuroptera are carnivores) or looks to the delicate, weak flying insect that they metamorphose into.

Adults in the order Neuroptera superficially look similar to dragonflies and damselflies. For this reason, these two insect orders were originally placed together by the father of modern classification Carl von Linnaeus into the single order Neuroptera. As well as having large, paired, veined wings, Neuroptera (translates from Greek *neuron* – originally sinew, then later nerve and *pteron* – wing) all have long slender bodies and prominent eyes, hence von Linnaeus's 'mistake'. Neuroptera have longer antennae and different wing venation than dragonflies and damselflies which have since been placed in their own separate order, Odonata.

Within the vast order of Neuroptera is to be found the family Myrmeleontidae, the antlions. The family name neatly translates from its Greek origin *myrmex* – ant - ants form a large part of the larvae's diet and *leon* – lion. The 'problem' with the family 'antlion' is that the family's common name is based on the larva, whereas all other families in the order Neuroptera are colloquially named after the adult form – Green Lacewings, Owlflies, Mantidflies to name a few. To follow this same naming convention, antlions should be called Antlion Lacewings.

The larva are a beautiful blend of form and

function, although appearance wise it is hard to describe them as beautiful. Larval antlions have a fat, bulbous abdomen that is shaped to push backwards through sand and friable dirt, a thorax with 3 pairs of legs and a largish flat head equipped with a fearsome set of large sickle-shaped jaws which are armed with numerous sharp protrusions. The head is attached to the thorax by a mobile 'neck' which allows the antlion to rapidly flick its head, which is essential for pit building. They are also covered in forward facing stiff hairs. These allow the antlion to lock its body in place so it can safely subdue struggling prey larger than itself without being pulled out of the bottom of its pit.

The Myrmeleontidae are almost unique in the animal kingdom due to the ingenious pit traps that the larval antlions build. The only other analogous pit-forming animals are found in the obscure, small, family Vermileonidae – wormlions in the order Diptera (flies).

Antlions begin their lifecycle with the female searching for an appropriate area for laying her eggs. Once she finds a spot that looks suitable she lands and tests her choice by tapping her ovipositor on the ground. If she deems the spot appropriate, she inserts her ovipositor and deposits an egg, then continues to repeat this process. After hatching, larval antlions start the search for a suitable place to build their pit trap – their mother has already aided in this process. This is usually in sandy or highly friable soil that is also often sheltered from rain and wind.

As in all things involving locomotion by antlion larva, this search is conducted by travelling backwards due to their forward-facing hairs. Once a suitable location is found the antlion marks out the circumference by excavating a shallow circular groove. It then proceeds to crawl backwards using its body as a plough. Loosened substrate is placed on the animals' flat head using one of its front legs. This is then tossed out of the way with a quick flick of its head. The antlion



Adult antlions look very similar to lacewings. Shown here are adult antlions: *Myrmeleon erythrocephalus* and other Myrmeleon species. Photos top to bottom by Rick Franks, Dianne Clarke and Greg Tasney.



An adult antlion laying eggs into sandy soil. Photo by Deborah Metters.



Antlion larva. Photo by Reiner Richter.



Antlion pit traps are commonly seen in sandy soils. Photo by Tony Mlynarik.

continues to move round and round, spiralling its way deeper as it moves towards the centre of its pit. In this way it creates a circular inverted cone with steep sides that are on the verge of collapse. Once the pit is complete the antlion buries itself at the bottom of the cone with just its wide-open jaws projecting out. Now it's just a case of waiting for some hapless victim, frequently an ant, but also other insects and even spiders, to stumble into the pit.

Due to the pit's steep sides the prey slides down to the waiting jaws of the antlion which snap shut. If the prey isn't immediately captured by the antlion, it will find it extremely difficult to crawl out of the pit due to the crumbly texture and steepness of the walls. If this isn't enough the antlion will also flick material at its victim and through a combination of direct hits or undermining of the wall this invariably results in the animal ending up in the bottom of the pit and in the jaws of the antlion. A combination of venom and digestive enzymes are then injected and the antlion proceeds to suck out the liquefied innards. Once it's finished feeding the antlion unceremoniously flicks out the dried-out husk and rebuilds its pit.

Over the course of its larval life the antlion will continue to grow and will usually go through three moults. In this process it outgrows its original pit and so needs to move and excavate a new one. This process of growth, moult and new pit production occurs over the course of its larval life. Although their pits are extremely effective, antlions are totally dependent on food coming to them. They also need

to maintain their pit, which also requires considerable energy expenditure. They therefore have a low metabolic rate and are able to survive a significant amount of time between meals. The time spent in the larval stage can vary considerably and is largely determined by how often it feeds and grows to be of a sufficient size to pupate.

When a larva is ready to pupate, it digs a small cavity in the soil and then spins a cocoon around itself. Interestingly this silk is produced by the Malpighian tubules which, in the vast majority of insect orders, is a waste excretory organ. So instead of producing silk from modified salivary glands the Neuropterans produce silk essentially from their anus. Also, in the final stage of pupation the antlion is finally able to expel all the built-up waste it has accumulated as, up until this point in time, the gut has been a dead end with no way of voiding waste.

The mature antlion that emerges about a month later from the cocoon is a fragile, feeble flier. The adult form is much larger than the final larval instar. This fragility and size disparity is due to the exoskeleton being extremely thin. They are most active towards dusk, so are rarely sighted, but often are attracted to lights at night. Adult antlions live for around 25 days during which time they feed, mate and in the case of females produce and lay eggs in suitable soil to produce the next generation of antlion.

**Article by Tony Mlynarik
Land for Wildlife Officer
Brisbane City Council**



Photo by Reiner Richter.

Adult lacewings, like this Blue Eyes Lacewing (*Nymphes myrmeleonoides*) lay their eggs above ground, such as on sticks and bark. So, when the eggs hatch, the larvae (which look very similar to antlions) are in clusters, like in this photo below. Lacewing larvae do not make pit traps. In contrast, antlion adults lay their eggs in the ground - the perfect spot for their larvae to make pit traps.



Photo by Donna Tomkinson.

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TRANSFORMING *Storm Damage* INTO NEW HOMES FOR WILDLIFE

One thing that constantly amazes me about Land for Wildlife members is their innovation. As per the saying, this innovation is partly driven by necessity, but I also see creativity and caring for country as drivers.

Last summer, parts of SEQ were torn apart by wild storms. Some of our homes were destroyed and large swathes of forests containing homes for wildlife were also shredded. Wildlife apartments, aka tree hollows, laid uselessly on the ground. Over time they would have turned into homes for ground-dwelling animals such as lizards and echidnas, but it was the destruction of arboreal wildlife homes that worried Land for Wildlife Officer and member, Catherine Madden.

Her property in the Gold Coast hinterland was badly storm-damaged and she knew that arboreal mammals like gliders and possums needed these hollows back up in the trees, not on the ground.

So, she set to work and drilled entrance holes into the large fallen hollow logs and put wooden caps on both ends to create cosy, rainproof hollows.

She then climbed ladders to install these upgraded hollows back into trees. Next to some of the hollows, she attached fauna monitoring cameras pointing at the entrance to capture photographs of any wildlife that decided to take up residence.

Over the past year, she has been delighted to see the following species use these custom-build nest boxes: Owlet Nightjars, three species of glider (Squirrel, Sugar and Feathertail), White-throated Treecreepers, Laughing Kookaburras, Pale-headed Rosellas and a microbat. Nice work Catherine!

Article by Deborah Metters. Photos by Catherine Madden.



A Feathertail Glider, Squirrel Glider and Owlet Nightjar visiting the nest boxes.