

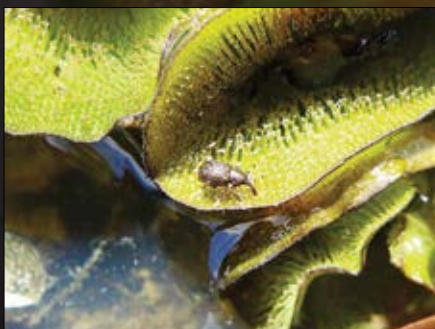
LAND FOR WILDLIFE

SOUTH EAST QUEENSLAND *newsletter*

APRIL 2018 | VOLUME 12 NUMBER 2 | ISSN 1835-3851



Land Yabbies



Salvinia Weevils

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CELEBRATING

20
YEARS

1998 - 2018

Welcome to the April edition of the *Land for Wildlife South East Queensland Newsletter*.

In this edition, we continue our celebration of 20 years of Land for Wildlife in South East Queensland (SEQ), through stories of members' achievements, the launch of a new "Healthy Habitat" category in the 2018 Healthy Land and Water Annual Awards, and recognition of the critical extension support provided by Land for Wildlife officers.

This extension support provides you with the means to expand your wildlife knowledge and your land management capacity, and hopefully to also feel empowered to talk with your neighbours and others in your community about the program.

Around 4% of SEQ is managed by Land for Wildlife program members. This is a significant contribution to nature conservation within the region, but also is one that needs to grow in order to better buffer, connect and extend wildlife habitats.

This newsletter has a bit of a watery theme, providing practical advice on frog-friendly habitats and wetland construction, yabbies and *Salvinia* management, whilst other articles provide an insight into the small things we often overlook, such as beautiful Common Imperial Blue Butterflies, their ant protectors and, did you know centipedes are good mums?! A reminder to stop and savour the little things!



Also in this edition, easy-to-understand tips and tricks on how to use Facebook to your advantage (I wish I'd had these a few years ago!). But be warned, once you're into it, it is so easy to disappear down the Facebook wormhole, finding out endless amounts of useful (and sometimes not so useful, but still interesting) information. Of course the Land for Wildlife Facebook page only has useful information(!), and it also provides a great platform for connecting with like-minded others.

Finally, this is the first edition in many years not to have been put together by the competent hands of Deborah Metters, who's taking a well-deserved break. I hope you find this edition as interesting and informative as those that have gone before.

Please share with friends, family, neighbours and colleagues, and encourage them to get involved in this amazing program.



Liz Gould
Principal Scientist
Healthy Land and Water



LANDHOLDER registrations

Land for Wildlife SEQ 15/03/2018

Registered Properties **3411**

Working Towards Registration **926**

Total Area Retained **62,297 ha**

Total Area under Restoration **7,342 ha**

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Forward all contributions to:

The Editor
Land for Wildlife Newsletter
Healthy Land and Water
PO Box 13204
George Street QLD 4003
07 3177 9100
deborah.m@hlw.org.au

LAND FOR WILDLIFE OFFICERS SOUTH EAST QUEENSLAND

Brisbane City Council

All enquiries, 3403 8888
Amanda Maggs Fflur Collier
Cody Hochen Peter Hayes
Susan Nolan Tony Mlynarik

City of Gold Coast

Saul Hondow, 5582 8022
Scott Sumner, 5582 8896
Todd Burrows, 5582 9128

Ipswich City Council

Nick Swanson, 3810 6026
Melanie Mott, 3810 6026

Lockyer Valley Regional Council

Martin Bennett, 5462 0376

Logan City Council

Peter Copping, 3412 5321

Moreton Bay Regional Council

De-Anne Attard, 0438 910 715
Nicole Byrne, 0419 700 213
Wendy Heath, 3883 5636

Noosa Council

Kylie Gordon, 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
Danielle Outram, 5475 7339
Dave Burrows, 5475 7345
Marc Russell, 5475 7345
Nick Clancy, 5439 6433
Stephanie Reif, 5475 7395

Qld Murray-Darling Region

Qld Murray-Darling Comm., 4637 6228

Gympie, Fraser Coast, North & South

Burnett, Bundaberg and Baffle Creek
Burnett Mary Regional Group, 4181 2999



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Cover photo:
Green Tree Frog by Annette Bird

Lonehand:

CELEBRATING SUNSHINE COAST'S 1000TH LFW PROPERTY



Sunshine Coast Council Mayor Mark Jamieson congratulates Greg L'Estrange and Jenny Brice on being Sunshine Coast Council's 1000th member.

Can you imagine two people living in a townhouse in Sydney, working in the corporate world spontaneously falling in love with 30 acres in the hinterland of Noosa and then wondering what to do with it? Well...that was us. We had a romantic idea and I certainly had little knowledge of anything rural, though Greg had been brought up on a sheep farm in central New South Wales.

What we loved about the property was the ambience. It was at the foot of Cooroy Mountain. It had two creeks running through it and it had possibilities.

We sought advice on what to do with the land. We were advised cattle would keep the grass down, and growing some kind of crop could make us some money. Neither appealed. When someone mentioned in passing we could create a forest, our eyes lit up as we both had worked in the timber industry during our careers.

We bought the property in 2002 and that was the year the first trees were planted. We were still living in Sydney at that stage and had little to do with the first plantings. When our house was finished in December 2004, we arrived to overgrown trees and paddocks full of weeds. Our bright idea seemed to be a bit overwhelming ...so much for a forest.

Not to be deterred we bought some pruning shears and a whipper snipper and out we went into the paddocks and tried to wrestle the grass away from the little trees. It felt good to be exhausted at the end of the day, feeling like you were achieving something. However, I can still remember our aching backs, wrists, insect bites and my concerns about rustles in the grass.

In truth, however, we had no idea. We were novices. It was not until someone told us about Noosa and District Landcare at Pomona that we made some real head way. We were introduced to Phil Moran and he came out and visited the property. This was the turning point.

Little by little we started to learn about how to build canopies, weed properly, create carpets of natural grasses and get rid of the Camphor Laurels. I will always remember the day that three guys from Landcare and I crawled around the creek for a whole day. I was taught how to recognise certain weeds and how to properly manage them. It was such fun. I was hooked.

Fifteen years on, the wildlife is back. The wallabies, the abundance of bird life, the cat fish, the goannas and even a platypus in the creek. There are now trails around the property where the wallabies roam and many bird nests can be spotted in the

trees. Beds of natural grasses surround the creek and are expanding out into the forest. That is not to say there is not always work to do. The birds love dropping those camphor seeds! To see the forest grow and develop really brings us joy. Late last year I was sitting weeding quietly in our forest. It was late in the afternoon and I had escaped to do some weeding after a rather long day at work. To my surprise I looked up to see only a few metres away from me, a wallaby eating a native plant in its little paws. It was a special moment for me. Hopefully for us. We both sat in harmony with each other, cocooned by nature and our fledgling forest.

Like Landcare, we discovered Sunshine Coast Council's Land For Wildlife program. A program that cared about the environment and helped people like us continue to learn and improve our knowledge. Like Phil, Stephanie arrived and walked us around our property providing us with knowledge and advice. We were surprised we were the 1000th property to join Land for Wildlife on the Sunshine Coast and were delighted so many people had joined before us.

Jenny Brice
Land for Wildlife member
Eumundi, Sunshine Coast





Ants from the genus *Iridomyrmex* provide protection for caterpillars (and pupae) in return for food - a sugary secretion known as honeydew.

Imperial MAGIC

Butterflies have been plentiful this summer. We have enjoyed listing the beautiful Richmond Birdwings, Blue Triangles, and Orchard Swallowtails as they've flitted about our garden. They have made good use of the Pink Euodia (*Melicope elleryana*) trees, which flowered profusely.

However, my eyes have been drawn to another species that has been haunting a self-planted *Acacia fimbriata* (Brisbane wattle), just outside my study window. From a distance, this small butterfly looked quite plain, but I noticed that it would regularly perch in the wattle for several minutes at a time. In fact there were often 3 or 4 of them quietly sitting there. I thought I should investigate them a little more.

To my surprise, the butterflies stayed still long enough for me to approach and photograph them from just a few centimetres away! Then I discovered that there were brown larvae covered in black ants on several branches, and some glossy brown pupae as well. They too, were attended by ants.

The butterflies were not plain at all, but were beautifully patterned beige with black lines and dots on the wings, and orange and white markings on the hindwings, which also had a pair of white-tipped black tails. (The upper wing surfaces are apparently blue-gray, but I never once saw that, as they always perch with the wings folded up. In flight, the wing beats are too rapid to see any colour other than beige.)

The larvae were glossy rust colour with scattered spines. They were usually difficult to see well as there were so many ants crawling over them. However, one wet morning I did catch one without its

protectors for a few moments. The pupae had glossy black and rust stripes across their segmented cases and looked rather like small cockroaches.

Though I've searched diligently, I've not yet found any eggs, which are apparently laid in large clusters in the forks of the branches or under bark.

The Common Imperial Blue (*Jalmenus evagoras*) is one of a number of butterflies that have evolved in association with ants. The relationship is often mutually beneficial as the ants protect the eggs, larvae and pupae from predation, while they in turn feed on specialised sugary secretions (honeydew) produced by the larvae. The ants may not always fare so equally, as sometimes the caterpillars eat the ants' eggs! The ants in this partnership are species of *Iridomyrmex*.

It has been found that the butterfly larvae can produce sounds, by which they communicate either with other larvae or with their attendant ants. This promotes group cohesion and protection when needed.

When the pupae are almost ready to emerge as adults, they emit pheromones which attract male butterflies. The males gather in a group awaiting the emergence. If it is another male, they quickly disperse. However, if it is a female, then they jostle for position to mate with her as soon as she has emerged, even before her wings have expanded. Her eggs are already mature, and once her wings expand, she can look for a place to deposit the cluster of eggs.

These butterflies utilise numerous species of *Acacia* tree, often when they are shrub size. Their occurrence is quite local and entirely dependent on the presence of the *Iridomyrmex* ants. Their distribution is



The Common Imperial Blue Butterfly is dependant on wattles and ants.

from south-east Queensland to Victoria. We are privileged to have them inhabiting our garden.

All the information in this article has come from my own observations and the incredibly well written and illustrated "The Butterflies of Australia" by Albert Orr and Roger Kitching, 2010.

**Article and photos by Frances Guard
Land for Wildlife member
Maleny, Sunshine Coast**

What the hashtag IS AN EMOJI?

Facebook. You wouldn't be alone in thinking that social media is only for those that don't have enough revegetation to do. However, people are increasingly using social media to connect with others involved in bush regeneration to ask for advice or species identification information.

Picture this, it's Saturday morning, you're doing a spot of weeding on your property and you come across:

- an unknown plant and you're not sure whether it's a weed or native;
- interesting looking scats and you're not sure what made them;
- some peculiar looking insects; and/or
- a bird you've never seen before.

You take photos to email to your Land for Wildlife Officer on Monday, but what if you could get answers almost immediately, via Facebook?

To get started in Facebook, create a personal account (profile). Go to www.facebook.com and fill in your details. As a minimum you need to provide your name (this can be an alias if you want added privacy), an email address or phone number, date of birth and a password.

The first thing to do is review your **Facebook privacy** settings. This is something to consider very carefully. There are numerous articles on the internet explaining the different options, use these to go through each setting and make the appropriate selection for you. As a general rule of thumb, don't share anything on Facebook that you wouldn't want the whole world to see. A picture of your hand holding some unidentified fruit – fine, not a problem! A picture of your front gate with a hand-crafted sign with your name and address on it – probably not a great idea.

After you've sorted out privacy, add as much or as little information or photos to

your profile as you want to share.

Then start adding 'Friends', joining 'Groups' and liking 'Pages' which interest you.

To add 'Friends', simply search for the names of people you want to connect with in the search bar and click the 'Add Friend' button next to their profile picture.

'Groups' are forums of people interested in a particular subject, such as people interested in identifying species or discussing bush regeneration. The beauty of these groups is you can post a photo of a specimen, its location and a question, and you'll start getting possible answers almost immediately, i.e., you don't have to wait until Monday to talk to your Land for Wildlife Officer. You do need to search for and request to join a group to participate; this is often subject to permission. Reviewing other peoples' identification questions and answers in these groups will help you to further improve and hone your own skills. Just remember to read and adhere to each group's rules when posting and commenting.

Some recommended groups to get you started, include:

- Plant Identification Australia
- Queensland Plant Identification
- Amateur Entomology Australia
- Australian Mammal Identification
- Australian Reptile and Amphibian Identification
- Australian Bird Identification
- Bush Revegetation and Regeneration

'Pages' provide a profile for an organisation or business. You find them by searching for the page's name in the search panel. Click the 'Like' button next to the page's picture or logo to keep in touch with their information posts.

Obviously it goes without saying that the absolute BEST page to follow on

Facebook is the Land for Wildlife South East Queensland Page. Like or follow us on Facebook to get regular snippets of information about native fauna and flora, tips on managing weeds and pest animals, insights from other Land for Wildlife members, and upcoming workshops and events. Our page followers are predominantly Land for Wildlife members – so liking us is a great way to connect with and learn from other members. You can also see which Pages we like.

Many local Landcare groups, community nurseries, wildlife rescue groups, research projects, contractors and Councils also have Facebook pages to enable people to keep up to date with what's going on.

Once you've got a few Friends, joined some Groups and liked some Pages, you will start to see posts from all these in your newsfeed. If you like the information in a post, let the author know by clicking the 'Like' button. Or hover your mouse over the 'Like' button and select a different reaction (angry, sad, funny, etc). Use the text bar below the post to leave a comment or ask a question.

Many libraries offer Facebook tutorials or technical support to help you set up your account and get the hang of Facebook. And there's no such thing as too old to learn! I'm proud to say my nearly 80-year old Aunty Gene, with the help of a local computing volunteer, mastered the art of Facebooking this year in no time at all!

This article is a very basic overview, however once you've got the hang of these, there are plenty of other Facebook functions and features to learn about.

Oh yes, and to answer my question at the start, an emoji is a tiny icon, used to express an emotion or an idea whereas a hashtag is a way to label or identify posts of a particular topic, for example if you search #landforwildlife in the Facebook search bar, a number of public posts about the Land for Wildlife program will come up. Easy!

Happy Facebooking!



Article by Danielle Outram
Land for Wildlife Officer
Sunshine Coast Council



The South East Queensland Land for Wildlife Facebook page, simply the BEST page to follow on Facebook!



Our Bush Block TRANSFORMATION

On a return to our coastal home after one of our valued caravan holidays in the forest parks of the Mary Valley area, the concept of our own nature retreat was an exciting retirement plan.

We decided on one essential criteria, a permanent stream. To find this was a challenge which took us to areas around the Caboolture District, North Burnett, Kilcoy and the Sunshine Coast Hinterland.

Our resulting purchase in 1995 of 2.66 hectares along the Mary Valley Road, with an unnamed creek, was ideal.

It even had a log cabin and a pine forest, which brought back memories of our years in Canada. It was not many months, though, before we realised that the pine trees were not the native vegetation we wanted, but exotic, and we set about removing over 200.

In the following years, we removed trailer loads of lantana and other 'feral' vegetation. The local Landcare group, Land for Wildlife and Council

environmental officers inspected and gave planting recommendations, and a nearby farmer ploughed the areas to be revegetated.

One sloped creek bank area of the property was not accessible by motor vehicle so work was manual and strenuous. There were still many remnant natural trees and shrubs along the creek and a roadside reserve and this was a guide to selection.

At first there was no electricity to the cabin or land. We were challenged, but found that these challenges created greater appreciation and understanding of this unique environment.

Over several years, through visits of several days every few weeks, collecting manure from the nearby farm, woodchip mulch from the mills, digging holes with shovels, etc, we planted a couple of thousand trees.

After about five years the land was completely revegetated and de-weeded and had interesting walking paths around and across the creek, flat areas and

slopes. Monitoring of weeds and careful use of sprays reduced major threats.

Birds were an increasing and varied feature and even though the Bell Miners (bellbirds) are said to be territorial, they provided an ambience with their call. It was common to record 30 or more bird species each visit with the species varying each season.

Other wildlife included periodic sightings of platypus, bandicoots, eels, echidnas, turtles, snakes, wallabies, bats, frogs, fire-flies, antechinus, gliders, yabbies, and many more interesting creatures.

The small creek was an amazing feature as it was spring fed from an unidentified source and had small cascades, deeper waterholes and flowed from one end of this acreage through to the other end with our land being on both sides, for much of its length. Heavy rainfalls had a scouring effect on some creek banks, especially on the sharp curves but the vegetated edges helped to prevent severe damage.

We found the neighbourhood full of people with a co-operative common interest, including the nurturing of a healthy creek. From 1995 to 2013 this was such a stimulating but relaxing lifestyle which contrasted with our beachside living. Feeling content with our achievements and experiences, we sold the property in 2013 being very grateful for our chance to improve, and to live in this special Aussie environment.

Wildlife returned to the property following removal of exotic pine trees and planting of local native plant species.



**Article and photos by Beryl Davidson
Former Land for Wildlife member
Brooloo, Burnett Mary Region**

Yabby Out of Water

A STORY OF CHERAX PUNCTATUS

For many years I have been intrigued by holes in my hillside near Cooran in the Mary Valley. The holes are quite deep, and in amongst phyllite in very dry, rocky country. Indeed, my place has been described as a 'dry, hungry ridge'!

The holes are fairly common, and a very long way from my dam, and further still to the creek (Coles Creek which flows into the Mary River). They often have a white material near the top of the hole, like kaolin, a clay like substance. My interest (obsession?) was sparked, and I wanted to find out what made these, and who lived here? It was not until I was out looking around in very heavy rain that I saw two long feelers sticking up out of the now completely saturated hole. They quickly disappeared back down the hole.

Ok, it looked like a crayfish...but I have only ever seen crayfish in creeks and dams, not on a dry, hungry ridge, so what gives? Continued attempts to get a good photo failed, however I did get an average shot which I sent to the Queensland Museum. What a great service the Museum offers for interested people like me! By this time I had asked around, and learnt of a rather interesting crayfish called the Inland Yabby. I wondered if this was it.

The reply came back from the Museum:-

"It seems that nothing much has been specifically done on Cherax punctatus, and indeed there may be some identity issues with that species (as indicated in the link)".

<http://www.aabio.com.au/cherax-punctatus-from-the-mary-river-drainage-queensland/>

Ok, good, progress.

I am lucky to work in natural resource management, and so dug a bit deeper with colleagues, one of which is Paul Donatui from Healthy Land and Water... who happens to have a mate who is with the Australian Crayfish Project (ACP).

<http://www.aabio.com.au/the-australian-crayfish-project/>

In a following deluge, I was finally able to get a good photo, and even a short video. I sent the photo to Paul, who sent it to Rob McCormick from ACP.

And woo hoo, I finally had a win.

"yes that's a Cherax punctatus. A cryptic species so photos are rare."

"Cherax punctatus will use streams but are not usually a stream crayfish. They have been referred to as a terrestrial crayfish..."

What a fascinating animal, one I have been privileged to meet. And they happen to live on a Nature Refuge, so their habitat is secure too.

But wait, there is more!

I sent the photo to Dr Ian Gynther, a friend and colleague. Ian likes interesting stuff, so was happy to have a look. Ian's trained eye picked up something that I did not. I thought the photo was good, as it showed the 'hairs' under the body of the crayfish...not so! From Ian...

"In my haste last week, I didn't notice the extra detail in your wonderful photo of the delightful crayfish. Check out the critters I've pointed out with red arrows in the attached version of one of your photos. These are commensal flatworms that live on the cray. They go by the genus name of Temnocephala. When the cray is out of the water, the flatworms just appear like amorphous blobs and are hardly noticeable. When the cray is submerged, the flatworms extend their long, thin tentacles from the head end and look a bit like a Hydra."

Cool, eh? I've never fully understood the true nature of the commensal relationship, i.e. what each party gets out of the hitchhiking arrangement."

**Article and photos by Phil Moran
Land for Wildlife member
Cooran, Sunshine Coast
Manager, Noosa & District Landcare**

A dry, hungry ridge - unexpected habitat for yabbies.



Above and below, yabby holes.



The mystery solved, *Cherax punctatus*, complete with flatworms!





Creating frog-friendly habitats

Above: Jada and Jules, resident Green Treefrogs at the author's pond.

Below: A dedicated area the author constructed to house a group of six captive Eastern Water Dragons and which also supports a healthy frog population, with at least four species present.

Bottom: Pots and dense plants make good refuges for frogs, providing protection from predators and hot, dry conditions. Use local native plants to support the insects that frogs feed on and to provide for other wildlife.



Creating or maintaining frog-friendly habitats is one way we can contribute to maintaining the health of our environment and protecting our local frog populations from decline.

Another advantage is the obvious aesthetic appeal to your garden.

Frogs (and tadpoles):

- are an important link in the food chain
- help with insect control
- are an indicator of the health of micro-systems (due to their permeable skin and sensitivity to change or chemicals)
- help control algae levels in ponds

What do frogs need?

1. A place to hide, from predators and hot, dry conditions

Frogs shelter in many places depending on whether they are ground-dwelling or arboreal (tree climbing). Frogs naturally prefer cooler, moist places. This can be achieved by the careful placement and partial burying of terracotta pots or ceramic pipes. Provide thick leaf litter with rocks and logs to hide in, and digging spots for burrowing frogs.

2. Food

Adult frogs are insect eaters. It is relatively easy to attract insects to your frog area.

- Install solar lights that turn on at dusk to attract moths and other flying insects at the right time for the frogs.
- Good selection and density of plants to encourage insect life providing a variety of food options for your resident frogs.

3. A place to breed

Most frogs require a permanent source of moisture to successfully breed such as a pond, dam or river. Providing clean water will in turn provide a stable breeding site. Different frog species have different breeding habitat requirements, so read up on your local frogs and their specific requirements.

Build it (right) and they will come!

Before you begin, look around as you may be surprised by what you find and where. Particularly take notice of the natural lay of the land. You can use low-lying areas to your advantage; these make ideal hideaway spots for frogs that are enhanced by strategic positioning of logs, rocks and other suitable hides. Extend these features into water if possible, they are essential shelter for frogs from predators and weather. Remember to check for the location of pipes before digging! There are no single rules for constructing a frog suitable habitat and the adage of 'many roads lead to Rome' rings true.

Location

- Water areas may be a hazard to small children so you may need to make plans to reduce risk and provide child-friendly fencing.
- Frogs can be quite noisy with the onset of rain or the breeding season so choose the location of your frog-friendly area carefully!! You may need to select a spot well away from your and your neighbour's windows.
- Domestic animals can be a major threat to the survival of frogs and other native wildlife. Keep free-ranging chickens, dogs and cats out of your frog-friendly areas.
- Position your pond two-thirds in shade or use plants to provide shade (avoiding deciduous and toxic plants). Sunshine is needed for plants and to provide algae for tadpole food, too much is detrimental to water quality.
- Remember never to use pesticides on insects around your house as these may then poison your frogs. Let your frogs do the work on pest control!!

Structure

- Vary pond depth to include deep (cool) areas for the warmer months and shallow areas for easier frog entry and exit. This also allows tadpoles of different species to select their preferred water temperatures, increasing likelihood of morphing into frogs.
- Keep Cane Toads out! This means creating a 60cm high physical barrier, and extending this into the soil if your pond is at ground level. Or simply monitor your pond regularly and remove Cane Toad eggs when found.
- Avoid steep walls as small frogs may drown if they cannot exit easily.

Content

- Fill the pond with rainwater. If not possible, use tapwater treated to remove chlorine and fluoride.
- Provide loose substrate to support aquatic plants and invertebrates (another food source for frogs).
- Densely plant shallows and provide a variety of emergent, submerged and floating plants, preferably native species.
- Most fish eat frog eggs and/or tadpoles, however smaller species of the following native fish groups are frog-friendly and will help with mosquito control: blue eyes, smelts, hardyheads, Galaxias, pygmy perch, rainbowfish, carp gudgeons.
- A well-designed frog-friendly area will attract local native frogs. DO NOT relocate eggs or tadpoles from other areas to your pond, this is detrimental to the frogs and against the law. Be patient...they will come!

Globally frogs and toads are struggling. There have been significant declines related to pollution, loss of habitat, global warming, use of chemicals and the spread of disease, such as Chytrid fungus.

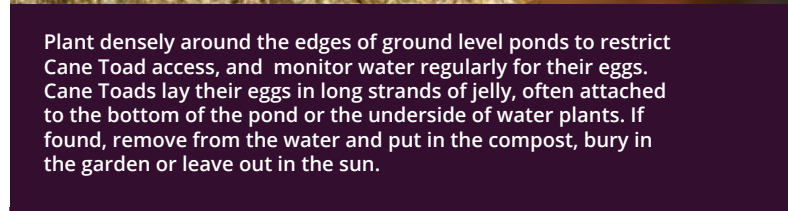
We can all do our bit to help local native frogs to stay 'common' and not end up on the threatened species list.



Graceful Tree Frogs can be difficult to find when sheltering from the sun, as they tuck their legs in tight, close their eyes, and are just a small green bump on a leaf or stem.



Clicking Froglets shelter under logs and other debris, usually near water and males can be heard day and night, all year round.



Plant densely around the edges of ground level ponds to restrict Cane Toad access, and monitor water regularly for their eggs. Cane Toads lay their eggs in long strands of jelly, often attached to the bottom of the pond or the underside of water plants. If found, remove from the water and put in the compost, bury in the garden or leave out in the sun.



Article and photos by Annette Bird
Land for Wildlife member
Jimboomba, Logan
President, Reptile Rehabilitation Qld

Creating wetland refugia AND REHYDRATING THE LAND

In 2010 Land for Wildlife encouraged us to apply for a grant to plant habitat species at our patch of ex-grazing pasture near Killarney.

The property was previously used as a beef grazing property and had been dormant for ten years. We acquired the tubestock plants and invited people to join us to plant them.

The plan was to plant groups of acacias and bullocks as windbreaks and then other trees to create wildlife corridors to link already established areas.

The planting went OK but the land was severely drought-affected and even with grow bags and water crystals there was a low survival rate, particularly as we lived off-site.

At this time, there was only one existing soak, on the western fence line, but the plan was to establish three more along the dish drain that feeds the dam.

The camber of the road plus sympathetic road maintenance work made it possible to collect a large amount of runoff from the hill allowing us to create soaks.

Each soak was a gravity-fed hole filled with 10 cubic metres of gravel, and with a large log placed across it for fauna to use.

The idea was to trap the water as high as possible on the property and allow it to rehydrate the land. This would enable

local endemic species to re-establish and we planted more seedlings to encourage the process.

After rain the dish drain's flow is impeded by the soaks, the downstream dam fills a little slower and water builds up.

The soaks have allowed the land to support more life, and even in the current drought, it is greener.

We keep adding soaks wherever possible.

Many thanks to Land for Wildlife for encouragement, the Landcare group at Killarney and also to Dick from SOWN (Save Our Waterways Now) who has supplied us with many free seedlings produced by Arthur Gorrie Correctional Centre in order to help us all realise the common goal of improving the environment.

Article and photos by Roo Friend & Clytie Binder
Land for Wildlife members
Killarney, QMDC

Sedges have established themselves along the edges of the soaks. Water stored below the gravel means the soak does not completely dry out.



A soak constructed in very dry land on the western fence line. The shade cloth provides a temporary windbreak to protect seedlings waiting to be planted.



After construction, the empty soak waiting for rain.



Salvinia:

WINNING THE WAR, ONE BOOM AT A TIME

Ipswich Land for Wildlife member, Leanne Field, is battling Salvinia (*Salvinia molesta*), a floating aquatic weed that infests still or slow moving water. Leanne's story was first featured in the April 2016 newsletter; two years on Leanne reflects on progress.

The water body (with a surface area of approximately three acres) on our property is divided into three sections by way of floating booms.

Two releases of Salvinia Weevil (*Cyrtobagous salviniae*) were initially conducted: the first in March 2014 in boom area 1; and the second in October 2015 in boom area 2. Boom area 3 was controlled by spraying with the herbicide Reglone using Agral as the wetting agent.

Boom area 1 has not been sprayed with the herbicide since the weevils were released. The weevils have had ample time to establish and we have noticed the incredible activity of the weevils, in particular during summer. As a result, large areas of Salvinia first yellowed, then went very brown and finally turned black and dropped just beneath the water where it is in the process of sinking.

Boom area 2, where we released the weevils in 2015, has had less time to establish, though there has been a significant amount of browning off of Salvinia - a sure sign of the weevils at work - in very large patches.

In boom area 3, we were managing Salvinia by way of a regimented and

controlled spraying regime, which kept this area completely devoid of Salvinia. However, we missed one spray (we went away on holidays) and within 14 days the once lovely clear surface of the water was completely covered with fresh new Salvinia growth! So we introduced some of the weevil-infected Salvinia from boom area 2 and within a few months noticed the Salvinia showing signs of weevil activity due to the yellowing/browning off. We won't conduct further spraying at this point in time as we want the weevil to establish in this area while we have the hot weather on our side.

Our plan was once the weather starts to cool and weevil activity slows, to spray any remaining Salvinia with herbicide.

But to date, we have not had to spray any of the remaining Salvinia as the weevils have established over the summer and effectively managed to control the infestation. We will keep a watch on this, though, as the extremely hot temperatures in February and March rain events have led to fresh young growth of Salvinia around the edge of boom area 3; this may need to be sprayed once we receive some fine weather. The ever-present native Common Duckweed (*Lemna aequinoctialis*), food for turtles and fish, has completely covered the other two boom areas and seems to be preventing new growth of Salvinia.

**Article and photos by Leanne Field
Land for Wildlife member
Blackstone, Ipswich**

Salvinia weevils being released by the landholder into the waterbody in September 2015.



The distinctive leaves and roots of Salvinia, a floating aquatic weed brought to Australia from Brazil in 1952.



The Salvinia Weevil x6 actual size (adults grow to 2mm). Photo by Craig Hunter.



In 2015, booms were installed to separate treatment areas. In the image below, the water surface is covered with Salvinia.



Now, the waterbody is nearly Salvinia free, though there's plenty of native duckweed. On a windy day, below left, the water surface is mostly clear. On a calm day, duckweed spreads out across the water surface; only small fragments of Salvinia now remain.



Walks in Nature: Australia

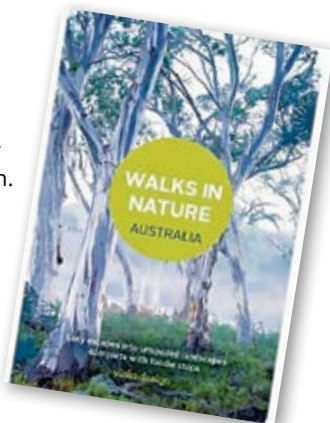
BY VIOLA DESIGN

This is a handy little book for travellers or residents wishing to venture into nature close to Australia's capital cities, and enjoy a good meal near their destination. All 112 walks in the book are within a two-hour drive of a State capital. Overview maps for each State show major roads and the locations of walks. Each walk has a detailed map of its immediate surrounds, together with a short description of the scenery and features to be enjoyed and a recommendation for local dining. Information on distance, track grade, best season and other notes help you to choose your walk. For SEQ, there are 16 walks, ranging from 6-17km, including city walks, walks around greater Brisbane and walks as far away as the Glasshouse Mountains, Springbrook and Moreton and North Stradbroke Islands. My only criticism is that the book misses many of the spectacular walks to the west of Brisbane, but maybe this lends weight to a call for the writing of a regionally focused publication, as has been done for other parts of Australia. Oh, and 10% of book sale profits made by Viola Design go to Bush Heritage Australia.

Review by Liz Gould

Walks in Nature: Australia, published by Explore Australia, 2015. Paperback, colour photos, maps. 264 pages. RRP: \$29.95.

Available from CSIRO Publishing or select online and in-person book stores.



Birds in their Habitats: Journeys with a Naturalist

BY IAN FRASER

In "Birds in their Habitats", Ian Fraser takes his readers on a journey around the world to peer into the fascinating lives of birds, their ecology and behaviour.

Like humans, birds can be found in nearly every habitat on earth, from deserts to rainforests to mountains to suburbia. Fraser has grouped his experiences and stories about birds (and the people who watch them!) together based on the habitat type in which they are found.

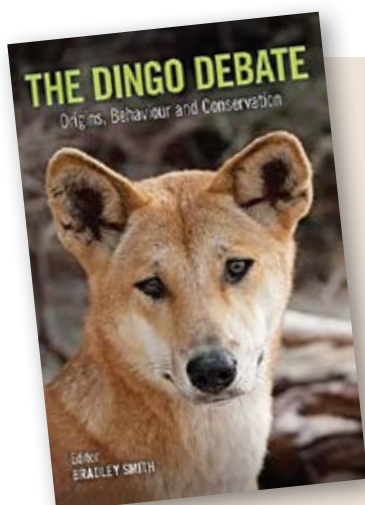
Though written in a conversational style, the book also unusually includes in-text referencing of the more interesting aspects of bird ecology. If tracking down articles in scientific journals is not your thing then many of the points and concepts raised in Fraser's anecdotes are also further explored in 'boxed essays' throughout the book. I will admit to finding these extra facts the most interesting aspect of the book. For example, did you know there are no actual blue pigments in blue feathers? Instead, the feather barbules are cleverly structured to absorb red and yellow light and only reflect blue light!

If you're a hard core twitcher you'll relate to the accounts of Fraser ticking off that special bird he's travelled far to see. If, like me, you are more of an opportunistic birder, this book still holds plenty of intriguing general information on birds to hold your interest.

Review by Peter Hayes

Birds in their Habitats, published by CSIRO Publishing, 2018. Paperback, colour photos, 240 pages. RRP: \$39.95.

Available from CSIRO Publishing or select online and in-person book stores.



The Dingo Debate

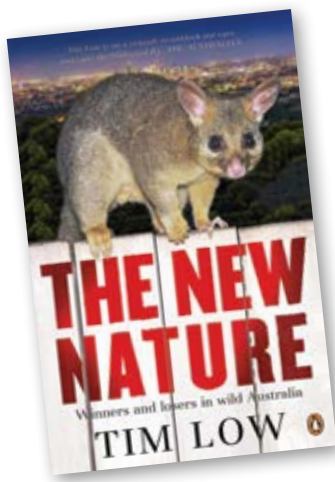
EDITED BY BRADLEY SMITH

Working in the modified landscape of South East Queensland, brings with it the challenges of managing the needs of nature and the needs of people. A prime example of this for me is the dingo debate. To support informed decisions on appropriate land management and wildlife conservation, we need answers to questions such as: What is the difference between a 'wild dog' and a 'dingo'? Are there dingos in SEQ? What is their cultural value? And their role in natural ecosystems? How do we manage conflicting management approaches? This book delves into these complex issues and many others. It is a structured and well-researched insight into these intelligent animals and their relationship with people and Australian ecosystems.

Review by Liz Gould

The Dingo Debate, published by CSIRO Publishing, 2015. Paperback, colour photos, illustrations. 336 pages. RRP: \$39.95.

Available from CSIRO Publishing or select online and in-person book stores.



The New Nature

2017 REVISED EDITION, BY TIM LOW

When I first read Tim Low's *The New Nature* in 2002 it made me question what I thought of as the

"natural" behaviour of native plants and animals. It also made me seriously rethink what would be classed as good habitat for different species. So it was with interest that I noticed a revised edition in one of my favourite book shops.

A large part of *The New Nature* covers the winners and losers when it comes to the new normal of the Australian environment. At times it can be a bit depressing reading repeated examples of just how much changes to land practices in the last 250 years have stuffed the environment up! But at the same time you could look at it as a celebration of how nature persists despite humanity's best efforts to destroy it. And it is a critique on our assumptions that we are separate from nature rather than a vital part of it.

The idea that nature is separate from us and is somehow better for this is challenged by Tim's many examples of plants and animals that are now heavily dependent on human modified landscapes. And it's not just common species like Noisy Miners, Tim has examples of threatened plants and animals that are dependent on what we would perceive as negative human practices for their survival.

While those species that readily take advantage of urban environments - think Rainbow Lorikeets and the Australian White Ibis (aka the bin chicken) - are viewed as winners, Tim challenges us to consider the losers as well. Especially when the winners negatively impact on the losers, for example Noisy Miners on the edges of urban residential areas that aggressively exclude many species of smaller birds from adjacent bushland areas. The preface to the 2017 edition introduces the concept of climate change winners and losers. These may be species that are increasing their range due to a warming climate at the disadvantage of other native species.

The New Nature challenges our stereotypes of what it means to be natural. It urges us to take a realistic view of our environment rather than a rose-coloured version of nature that only survives in special places like national parks. While it was good to read the new edition, there's not enough updates to the text to justify buying an updated copy if you already have one sitting on the bookshelf at home. While the new edition has some updates, mostly to do with flying-foxes, the book has not been thoroughly updated. However if you've never read *The New Nature* and you feel ready to be challenged on what is "natural" this book should nudge a few paradigms or at least confirm some of those niggling suspicions you've been having about what it means to be wild.

Review by Steph Reif

The New Nature, published by Penguin, 2017. Paperback, 416 pages. RRP: \$22.99

Available from select online and in-person book stores.

Rocky Outcrops in Australia

BY DAMIAN MICHAEL & DAVID LINDENMAYER

"Australia has a history far more ancient than any written - to read this history is one of the objects of geology - records preserved in the great stone-book of nature" J. Milne Curran (1989). And so, begins our journey into better understanding rocky outcrops, an ecologically significant and charismatic part of the Australian landscape.

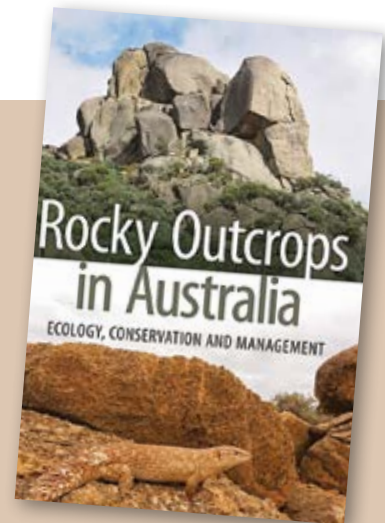
This book provides a basic introduction into the various geomorphic and geological foundations that have formed the vast diversity of rocky outcrops that occur throughout the landscape. The reader requires no previous knowledge of rock types or formations, but is provided with a comprehensive background in the basic geologies that make up these ancient landforms and fragile ecosystems within the first few pages.

I particularly like the insets that provide snap-shots including detailed and relevant examples of: unique rocky outcrops; protected, historically and culturally significant rocky outcrops; rare and

threatened fauna that rely on these formations; and management techniques and case studies on private and public land.

As an ecologist with a keen interest in herpetofauna (reptiles and amphibians), I was particularly interested in reading more about the various saxicolous fauna i.e. animals that specialise, or are dependant, on rocky outcrops to survive. There is a great amount of detail on microhabitat preferences and species specific habitat preferences that are unique to fauna dependant on rocky outcrops. Identifying these often rare and threatened species and their habitat preferences highlights unique difficulties in land management that are often associated with rocky outcrops on both private and public land.

The management and conservation advice defined in this book, highlights our broad-scale impact as land managers in an ever-changing landscape. Several Land for Wildlife members in the Moreton Bay Region and greater SEQ have rocky



outcrops and features present on their properties. This book identifies management and conservation advice that may assist land managers to successfully manage these biodiversity hotspots. If nothing else, it provides us all with a glimpse of the unique and little known world that lies within these sometimes vast and seemingly inhospitable places.

Review by De-Anne Attard

Rocky Outcrops in Australia, published by CSIRO Publishing, 2018. Colour photos, illustrations. 184 pages. RRP: \$49.95.

Available from CSIRO Publishing or select online and in-person book stores.



Uncovered beneath a sleeper, a Giant Centipede curls protectively around her young. She guards them from eggs to second stage hatchlings, then they are on their own. Photo by Stephanie Fielder.

Maligned myriapods ARE GOOD MUMS

The above image of a centipede curled protectively around her babies, shows another side to these often maligned myriapods (myriapods have many pairs of legs).

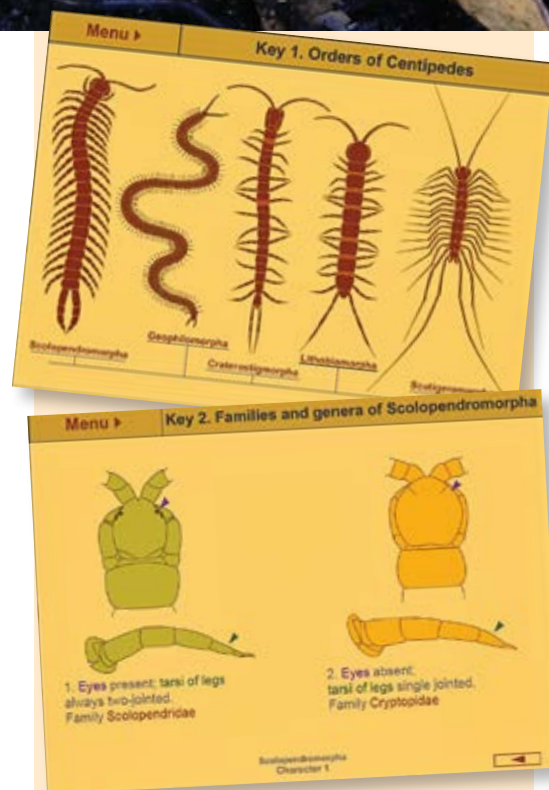
Centipedes are usually found in soil, leaf litter and under rocks or bark, but some venture into or prefer to reside in our homes.

Centipedes are fast-moving, venomous predators. A bite from their poison claws (modified legs) can cause minor to severe pain.

A bite from a Giant or Scolopendrid (from the order Scolopendriomorpha) Centipede is one to be particularly wary of. These centipedes grow up to 30cm long and have large forcipules (sickle-shaped pincers), with a blade-like inner edge used to inject venom.

Recent research by Dr Eivind Undheim from the University of Queensland, found that Giant Centipedes have "complex venom glands with many venom-producing structures". Dr Undheim and his research team examined the structure of venom glands through microscopes to find 100 times more venom glands than other types of centipede. And mass spectrometry revealed that each venom gland produced different types of chemicals at different concentrations.

Dr Undheim considers it possible that Giant Centipedes have a more varied diet, requiring a diversity of toxins.



CSIRO's online key makes centipede identification relatively simple, provided you can get them to stay still! <http://www.ento.csiro.au/biology/centipedes/centipedeKey.html>

References

- <http://coolcompanions.com.au/blog/australian-centipedes>
- <http://www.australiangeographic.com.au/news/2015/03/centipedes-buck-the-venom-rule>
- <http://www.qm.qld.gov.au>



Article by Liz Gould
Principal Scientist
Healthy Land and Water

Extension vital TO NATURE CONSERVATION

Stewardship, supervising or taking care of something, is often used in the context of land management to refer to the responsible use and protection of the natural environment through conservation and sustainable practices.

In South East Queensland, over 70% of land is managed by private land managers. This means responsibility for the condition of the region's natural values, e.g., its wildlife, bushland, waterways, soils and air, rests largely outside of governments and in the hands of the community.

Fostering and building a stewardship 'ethic' within the wider community is therefore vital to nature conservation.

A recent RMIT University study investigated three private land conservation initiatives, one in South Africa and two in Victoria, to understand the reasons behind people's involvement in conservation on private land.

Each of the three initiatives provided a different range of financial incentives, from long- and short- term conservation contracts, to carbon offsets and reverse auctions.

Interviews of 113 participants found that most were involved due to a "pre-existing stewardship ethic", meaning they were already inclined to participate and the financial incentives on offer were not the main driver (though they were useful to reduce the costs of land management).

Common to all programs was the value participants placed on extension support. This support enabled improved land management capacity and self-efficacy (belief in their ability to succeed at tasks). Most interviewees also wanted more extension support.

Landowners also wanted to connect with other landowners to share ideas and support each other.

The findings from the RMIT University study are consistent with those from the 2013 SEQ Land for Wildlife (LfW) program survey. This also found great value placed on visits by LfW officers, phone calls and email contact with LfW officers and the LfW newsletter. Workshops run by LfW officers facilitate networking and information sharing, as does the LfW SEQ Facebook page (see article on page 4).

The collective impact that over 4000 LfW members have on improving



landscape connectivity and creating and expanding wildlife habitats should not be underestimated, but at 4% of all private land in SEQ, there's a case for growth.

Reference

Selinske, M. (2017) More than just dollars and cents. Decision Point #102, 10-11



Article by Liz Gould
Principal Scientist
Healthy Land and Water



The SEQ Land for Wildlife team - nowhere else in Australia is there such dedicated support to private land managers for regional nature conservation.



HEALTHY LAND AND WATER AWARDS

*Entries close 5pm
Tuesday 01 May
2018*

The Healthy Land and Water Awards celebrate the dedication and passion of people working to ensure future generations can enjoy healthy landscapes, waterways and habitats.

All entries to the Awards are judged by an independent panel of experts and winners will be announced at the renowned Healthy Land and Water Awards Gala Dinner on Friday 27 July 2018.

Healthy Habitat Category

This new Award category is open to individuals and groups who have co-ordinated on-ground projects and initiatives that restore and protect native habitats, wildlife or plant species.

Submission Criteria

ALL submissions must address the following criteria and have referees.

- Key achievements (groups to provide detail on environmental, educational, economic and social outcomes)
- Alignment with your own values
- Alignment with Healthy Land and Water's vision and values
- Challenges or obstacles that you overcame

Additional Criteria

INDIVIDUALS

- Contribution to protecting and improving the natural environment and local communities

GROUPS

- Efficiency with funding and resources



To Enter

Simply visit www.hlw.org.au/awards and complete the online entry form.

Know someone too modest to enter? Nominate them via the quick and easy online nomination form!

*Share in \$19,000
prize money*

WWW.HLW.ORG.AU/AWARDS



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