LAND FOR WILDLIFE
South East Queensland

Newsletter of the Land for Wildlife Program South East Queensland

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Helping our native freshwater fish

The native Crimson-spotted Rainbowfish are still reasonably common in many SEQ waterways. This pair are from Christmas Creek in the Logan River catchment. Photo by Gunther Schmida.

There are not many native freshwater fish on the menu these days. Not long ago this was quite different with Brisbane River Cod sustaining generations of indigenous people and early settlers. As with most wildlife, the abundance and diversity of native freshwater fish has plummeted over recent decades. This has not gone unnoticed, especially to fish researchers such as Leo Lee who I was delighted to meet at a recent thank you breakfast hosted by Brisbane City Council for Brisbane Land for Wildlife members.

Leo's focus is fish genetics, and it was a steep learning curve for me, but the following take home messages are hopefully useful for all landholders:

1. Restore creek banks.
2. Improve water quality in creeks.
3. Don't translocate (move) fish.
4. Survey your creeks for fish.

Healthier creeks will have healthier populations of fish, and will also have more native fish and more native fish species.

Translocating wild fish and releasing captive fish pose major problems for native fish. Many people think they are doing the right thing by releasing captive native fish into their local creek, or as Leo calls it the "Free Willy Syndrome", but this intended act of kindness can be quite detrimental.

Releasing aquarium fish, even native species, can introduce diseases into healthy native fish populations. In addition, translocating native fish, from one stream to another, can reduce the overall genetics potentially resulting in populations that are less able to cope with droughts, disease and rising climatic temperatures. So, in summary, never move wild fish or release captive fish.

Surveying your creek for fish is a great way to learn more about local wildlife. Leo offered some excellent tips on how to survey fish, and I will share these in the next newsletter edition (sorry, I ran out of room here). It is important to know that most native fish are cryptic, that is, they are shy and can be tricky to catch. On the other hand, pest fish such as mosquito fish, swordtails and guppies can be colourful, abundant and easy to catch. So just because you don't catch native fish, it doesn't mean that they are not present.

Australian freshwater fish are unique as our continent has the highest variation of water flow in the world, so please keep in mind these four key points to help our fish.

Article by Deborah Metters

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Australian Government

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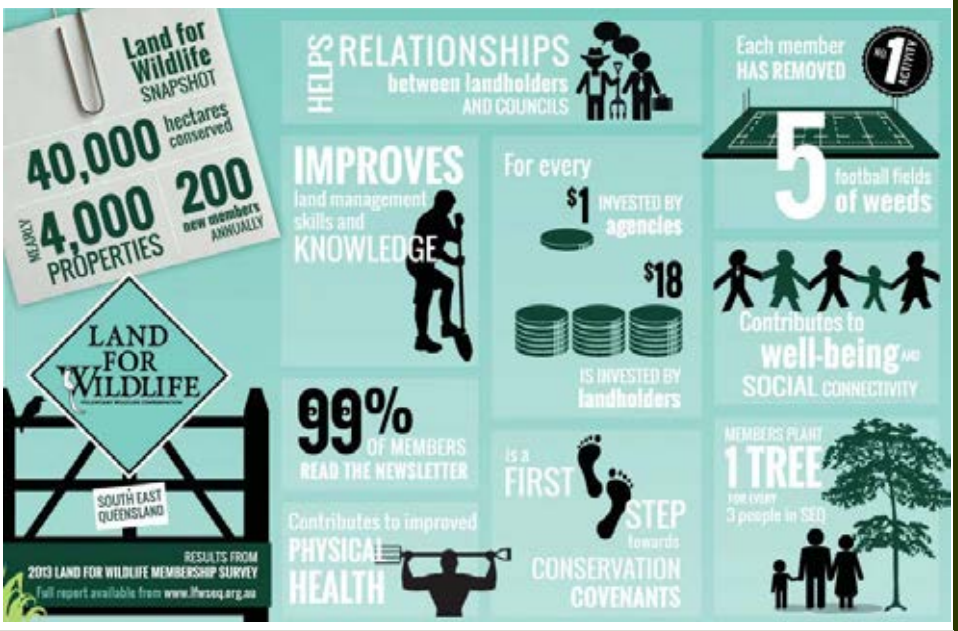
editorial

Keep it short and sweet. Pictures say a thousand words. Knowledge is power. In our world of information overload and easy access to digital imagery, these sayings are relevant now more than ever. Hence the rise of infographics (information graphics).

According to Wikipedia, infographics first appeared in 1626 to represent the sun's rotational pattern. We have a come a long way since in knowledge and our digital tools allow us to create infographics with reasonable ease. So please find below an infographic representing key results from the membership survey last year.

Thanks to all the fabulous contributions to this edition. I hope it inspires readers to consider the aquatic wildlife that you may have on your property, in addition to our much loved land-based animals. Enjoy!

Deborah Metters
Land for Wildlife
Regional Coordinator
SEQ Catchments



Landholder Registrations, Land for Wildlife SEQ - 1/9/2014			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
3082	797	55,244 ha	5,094 ha

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fauna vignettes

PRIZES!

SEQ Catchments is giving away a set of various Queensland Museum pocket guides (RRP $30) to three selected Land for Wildlife members who contribute published articles in 2014. Limit of nine free books per newsletter edition. Please send your article and/or photographs to the Editor (details pg. 2)

Beachside Koalas

You might look twice when you see Koalas on Stradbroke Island feasting on casuarina trees. Most people relate to Koalas feeding on eucalypt trees.

Why wouldn't you want to hang out in a coastal casuarina, having a bite to eat, with ocean views, watching the whales go by? What a life! If you would like to view this for yourself I recommend visiting beautiful Flinders Beach on Stradbroke Island.

Jenny and Steve Anthony
Land for Wildlife members
Sheldon, Redland

Whodunnit?

Does anyone know what type of creature created these chambers of woolly, fibrous digested tree material on the outside of this young eucalypt tree?

Answer: It was probably caused by a moth larvae such as *Aenetus ligniveren*. Newly hatched larvae bore into the stems of host plants and then move downwards making these vertical tunnels. Generally, larvae only emerge at night to feed. There would be chamber for the larvae to pupate somewhere underneath all the chewed bark.

Fflur Collier and Alan Wynn
Land for Wildlife Officers
Brisbane and Sunshine Coast Councils

Flying Peacock Spiders

I came across this tiny, beautiful fellow on a VCA (Voluntary Conservation Agreement) property at Kenilworth recently (photo right). Apparently, it is a *Maratus volans*, or Flying Peacock Spider. There was a story on Catalyst about them a few years ago that can be viewed at www.abc.net.au/catalyst/stories/3160792

Here are some better pictures from Robert Whyte, which can also be found on the impressive website, www.arachne.org.au

The common name refers to the courtship display during which the male expands and raises colourful, skin-like extensions on either side of his abdomen, similar to a peacock tail. He then proceeds to raise his legs and dance from side to side in the hope of impressing a female.

This is a significant sighting as there are no known local records of this species for the Sunshine Coast that I can find.

Alan Wynn
Land for Wildlife Officer
Sunshine Coast Council

Photo by Robert Whyte.

Photo by Robert Whyte.

A Short Tale of the Eel-tailed Catfish

The creek was flowing gently, the water cool and clear with a touch of tannin. The late spring algae was yet to take hold on the rocky bottom and the summer storms were yet to cloud the waters with sediment and debris. Sliding into the water I donned a pair of goggles to be instantly amused by a small turtle scuttling away from me along the bottom to hide unconvincingly amongst rocks a little further upstream. I frog-kicked my way over to a partly submerged log of a grand River She-oak that had fallen and bridged the junction of a small tributary.

As I neared the she-oak log, a dark shape whipped out with speed and intent directly towards me. My heart stopped and my mind raced. I tried to shake off the primeval fight or flight response and rationalise what was the hell was going on. I was swimming in a freshwater creek, what could possibly want to have a go at me? The serpentine shape came within a metre of me and saw me stall and back paddle; it seemed content with its successful defence. It turned and with a powerful splash shot back to the shelter of the log.

With my curiosity piqued, I clambered out of the water to try for a closer look at this creature from the safety of dry land. Lomandra had sprung from crevices in the she-oak log, so it must have laid there for some time. Its position had created an eddy off the main flow that was shallow and well protected. In the middle of the eddy sat what looked like a wheel barrow load of clean pebbles and gravel in a carefully constructed low mound almost two meters across. This was the nest of the native Fresh Water or Eel-tailed Catfish (*Tandanus tandanus*). The nest's creator, a 60 cm mature male, was incessantly tending to the nest and patrolling the surrounding territorial waters.

Eel-tailed Catfish are fascinating animals. As its common name suggests the long dorsal fin that runs seamlessly around the tail and beneath the body gives this fish a characteristic eel-like appearance. This trait easily distinguishes it from its cousin the Fork-tailed Catfish (*Ariopsis graeffei*) whose distribution overlaps the Eel-tailed Catfish from saltwater into freshwater systems. While most commonly observed individuals are around 40 cm in size, the Eel-tailed Catfish can grow quite large, with some specimens weighing up to 7 kilograms and reaching 90 cm in length.

Eel-tailed Catfish can vary considerably in their colouring, which can be grey, olive, brown, red-brown or charcoal. This wide variation in colour is probably a camouflaging response to the bedding material composition of the water body in which they live. The colouring is commonly mottled with a pale underside. The skin is tough, smooth and scaleless. Around its thick, fleshy mouth are the classic catfish 'whiskers' or barbels. These barbels contain tastebuds that assist them in finding food such as worms, snails, yabbies, shrimp, insect larvae and small fish in murky waters.

I now count myself lucky in my encounter, as the Eel-tailed Catfish is not all bluff when it comes to the defence of their nests and territories. They are equipped with very sharp serrated dorsal and pectoral fin spines which can be locked into place so that they stick outwards. These spines can inflict an extremely painful and mildly venomous sting if delivered to an animal the catfish considers a threat. Henry Lawson confirms this in a 1901 short story; "There was the catfish, with spikes growing out the sides of its head, and if you got pricked you'd know it". The venom is generally much weaker than that of marine catfishes. Venom from a sting delivered by an Eel-tailed Catfish is unlikely to cause pain for more than an hour or two. To treat a catfish sting, soak the affected area in hot but not scolding water (ideally 45°C) for up to 90 minutes. Wounds should also be treated to prevent bacterial infection.

Breeding takes place from late spring to mid-summer when the water temperature rises to between 20°C and 24°C, and is preceded by males creating nests. Males have been observed constructing their nests using their broad head to bulldoze loads of gravel and pebbles into a low circular mound. They then use their tail and pectoral fins to flush sand and silt away creating a clean pile 60 cm to 2 metres across, distinct from the rest of the creek bed. Males will pick up individual pebbles in their mouth and move them around for finer renovations to the nest.

In water bodies such as sandy creeks or clay dams where there is an absence of pebbles, males have been known to use twigs, leaves and small pieces of woody debris to construct their nests.

Male Eel-tailed Catfish raise and protect their young in large circular nests as shown in this image taken at Enoggera Creek, Brisbane.

Some male Eel-tailed Catfish have been observed returning to the same nest site each year to give it a spring clean to encourage prospective mates. If a female is suitably impressed by the male and his nest structure, a complex courtship ritual ensues. The male and female circle and weave about the nest for some time until the female arches her body, agitates her pelvic fins and releases tens of thousands of eggs (about 3 mm in size) above the nest. The male fertilises the eggs, which settle into the gravel of the nest. Fertilised eggs are guarded by one of the parents (usually the male) and are aerated by fanning with their tail until the eggs hatch about a week later. After hatching, the fry leave the nest to take refuge from predators amongst snags and aquatic vegetation.

Eel-tailed Catfish are common in freshwater rivers, creeks, lakes, dams and billabongs in South East Queensland. Eel-tailed Catfish are also residents of coastal catchments from northern Queensland to central New South Wales. Once common throughout the warmer waters of the Murray-Darling basin, populations have significantly diminished. The introduction of European Carp is implicated as a contributor of this decline due to direct competition for food (European Carp and Eel-tailed Catfish have similar feeding habits) and carp interfering with catfish nest sites.

Keep an eye out for Eel-tail Catfish and their nests in your local creeks and water bodies this spring and enjoy their fascinating antics.

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Article by Scott Sumner
Land for Wildlife Officer
Brisbane City Council

All photographs by Gunther Schmida. Visit www.guntherschmida.com.au for more impressive photographs and information on freshwater fish. This website also offers excellent field guides on freshwater fishes, geckos, snakes, turtles and other Australian wildlife for download.

pest profile

Female (left) and male (above) tilapia. Photos by Gunther Schmida.

Tilapia in South East Queensland

Being a keen fisherman and having a passion for the environment, the issue of pest fish is very close to my heart. Tilapia is one of the most common and destructive pest fish in South East Queensland (SEQ), having taken up residence in many of our local waterways and reservoirs.

Growing to a maximum length of 40 cm, tilapia is one of the toughest and most resilient fish species in our waterways. They can survive in temperatures from 8ºC to 42ºC, preferring still or slow moving water in a variety of habitats, including reservoirs, lakes, ponds, rivers, creeks, drains, swamps and even tidal creeks and estuaries. To my surprise and also disappointment, my first encounter with a tilapia was in Townsville in a saltwater creek, 50 metres from the ocean and with views of Magnetic Island.

There are two species of tilapia that have escaped into the wild in Queensland: Mozambique Tilapia (*Oreochromis mossambicus*) and Spotted Tilapia (*Tilapia mariae*). Of the two, *O. mossambicus* is the most common and the main one found in SEQ. Generally, most *O. mossambicus* are olive to yellow in colour on the dorsal area, with silvery sides and a whitish belly - although breeding males are much darker, with red tips on their fins. Being part of the Cichlidae family, they were a sought after aquarium fish but also were irresponsibly released into local waterways.

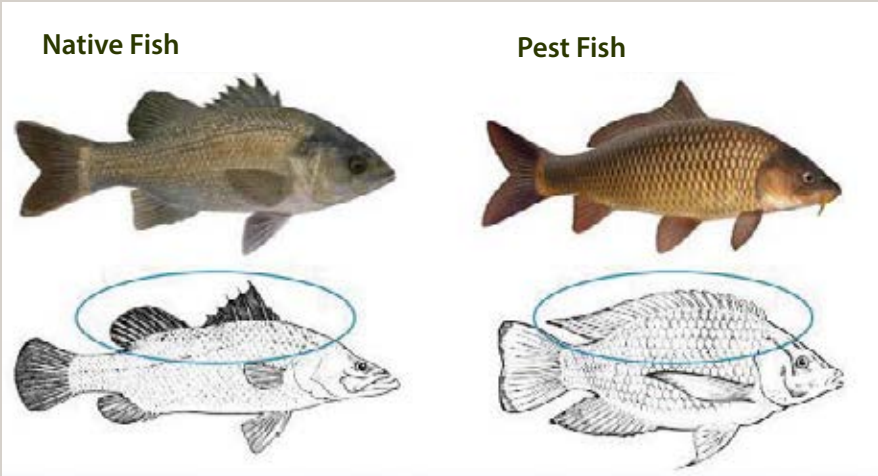
One of the first recorded sightings of tilapia within SEQ was in Tingalpa Reservoir in 1977. Since then, populations have been recorded in Maroochy, North Pine, South Pine, Caboolture, Brisbane, Bremer, Logan, Stanley and Albert Rivers, as well as connected creeks and drainages throughout the Gold Coast, Brisbane and Deception Bay.

Large populations also exist in the North Pine, Wivenhoe, Somerset, Maroon and Moogerah Dams and also Lake Kurwongbah. Unfortunately due the recent flooding of most of our major waterways, tilapia have now spread to many more dams, waterholes, creeks and rivers. As many Land for Wildlife properties adjoin or contain waterways, it is likely that tilapia could now exist within a water body on your property.

Male tilapia build circular breeding nests in clusters of sand or muddy riverbeds. These nests should not be confused with the native Eel-tailed Catfish, *Tandanus tandanus* (pages 4-5), which build fewer, larger nests often in gravelly riverbeds and are religiously patrol. Tilapia are mouth-brooders, meaning, once deposited in nests, females hold their eggs (100-1700 per female) for 3-5 days and larvae for 10-15 days in their mouth until they are big enough to survive most predators. For this reason, populations can explode quickly, as unlike most other native fish species, their survival rate is very high.

The impacts of tilapia are widespread and include environmental issues such as decreased water quality, introduction of disease, competition for resources, predation of native fish and economic and recreational impacts such as reduced value of conservation areas and decreasing the catch of recreational and commercial fisherman. These impacts are why tilapia are declared noxious in Queensland under the *Fisheries Act 1994* (Fisheries Regulation 2008). It is unlawful to have noxious fish (alive or dead) in your possession, or to use them as bait, and it is illegal to place or release noxious fish (alive or dead) into Queensland waterways. Penalties of up to $200,000 may apply.

Although the presence of pest fish can potentially have devastating results, it is important to know that they often come hand-in-hand with already degraded waterways. Regulation of waterway flow, fish barriers, pesticide runoff, exotic weeds, over exploitation of fish stocks and removal of bankside vegetation are all threats



The shape of the dorsal fin is a key feature to distinguish the difference between native fish and pest fish. Image reproduced from Module 4: *How to identify tilapia*, Department of Agriculture, Fisheries and Forestry, Queensland Government.

Tilapia can come in a range of colours and size. Photo by Scott Sumner.

One of SEQ's hidden gems, the upper Noosa River, is pest fish free. In-stream snags and bankside vegetation create habitat and ambush points for native fish. Photo by Cody Hochen.

to the health of a waterway, potentially increasing the risk of a noxious fish population. Revegetating riparian areas, as well as stabilising banks and creating in-stream habitat will improve the overall health of the waterway and competition for noxious fish.

Even though tilapia are noxious fish they can still be targeted to reduce numbers. By law, they have to be humanely disposed of and placed well above the high watermark, immediately after capture. This is in case a female with a brood of eggs in its mouth is caught, since these eggs can be viable for up to a day out of water. Simple fishing methods, using bread or prawns as bait, can be used to catch tilapia. They are a fun and safe fish for children to catch and are a good way to educate people of the affects that pest species have on the natural environment.

It has proven extremely difficult and expensive to eradicate pest fish once they have become established in the wild.

Therefore, it is vital to prevent noxious pests such as tilapia from entering or spreading further throughout our waterways. Governments are trying to stop the spread of tilapia and other noxious fish through an education and identification program. An easy way to distinguish a pest fish from a native fish is that the majority of pest fish have a continuous dorsal fin, while native fish have a dent or gap separating the front of the dorsal fin from the rear (see figure on facing page).

If you suspect you have tilapia or any other noxious fish in a waterway on your property, report sightings to the Department of Employment, Economic Development and Innovation (DEEDI) Customer Service Centre by phoning 13 25 23, emailing pestfish@deedi.qld.gov.au or filling out the Pest Fish Reporting Form online at www.fisheries.qld.gov.au. The State Government has a fact sheet on how to identify and report sightings of tilapia, which can be accessed through http://tinyurl.com/kpkuvft

References and Further Reading

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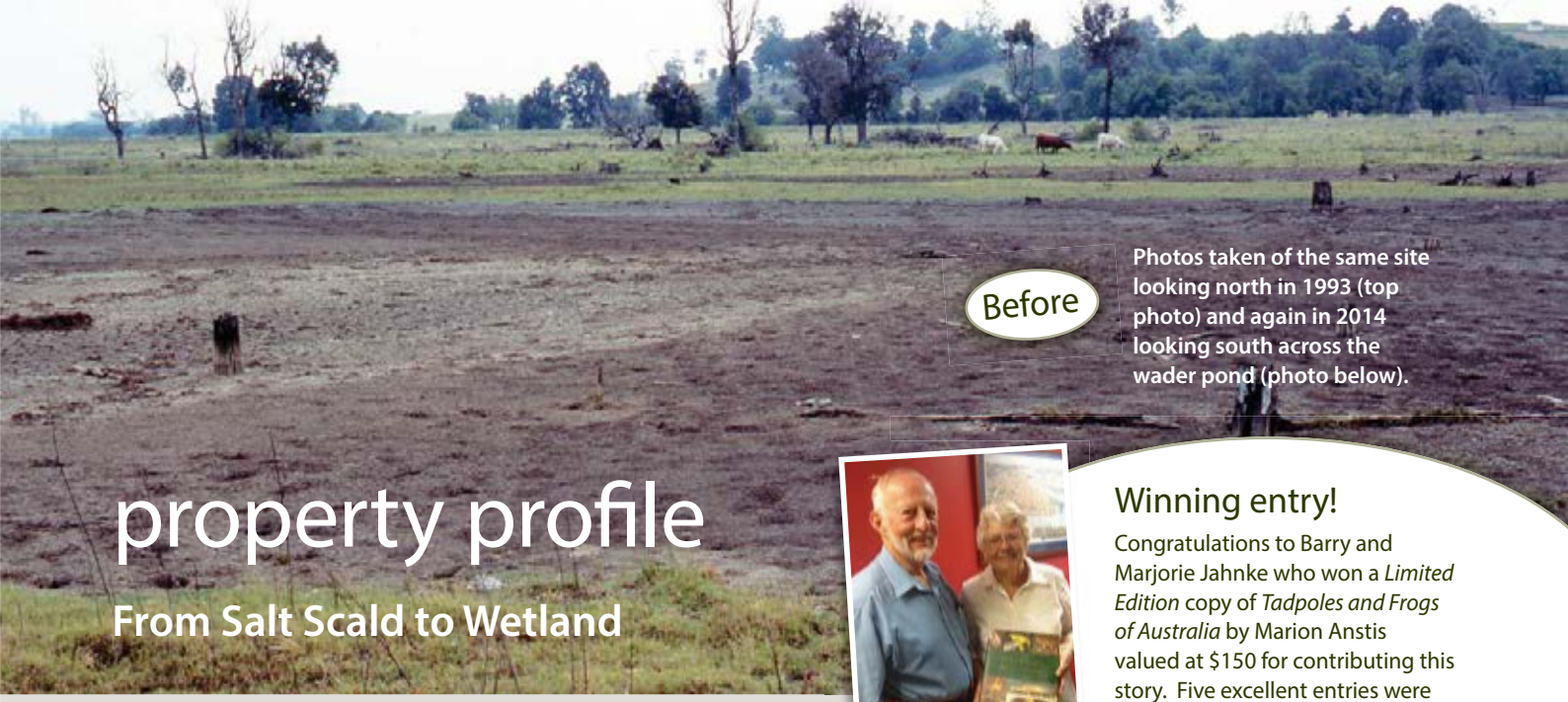
http://www.dpi.nsw.gov.au/fisheries/pests-diseases/freshwater-pests/species/tilapia

Tilapia are mouth-brooders. Shown here is a female tilapia, which upon being caught, released larvae brood (young tilapia) that were being stored in her mouth. As such, any tilapia that are caught must be placed well above the high watermark to prevent eggs or larvae esacping back into the waterway. Photo by Dept. of Agriculture, Fisheries and Forestry.

Article by Cody Hochen
Land for Wildlife Officer
Brisbane City Council



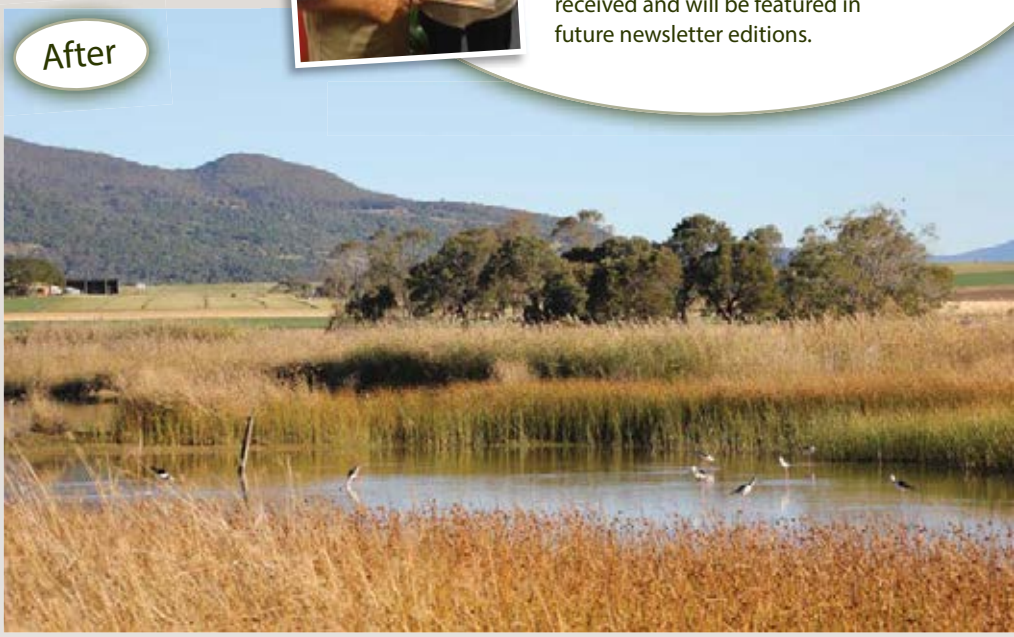
Photos taken of the same site looking north in 1993 (top photo) and again in 2014 looking south across the wader pond (photo below).

property profile

From Salt Scald to Wetland

Winning entry!

Congratulations to Barry and Marjorie Jahnke who won a *Limited Edition* copy of *Tadpoles and Frogs of Australia* by Marion Anstis valued at $150 for contributing this story. Five excellent entries were received and will be featured in future newsletter editions.



"What do you want with that terrible land?" and similar remarks were made to us by friends of ours about twenty years ago when we took up our place on the edge of Kalbar.

I knew the area well as it is not far from where I grew up on a farm in the Brigalow-Softwood Scrub of the Fassifern District. My family knew it even earlier since the start of the 20th century and even then it was considered to be degraded from increasing salinity.

Originally it was covered with Brigalow-Softwood Scrub officially known as Semi-Evergreen Vine Thicket (SEVT). From the 1880s most of this vegetation was cleared by European settlers (including some of my ancestors) to make way for productive farms on these fertile soils. As has occurred in other places in south-east Queensland such disturbance has resulted in rising watertables in the lower land, which resulted in salt scalds destroying the vegetation there.

During the interim time our place, known as 'Melaleuca', suffered further damage being used by the locals as a rubbish dump and prior to the Second World War the local motorcycle stunt club used the salt flats for their riding practice. Also about that time the salting was increasing and the then owner believed that the rising salt was due to those 'dreadful' trees so he had most of them cut down. Evidence of them is still visible today by the stumps scattered about in the wetlands.

Twenty years ago the area was grazed by beef cattle and a few horses and prior to that some of the land above the most salted area was cultivated. It should be pointed out that the whole area is only 17 hectares and is rather flat being only 15 metres difference in elevation. Below us are the highly productive alluvial flats of Warrill Creek.

When we started on the property it was about 40% salt scald, 20% *Phragmites australis*, and the remainder mostly Rhodes Grass paddock with several dozen scattered Brigalows. It did have an advantage in that it surrounds the town sewerage works, which was later able to supply a good supply of grey water for revegetation. As most Land for Wildlife members know, time is often a commodity in short supply so it was several years before we were able to get to improving the biodiversity through habitat establishment.

The first major step was an expensive one involving earth works to change flat salt scalds that retained very little surface water into watercourses with islands and shallow wader ponds. Some of the waters had half the salinity of seawater and even now some of our most common algae also occur in marine environments.

Revegetation was challenged by salty soil, frost, weeds and the fact that it is almost impossible to establish plants under existing Brigalows.

Unfortunately, for practical reasons it was necessary to resort to using some non-local species such as *Casuarina glauca* and *Melaleuca quinquenervia* together with the local *M. bracteata* in the new wetlands. Some other species were also used to add to the diversity. One of the major roads into town runs along the northern frontage where the scalding was an eye-sore. So with the help of two relatives, a woodlot was established to improve the site for passing traffic. A range of species were planted including Bunya Pines, Cypress Pines, *Eucalyptus tereticornis* (which were a failure), and the aforementioned Casuarinas. This project was started in 1999 and we now have the benefit of a sustainable fuelwood supply from the Casuarinas.

Several other areas have had some plantings including one devoted to Brigalows and nearby there are Hoop Pines

Heavy machinery was used to start work on turning this degraded, salty land into a wetland. Above photo taken in 1993 and then again at the same site in 2014 (below).

There has been lots of hard work by Barry and Marjorie to convert this salty land into a woodlot. Above photo taken in 2001 and again the same site shown earlier this year (below).

and some closed forest species. Another area has recently been planted with eucalypts including Queensland White Gums with other species for diversity. Nearby, a small remnant Brigalow patch has been increased by tyne ripping of the surrounding roots to encourage suckering.

Future plantings are aimed towards increasing the understorey complexity for the benefit of other species including invertebrates. The planted areas are complemented by the house gardens, and large areas of grasses remain for the benefit of grassland inhabitants, especially birds. Unfortunately, apart from the *Phragmites*, most of the grasses are foreign ones but in the house garden careful mowing has encouraged increases in the Queensland Blue and Pitted Blue Grasses, much to the delight of several finch species.

There is always the idea to "plant more trees", which is fine, but in our soils this increases the weed population due to fruit eating birds spreading seeds, especially Climbing Asparagus and Brazilian Nightshade, just to mention a few. In any case it is important to have as wide a range of habitats as possible to allow for greater biodiversity.

The bird list is now at 142 species, which of course includes residents like blue wrens, Double-barred Finches, Brown Honeyeaters, Black-fronted Plovers and Black-winged Stilts as well as migratory species passing through. On and off throughout the year Cattle Egrets use the Casuarinas in the wetlands as an overnight roost site.

Overall, the site is a bit different to what it was twenty years ago; and the birds and frogs seem to agree.

Article by Barry and Marjorie Jahnke
Land for Wildlife members
Kalbar, Scenic Rim

Scenic Rim Conservation Agreements

Barry and Marjorie have recently entered into a Voluntary Conservation Agreement (VCA) with Scenic Rim Regional Council to receive additional support for their conservation work. Support includes a rate relief (up to 50% of general land) on the area designated under the VCA. There are currently 12 VCAs in Scenic Rim, all of whom are members of Land for Wildlife. Landholders who have endangered ecosystems such as Blue Gum forests and Brigalow scrub are encouraged to join the VCA program and thus be eligible for extra financial support.

Keith McCosh
Land for Wildlife Officer
Scenic Rim Regional Council

pest profile

When Fungi Goes Feral: Protecting South East Queensland's World Heritage areas from root rot

Left and above: Bushwalkers should use pathogen hygiene stations, where installed, to clean their boots and help prevent the spread of root rot. Photos by Lexie Webster.

Dead and dying grass trees (*Xanthorrhoea* sp.) due to root rot in South Australia shown below. Photo © 2014 Dept. of Environment, Water and Natural Resources, SA.

With a scientific name meaning "to destroy plants", there's no doubt that root rot (*Phytophthora cinnamomi*) is a foe of our forests. Since its introduction from Southeast Asia in the late 1800s, the pathogen has established itself across Australia, causing dieback in native plants, agricultural crops and horticultural species.

In South East Queensland (SEQ), where root rot is the most destructive disease to effect avocado crops, its management has traditionally been agriculturally focussed. So earlier this year when I noticed pathogen hygiene stations installed in some Gold Coast hinterland and Scenic Rim national parks - including those listed as World Heritage Area - I wondered what had triggered the decision to manage the pathogen in the region's natural areas, and whether the risk root rot posed to our regions' rich biodiversity was increasing.

Phytophthora survives in water and soil, and has the potential to cause considerable damage to an area's biodiversity by changing the species composition and structure of a forest, and therefore the habitat available to the wildlife using it. It affects a plant's feeder roots (the dense network of roots close to the surface), which after infection, darken in appearance and can no longer absorb water and nutrients, leaving the plant exposed to disease and other pathogens. The leaves of affected plants yellow and wilt before drying out and in most cases, the plant ultimately dies. The time taken to die can range from months to years.

When I contacted the Queensland Parks and Wildlife Service (QPWS) to find out more about the relatively recent installations, a spokesperson advised the hygiene stations - which have been installed at walking track entrances in Lamington, Springbrook, Moogerah Peaks and Mount Barney National Parks - are just a precautionary measure. They explained that when federal funding became available in late 2013, QPWS took the opportunity to enhance the protection of the world-recognised area and advised that, "whilst some grass trees were recently affected in the Moogerah Peaks National Park, outbreaks are extremely rare in SEQ and no cases of dieback caused by root rot have been recorded in any of the national parks listed as World Heritage Area".

Whilst it is good news that there have been limited root rot outbreaks in national parks to-date, the installation of hygiene stations serves as a reminder of the pathogen's potential to spread and prosper.

Like any fungus, root rot prefers warm damp environments and under these conditions releases zoospores into the surrounding soil, which then spread through stormwater and drainage water. It is highly adaptable and in periods of cooler weather or drought will release chlamydospores and oospores, which can survive for long periods in soil or dead plant material until conditions are once again favourable, at which point it infects new plants. Its climatic preferences mean that *Phytophthora* tends to establish in areas that receive more than 600 mm of rainfall annually, meaning that most of SEQ is a suitable environment for the fungus.

Root rot is already well established in Tasmania, Victoria and Western Australia's south, where management measures have been implemented in natural areas and forestry reserves to reduce the pathogen's spread and minimise its impact. Despite efforts though, it continues to affect hundreds of species of native plants including those considered iconic to the Australian landscape, such as grass trees (*Xanthorrhoea* spp.) and eucalypts (*Eucalyptus* spp.).

The country's most impacted regions are all popular destinations known for their natural beauty where people regularly hike, ride and drive through natural areas. As well as animals and water runoff, bushwalkers and machinery are vectors of root rot so it is important that those using our natural areas understand how the fungus is spread and ensure they don't play a role in contaminating other areas.

A QPWS spokesperson recommends that to do your bit to limit the spread of root rot by "making sure your shoes, tyres and equipment are free of soil at the start and end of your stay, keep on designated tracks and comply with closure signs. Use hygiene stations provided and also disinfect equipment and vehicles before travelling into other parks and forests".

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Article by Lexie Webster
Land for Wildlife Officer
City of Gold Coast

book reviews

Weeds of the Sunshine Coast

By Joan Heavey and Sonia MacDonald

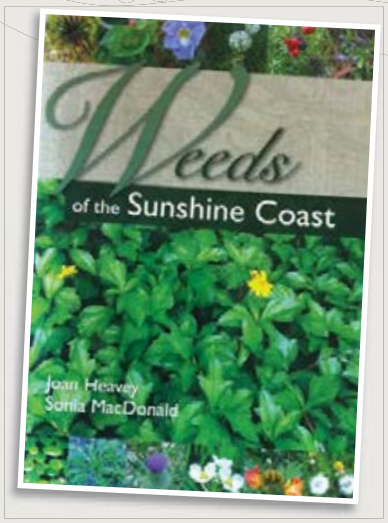
This is one of those books that every Land for Wildlife property owner will find useful. Despite its title, it is relevant for South East Queensland and beyond. Featuring 260 A4 profiles of environmental weeds, it is organised into sections on herbs, trees and shrubs, vines and climbers, aquatics, sedges and grasses. Over half the profiles are herbs, which often form part of the weedy understorey that many properties have in disturbed areas.

This book is great for identifying weeds as the specimens shown are scans of live plants. Co-author Sonia MacDonald (a member of Land for Wildlife and local bushcare groups) scanned hundreds of weeds and, in addition, the book also shows photos of flowers and other plant features. Each profile is accompanied with a description of further characteristics that help in identifying the plant.

I asked co-author Sonia MacDonald, "What inspired you to undertake this project?"

Sonia replied, "Many years ago when the Wallace Park Bushland Care Group got together, I made a study of how to tell the difference between various climbing vines (e.g. Archer Axillaris - *Macrotyloma axillare*, and Glycine – *Neonotonia wightii*) and the Desmodiums – native and introduced. I made photocopies to show people and found that they were a useful aid in identifying the plants. Then I started collecting, pressing and photocopying every weed I came across. They were all put into a folder and left in the Environment Centre at Noosaville where they were often used as a reference for people trying to identify unknown plants.

Quite independently Joan Heavey was photocopying weeds found in Heritage Park, Tewantin, where she was the leader of the Bushland Care Group. We decided to combine our collection and turn it into a book to benefit weeders, landholders and gardeners. We felt that the format of the book would make it easy to identify plants and we wanted to make people aware of the dangers of planting weedy exotics."



Published by Noosa Integrated Catchments Association (NICA), 2013
Soft cover with plastic sleeve and colour photos, 292 pages.
ISBN: 9780646906874
Price: $45
Available from NICA (www.noosariver.com.au or ph. 5449 9650), Noosa Landcare (ph. 5485 2468) and some bookshops.

Review by Stephanie Reif
Land for Wildlife Officer
Sunshine Coast Council

Reptiles and Amphibians of Australia

Seventh Edition

By Harold Cogger

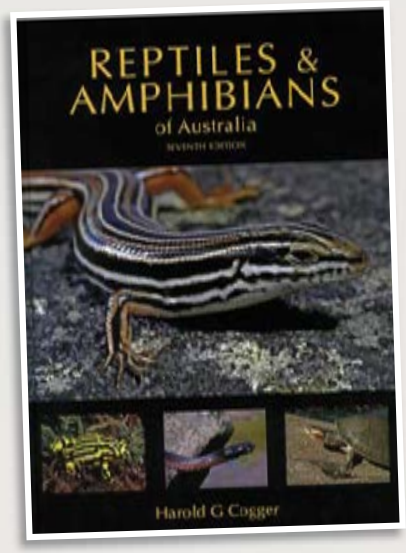
What first amazed me about this book was that from when it was first published in 1975 to now, the known species of Australian frogs and reptiles has nearly doubled from 664 species to 1218 species described in this book.

I learnt a great deal by reading the introduction and how to use the key when trying to identify a species. I have used this knowledge when going to identify different species. Information on how to keep live specimens, collecting methods, preserving specimens and even first aid treatment guide for snake bites is included in this book.

The very detailed family descriptions and identification diagrams, I found valuable and interesting. You get it all with some history and environmental issues associated with each family as well. The book marking tag is a great useful addition to a reference book!

This book is the definitive guide to Australia's lizards, geckoes, snakes, frogs, crocodiles and turtles. It includes all known species that have been described prior to October 2013.

Once you move into the species specifics the colours of the photos are so vivid, really demonstrating identifying characteristics. I would recommend having this book, though it is too big and pretty to be a field guide but a worthwhile investment if you want to count scales and learn what species you have – you never know you might discover a new species.



CSIRO Publishing, 2014
Hard cover, 1064 pages.
ISBN: 9780643100350
Price: $150
Available from most online and in-person bookshops.

Review by Catherine Madden
Land for Wildlife Officer
Brisbane City Council

LAND FOR WILDLIFE
OPEN PROPERTY SCHEME 2014
SOUTH EAST QUEENSLAND

"CURREY" 28TH MAY
Armstrong Creek, Moreton Bay
Sustainable grazing • Revegetation • Horses

"The key event for us was attending a Property Management Planning workshop back in 2011. We found out that we had some remnant endangered rainforest on our property, so we fenced this off from stock.

Overall we have excluded all livestock from all watercourses. This has resulted in a high ground cover rate of around 90%. The side-effect of this is that water runoff is now clear with no sediment.

Having other people visit our property is important to keep us inspired and to hear different views." **Greg Currey, property owner**

Here are some more snippets from Open Properties held in May. Enjoy!

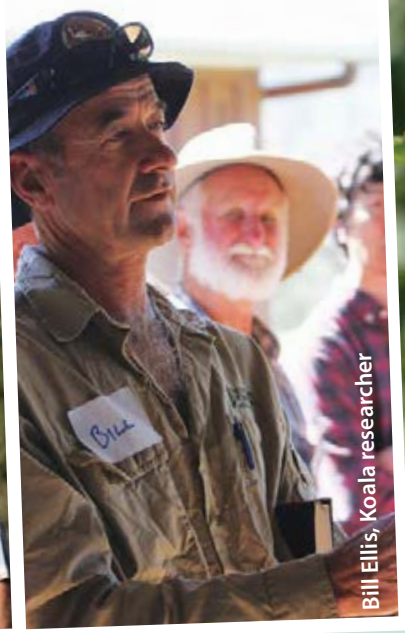
Marg and Doug Bettens

"BETTENS" 7TH MAY
Cooran, Noosa
Extensive weed control • Revegetation • VCA

"In 1983 the hills around Cooran were bare. Massive rainforest and eucalypt trees had been felled for timber, followed by dairy farming, pineapples and other orchards. The landscape we see now is a direct result of these recent past land-uses. We first planted trees for timber, but soon after changed track as we wanted the trees to stay. They say 'If you build it, they will come', and that is exactly what has happened with this forest. Wildlife has arrived."
Doug Bettens, property owner

VIEW MORE PHOTOGRAPHS VIA www.lfwseq.org.au/ops

Leonie Robertson and John Hayek



Bill Ellis, Koala researcher

"HOLLOW LOG RETREAT" 21ST MAY

Mount Byron, Somerset

Koalas • Habitat restoration • Eco-tourism

"Grazing and Koalas can coexist. Just don't clear everything. Most Koalas do not occur in reserves - they occur on private land. Koalas live on high fertile alluvial land - the same location as our grazing and horticultural land. This area at Mount Byron is possibly one of the last significant populations of healthy Koalas in SEQ." **Dr Bill Ellis, koala researcher**

Photographing ground orchids

"BALLOW VIEW" 31ST MAY

Carney's Creek, Scenic Rim

High country eucalypt forest • Habitat trees

"I co-own this property with friends, but I have been camping in this area for 30 years. We invited the Queensland Field Naturalists to come here and they found 18 species of butterfly, 16 species of frog, 10 reptile species, 18 mammal species and about 80 species of bird. Some animals were found through using fauna camera traps.

I encourage other Land for Wildlife members to stick with it as there are probably more species on your place than the ones you see on a daily basis."

Hugh Wackwitz, co-owner Ballow View

"NIGHTFALL CAMP" 24TH MAY

Lamington, Scenic Rim

Wilderness eco-tourism retreat • Flowing creek

"Our aim is to manage lantana to such a point that the gallery rainforest, which used to grow along this creek, can be recreated.

We are big fans of the Husqvarna mulching head. It chops up lantana into two inch pieces and makes perfect mulch. There are seven of these mulchers in our valley. They are a great no-chemical method of lantana control."

Heidi Ross, owner Nightfall Camp

LAND FOR WILDLIFE
OPEN PROPERTY SCHEME 2014
SOUTH EAST QUEENSLAND

"THE WHITINGS" 17TH MAY
Cooloolabin, Sunshine Coast
Wildlife care & rehabilitation • Wildlife habitat

"All possums that come into care are released in a nest box. We have found possums still using their nest boxes months later. Wilvos (Wildlife Volunteer Association) makes about 200 nest boxes each year. We even supply a drey nest for ringtail possums, which we make by modifying hanging baskets.

Please help our wildlife by putting water out for them and by growing a native garden. Also consider supporting Wilvos by calling 5441 6200!"
Sylvia Whiting, property owner

"SANDS" 9TH MAY
Upper Brookfield, Brisbane
Restoring steep slopes • Butterflies • Native pigeons

"Know your soils! Plant native plants that like to grow on those soils. My aim is to bring invertebrates back. We have already lost so many moths and other detritivores that were food for young birds, bandicoots and other wildlife.

Fruit-eating pigeons have also declined rapidly. They used to be quite common. We might just be able to bring them back by planting fruit-bearing native trees such as Cryptocaryas and native olives."
Don Sands, property owner

"SMITH" 25TH MAY

Mulgowie, Lockyer Valley

Weed control techniques • Rare cypress

"Cat's Claw Creeper can produce up to 1000 tubers per square metre. The good news is that their seeds are only viable for 12 months, so eradication of Cat's Claw from a small area is possible.

Madeira Vine in Queensland generally does not produce seed, but all vegetative components, such as the leaf, stem and tuber, can reproduce. Madeira Vine can grow fast - up to one metre per day!"

Kym Johnson, Biosecurity Officer, DAFF

"LEDWITH" 31ST MAY

Kilcoy, Somerset

Conservation • Wildlife-friendly dam

"The natural revegetation around and in the dam has been amazing. Nothing was planted - it just came with the wildlife. It has been a wonderful lesson in letting nature take care of herself. The wildlife that has moved in is always changing with the seasons and what is flowering."

Michelle Ledwith, property owner

"McMICHAEL" 11TH MAY

Prenzlau, Somerset

Natural wetland • Tea-tree forests

"Lee bought this degraded cattle property about ten years ago. She wanted wildlife instead and has been working with the local landcare group to restore links between the Tea-tree forests. The large Blue Gum trees here are part of an endangered ecosystem, hence the Nature Refuge status of the property."

Trevor Page, Land for Wildlife Officer Somerset

VIEW MORE PHOTOGRAPHS VIA www.lfwseq.org.au/ops

Philosophy with Phil

What do I do about all these bugs?

I get this one a lot. People will bring a leaf or branch in to our office and ask "How can I stop these bugs eating my plants?" Many species fit into this category such as Brown Kurrajong, Soap Wood, Coffee Bush and White Cedars.

My job is to explain that often the nefarious 'bug' is often a caterpillar of a moth or butterfly. That this 'bug' is a part of the ecosystem as a whole, and further, the damage done is often not harmful to the parent plant…rather just a part of the cycle.

Recently I have given talks to a number of garden clubs on the Sunshine Coast. These people are very passionate and knowledgeable about their gardens and plants. They are also observant. There are times however, that they can reach for the pyrethrum quickly if they see leaf damage!

I use a couple of examples to illustrate my point. The first is the Native Caper (*Capparis arborea*) and Climbing Caper (*Capparis sarmentosa*). These plants are regularly completely defoliated by the Caper White butterfly (*Belenois java*). At certain times of the year, hundreds of these butterflies appear and search for their larval food plant (see banner photo). I have a number of both the Climbing Caper and Native Caper on my block. I regularly see them being hounded by the butterfly. I remember clearly sitting with my son under one of the native capers listening to the caterpillars chewing the leaves!

The next example I use is Coffee Bush (*Breynia oblongifolia*). I have one in front of my house so I have been able to observe and learn from this plant. Mine was looking great and I noticed a lot of yellow butterflies lurking around it. These Large Grass-yellow butterflies (*Eurema hecabe*) laid their eggs, and when they hatched the caterpillars had a ball!

As gardeners recognised, a gentle tip pruning is a great thing. Plants love it. They come back really well and often have a better 'form'. It is Nature's way of gardening.

Whilst adult butterflies feed on the nectar of many plants, they are often very specific about which plants they will lay their eggs on. These 'host plants' are a vital part of the ecological cycle. So next time you see chewed leaves on a plant…rejoice! It is all part of Nature's special and fragile web!

The same Coffee Bush after being defoliated by caterpillars (above), and then with new growth (below).

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

Phi•los•o•phy (say fuh'losuhfee) *n*. a system of principles for guidance in practical affairs. *Macquarie Dictionary.*

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