LAND FOR WILDLIFE
South East Queensland

Newsletter of the Land for Wildlife Program South East Queensland

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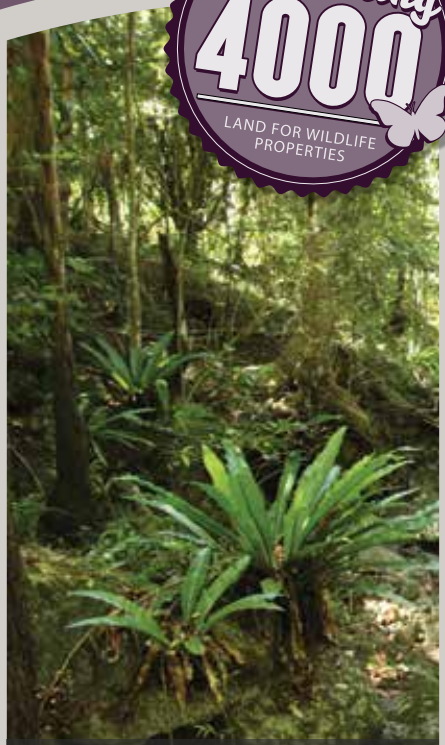
Celebrating 4000 LAND FOR WILDLIFE PROPERTIES



Bev, Laurie and their rainforest.

In mid-December 2015, Land for Wildlife South East Queensland reached a milestone with the registration of our 4000th property. This achievement was celebrated on the stunning 4000th property owned by Bev and Laurie Geraghty in Currumbin Valley.

Bev and Laurie's property illustrates the important role that landholders play in protecting nature and also the educational value of Land for Wildlife. Bev and Laurie are new to the Gold Coast and have started building. They plan to create an orchard and small crops on previously cleared land. Their property also has several hectares of remnant subtropical rainforest, and they joined Land for Wildlife to gain advice and support about these rainforest areas.

And what amazing rainforest areas they have! Their Land for Wildlife Officers were delighted to inform them that their property contains 7 hectares of Lowland Subtropical Rainforest, an ecosystem that is considered critically endangered under Commonwealth legislation.

During a property visit, Land for Wildlife Officers discovered a healthy population of the Southern Pink Underwing Moth and wild Macadamias (*Macadamia tetraphylla*), both of which are also listed as endangered under Commonwealth legislation.

Bev and Laurie's property is bursting with wildlife, plants and fungi and is a perfect fit for the Land for Wildlife program. We are delighted to have them on board.

Land for Wildlife is a practical demonstration of the 'think global, act local' message. The program would not be possible without the strong endorsement and leadership offered by eleven Local Governments in South East Queensland, and for the Australian Government's investment in the regional program, delivered by SEQ Catchments.

Congratulations and thanks to all owners of the 4000 Land for Wildlife properties across SEQ. With you, the future of our landscapes, our rural economies and our communities are stronger and brighter.

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

Australian Government
National Landcare Programme

editorial

I find native beekeeping peaceful and enjoyable. Their hive sits on my back deck granting them an elevated vantage point overlooking my garden. They will forage, up to 500 metres away, on gumtrees and other seasonal flowers. On their tiny legs, the worker bees bring back packets of yellow, white and orange pollen. They take their precious cargo into the hive to feed their brood and to transform it into an energy source (honey) that they may need in tough times.

Last year, I extracted honey from their hive, obtaining 900 mls of this incredible substance, see photo below. Native bee honey is different to European bee honey. It is runny, tangy, sweet, 'eucalyptusy', citrusy and moreish. I see the honey as just a bonus; the real delight is in simply observing native bees. It is easy to think of them in human terms as they can be reluctant to leave home on winter days, and buoyant on sunny weekends. They will fiercely protect their colony, have no idea of a 'sickie', and perform countless altruistic acts of pollination.

If you are into bees or keen to start native beekeeping, I can highly recommend the recently released book by Dr Tim Heard, which is reviewed on pg 13.

This edition celebrates the recent registration of the 4000th Land for Wildlife property in South East Queensland. After 18 years and at an average rate of 220 new properties per year, the 4000th milestone was reached. This rate roughly continues today. This continued growth, even after 18 years, is a testament to the relevance of the program, its products and services, as well as an endorsement of the value placed on nature conservation by landholders. Thank you to all Land for Wildlife members who have made 4000 possible.

This edition also has a focus on children and nature-based education and play. Land for Wildlife members and their properties are well placed to offer younger generations the opportunity to play, learn, explore, stumble and get back up again, in nature.

I would like to acknowledge the work of Darryl Larsen, who was a Land for Wildlife Officer for 17 years before choosing to swap his office and computer for bushland regeneration near his home. Thank you Darryl for helping to create the foundations of this remarkable, and growing, program. You can read his reflections on pg 6.

Happy reading, and as always, I welcome all your contributions.

Deborah Metters
Land for Wildlife Regional Coordinator
SEQ Catchments

Landholder Registrations, Land for Wildlife SEQ - 1/3/2016			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
3160	858	58,383 ha	6,112 ha

Forward all contributions to:

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

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

Land for Wildlife Officers South East Queensland

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

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

Ipswich City Council
Stephani Grove, 3810 7173

Lockyer Valley Regional Council
Kaori van Baalen, 5462 0376

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

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

Noosa Council
Conor Neville, 5329 6287

Redland City Council
Maree Manby, 3820 1106

Scenic Rim Regional Council
Keith McCosh, 5540 5436

Somerset Region
Darren McPherson, 5424 4000

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

Qld Murray-Darling Region

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

Burnett Mary Region

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

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VOLUNTARY WILDLIFE CONSERVATION

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SEQ Catchments
Healthy Land, Healthy Water

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

fauna vignettes

PRIZES!

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

Nesting Dusky Moorhens

Whilst driving down his driveway, Peter Theilemann, a Land for Wildlife member at Calvert, noticed a perfectly constructed nest in a clump of sedges. There just happened to be a female Dusky Moorhen sitting on her nest.

Each day he would drive past and she would be glued to her nest. One day she happened to be out feeding so Peter took a sneaky look in her nest, very excited, he saw a clutch of six mottled eggs. She caught him red-handed and came screaming towards him, so fast it looked like she was treading water.

Occasionally the neighbour's cattle would walk through the creek and the Dusky Moorhen mother-to-be would successfully chase them off. Over the next few days, her eggs hatched and the little chicks started learning the survival ropes. Unfortunately only one chick has survived. Pete is aware of large eels in the waterway and he is sure that at least one of the chicks fell victim to these eels.

It has been a great journey for Peter and a challenge to sneak up to the nest without disturbing the moorhens to take these photos.

Stephani Grove
Land for Wildlife Officer
Ipswich City Council

The Fast Life

I was reading one of your newsletters about the Brush-tailed Phascogale. We have owned our 150 acre property near Esk for over ten years. On several occasions we have spotted these little guys. Only the other night I saw one as I was having a shower (we have an outside shower). She lives in an old ironbark. Just wanted to share my story. These photos have been taken over the years. I have also found two dead males and a few tails. They say the male dies after he mates. Poor bugger. Hope you find these pics of interest.

Varinia Jaenke
Land for Wildlife member
Esk, Somerset

Editor: Thanks Varinia these are fabulous images. Phascogales move so fast, it is difficult to get good photos, so congratulations and thanks for sharing them.

LAND FOR WILDLIFE
VOLUNTARY WILDLIFE CONSERVATION

Celebrating 4000 LAND FOR WILDLIFE PROPERTIES

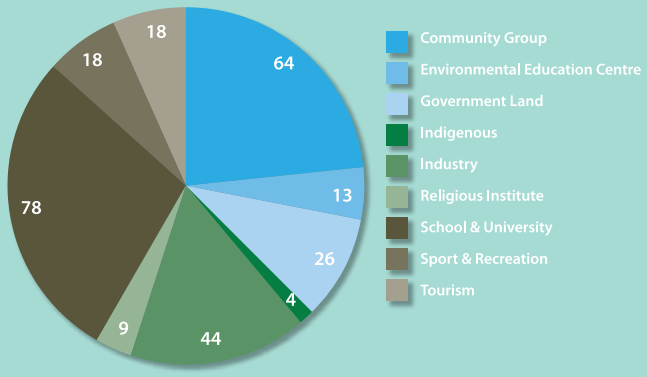
4,018 Land for Wildlife properties in SEQ as of 1 March 2016

(3,160 Registered + 858 Working Towards Registration)

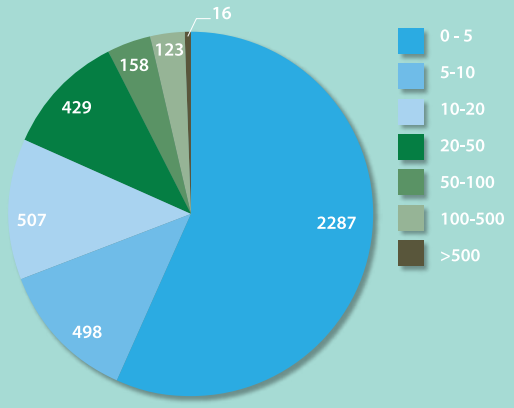
64,495 hectares under Land for Wildlife management as of 1 March 2016

(58,383 hectares of Retained Habitat + 6112 hectares of Habitat Under Restoration)

274 Corporate Land for Wildlife properties

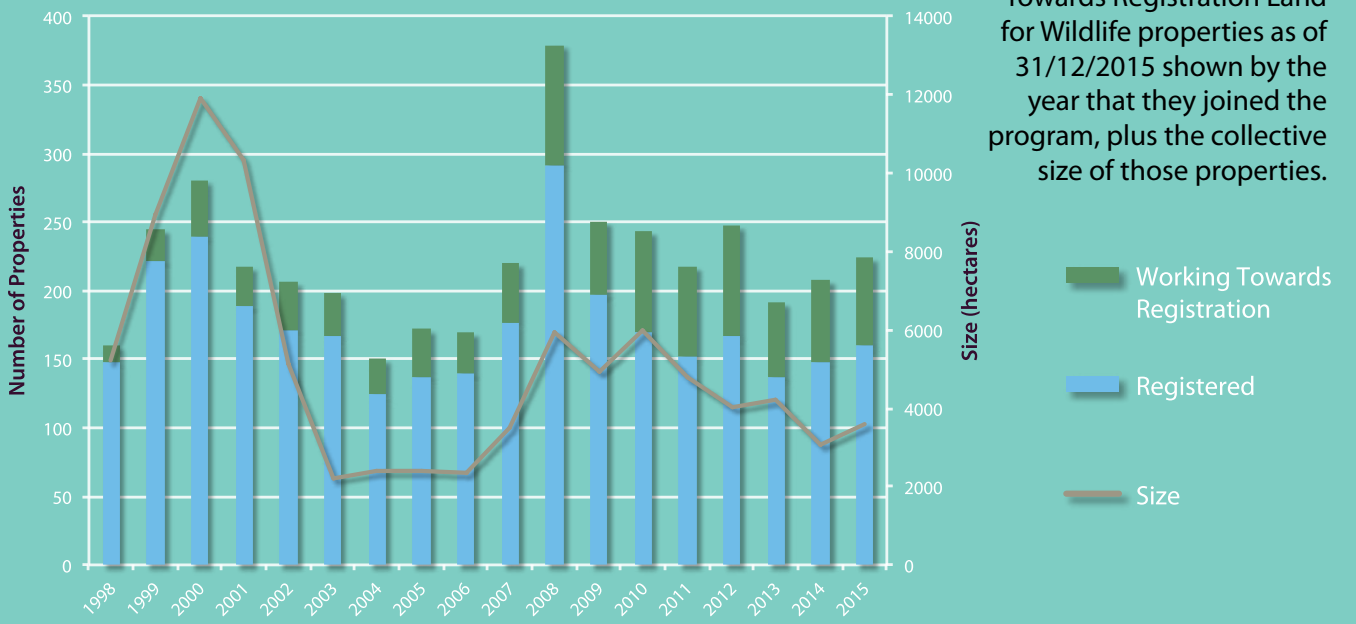


Size (hectares) of Land for Wildlife properties and number of properties per category.



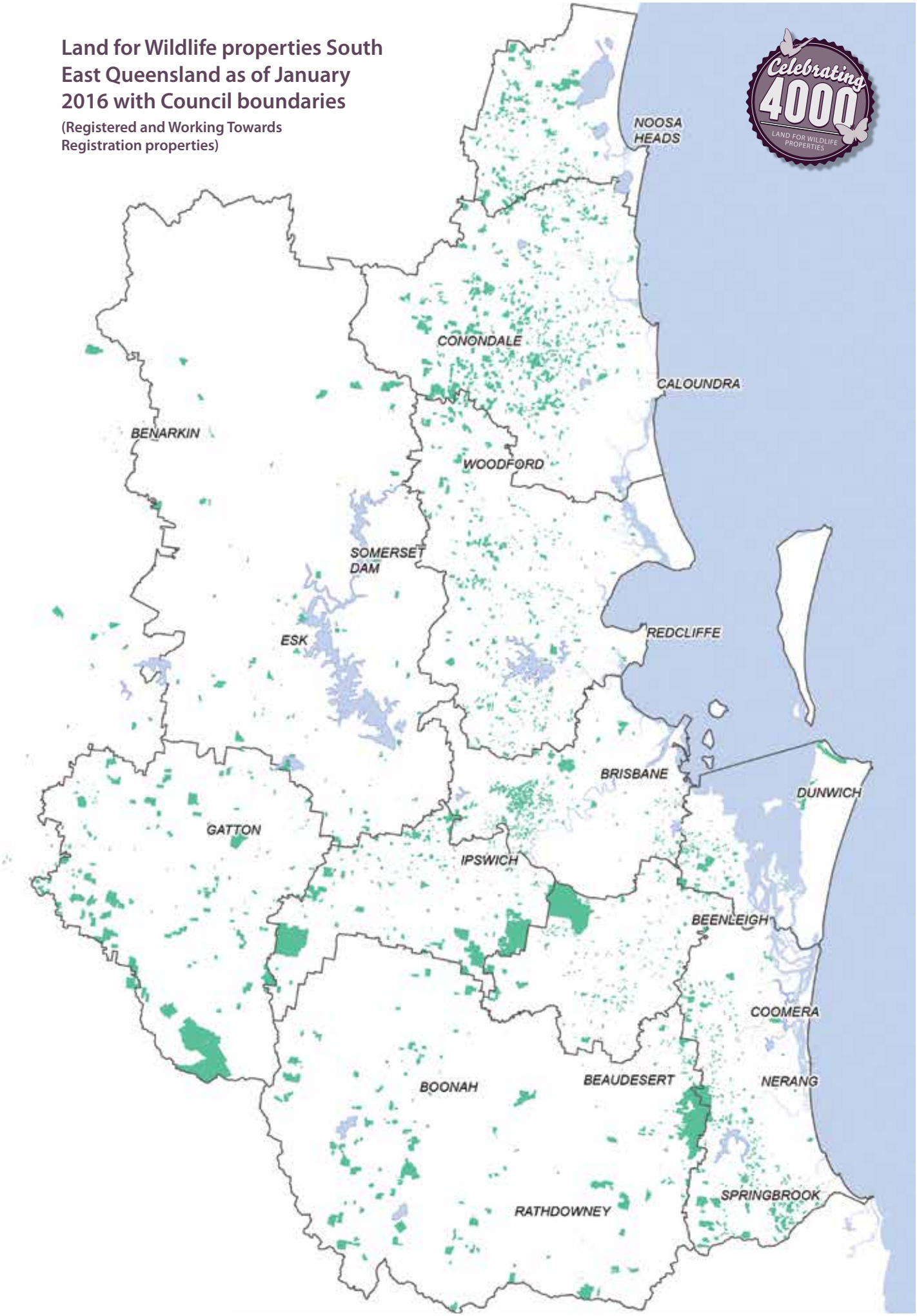
220 Properties join Land for Wildlife in SEQ annually (on average)

Current Registered and Working Towards Registration Land for Wildlife properties as of 31/12/2015 shown by the year that they joined the program, plus the collective size of those properties.



Land for Wildlife properties South East Queensland as of January 2016 with Council boundaries

(Registered and Working Towards Registration properties)



Right to Left: Darryl Larsen, Wal Mayr, Lexie Webster and Deborah Metters on Wal's Land for Wildlife property in 2009.

reflections

Looking back on 17 years of Land for Wildlife South East Queensland

About the middle of 1998 three newly appointed Land for Wildlife Officers (I was one of them) and their regional coordinator met for the first time at Woodend Nature Reserve in Ipswich. The purpose of this meeting was for us to get acquainted and to chart operating guidelines for the new program. We had just three years of Federal Government funding through the Natural Heritage Trust so we knew we had to hit the ground running and see if Land for Wildlife could make a significant contribution to biodiversity conservation and if it would be popular with landholders in SEQ.

Land for Wildlife already had a proven track record in Victoria so the essential features of the scheme could be readily implemented. However it did need a little tweaking due to the fact that in SEQ Local Governments rather than the State Government would be delivering the scheme and also that the target properties here were a little different from those in Victoria e.g. many peri-urban properties here and fewer large grazing properties.

I recall that we discussed policy and operational matters e.g. setting a minimum property size to qualify for registration and defining consistent service delivery standards. We also discussed some technical matters e.g. should we adopt the broad vegetation classification used in Victoria for Land for Wildlife assessments or should we opt for the Regional Ecosystem (RE) classification as recently adopted in Queensland? Thankfully we chose the latter. Continuing in that vein we have aimed in the newsletter and elsewhere to steer a course between unnecessary scientific jargon and oversimplifying or avoiding scientific concepts altogether. Managing a property for biodiversity conservation can raise some challenging questions so we wanted our members to be well equipped with a solid, scientifically-based understanding of land management and ecosystem processes.

We then embarked on a frantic three years of recruitment with some officers spread over four Local Government areas, in my case, Gold Coast, Beaudesert, Logan and Redland! Our future was uncertain – what would happen when the Federal Government funding ran out at the end of three years? Thankfully, the participating Councils valued the program and stepped up to take full ownership in 2001. At this time, many new officers were appointed across the region, new Councils came on board and I took up a full time position with City of Gold Coast. Some additional administrative coordination was provided by Queensland Parks and Wildlife Service and then by Greening Australia.

In 2004, regional coordination of Land for Wildlife was taken over by Natural Resource Management Southeast Queensland (NRMSEQ) and a new regional coordinator, Deborah Metters was appointed. This brings us to the present day except that NRMSEQ has had a name change to SEQ Catchments. Deborah, of course, remains in the position of coordinator and newsletter editor (having taken the newsletter from a rather amateurish state to a highly professional and exciting looking publication). SEQ Catchments has proved to be an ideal host for program coordination as it is able to take a regional perspective on a range of private land conservation initiatives.

The period from 2004 to the present has seen Land for Wildlife expand and mature. It is now strongly integrated with a range of other Local Government programs like voluntary conservation agreements, conservation covenants, environmental grants and urban wildlife schemes as well as the traditional services like pest management and natural areas management.

So looking back, what have been some of the dramatic changes in the day to day workings of Land for Wildlife?

First is the greatly increased level of support for landholders. While the type of support varies across Councils it typically includes workshops and field days, detailed information specific to the property, property revisits to provide ongoing advice, grants to assist in on-ground conservation activities and ecological monitoring. Add to that incentives ranging from field guides to free plants, restoration tool kits and the loan of infra-red monitoring cameras.

Second is the improvement in resources to assist with property planning including high resolution aerial photography and satellite imagery and more detailed and accurate vegetation mapping. It's hard to imagine now that in the early years of the program I laboriously worked out REs from first principles using paper 1:100,000 geology and topographic maps and my list of plant species recorded on site, whereas now the information is instantly available at the click of a mouse.

Third is the amazing development of electronic devices. In 1998 we had no digital cameras, no tablets, no laptops and mobile phones were primitive affairs. The first digital camera we purchased for work required a disk to be inserted and could take a maximum of five low resolution photos before a fresh disk needed to be inserted. But we thought it was amazing, mainly because it was so easy to email an image instead of sending it by post!

I've enjoyed my time with Land for Wildlife, seeing the scheme develop into something which is unique in the world and which we can all be proud of. I feel privileged to have been acquainted with many amazing properties and their dedicated owners. But after 17 years it's time for a change and I'm looking forward to new landscapes, projects and challenges.

I feel confident that I'm leaving the City of Gold Coast scheme in very capable hands and that Land for Wildlife will continue to develop and innovate to help meet the pressing challenge of biodiversity loss - so good luck! And hopefully, see you around.

Article by Darryl Larsen
Land for Wildlife Officer (retired)
City of Gold Coast

Southern Boobooks are often heard at night making their "boo-book" or "mo-poke" call, but you have to be lucky to see them roosting in the daytime.

my little corner

Owls on the Outside, Geckos on the Inside

> ***Southern Boobooks form monogamous, life-long pairs.***

In March 2015 I was alerted by a flock of Blue-faced Honeyeaters and butcherbirds to a Southern Boobook owl hiding out in the frangipani tree in my front yard. To my surprise, when I looked more closely, there were two birds, which I thought to be an adult and a juvenile.

I am a passionate wildlife photographer so grabbing my camera seemed like an instinct. I took a number of photos of the pair perched above the ground. Whilst the adult remained still near the top of the tree, the juvenile moved around within the tree obviously nervous at the continued mobbing by the other birds. After a few minutes I let them be and did not expect to see them again.

To my surprise, almost two months later, I saw them again, still together, and again in a frangipani tree, this time in the back yard. I managed to take a photo of the two together but it was late in the afternoon and the photos were somewhat dark.

I saw them several times in October and November by which time I was beginning to wonder if they were a breeding pair as I did not think a juvenile would be with its mother for so long. A query to the Queensland Museum returned the following response:

"The owls usually rest solitarily, but are sometimes seen in pairs or family groups. Resident pairs have traditional roosting sites, which can be near or far from the nest depending on the time of year. Southern Boobooks form monogamous, life-long pairs that live in breeding home-ranges of up to 100 hectares, which are either permanently occupied or (in cold areas) vacated during winter. Young birds are dependent on their parents for 2-4 months after fledging, until their first autumn or winter. The main breeding season is usually September to November but can be as long as July to February."

The information provided to me was from Stephen Debus' book, *The Owls of Australia,* and is a fairly succinct summary of these birds' behaviour.

I am delighted to have a breeding pair living around the area and choosing to spend some of their time in my garden.

Over the years that I have been living at Ebenezer I have had some spectacular wildlife encounters and it has been a wonderful privilege to watch the behaviour of our native fauna.

There have been small populations of the native Robust Velvet Geckos (*Oedura robusta*) and also what I believe to be Dtellas (*Gehrya dubia*) residing in and around my house. Numbers of each vary and they seem to occupy different parts of the house structure. The Robust Velvet Geckos are most commonly seen on internal walls under the house, while the Dtellas occupy the exterior. When they do accidentally meet, it can lead to a territorial dispute and a brief, often savage, fight.

On odd occasions I have been able to photograph these native geckos, but they are usually extremely shy and averse to having their photo taken. At night they often hunt on the screen door, as the light from my small office attracts insects. They strike quickly and rarely miss their prey, unless they mistakenly go after a moth that is actually on the other side of the screen.

I will continue to enjoy the wildlife shows in my home and out in my backyard. Nature has some wonderful stories.

Article by Heather Knowles
Land for Wildlife member
Rosewood, Ipswich

I was fortunate enough to photograph the sequence of a Robust Velvet Gecko trying to capture a huntsman spider. Unfortunately, all the gecko ended up with for his troubles was a spider leg.

beautiful bats

Combating Nature Deficit Disorder

There is much talk about children being obsessed with technology and not connected to nature, but for parents there's not a whole lot of information about how to combat this. How do you instil a passion for the environment without being preachy and turning them off? As a passionate conservationist and a Mum to a three year old girl, Ava, this is something that I find myself worrying about.

Growing up with Bribie Island National Park as my backyard and playground I developed a genuine passion for fauna and flora early on, so it was just a natural progression that environmental science would become my field of study, hobby, career and way of life.

Now I'm faced with the challenge of fostering a curiosity and love for the environment in my admittedly head-strong 'three-nager'. Just like brushing her teeth and toilet training, I knew that I needed to make it fun in order to have any hope of success. I certainly don't have all the answers, but here is a list of some of my successes and failures, in no particular order.

Weeding. Admittedly this idea was probably doomed from the start. I was initially bombarded with questions such as "Mummy, why are you pulling the pretty flowers out?" I seized this as a learning opportunity to explain what weeds are, but just as I started to consider the activity a success, she ripped out a recently planted Leptospermum that was just beginning to flower before declaring she wanted to play something else.

Bush Art. This is one of my favourites. We collect gumnuts, seed pods and leaves and use them in craft projects. We have made everything from native animals using air dry clay, to Christmas ornaments and fridge magnets. You've just got to watch that the dogs don't chew up these special treasures while the glue is drying.

Fauna Cameras. When daycare arrangements fell through one day, I had no choice but to bring my little side-kick along to work. I explained that we were setting up cameras to take pictures of animals. Although she was a little disappointed that the second we set them up the animals didn't start parading in front of the camera, she talked about it for days afterwards. She now loves when we flick through the photos together, spotting and naming the different animals.

Sustainability. I've heard horror stories of children not knowing that an orange comes from a tree, so encouraging an understanding of how food is produced is pretty important to me. We've created a productive space at home with fruit, veggies, herbs and chickens and one of her favourite things to do is to tend to the garden and collect the eggs. On the down-side, our adventures in worm-farming resulted in a few sleepless nights from worm nightmares!

Header: "We love bats, don't we Mummy?" The author and her daughter admiring flying foxes at a dusk fly-out.

Above: Ava creating some works of bush art using paint, gumnuts, leaves and clay.

Children from Bud to Bloom Daycare donating items to Susanne Galbraith from Bribie Island and District Wildlife Rescue in December 2015.

Ava aged three helping out with a trailer load of soil for the veggie garden.

Beautiful Bats. I feel that there is a lack of appreciation and understanding of flying foxes in our society today. Quite often I pick up Ava from daycare at dusk and we can see the bats flying out from their nearby roost. Every afternoon I would talk a little bit about the bats, about what they eat, how they are important for the forest, how beautiful they are and we'd see how many we could count. Then one day she floored me by saying, "Mummy look – beautiful bats! They help the forest to grow don't they Mummy? And they like to eat the stuff in flowers. We love bats, don't we Mummy?" Proud Mummy moment right there.

Camping, Bushwalks and Beach Trips. Well this is a no-brainer – she loves all these activities. One of the things we like to do on bushwalks and beach walks is to spot native animals (although her shouting, "Animals, where are you?" at the top of her lungs is a little counter-productive, I appreciate the enthusiasm). Spotlighting at night is also a winner; I actually managed to keep five pre-schoolers entertained for a good couple of hours with this one. Camping with little ones can be tricky, but it's well worth the effort. Just don't lose your toddler down the composting toilet!

Collecting for a Wildlife Charity. I can't take credit for this idea, but it's a beauty! Ava's daycare class has been collecting for the local wildlife rescue group including towels, newspapers, money and bowls. They were delighted to donate their collection to the group at the end of the year. The kids also love pretending to be wildlife carers and vets with their native animal soft toys.

Some of the most reassuring advice I received has been that kids absorb knowledge and passion through osmosis. That is, if you are doing the things in nature that you love and are passionate about, then your kids will take on that same enthusiasm and appreciation by default. So with that in mind, I'll keep doing the stuff I love in the bush with my little sidekick and hopefully it will all fall into place.

> *"Kids absorb knowledge and passion through osmosis"*

Article by Danielle Crawford
Land for Wildlife Officer
Sunshine Coast Council

Nature Play Passports

Nature Play Passports aim to increase the amount of time children spend in unstructured play outdoors and in nature. You can register for Nature Play Passports on the Nature Play Queensland website. The passports help kids to get involved in outdoor activities while also being fun. Over 350 missions are listed, and when completed, they can be recorded on the Nature Play website or in the passport. For competitive youngsters out there, they can compete to see how many activities can be done in the shortest period.

Kids can also work towards a licence to play outside with varying levels of parental support, building children's independence and skills at risk management. There are a range of other resources on the Nature Play website too. I particularly like the list of 55 things to do before you're 12! A great way to get kids out of the house on weekends and school holidays. For more information go to www.natureplayqld.org.au

Article by Stephanie Reif

Mapleton State School students inspect a Satin Bowerbird bower during a working bee.

property profile

A paperbark book.

The campsite near Baxter Creek.

Nature-based Play: Getting kids outside the Mapleton State School way

Nearly all of us have memories from childhood of being outside and being a part of nature whether it was making a cubby up a tree or playing in the local creek. Well those experiences are now known as 'nature-based play' and are seen as something the current generation of youngsters are missing out on due to safety concerns, too much screen time and less unstructured time at home.

Often it is these experiences from childhood that give us greater empathy with the environment when we are older. There is concern the younger generation who are living in front of screens and indoors are heading towards a prognosis of 'nature deficit disorder' or even worse 'ecophobia'. Luckily these conditions can mostly be remedied with quality time outside, which is a big part of the curriculum at Mapleton State School.

Students at Mapleton State School are involved in a number of outdoor activities. Fortunately the school has a long section of Baxter Creek (part of the Mary River catchment) through its grounds. The vegetation along Baxter Creek was mostly cleared but has had several revegetation projects carried out over the last 20 years. A dedicated campsite near the creek allows for nature-based activities to be undertaken adjacent to this natural area. A pontoon over a dam nearby is a good area for observing wildlife, and tracks along the creek allow for exploring and learning.

Classes have campout days where activities can range from making teepees and stretchers out of natural and recycled materials through to decorating bags with leaves and making paperbark books. At a recent campout day, Grade 2s learnt from an Aboriginal elder that Piccabeen Palm (*Archontophoenix cunninghamiana*) fronds were used by local Aboriginal people to make carrying baskets or 'piccies'. This turned into a class project that integrated indigenous history, science, technology and English. Discarded Piccabeen Palm fronds were collected at Baxter Creek and then soaked in water for a number of days to soften. These were then moulded and joined with string. Instructions on how to make a piccie were written (see backpage). Problem solving skills were a must.

The creek is a natural outdoor classroom for many subjects from science to art. Younger students study what animals live in the creek and sketch them. Older students are involved in managing the creek and exploring issues such as erosion and revegetation. Nature Play Passports (see page 9) were introduced in 2015 to encourage students to record their outside activities. Some classes go on weekly outdoor missions and are recorded in their Nature Play Passports. Real life problem solving activities at Baxter Creek can lead to inspired writing back in the classroom.

The school has been registered in Land for Wildlife since 2001 and a number of environment grants have been sourced. Working bees involving parents occur once a term maintaining the revegetation and weeding along Baxter Creek.

Lunch each Thursday is 'Gumboot Day' where students are allowed to play in a designated area on the creek, with extra staff supervision and a first aid kit nearby! Children are encouraged to play with natural materials such as sand, rocks and sticks. These materials are used to make cubbies and swings.

Mapleton State School Principal, Jen Clarke, comments:

> *"These experiences help the children connect with nature in fun and positive ways. Hopefully these memories will reinforce a sense of belonging in and to their environment helping them to value nature when they are adults".*

References and Further Reading

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Article and photographs by
Stephanie Reif
Land for Wildlife Officer
Sunshine Coast Council

nature's classroom

Science at Seven

It is enjoyable and inspiring to participate in the excitement of a young child actively exploring the natural environment. Small children are fascinated by the world around them, ask innumerable questions and in doing so practise their maths, their spelling and begin to develop a basic understanding of science. Our patches of bushland, our parks and especially our Land for Wildlife properties are a fantastic resource.

Our seven year old Brisbane-based granddaughter is a regular visitor and likes nothing more than to go on 'adventures'. She has her own notebook in which she writes down plant names (great spelling practice) and a collection box for interesting rocks and coloured leaves (carried by her grandmother, of course). She is, naturally, team leader down steep slopes, rock hopping through creeks and clambering over buttress roots. The reason wallabies and parents take a path across slopes is explained.

A recent highlight was the discovery of a colony of Granny's Cloak Moths (*Speiredonia spectans*) living in the concrete pipe that takes a small creek under our driveway. Talk about excitement as the moths fluttered around her head! Photos were taken and it was found that these apparently brown moths are very colourful in the light of a torch. They were later identified via a computer search.

Intriguing little specimens of the parasitic plant, *Balanophora fungosa,* were found on a moist slope, photographed, counted and recorded. Colourful rainforest fruits are collected, identified and occasionally planted. Small waterfalls have been negotiated and rock pools searched for insect larvae. Our wonderful neighbours are happy to have her explore their property also, so our adventures are extending ever further. It's becoming a challenge to locate more areas to explore! Fortunately there is a national park reasonably close by.

We now have a box for assorted butterflies and other insects and a box for vacated birds' nests. Soft rocks have been ground up to see what colours might result. Grandparents are of course expected to have all necessary tools at hand such as pestle and mortar, containers, camera and requests to write it all up as a story. Who could complain?

Science at its best: discovering, recording, research, identification and continuing curiosity.

Article and photographs by Joan Dillon
Land for Wildlife member
Hunchy, Sunshine Coast

A tree to climb.

The start of the never-ending trail of adventure and discovery.

The beautiful Granny's Cloak Moth.

The strange, fungus-looking plant *Balanophora fungosa*.

Top left and right: Smilax in flower.
Left: A scrambling thicket of Smilax.
Above: Shiny, black Smilax fruit.

flora profile

Smilax: Friend or Foe?

Following on from the article on Cockspur Thorn (*Maclura cochinchinensis*) in the July 2015 edition, we continue the thorny theme with another prickly customer, Barbed-wire Vine or Smilax (*Smilax australis*). Like Cockspur Thorn, this is another native vine very common to most environments across South East Queensland. It is found anywhere from littoral rainforests to open eucalypt forests and even in heathland.

A day in the bush wearing shorts often seems to result in scratched and bloody lower legs. Smilax is usually the culprit and is a good reminder to wear appropriate clothing! Despite this, I still sometimes wear shorts in the height of summer only to pay for it with scratches that sting for a number of days. Perhaps a small price to pay for spending a pleasant day in the bush?

Although there are some annoying points (pun intended) to this and other spiky vines, they are hugely outweighed by the positives they provide in their environments. Smilax alone provides habitat for many different species. Its round black fruit are eaten by birds such as the Satin Bowerbird and Green Catbird, while the leaves are food for caterpillars of the impressively-named Erebus Moth *(Erebus terminitincta)* and three species of butterfly: the Fiery Jewel *(Hypochrysops ignita)*, Bright Forest-blue *(Pseudodipsas cephenes)* and Coral Jewel *(Hypochrysops miskini)*.

Clusters of individual cream-tubular flowers of Smilax attract a myriad of insects, especially butterflies. Most importantly, like all of its other spiky friends, Smilax provides great cover and protection for many animals. Its ability to form impenetrable thickets makes it an ideal hiding and nesting place for birds, particularly Eastern Whipbirds. Smilax also scrambles through and over small bushes and shrubs, providing great shade with its large leathery leaves. Wallabies make good use of such spots on hot days.

These spiky vines sometimes get a bad rap when they interrupt a peaceful walk through a bushland property. But every native plant has its role in nature, no matter how big or small (or annoying) it may be. My advice for those who dislike these thorny locals is to trim, tie back or re-direct the vines away from access tracks, particularly where they are at face level. Away from tracks, vines should be left alone to do what they do best – scramble and climb throughout the bush.

If you are weeding, then wearing shoes, long pants, a long sleeve shirt, gloves and safety glasses are a good way to avoid being scratched. If you treat these spiky vines as friends not foes, your local fauna will definitely thank you for it.

Article and photographs by Cody Hochen
Land for Wildlife Officer
Brisbane City Council

book reviews

The Australian Native Bee Book: Keeping stingless bee hives for pets, pollination and sugarbag honey

By Tim Heard

Aren't we lucky to have people like Tim Heard living here in SEQ, and that he is willing to share his knowledge. This book is a result of Tim's lifelong passion and research into native bees with a particular focus on native beekeeping.

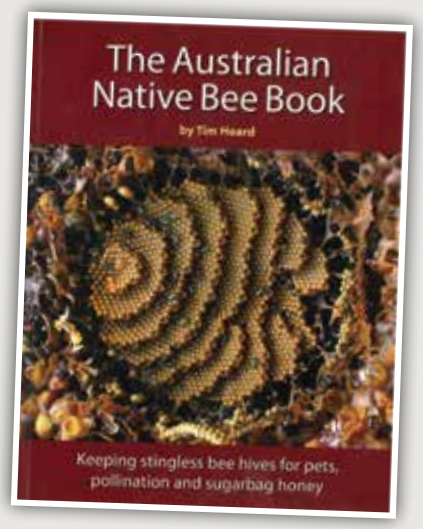
I love the layout and presentation of this book. It is packed with wonderfully descriptive photographs, easily digestible grabs of information, colourful diagrams, maps and lots of sub-headings to help organise the wealth of information within.

Bright photographs and diagrams show the lifestyle stages of stingless bees and their different nest structures. Evocative terms such as brood cells, advancing front, propolis and pollen pots are well-explained and well-illustrated.

The first half of this book covers everything you may want to know about the inside of a bee hive, including how bees regulate hive temperatures, how they feed their young, how they create a new colony, how they communicate, how far they fly, how long they live and much more.

The second half of this book is dedicated to the pleasure and science of keeping native stingless bees. This book explains how to make a hive, or where to purchase one from, and what features are needed to allow for honey extraction. It shows where hives should and should not be placed. Splitting hives, using hives for crop pollination and transferring hives from a fallen log into a hive box are covered.

As a keeper of native bees, I was most interested in the section about sugarbag honey and how to ensure that my beehives stay healthy. This book explained why sugarbag honey is runnier than European Honeybee honey (answer: a higher water content) and what can be done to prevent swarming bees. A truly must-have book for anyone interested in bees.



Published by Sugarbag Bees, 2016
Paperback, B5 format, 260 pages
Price: $35
Available from the author via www.nativebeebook.com.au or tim@sugarbag.net

Also available from various local nurseries, independent bookshops and landcare centres.

Family Bushwalks in South East Queensland

By Mark Roberts and Gillian Duncan

This book throws down a challenge to all of us living in SEQ: how well do we know our local area? As Land for Wildlife members, we might know our own property well, but what about our local reserves and parks? I found out about reserves near my house that I had never heard about, let alone visited. As such, this book has quickly become my guide to places to explore on a quiet weekend.

Meticulously researched with the co-author Gillian Duncan visiting all of the listed 300 parks or reserves, this book is a wonderful guide for families or individuals wanting a quick escape into nature, without having to embark on a serious, all equipment-required, bushwalk.

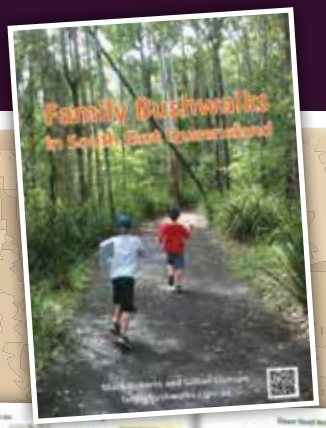
Every bushwalk in this book has an expertly developed topographical map develop by co-author Mark Roberts. They show parking, facilities, walking tracks, creeks, lookouts and other useful information. Each location has a QR code that, once scanned, brings up a Google map reference to the recommended starting point for the bushwalk. A clever and handy addition.

Gillian has written wonderfully short and useful descriptions of each location with special references paid to interesting plants or animals that may be encountered. For inclusion into this book, all walks had to be on well-formed and well-maintained trails requiring only a conventional vehicle to reach the starting point. All bushwalks, from the famous to the obscure, that meet these criteria are included.

Brisbane and Sunshine Coast are the best represented in the book with over 70 bushwalk entries each. The Gold Coast, Moreton Bay, Redland and Scenic Rim areas all have over 20 bushwalks with less for Ipswich and Logan. There is only one bushwalk listed in the Lockyer and three for Somerset.

The authors have also written two other useful guides for getting outside in SEQ: *Where to Mountain Bike in South East Queensland* and *Family Rides in South East Queensland*. Both are available to purchase via the website shown to the right.

For those who enjoy walks in nature, I can highly recommend this book.



Self published, December 2015
Paperback, A5 format, 268 pages
Price: $29.95
Available from the authors via www.familybushwalks.com.au with free shipping within Australia and reduced prices for multiple copies, or via Gillian on 0408 553 276.

Also available from some local bookshops and outdoor adventure stores.

Reviews by Deborah Metters

weed profile

Weevils Help Control Salvinia

Land for Wildlife member, Leanne Field, releasing Salvinia Weevils into a Salvinia infestation on her property.

Regarded as one of the worst weeds in Australia, Salvinia (*Salvinia molesta*) is a floating aquatic fern inhabiting still or slow moving water. Salvinia thrives in nutrient rich waters. This allows it to colonise most water bodies such as agriculture run-off, wastewater, wetlands and dams. Salvinia is a Class 2 Declared Pest under Queensland legislation and is also a Weed of National Significance (WONS). State Government legislation requires landholders to manage infestations on their properties. Salvinia was brought to Australia from Brazil in 1952 as an ornamental plant. Infestations soon exploded and almost all water bodies nearby were colonised by Salvinia; the introduction of this weed has been regretted ever since.

Salvinia has unusual features allowing this species to dominate and succeed. The leaves have tiny egg-beater shaped hairs that repel water and enable it to float. Each node has false leaves that are submerged and modified to act as a root. Morphological variation (variable size and shape) within the species is considerable and greatly depends on age, nutrient availability and the size of infestations.

Infestations in our waterways are a major hurdle for biodiversity, water quality and the aesthetic values of riparian areas. Salvinia dominates the surface of exposed water bodies, forming dense mats and altering ecosystem function by excluding light penetration, preventing the transfer of oxygen from the air and effectively decreasing dissolved oxygen levels.

Competing with native vegetation and preventing aquatic wildlife from finding refuge, food or nests, Salvinia plays an influential role in prohibiting the distribution of Australia's native flora and fauna. In some regions, Salvinia also adversely affects pastoralism, tourism, recreation and traditional hunting practices. Hydrogeological regimes have also been altered by Salvinia infestations impeding the access of wildlife and stock to floodplains and water bodies.

Like many weeds, Salvinia has traits that make it highly invasive. It can be dispersed through various methods such as floodwaters, birds and other wildlife. It grows rapidly, has limited natural predators and out-competes native aquatic plants. Salvinia reproduces by forming new branches that break off and re-establish quickly. Salvinia still has fern-like traits where spores are contained in sporocarps attached to the roots, however they are either empty or contain sterile spores. This is an unusual feature for a fern!

Salvinia dies in salt water; therefore, floodwaters flushing Salvinia out to sea can play a key role in managing infestations. Preventing further spread outside of core infestations should be a main management objective. It is easier and more cost effective to prevent new infestations than to control an established infestation.

One effective method of Salvinia management is biocontrol using the Salvinia Weevil (*Cyrtobagous salviniae*). In 1980, the Salvinia Weevil was released by CSIRO into Lake Moondarra near Mount Isa. This lake had a Salvinia infestation that covered an estimated 800 hectares and weighed more than 50,000 tonnes. This was significantly reduced to just one tonne within one year. It is important to note that eradication of Salvinia will not be achieved with the sole use of biocontrol as a healthy amount of weed is always needed to sustain an ongoing population of weevils.

Weevils can live for about six months with a completed life cycle only taking six to eight weeks. Weevil larvae feed inside the stems and the adults feed on the leaf buds, therefore they both help to manage the weed. Over a period of one to three years after weevil introduction, the matted Salvinia turns brown and sinks to the bottom of the water body. Preferring open water with little shade, all stages of the weevil's lifecycle are temperature dependent; therefore, weevils should be released during spring and summer months. Salvinia Weevils are commonly used by landholders in South East Queensland and are available from your Council – just ask your Land for Wildlife Officer.

Equipped with knowledge, the right information and a positive commitment, weed management can help restore and protect the great diversity our riparian areas have to offer.

References & Further Reading

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Article by Stephani Grove
Land for Wildlife Officer
Ipswich City Council

The distinctive roots and leaves of Salvinia.

Battling Salvinia: a landholder's tale

We purchased a three hectare parcel of land located in the heart of Ipswich in March 2014. The land contains a series of water bodies known as the 'Coffin Holes'. Without hesitation, we signed up with the Waterways Conservation and Land for Wildlife programs with Ipswich City Council.

Unfortunately, the water body located on the property was heavily infested with Salvinia. Attempts to biologically control the Salvinia were tried with the release of the Salvinia Weevil in April 2014. Unfortunately this proved unsuccessful due to the weather starting to cool as the weevils rely on warmer weather to breed and establish.

A weed contractor was subsequently engaged and the infestation was treated with three separate spray treatments using the herbicide, Reglone, and wetting agent, Agral. The chemical is harmless to aquatic life and did not affect the water quality. This treatment was successful.

Unfortunately, the Salvinia re-infested the water body again in September 2015 and another batch of weevils was released in October 2015. We are currently waiting to see the effects of the weevils and will be happy to report the outcomes. We continue to spot spray Salvinia in other areas of the water body where the weevils are not present.

Leanne Field
Land for Wildlife member, Blackstone, ipswich

Inside this bag is Salvinia along with a colony of Salvinia Weevils, ready to be released into this water body.

The Salvinia Weevil: a UNESCO winning discovery

The Salvinia Weevil has a fascinating history and is a credit to the ingenuity of Australian scientists. In the 1970s and 80s, Salvinia had developed into a terrible weed both in Australia and internationally. It was responsible for several human deaths where people fell into waterways and could not swim through the thick Salvinia to safety. It had ruined fish stocks, and communities dependent on subsistence fishing were facing starvation and were forced to relocate. The mining industry around Mt Isa was crippled due to Salvinia infestations as they prevented the use of water for industrial cooling and cleaning. Something had to be done.

The weed we now know as *Salvinia molesta*, was initially confused with *Salvina auriculata* a closely-related plant, also native to Brazil. In the 1970s, British scientists working on the Salvinia problem had collected three possible biocontrol agents: a grasshopper, a weevil *(Cyrtobagous singularis)* and a moth, from *Salvinia auriculata*. These agents were released into Salvinia infestations in Africa and other locations. When Australian entomologist (and now Land for Wildlife member at Brookfield) Dr Don Sands visited Africa in the early 80s, he saw that this weevil *(C. singularis)* was causing some leaf damage to Salvinia, but the weed still grew strongly.

Also in the early 1980s, CSIRO scientist, Dr Wendy Forno, travelled to Brazil and was the first scientist to find a wild population of *Salvinia molesta* growing in its natural habitat. She collected specimens, including potential biocontrol agents, and sent these back for study into quarantine in Australia. When Don returned to Australia, he studied these specimens sent back by Wendy and discovered that there were actually two species of weevil, not just one. The two weevil species had minute morphological differences, but quite important behavioural differences. The new weevil was named *Cyrtobagous salviniae* by Dr Andrew Calder and Dr Don Sands. This weevil burrowed into the plant tissue of Salvinia and killed the plant, rather than just nibbling the leaf and rhizome edges, as did *C. singularis*.

These new weevils *(C. salviniae)* were released by CSIRO at various locations in Australia and internationally, and within several months they appeared to work magic, decimating the Salvinia, causing it to die and sink to the bottom of the waterways. The before and after photos of Lake Moondarra near Mt Isa made the front page of *Nature* journal (April 1986, 320: 6063). For the discovery, release and success of the Salvinia Weevil, Dr Forno, Dr Sands and a team of CSIRO scientists were awarded the 1985 UNESCO Science Prize.

Article by Deborah Metters based on an interview with Dr Don Sands, CSIRO Honorary Research Fellow.

Piccabeen Palms on the Blackall Range. Photo by Laurent, Flickr CC BY-ND 2.0

How to Make a Piccie

Piccies are baskets made out of Piccabeen (Bangalow) Palm fronds. Indigenous Australians made piccies to carry water, food and tools. They are relatively easy to make and are a great project to connect kids to nature and Australia's indigenous heritage. There are several different ways to make a piccie, here is one way.

1. Find a large, fallen, dry Piccabeen Palm frond. Do not bend a dry, fallen frond as it will just crack and break.

2. Cut off the leafy section so that you just have the smooth, brown stem (sheath) section, which will be about 40-70 cm in length depending on the size of the frond. Get an adult to help with the cut as sharp secateurs or a pocket knife is needed. Try not to crack the stem when cutting.

3. Soak the stem either in a creek or large bucket for at least one whole day.

4. Bring the stem out of the soak and place on the ground or table with the inner stem facing up. Measure 20 cm from one end, mark a line, and then fold it over flat. Do the same for the other end.

5. Now for the tricky part. Fold one end at the 20 cm line and let it stand straight up. Take the middle of this upright section and pinch a section so that there are two folds on either side of the middle, with a V section sticking out (away from the stem). Then fold the two sides in, like a concertina, so that the top of this upright section looks like a M.

6. Hold the concertinaed end together with a cable tie or string.

7. Pierce a hole through the concertinaed end using a wooden skewer. Then thread some string or a strip of soaked Piccabeen Palm stem through the hole and tie it off.

8. Repeat steps 5-7 for the other end. By concertinaing both ends, the sides should rise up forming a basket.

9. If you want a handle, tie a piece of string or a strip of soaked Piccabeen Palm stem between both ends.

10. Decorate your basket with string patterns or gumnuts by piercing holes in the side of the basket and threading string through.

Mapleton State School students, Cassie (left) and Ellen (right), with teacher Anne Ellrott, proudly show some handmade piccies. Along with 42 other primary schools in SEQ, Mapleton State School is a member of the Land for Wildlife program. Photo by Stephanie Reif.

11. Dry your piccie in the sun.

Drawing by Ellen (aged 8).

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