

LAND FOR WILDLIFE

SOUTH EAST QUEENSLAND

newsletter

JANUARY 2018 | VOLUME 12 NUMBER 1 | ISSN 1835-3851



Plant ID Tags



Habitat Poles

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CELEBRATING

20
YEARS

1998 - 2018

Welcome to the new-look *Land for Wildlife South East Queensland Newsletter*. This year marks the 20th year of the Land for Wildlife program in South East Queensland and we are delighted to kick-off celebrations with this refreshed newsletter.

Firstly, I would like to congratulate everyone who has been involved in the program over the past twenty years. To the members, the officers and the supporters – congratulations and thank you for helping create this remarkable program.

The program was officially launched on 26 July 1998 with the first edition of this newsletter distributed to 93 Land for Wildlife members in September that year. It was a humble black and white newsletter, but contained still-relevant articles on Glossy Black Cockatoos and landholders integrating conservation with grazing.

The world of print, photography and restoration ecology has changed remarkably since 1998. I hope that this refreshed look offers a solid platform for this newsletter to stay adaptable and relevant for years to come. It has been my privilege to edit this publication since 2004 and to bring many otherwise untold stories to life.

This edition contains four articles from my favourite category – Practicalities.



Here, handy land management tips are shared, such as how to make long-lasting plant labels to help learn botanical names. Advanced 'nest boxing' using habitat poles, or more creatively, 'artificial trees' to provide habitat for hollow-dependent wildlife. I think this is especially promising in large-scale revegetation areas to encourage beneficial insect-eating wildlife. Useful websites and apps are also explored – somewhat appropriate for our 20th anniversary, as none of these tools existed a mere twenty years ago.

From mid-January to early April 2018, I will be taking long-service leave to recharge my batteries and enjoy as much time in nature as possible. This is my 54th edition as Editor, and I am happy to hand over the reins for a while. I wish you all a happy and safe start to the New Year and I hope you enjoy your new-look newsletter. As always, we welcome your contributions and feedback.



Deborah Metters
Land for Wildlife Regional
Coordinator
Healthy Land and Water

LANDHOLDER registrations

Land for Wildlife SEQ - 1/12/2017

Registered Properties **3380**

Working Towards
Registration **918**

Total Area Retained **61,502 ha**

Total Area under
Restoration **7,134 ha**

Print run - 4875

Back copies from 2007 - 2017
available for download from
www.lfwseq.org.au

Back copies from 1998 - 2006
available upon request to the Editor.

ISSN 1835-3851

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

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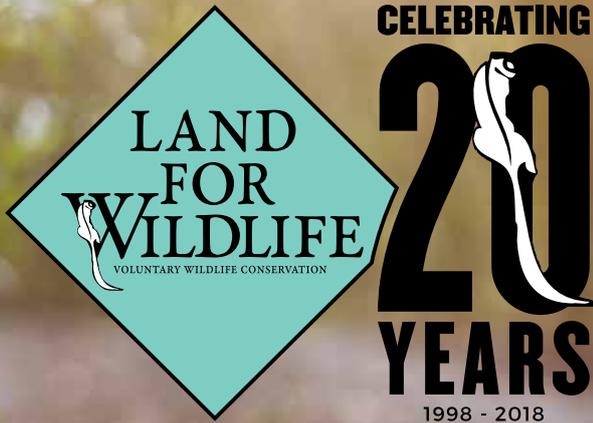
Land for Wildlife South East Queensland is a quarterly publication distributed free of charge to members of the Land for Wildlife program in South East Queensland.

lfwseq.org.au

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Published by Healthy Land and Water through funding from the Australian Government's National Landcare Programme

Cover photo:
Powerful Owl by Deborah Metters



NEWSLETTER MILESTONES



First Edition
September 1998
16 pages



Second Edition
March 1999
16 pages



February 2002
SEQ insert within the
Queensland newsletter
- 6 pages



October 2004
Start of the new era
16 pages - Duotone



October 2005
Grayscale & one
colour



August 2007
First full colour
edition



October 2017
Previous
edition



January 2012
New seasonal
colour scheme

EVERYONE LOVES A *good news story*

For 20 years, the *Land for Wildlife South East Queensland Newsletter* has been sharing stories about nature with those who care about it, manage it, and conserve it across the region. It has grown into a respected and welcomed quarterly publication full of diverse articles.

Since my first newsletter edition in October 2004, it has been my privilege to read stories from people from all corners of SEQ who care for this land and its wildlife. There are always good environmental stories out there, because there will always be land managers and supporters who work tirelessly for a better environment.

There is no denying that we live in difficult times for the Earth's wildlife and ecosystems, but the basic principle of Land for Wildlife, 'think global, act local' remains as relevant as ever. Given that the membership of our program keeps growing at roughly the same rate that it did 20 years ago, this says to me that the demand for a property-focused conservation program is still as strong as it was 20 years ago.

Offering a forum for landholders to share their conservation insights and successes, this newsletter has shared stories of landholders who have brought back threatened species and discovered new ways of restoring nature. This newsletter offers scientists the opportunity to share their research with the community and for the wonders of nature to be explored.

This newsletter has withstood changing governments, changing funding and the growth of the internet. According to the 2013 Land for Wildlife membership survey, this newsletter is the most useful program product and is read by 99% of all members with 65% of members reading every page. It is estimated that over 7000 people read this newsletter, so you are in good company.

Thank you to all the Land for Wildlife members, ecologists, students, Land for Wildlife Officers and others who have contributed to this newsletter over the years. Together, we have forged it into the unique product that you hold in your hands today.

Deborah Metters
Land for Wildlife Regional Coordinator
Healthy Land and Water



A ripe Black Apple is one of the nicest tasting bush tucker fruits.
Photo by Paul Donatui.

BLACK APPLE mystery

For many years I've enjoyed a morning walk with the family dog down Ducats Road in the beautiful Tallebudgera Valley. Recently, I spotted something unusual on the roadside, a large (5cm), hard, black fruit with a shape similar to an apple. At first I thought that it was an out-of-season Black Walnut (*Endriandra globosa*) as there are several mature specimens of this tree along the roadside. But no, this fruit had an apple-like indented stalk unlike the very round 'globosa'. So, a mystery to be investigated!

My skills in identifying rainforest trees and plants started from a zero base but long membership of Land for Wildlife, various courses, several visits from Land for Wildlife Officers and my own regeneration work over many years has given me some hard won ability to identify many of the local common trees. But this one was new to me!

I turned to my much-thumbed copy of *Mangroves to Mountains*, a gift from Land for Wildlife and an essential tool for the amateur. It led me to a candidate, the Black Apple (*Planchonella australis*), formerly called *Pouteria australis*. The next step was to find the source tree and see if the book description matched my call. A candidate was quickly spotted but I couldn't find any more fruit so some doubt remained.

About a week went by and my once rock-hard fruit had gone soft. Armed with a leaf sample and the ripe fruit, I called on my local Land for Wildlife network member, Michelle Benson, an old friend and tree ID guru, ever generous with her time and advice. Michelle quickly confirmed that this was indeed a Black Apple (*Planchonella australis*). As an aside, Michelle has a great Facebook page called Michelles Native Plants that details local native plants.

The fruit was cut up and the seeds saved to be propagated in her nursery and, with any luck, there will be one to plant in my regen area. The flesh was plum-like and we agreed that it was the nicest of all the bush tucker fruits we had ever sampled. I'm definitely planting one of these!

Discovering this fruit and having the means and network to identify it was a really positive and satisfying experience for me. Thanks Land for Wildlife!

Peter Biddle
Land for Wildlife member
Tallebudgera Valley, Gold Coast

letter to the editor



Original photo of phascogale remains by Michelle Ledwith, from the July 2017 *Land for Wildlife South East Queensland Newsletter*.

ANTECHINUS RESPONSIBLE FOR PHASCOGALE REMAINS

Just got your July newsletter (read them all from cover to cover) and wanted to comment on your 'Who Done It?' article.

I've got a friend who used to work for National Parks and has a property near Cullendore/Cherrabah.

He told me some time ago about observing this behaviour (turning prey neatly inside out) in Yellow-footed Antechinus on his property. He thinks it may possibly be the slightly larger Dusky Antechinus (if the phascogale was small enough) responsible for the remains found by Michelle Ledwith.

Mick Pospischil
Land for Wildlife member
Goomburra, Southern Downs

ENHANCING YOUR REVEGETATION SITE WITH *artificial trees*

The value of tree hollows to our native wildlife is well known. In South East Queensland alone, over 130 species have been identified as being dependent on hollows for their survival. Given that large hollows are typically associated with trees over 100 years old, providing adequate nesting and roosting sites in newly revegetated areas can be a challenge.

In 2011, Brisbane City Council faced this problem on a newly acquired site along the Brisbane River at Anstead. The 30 hectare property was purchased to create a larger corridor of natural area parkland along the Brisbane River, connecting Anstead Bushland Reserve and adjoining Land for Wildlife properties. Originally a cattle farm, the site was predominantly cleared with only isolated individual trees scattered throughout.

Revegetation work began in 2012 as an offset for the Legacy Way project. Approximately 92,000 native trees, shrubs and groundcovers have since been planted on site to recreate the original regional ecosystems found on the property. As the vegetation established, scratch marks were noticed on the trunks of tree saplings, indicating that arboreal species were beginning to use the area. But with only isolated existing large trees on the property, opportunities for nest and roosting sites were rare.

To help address this issue, habitat poles were installed across the site in 2014. Essentially artificial trees, the poles provide hollows, high points and refuges for a variety of bird species, gliders,

insectivorous bats and raptors.

The poles ranged in height from 6-11 metres with each having three or four nest boxes attached, including micro-bat boxes, parrot boxes and glider boxes.

A total of 38 poles and 130 boxes were installed across the property, located to align with the existing large living and stag (dead) trees that were already providing wildlife habitat.

Around six months after the first poles were installed an audit was undertaken to determine their effectiveness. Pale-headed Rosella and Owllet Nightjar chicks were found in two of the nest boxes, as well as scratching and other evidence of use by birds, including raptors, in many of the other boxes.

Another audit was undertaken in May 2015, approximately 12 months after the installation of the first poles and boxes and 6 months after the installation of the last poles. This showed that birds continued to utilise the poles and nest boxes however there was no evidence of mammal use at this point.

The poles and boxes were again audited in late 2017 with results due in early 2018. Watch this space for a follow-up story.

While there's no substitute for retaining existing large hollow-bearing trees on your property, habitat poles and nest boxes can provide roosts and nesting opportunities for wildlife on revegetation sites in the shorter term. Combined with protecting small existing trees and planting suitable species to provide nesting hollows in the future, habitat



Nest box poles at a large-scale revegetation site in Anstead, Brisbane provide valuable habitat for hollow-dependent wildlife. Photos by Peter Hayes.



Pale-headed Rosellas have successfully raised chicks in one of the nest boxes at Anstead. Photo by Alan Franks, Hollow Log Homes.

poles and nest boxes can help 'fill the gap' for native animals while your vegetation matures.

Encouraging gliders and microbats into revegetation sites may also help keep leaf-eating insects in check. Each glider or micro-bat eats hundreds of insects nightly, especially beetle larvae that can eat small, fast-growing trees. So nest box poles not only provide wildlife habitat, but can also help the revegetation.

For more information on nest boxes, check out the *Land for Wildlife Note A2: Nest Boxes* available at www.lfwseq.org.au/notes



**Article by Peter Hayes
Community Conservation
Partnerships
Brisbane City Council**



A flexible, affordable and ADAPTABLE PLANT LABELLING SYSTEM

Did you ever want to hug a tree, but you didn't know its name? Did you ever feel angry that a Jacaranda is more recognised and admired than a Flindersia? When these things happened to us, we organised ourselves with a flexible, affordable and adaptable labelling system to help us learn more about the bush around us.

Twenty years ago, we planted thirty rainforest trees with mysterious, complicated botanical names. These trees were carefully labelled with laminated inkjet-printed labels and their planting

date and location were recorded on a spreadsheet known as 'The List'. This List had initially been compiled from historical botanical surveys of adjacent properties and consisted of species considered to probably exist, or to have existed, on our property.

The vegetation on our property is a mix of dry rainforest, vine forest and eucalypt. The List was divided into categories: Rainforest, Eucalypt, Vines, Orchids, Ferns and Grasses and each separate category was sorted alphabetically by botanical name and numbered: Rainforest 1 – 299, Eucalypt 300 – 399, Vines 400 – 499 etc.

Many trees were planted using the same recording system. While the trees we planted grew big, the inkjet printing on the labels disappeared.

In 2008, Land for Wildlife organised a botanical survey of our property. As we walked the tracks, our botanist, Daniel, recorded the species he saw, and we took photos and wrote down the strange names with the help of our Land for Wildlife Officers. Daniel sent us an alphabetically arranged species list with no reference to the physical location of the trees recorded. However, any new species on Daniel's list were added to The List, and our familiarity with the strange plant names began to grow.

A patient neighbour was next to walk the tracks. We armed ourselves with aluminium tags with numbers written with a permanent-ink pen. These we attached to the various trees. We took photos and wrote down the tree names as we walked. Any new names were added to The List and our knowledge grew some more. However, the ink was not permanent and disappeared before we got around to doing anything more permanent.

In 2013, we organised ourselves for a series of botanical surveys, again provided by Land for Wildlife. We obtained aluminium tags and aluminium nails from Forestry Tools. We already had a set of number punches. On the day of the survey, we used foil-like temporary aluminium tags with the numbers imprinted using an old biro. Our Land for Wildlife Officer attached these to the

70mm long x25mm wide blank tags made from 0.6 thick aluminium, 57mm long 3.3 thick aluminium nails, together with tools used to stamp the number.



Setting up the punches



Drilling hole approximately 15mm deep into the tree



various trees in number sequence along the tracks, we took photos, and David, our other botanist, patiently recorded the species name together with the number on our temporary tag. After each survey, we received David's alphabetically arranged list co-related to the temporary tag numbers.

We immediately made and attached the permanent tags to the identified trees. After this initial tagging, any new species on The List just gets the next number and is therefore out of number sequence. However, a spreadsheet is adaptable and can be printed with various sorting sequences, such as by family name, or by botanical name.

Sorted by number, The List can be printed as a pocket version, for reference to the tag numbers when walking in the bush.

Having our trees labelled and identifiable is helping us to learn about the bush we live in. Hopefully, those who follow will know more about our native flora than we did when we started. Hopefully, they will know more about Flindersias than Jacarandas and be able to hug a tree and know its name.

Recently, we noticed red fruit in an unidentified tree, were able to confidently identify it as *Mischocarpus anodontus* and label it with its tag 147.

**Article and photos by Tina Heybroek
Land for Wildlife member
Upper Brookfield, Brisbane**

Stamping the tags



Hammering in the nail



Stamped Tags



Vine tags attached using cable ties and copper wire



Perseverance conquers all: OVER A DECADE OF RESTORATION AT FIG TREE POCKET

The new native forest where the old bamboo once stood.



One of the biggest challenges was a 1500 square metre area of running bamboo that had escaped from a neighbouring property. After a period of tackling this by cut and paint method with glyphosate, we soon realised that we were never going to win the battle by hand.

In Fig Tree Pocket, Sylvia Alexander and Ian Yeo have achieved significant restoration outcomes on their steep land draining to the Brisbane River, working together with their Land for Wildlife neighbours in the Foambark Gully gang. In this article, Sylvia reflects on their challenges and successes.

Our property has been in the family since the 1960s, and was registered in Land for Wildlife in 2003. In 2005 we moved in to rent and with no knowledge or experience, we started some initial clearing around the house. Only with a machete could we access a lot of the land. Realising it was a unique and amazing place, we bought the property in 2008 and remained with Land for Wildlife ourselves.

The property had severe infestations of Cat's Claw Creeper, Madeira Vine, Balloon Vine, Glycine, Climbing Asparagus Fern, Ochna, Lantana, Cocos Palm, and probably 70% of the mature trees on the property were Chinese Celtis. At the time, we had no idea what we were getting into and how, once we started, there was no turning back!



In August 2011 we hired a forest mulcher to cut and mulch the bamboo to ground, and had 30 smaller Chinese Celtis and some Lantana along the creek cut and mulched at the same time. Despite follow up herbicide treatment, bamboo regrowth came up again after a couple of weeks.

We weeded and started planting natives in other areas. Most of the property was inundated for days by the Brisbane River flood in January 2011. This left behind a lot of dead plantings, dead native trees, and more weeds. In September 2011, Brisbane City Council provided post-flood assistance with a team from Conservation Volunteers Australia who replanted 100 plants with lucerne mulch in the gully below the bamboo.

In 2014, along with our two Land for Wildlife neighbours we established a corridor for the vulnerable Richmond Birdwing Butterfly, planting 300 of their food vines. Over 200 vines have survived across the three properties (see article in the July 2015 *Land for Wildlife South East Queensland Newsletter* – available at www.lfwseq.org.au/newsletters). This year we have had significant growth with a large number of vines flowering and producing seeds.

In 2015, we received a grant through Brisbane City Council's Community Conservation Assistance program for contractors to treat half a hectare of dense weeds on the eastern side of the gully, targeting Cat's Claw Creeper, Madeira Vine, Climbing Asparagus Fern, Balloon Vine, Ochna, Lantana and Chinese Celtis. Initially all the native plants were tagged, and we selected large Celtis for retention to keep some canopy cover. This treatment was very successful and a year later there is significant regeneration.

We have used a lot of the cut Celtis logs on the banks of the gully to stop erosion, and have also used the tops of them to make piles that the small birds and other animals enjoy for shelter. In 2017 we have guarded around 90 native regenerated trees (a lot wattles) to protect them from wallabies, hares, brush turkeys and spraying.



A pair of Powerful Owls roost in one of the large fig trees along Foambark Gully. Photo by Deborah Metters.

Having things naturally regenerate is very rewarding. We initially had to do a lot of spraying but now in the areas where we no longer spray there is a lot of regeneration. It is particularly good to see seedlings come up from trees we have planted and to see birds nesting in those trees.

Over the years we have identified 100 bird species on our property. We now host an annual birdwalk organised by Cubberla Witton Catchment Network. It is wonderful to see others come and enjoy our property and what it has to offer.

Our most exciting visitor is the Powerful Owl that we see roosting from time to time, though they have yet to use the nest box built for them. Brisbane City Council conducted a microbat survey here in 2015 with eight different bat species identified. Council has also helped us do fox trapping with some success.

One of our biggest inspirations are our neighbours, Niki and Vernon Hill. Since we started this process of restoration we have learnt a huge amount, particularly about plants from them. They also have inspired us to learn more about the butterflies. Not only have they imparted their knowledge, they are always willing to lend a hand or chainsaw when needed and to provide propagated plants.

The support from the Land for Wildlife Officers we have had over the years has been invaluable. Coming from a base of no knowledge, their visits and all the factsheets and newsletters have been great sources of information. Most importantly their continued encouragement and enthusiasm have helped us to continue when it has been quite daunting.

We still have so much to do. There are still areas that we haven't touched so I think the weed control and replanting will see us out. We are yet to tackle the lower section of deep gully that runs into the river. Whilst we do enjoy sitting and marveling at our surrounds we still have a long way to go.

Our advice to others is that perseverance conquers all. Keep chipping away. Because you see your property all the time you may not appreciate how far it has come. Take progress photos. Get the weedy vines out of the trees and go from there.

You can follow Sylvia and Ian's blog at <http://foambarkgully.blogspot.com.au/>

**Article and photos by Sylvia Alexander
Land for Wildlife member
Fig Tree Pocket, Brisbane**



By October 2011, we had concluded we had to remove all the underground runners to stop the bamboo completely, so we hired an excavator to dig all the bamboo runners out.



This photo was taken in late 2014 one year after planting. We planted this bottom third of the cleared bamboo area in February 2013, and the remaining area in September. October 2013 was hot and windy and we did lose some, but replanted. After the initial year of watering, guarding and weeding the area it is now almost maintenance free.



New forest in 2017. It is very satisfying to see the bamboo eliminated and to walk under the trees we have planted.



How to conserve the THREATENED POWERFUL OWL IN SOUTH EAST QUEENSLAND

Above left: Powerful Owls have vast home ranges and depend on large tree hollows as breeding sites. These large hollows take hundreds of years to form and are indispensable to Powerful Owls, which, so far, have never successfully used nest boxes. Photo by Richard Jackson.

Above right: Powerful Owls roost during the day in shady, protected areas along gullies, waterways or underneath the canopy of large, dense trees. Photo by Deborah Metters.

Have you heard strange noises in the night? Well they may not be what you think. The large Powerful Owl might just be active in your backyard.

Powerful Owls are an important top predator and are listed as Vulnerable in Queensland. Powerful Owls require plenty of food in their territories as well as large tree hollows for breeding. It is thought that a reduction in large tree hollows is one of the main factors in Powerful Owl population declines.

BirdLife Southern Queensland is hoping to uncover how many owl pairs are breeding in the South East Queensland (SEQ) region, and what factors are related to Powerful Owls raising young successfully. BirdLife has recently started giving public workshops to teach people about owls and will be formally surveying them too.

The Powerful Owl breeding season begins in late March and extends through September. People may start hearing owls calling in March and April, and then might hear them again in August or September when the calls of young owlets begging for dinner may fill the night air.

Birdlife Australia's Powerful Owl Project is a citizen science project working to protect these birds in urban environments, and would love to hear about any bird sightings: just enter your sightings here <https://birdata.birdlife.org.au>

Early in 2018 in the Logan and Brisbane regions, BirdLife will be holding workshops on owls and providing training for volunteers interested in either surveying for owls or actively monitoring a pair of Powerful Owls throughout the breeding season.

If getting involved in helping conserve one of our most majestic birds is of interest, or you just want updates on the project please contact Dr Rob Clemens at brisbane.owls@gmail.com.

This project is modelled after the highly successful Powerful Owl program in Sydney: visit <http://birdlife.org.au/projects/powerful-owl-project> to learn more. In other regions, the Powerful Owl project has proven to be one that effectively monitors this threatened species and delivers concrete management recommendations to help ensure the persistence of these owls in and around large urban centres. Here in



Hollows that are suitable for large owls often have smoothed edges so the adult owls and their juveniles can perch on the edge of the nest. Photo by Richard Jackson, www.owlphotographer.com

SEQ, we are looking forward to rolling out this project.

This project is proudly supported by Logan City Council and Brisbane City Council.

**Article by Rob Clemens
BirdLife Southern Queensland**

online tools

FOR DISCOVERING INFORMATION ABOUT YOUR PROPERTY

There are many handy online tools available to help landholders learn more about and help manage their properties. Shown here are just a few that I thought might be useful to Land for Wildlife members.

» Finding your LotPlans (eAtlas)

<http://eatlas.org.au/content/qld-dnrm-property-boundaries>

eAtlas is an easy way to look up the Lot on Plan number for your property. The Lot on Plan number is used in several online tools to identify your property and generate reports, so it is an important reference number to have handy.

» BioMaps

<http://qldspatial.information.qld.gov.au/biomaps/>

Biomaps showcases 17 Queensland spatial layers relating to WildNet data (plant and animal observations), administrative layers, biodiversity, wetlands and vegetation. You can search by Lot on Plan, local government and protected areas. It also has the ability to generate reports for properties and drawn areas including reports that summarise WildNet data.

» QImagery

<https://qimagery.information.qld.gov.au/>

QImagery is the Qld Governments' online collection of historical aerial photography. It covers the 1930s to 2009. Simply enter your address and click Search to find a list of images available for your area. Note that earlier images may not be accurately geo-referenced, so the locations can be out by quite a bit. Try travelling backwards in time through the images to follow the changing landscape features.

» Avenza

www.avenza.com/pdf-maps

Avenza is a mobile app which allows you to import geo-referenced PDF maps and then uses the Location function (GPS) on your phone to place a pin on the map at your location. It can also record point information so is handy if you are out on your property and find something of interest. See Nick's article on page 12 for more details.

» Queensland Property Reports Service

www.qld.gov.au/environment/land/vegetation/map-request

This service generates relevant property information and maps upon request. A variety of reports are available including protected plants survey triggers, land suitability and regulated vegetation. Only one Lot on Plan can be queried per report, so if you have a large property consisting of multiple Lot on Plans, this may be a little time-consuming.

» SEQ Story Maps

<http://hlw.org.au/services/gis-mapping>

Healthy Land and Water have produced a collection of interactive online story maps covering a wide range of topics. The stories are packed with useful information on fish habitats, Citizen Science projects, rainforests affected by climate variability and erosion hazard risk areas. Story maps are created on a regular basis so check in every now and then to see what's new.

» The new Qld Globe

<https://qldglobe.information.qld.gov.au/>

The Qld Globe is a compilation of spatial data held by the Queensland Government. Because there is so much information in the Globe, it can take a little while to customise the map with what you want. There are quite a few menus to explore as well. You will need a good internet connection, as some of the layers are quite large and will take time to load particularly complex layers such as Regional Ecosystems. Note that although the imagery is recent, the Regional Ecosystem data is two versions behind.

» High Resolution Maps of Land for Wildlife Properties

www.lfwseq.org.au/maps

Healthy Land and Water can produce high-resolution laminated maps of your property in either A3 or A1 formats upon request. Using the latest aerial imagery, these maps can be useful tools for property planning or can be proudly displayed in your home. Features such as contours, Lidar (digital elevation) and historical 'before and after' images can also be ordered.

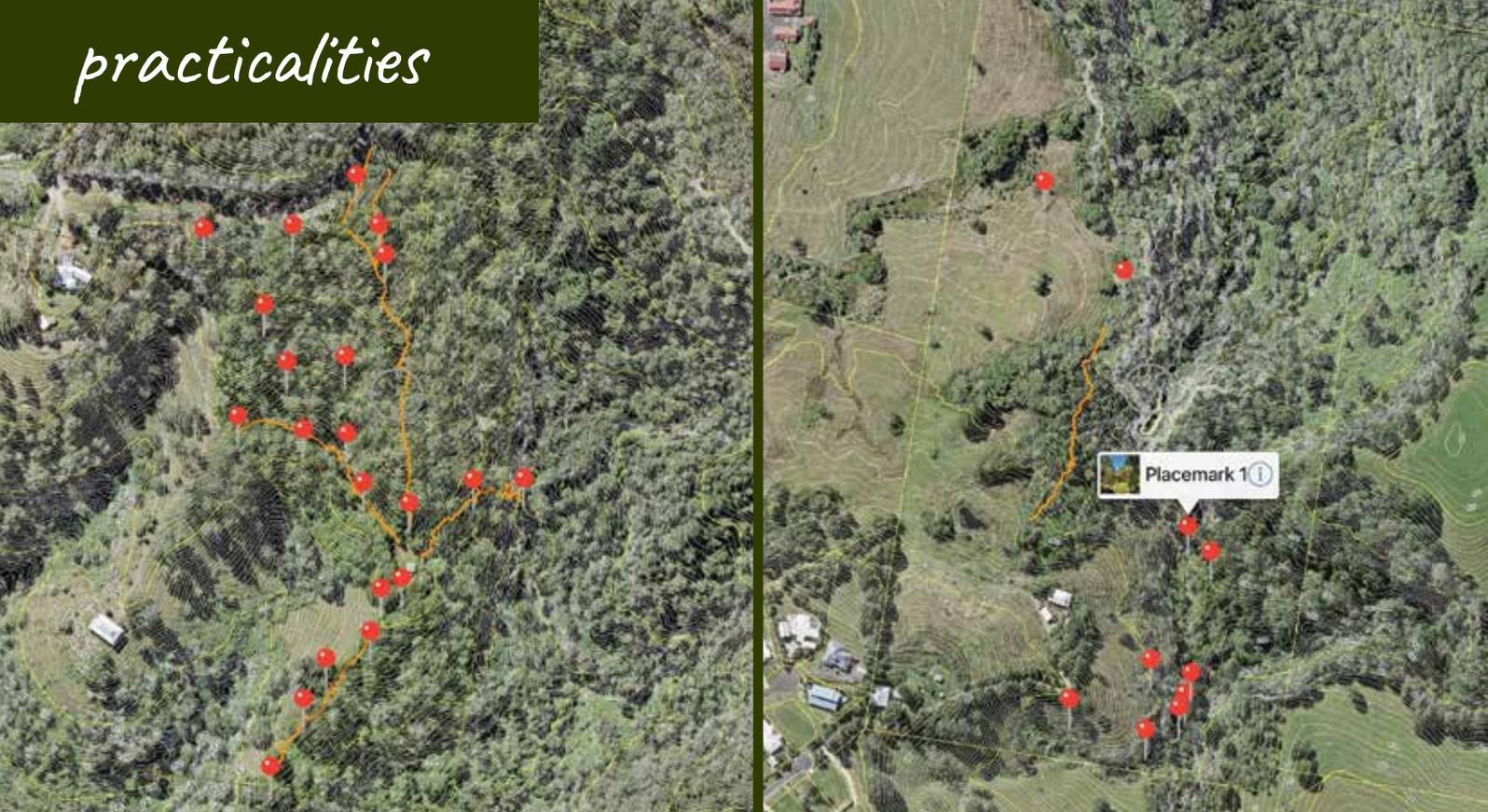
**Article by Melissa Walker
Knowledge Innovations Officer
Healthy Land and Water**



Historical aerial maps can be viewed via QImagery.



WildNet data (plant and animal observations) can be viewed via BioMaps.



Avenza Maps

A MAPPING APP FOR MOBILE DEVICES

Have you ever wanted to locate that elusive back corner peg on your property? Or perhaps you would like to create your own property map with all your tracks overlaid on an aerial photo. Maybe you're directionally challenged and are constantly getting lost on your bush block. If any of these ring true and you have a mobile device then you should find the Avenza Maps app useful.

While this app was primarily designed for hikers to navigate remote back country, property owners will find it just as useful. Avenza Maps can essentially bring together an aerial photo of your property with the capabilities of a GPS in the one mapping tool. It can be used as both a navigational tool and for data logging or record keeping. I have been using it for a few years now because it is one of the few hand-held mapping tools that doesn't require mobile network coverage. As I am sure many of you would attest to, a lot of Land for Wildlife properties have little or no mobile phone coverage.

Avenza Maps enables you to download maps for offline use on your Apple iPhone, iPad and iPod Touch devices as well as for most Android devices running Android 4.0 and higher. Personally I find

the small screen of a phone a bit limiting compared to a tablet.

The app uses your device's built-in GPS to track your location on the map in real time as you move around your property. There is a digital library of published maps available for download (unfortunately most are from the northern hemisphere) or you can upload your own geo-referenced pdf property map. Such maps are available through some Council mapping sites such as 'Mymaps' on the Sunshine Coast Council website. Alternatively you can request a digital map from your local Land for Wildlife Officer.

Once your map is saved on the app you can go back to it at any time and add more information, you can pan or zoom-in easily using your fingers on the touch pad. For the more tech savvy users you can export your GPS tracks and place-marks as a KML file and view them on Google Earth.

The app also has a range of tools that allow you to plot and record information about locations. For example, you can use the tracking tool to map out your property tracks and trails. You can map weed infestations and record details on when and where you undertook control works or planted trees.

Once you have saved the coordinates of a location you can then use the app to navigate back to that location at a later date. If you take a photo using your mobile device it can be geo-referenced to that exact location, with the date and any notes recorded. You can also import and export place-marks as well as measure distance, area and elevation.

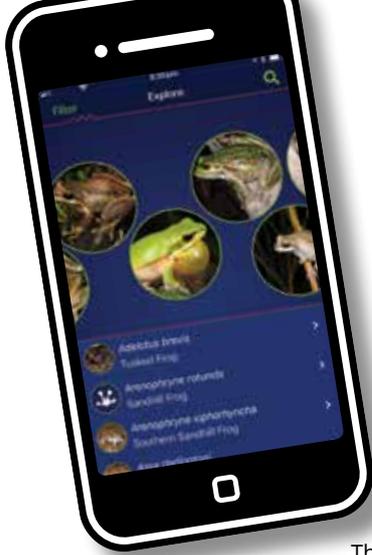
Avenza Maps is an easy to use mobile mapping tool for landholders that want to keep a spatial record of their management activities. It makes the task of creating a basic property plan/map accessible to landholders without the need for specialised GIS skills or programs.

If you are only using a couple of your own property maps then the app is free. Or you can opt to pay an annual subscription fee and download as many maps as you need.

Further information is available at www.pdf-maps.com/support



**Article by Nick Clancy
Land for Wildlife Officer
Sunshine Coast Council**



FrogID

BY AUSTRALIAN MUSEUM

FrogID is a new citizen science initiative by the Australian Museum to help researchers gather data on Australia's frogs.

This free app has two main features; the first, labelled 'Explore' is a field guide to over 240 species of Australian frogs displayed in circular windows or 'bubbles', there is also a list view below. This list can be refined through the use of filters which limit the frog species displayed by location, calling period, habitat, size and/or colour.

It is recommended to always have the 'Near Me' filter turned on so that only frogs known to be in your area are displayed.

Once filters have been set, frogs that are most common and are likely to be calling at the time are listed first in larger bubbles. Frogs that are less common or may not be calling are discovered as you scroll right displayed in bubbles which decrease in size.

Every Australian frog has its own unique call and the second feature of the app uses that to match a recorded frog call with a database of frog calls. You will need to record at least 20 seconds of a frog call, and it will help if there is only one species of frog calling and low ambient noise (wind, rain, water or traffic).

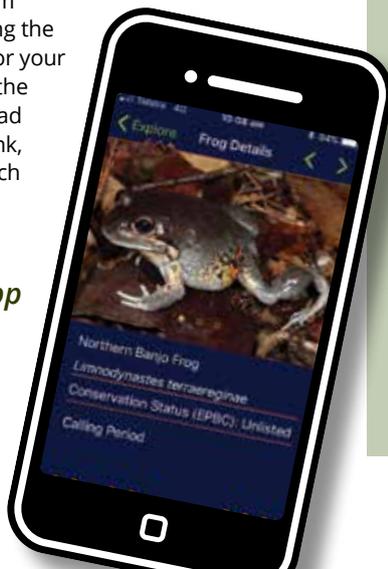
Once you have made your 20 second recording you can add some information about habitat and water body type. The app will then supply a list of matches for your recording, listen to the recordings of each frog in the list and try to match with one that sounds like yours. Once you have found a match you can then submit your recording to be verified by an expert.

To submit recordings for verification you will need to create a profile by signing in with an email address. However you can download and use the app without creating a profile.

I found the app easy to use with good information, photos and sound recordings of most of our local frogs. Only one common name is used and this may be different to what you know the frog as or the common name used in the Queensland Museum guides so it's worth learning the scientific names, at least for your local frogs. An example is the Northern Banjo Frog instead of Scarlet-sided Pobblebonk, no prizes for guessing which name I prefer.

Review by Alan Wynn

Apple or Android App
November 2017 -
version 1.0.5
123 MB, Free



Tree Tales FOR SUMMER

For some holiday reading, here are four recently released books that explore our connection with trees. They look at the ways in which we value trees - spiritually, scientifically and practically, and how trees connect with each other and with countless other beings and matter to form an ecosystem. None of these books, unfortunately, are Australian, but their messages are universal.

If you are after an upbeat personal story about one man's delight in discovering nature and human history within his recently-acquired patch of Lambridge Wood, then *The Wood for the Trees* is for you. The author beautifully describes the changes that he sees in the forest each month for one year weaving literature and English history into his story. He explores the soil, fungi, bluebells, frost, moss, spiders and medieval reminders among other things.

The Songs of Trees recounts the author's personal connection with a dozen individual trees from around the globe. He has regularly visited them for decades, recording their vital signs. Ultrasonic recordings chart their 'heartbeat' showing when they 'drink' water and when they tense during drought. Biological recordings reveal networks with fungi and other organisms that blur the line between tree and non-tree. It points to a different view of nature where organisms overlap, embed and interconnect, rather than sit separately. This book's content matches the author's writing style - insightful, eloquent, and erudite making it a slow, delightful read.

The Hidden Life of Trees arrives at a similar conclusion to *The Songs of Trees* in that it is quite human-centric and arbitrary to make distinctions between plants and other organisms. The author deliberately uses words traditionally reserved to describe animal traits such as hearing, talking, touch, loneliness and healing, to describe trees. Given that it was not that long ago that people thought that humans were the only animal able to feel emotions, this book pushes us further to consider whether plants also 'feel' and that their health is intrinsically linked to their surrounds, or their 'community'.

Finally, *The Long Long Life of Trees* presents a rich, illustrative story about 17 European tree species. Combining folklore, history and humour, the author lets the reader in to the minds of locals who value some trees as much as they complain about others. I have not spent time in England, but I still enjoyed getting a taste of English values towards certain tree species amid changing attitudes and social norms over time.

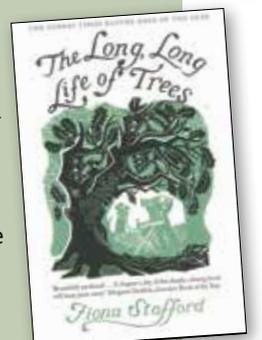
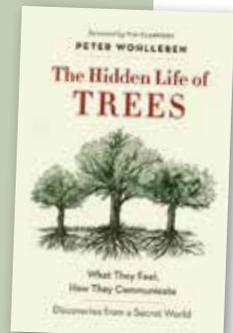
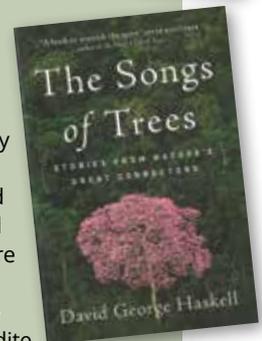
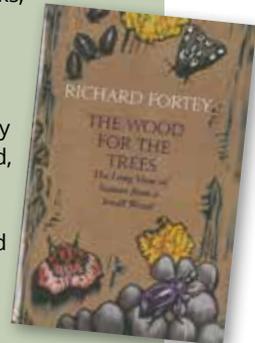
The Wood for the Trees by Richard Fortey, 2016, William Collins.

The Songs of Trees by David George Haskell, 2017, Black Inc.

The Hidden Life of Trees by Peter Wohlleben, 2016, Black Inc.

The Long Long Life of Trees by Fiona Stafford, 2017, Yale University Press.

Review by Deborah Metters





Creeping Ruellia (*Ruellia squarrosa*) flower (above) and leaf and flower undersides (right). Photos by Fflur Collier.



Article by Fflur Collier
Land for Wildlife Officer
Brisbane City Council

Ruellias JUMP THE FENCE FROM GARDENS TO BUSHLAND

There are two similar looking species of Ruellia that have escaped from being garden ornamentals to emerging environmental weeds across a broad range of habitats in South East Queensland (SEQ).

Creeping Ruellia (*Ruellia squarrosa*)

Also known as Water Bluebell or Blue Shade, this plant is native to southern Mexico and occurs in natural watercourses, forest edges and disturbed zones. It is a sprawling perennial herb with branches to 60cm. It has square stems which grow from underground rhizomes.

The leaves are 7cm long x 2-3cm wide and are soft, green and fuzzy with dense white hairs, particularly in younger leaves. The soft flowers are tubular, 4cm long and around 5cm across, with 5 petal lobes and are mauve to bluish-pink in colour. These develop into small, cigar shaped capsules, 12-15mm long, containing 16-20 seeds, which dry out and explode, scattering the seeds.

Creeping Ruellia flowers for most of the year and is more likely to spread by underground runners than by seed.

Mexican Petunia (*Ruellia simplex*, synonyms *R. tweediana*, *R. brittonia*)

Also known as Mexican Bluebell or Britton's Wild Petunia, this plant is native to Mexico, the Caribbean and South America. It now occurs across SEQ in natural waterways, drains, dams, ponds, and wetlands.

This plant also grows from underground rhizomes and can become a multi-stemmed perennial shrub, reaching 1-1.5m high. The square stems become woody with age.

The leaves are long and narrow (5-20cm long and 5-20mm wide), hairless, obviously veined, oppositely arranged and may have a slight purple tinge.

The soft tubular flowers are generally 4cm long and around 5cm across, with 5 petal lobes, and are whitish mauve to deep purple in colour. Sepals clutching the tube base are often hairy. These also develop into a cigar-shaped capsule which explode. Mexican Petunia seeds do not persist in the soil, suggesting that the seeds germinate readily once released from the parent plant.

Both of the above-mentioned Ruellia species can form dense monocultures

that out-compete native plants. They can invade in sunny areas but also thrive in deep shade, and do well even when overgrown by other plants.

Eradication may prove to be difficult for both weedy Ruellias. Manual removal through hand pulling can be effective for small areas or individual plants; however, stems easily breakoff and all vegetative material must be removed to prevent regrowth from the underground rhizomes.

Under the off label permit (PER11463) careful foliar spraying with an aquatic suitable glyphosate 360g/L herbicide at a rate of 100ml per 10L of water can prove successful with weedy Ruellias. Do not spray onto water and take care to avoid overspray or spray drift when spraying around native plants and in windy conditions.

Gradual mosaic removal of very small patches, and replacement planting of native plants is recommended where weedy Ruellias have become dominant. This approach is essential in sensitive locations like creek banks or beds where erosion risk is high, and to maintain functional habitat for native wildlife that utilise these weeds.

Weedy Ruellias are host plants for the Dainty Grass-blue (*Zizula hylax*). If you



Creeping Ruellia is a host plant for the Dainty Grass-blue, one of the smallest butterflies in SEQ. Photo by Deborah Metters.



Creeping Ruellia will out-compete most native plants forming dense Ruellia patches. Photo by Alan Wynn.

see a very small blue-grey butterfly flying close or settling on Ruellia, you may wish to delay the control of Ruellia. The native host plant for the Dainty Grass-blue is Karamat (*Hygrophila angustifolia*) and may be planted along watercourses as replacement habitat.

Stony Creek Frogs (*Litoria wilcoxii*) have also been observed relying on stands of *Ruellia tweediana* in areas of Enoggera Creek catchment. Depending on the site, you may wish to consider leaving a small manageable area of Ruellia for butterflies and frogs.

When controlling understorey weeds such as weedy Ruellias, follow-up control is vital to ensure that secondary weeds do not replace the original weed.

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Reinhardt Adams C, Weise C and Lee LC (2015) Native recolonization following control of invasive *Ruellia simplex* in a cypress floodplain forest. *Applied Vegetation Science* 18: 694-704.

Sunshine Coast Council Weed Factsheets Creeping Ruellia and Mexican Petunia.

University of Florida. Natural Area Weeds: Mexican Petunia (*Ruellia simplex*).

www.ala.org.au

www.plantnet.rbgsyd.nsw.gov.au

www.saveourwaterwaysnow.com.au

Mexican Petunia (*Ruellia simplex*). Photo by Glenn Marsch, Flickr.



Watch out for the native look-a-like, Koala Bells

Koala Bells (*Artanema fimbriatum*) is a short-lived, native perennial herb that can easily be confused with the environmental weeds Creeping Ruellia or Mexican Petunia. Koala Bells has a widespread, typically coastal, distribution from Port Douglas to Taree, but it is generally not common. It is found growing mostly in wet open forests or woodlands and sometimes on the margins of wetlands.

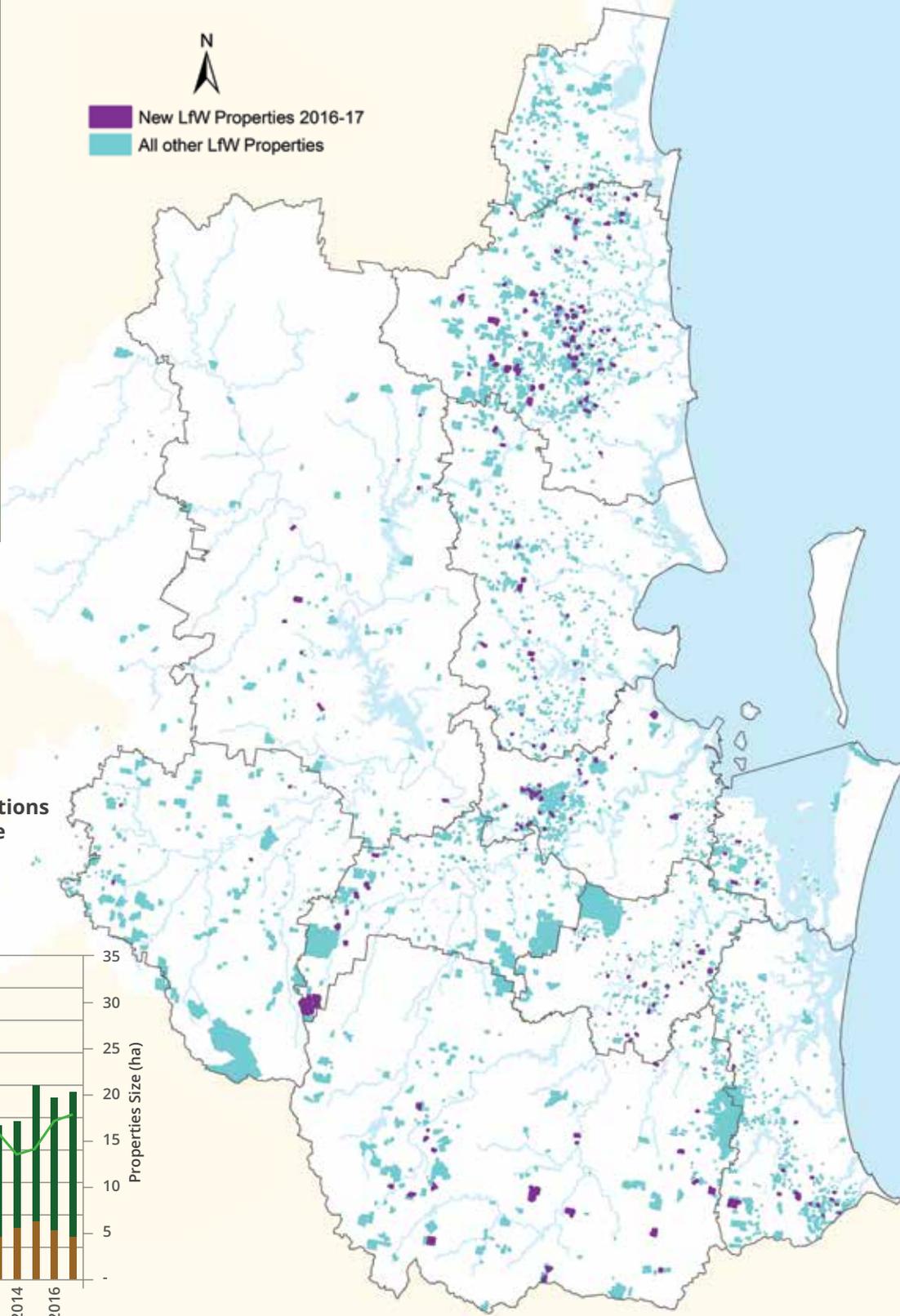
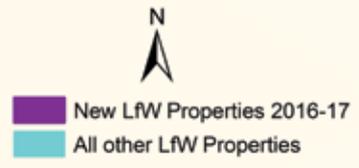


Koala Bells is a small native plant that can be confused with weedy Ruellias. Photos above and below right by Alan Wynn. Photo below left by Paul Donatui.

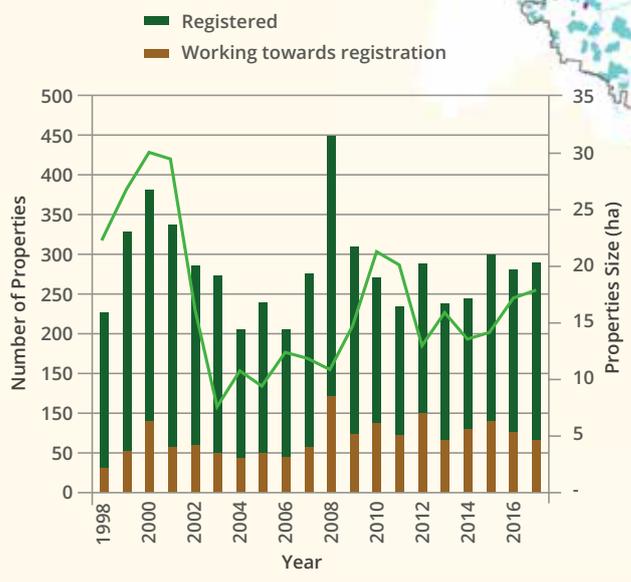




Mapping 20 YEARS OF LAND FOR WILDLIFE PROPERTIES



Land for Wildlife SEQ Registrations and Average Property Size 1998-2017



Land for Wildlife South East Queensland is proudly supported by:



Land for Wildlife South East Queensland Newsletter is published by Healthy Land and Water through funding from the Australian Government's National Landcare Programme. Opinions expressed by contributors to the Land for Wildlife South East Queensland Newsletter are not necessarily those of the Land for Wildlife program nor any of the supporting agencies. Printed on EcoStar Silk 100% post-consumer recycled paper, FSC certified, chlorine-free process and made carbon neutral. Printed by Greenridge Press, Toowoomba using vegetable based inks.