



Streamlines

Newsletter of the Pullen Pullen Catchments Group Inc.

May 2023

This issue begins on a sad note recording the passing of Ian Cameron, PPCG's Foundation President. Brian Dean and John Ness have written a brief summary of Ian's life concentrating on his contributions to PPCG. The issue continues with items on a wide range of topics.

Firstly, two exciting NEWS items – a Platypus Walk in Pullenvale Forest Park and a Bird Walk in Anstead Bushland Reserve. See page 3. And another appeal to report all deer sightings to the Brisbane City Council. Apparently the strength of their response is directly related to the number of sightings reported!

John Ness has been inspired by a fallen white cedar branch to consider wood strength and its implications for tree growth, wind damage and adaptation. In the following article, Gillian Whitehouse reports on the recently and very successfully completed project to extend suitable habitat for collared delmas in the Pullen Pullen and Kholo Creek catchment areas.

Our Wildlife Officer Irene is preparing a series of articles on her life as a Wildlife Carer beginning with how she started – see page 7 for the first instalment.

Our series of articles from the Watergum website on toads and frogs continues with a table comparing the two groups of animals at all stages of their life cycle. Staying with pests, there is an invitation to become a Weedspotter!

In a catchment area so enthusiastic about butterflies, our final article illustrates ten plants recommended for attracting and encouraging butterflies.

All members are invited to submit articles to Streamlines via helian@pretirementresorts.com.au. The deadline for the next issue is 15th August 2023.

Helen Ogle
Editor

CONTENTS

Page

Pullen Pullen Catchments Group.....	2
Ian Cameron – In Memoriam.....	3
NEWS.....	3
Wonder of Wood.....	4
Collared Delma Habitat Enhancement.....	5
To Be or Not To Be a Wildlife Carer: How I Started (Part I)	7
Is it a Toad or a Frog?.....	9
Weedspotter.....	11
Butterfly Plants for Southeast Queensland.....	12



Pullen Pullen Catchments Group

A Landcare Group

Website

www.pullenpullencatchments.org.au

Meetings

Meetings are held at 6 pm on the first Wednesday of each month at Pullenvale Environmental Education Centre, 250 Grandview Road, Pullenvale unless advised otherwise.

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Membership Options

Membership fees are:

- Annual Membership – \$10 per person payable on March 1 each year
- Life Membership – \$100 per person

We are delighted to accept donations.

- a) Send a cheque payable to PPCG to PO Box 1390, Kenmore, 4069 or
- b) Transfer the funds electronically to BSB 064 152, Account No.10107038 Ref: your name.

Working Bees Tools, gloves, etc are provided at Working Bees. Just wear sturdy boots and sunsafe clothing and bring water and a hat!

Anstead Bushland Reserve – 1st Sunday of the month, 8.30 – 11 am (April-September), 7 – 9.30 am (October-March); 2nd and 4th Saturdays of the month when advertised, 2-4.30 pm (April-September), 3.30-6 pm (October – March)
Pullenvale Forest Park – 2nd Sunday of the month, 8.30 – 11 am (April-September), 7.30 – 9.30 am (October-March)

See also the Events Calendar on the website (<https://www.pullenpullencatchments.org.au/events-calendar/>)



"The PPCG acknowledges the support of the Lord Mayor's Community Sustainability and Environmental Grants Programs for a grant to help with administrative, bushcare and educational costs"

Dedicated to a better Brisbane

IAN CAMERON – IN MEMORIAM

Twenty five years ago, Councillor Margaret De Wit called a public meeting for residents interested in forming a bushcare group to care for Pullen Pullen Creek and its catchment area. There was a good response and a steering committee, chaired by Ian, was established to progress the matter. The outcome was the establishment of the PPCG and Ian was the inaugural President, a position he held for 5 years.

From the outset it was clear that Ian was ideal for this role combining experience, vision, concern for the environment and an impressive ability to get things done. He was the organiser par excellence and got things moving with the now Pullenvale Forest Park, an outstanding recreational reserve used by so many. Ian planned walking tracks, designed and arranged finance for the delightful boardwalk, set out weeding and planting programmes and created the picnic area, all done with panache and a blithe disregard for obstacles be they physical or bureaucratic foot-dragging.

A similar spirit is found in the small but ecologically significant Moggill Wetlands where the indefatigable Ian arranged for the excavation of an island bird refuge which now is home for multiple migratory species. Ian's guiding hand, his foresight, his engineering prowess and his deep love of the land as expressed in his book "A Green and Pleasant Land", which he somehow found time to write, are testimony to an outstanding community leader, now sadly no longer with us, following his death on May 5.

Ian was one of the most accomplished engineers Queensland produced. Only nine years after his graduation from UQ in 1951 Ian set up his consulting firm and in 1969 was elected President of the Queensland Division of Engineers Australia. He was awarded Queensland Engineer of the Year in 1993, received an honorary doctorate from QUT in 1995 and became a Member of the Order of Australia in 2009 for his services to civil engineering and to professional and community development.

Living to almost 94 years of age, Ian had a long and remarkably productive life.

Vale Ian Cameron

NEWS

At the May Management Committee meeting, members were thanked for paying their annual or life **membership** subscriptions promptly.

While our **Creek Catchment Officer**, Brendan McIntyre, is on leave, his place is being very ably filled by Nomusa Nzama. Welcome Nomusa! We look forward to working with you. Enjoy your break Brendan!

Platypus walk in Pullenvale Forest Park on Saturday July 8th between 8 am and 10 am. The walk will be led by ecologist and PhD candidate Tamielle Brunt who will arrange publicity and Eventbrite registration closer to time.

Bird walk in Anstead Bushland Reserve on Saturday September 2nd between 7 am and 10 am. The walk will be led by local ecologist, conservationist and environmental consultant Deborah Metters and conclude with morning tea. More details closer to time.

Feral deer – deer not kept in a deer proof enclosure – have recently been recorded in Anstead Bushland Reserve. Three types of deer are common around Brisbane – Rusa deer, Red deer and Fallow deer (see Streamlines May 2014 or Brisbane City Council website for descriptions).

Feral deer should be reported to the Brisbane Council either by submitting a feral animal sighting report or by calling the Council help line 3403 8888. Council reaction depends on the number of sightings received!

Wonder of Wood

John Ness

The wood from red cedar, *Toona ciliata*, was in such high demand that virtually all the large trees along the east coast from Sydney as far as the Atherton Tablelands were cut down over the 100 year period to 1920. If left alone these trees will grow to 45 m in height with some reaching 60 m in favourable locations and girths in excess of 3 m.

The white cedar, *Melia azedarach*, is a cousin as both belong to the Meliaceae family, but the wood of the white cedar compared to the red is like copper is to gold so there was not the same furious assault on this species. The white cedar is a considerably shorter tree, seldom reaching 20 m in height but has a wide spread which may reach 30 m or more in diameter. Due to this lack of demand, large white cedar trees are still extant even outside national parks. There are several magnificent examples of white cedars in Woodward Place Park.

One large white cedar tree with a height of ~15 m, a trunk diameter of 860 mm at breast height and multiple large branches has stood on the banks of Pullen Pullen Creek for possibly over a 100 years. Recently, it lost the struggle to maintain a very long, almost horizontal branch of just over 20 m in length. It snapped off at the junction to the trunk about 3.4 m above the ground. This enabled some data to be gathered on the branch and to estimate the strength of the wood to maintain the branch.

The branch was about 265 mm in diameter at the base tapering to around 100 mm diameter at the end before spreading into numerous smaller branches which held all the leaves. The density of the wood was measured at around 950 kg/m³ or slightly less than water and this was verified by noting that a short section of the branch just floated in water. The volume of the branch, not including the small terminating branches and leaves, was ~ 0.55 m³ giving a total weight of 520 kg.

The centre of mass of the branch was calculated to be about 6 m from the base which means that the bending moment at the junction with the trunk was an extraordinary 3100 kg-m. This is equivalent to suspending a weight of 3100 kg, or a couple of medium size cars, at the end of a 1 m long pole!

After making some reasonable assumptions, it was estimated that the wood at the junction between the trunk and the branch was subject to a maximum of ~ 2,000,000 kg/m² stress in tension at the top of the branch/trunk junction and about the same in compression across the bottom half. The average value would be less than half of this.

In terms that may be easier to comprehend, this maximum stress is equivalent to about 2 kg/mm² or about 200 kg over a circle of diameter 12 mm. Try holding 200 kg attached to your little finger!

The yield strength of wood is not an easy parameter to find and is quite variable depending on the type of wood, the moisture content, the position of the wood within the branch, the age of the tree and so on. However, it would appear that yield stresses from around 1-5 kg/mm² can be expected for most timber.

White cedar wood is towards the lower end of this range but note that the calculation was for a static load only. In practice the limb snapped off in moderate winds after a period of heavy rain so this could easily have added a further dynamic stress of around 200,000-400,000 kg/m² (equivalent to an extra load of 15-30 kg applied at the terminating branches and leaves of the limb) or an increase of 10-20% in the static load. This was most likely the factor that caused the failure.

If the branch was almost vertical the compressive stress at the tree trunk would be about 10,000kg/m² or only 1% or so of the maximum stress for the horizontal branch. The stress is all compression in the vertical case which would also reduce the risk of failure.

While large horizontal branches are common with white cedar, this type of tree growth reaches its apogee with certain varieties of fig trees which have evolved three methods to cope with very large horizontal branches. Firstly, the branches are more oval rather than circular in cross section especially where the branch is joined to the trunk. The long axis of the oval is vertical which considerably reduces the tensile stress at the junction. Secondly, the horizontal branch will typically drop an air root to ground at intervals from the trunk junction and this air root rapidly grows into a solid, secondary supporting trunk. More recently, the fig trees have learnt to grow in areas under the jurisdiction of risk averse councils who then insert wood or steel pillar supports under the branch at appropriate intervals. All three of these evolved coping methods can be seen in the fig trees in the old botanical gardens in the city near the Goodwill Bridge entrance. It is indeed curious why some trees have decided to grow much wider horizontally than in vertical height and how they change structure to cope with the increased stresses at the branch junctions with the trunk.

Collared Delma Habitat Enhancement

Gillian Whitehouse

Habitat for the Collared Delma (*Delma torquata*) – a small legless lizard included on the Australian Government's Threatened Species Action Plan priority species list – has recently been enhanced in the Pullen Pullen and Kholo Creek catchment areas through the project *Improving Collared Delma trajectories in Brisbane's western suburbs*. The project was undertaken jointly by Pullen Pullen Catchments Group and Kholo Creek Catchment Group and received funding from the Australian Government. It was completed on 31 March 2023, delivering significant benefits for this vulnerable lizard.

Habitat for the Collared Delma was enhanced primarily by chemical-free management of invasive weeds, including the problematic Creeping Lantana (*Lantana montevidensis*). This work covered over 4000 square metres of potential and recognised habitat within local private properties and (thanks to approval from the Brisbane City Council in November 2022) a section of Anstead Bushland Reserve. Over 900 person hours of weeding work were devoted to the project by highly-skilled teams from Bushtekniq and Oxley Creek Catchment Association between October 2022 and the end of March 2023.

In addition, augmentation of habitat via the introduction of rocks, mulch, native grasses and grass seed was undertaken on eight of the project properties. A total area of around 500 square metres was treated in this way.

As noted in an article in the November 2022 issue of *Streamlines*, fauna surveys conducted for the project contributed two new confirmed sightings of the Collared Delma. A final Survey Report, which also lists 25 other native reptiles identified in the surveys, is available online at https://www.pullenpullencatchments.org.au/wp-content/uploads/2023/04/Collared_Delma_survey_report-20230402.pdf.

Community engagement and dissemination of information were among the most important aspects of the project. Onsite visits with landholders to assess potential Collared Delma habitat and advise on weed control provided increased knowledge for all involved, as did a Community Workshop held on 19 February 2023 at Anstead Bushland Reserve.

The workshop attracted over 60 participants, who – following an acknowledgement of traditional custodians from Justin Miller (Project Coordinator) – were welcomed to the event by Elizabeth Watson-Brown, MP. Attendees were treated to talks on the Collared Delma from local experts, demonstration of sensitive weeding techniques, free plants suitable for enhancing Collared Delma habitat and a free booklet on local groundcovers written by local expert Paul Grimshaw (available online at <https://www.pullenpullencatchments.org.au/wp-content/uploads/2023/04/Kholo-Creek-Catchment-Native-Ground-Cover-Plants-Feb2023-v2.pdf>).

Overall the project has produced significant outcomes that the landholders involved and Friends of Anstead Bushland (a bushcare group within Pullen Pullen Catchments Group) will be working to sustain into the future. In particular, weeded and augmented areas will be maintained and monitored for Collared Delma activity.



Project property after weeding, prior to habitat augmentation, 18/11/22



After installation of rocks and planting, 25/11/22



Elizabeth Watson-Brown, MP, addressing attendees with project team members Gillian Whitehouse and Justin Miller



Local experts Stephen Peck and Mervyn Mason explaining the 'what, why and where' of Collared Delma populations

For further information see: https://www.pullenpullencatchments.org.au/collared_delma_project/



Australian Government



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The Collared Delma Project team (Paul Grimshaw, Liz Gould, Mervyn Mason, Justin Miller, John Ness, Stephen Peck, Gillian Whitehouse, Jim Williams), May 2023.

To Be or Not To Be a Wildlife Carer: How I Started (Part One)

Irene Darlington

I started on a new adventure in life in 1982. I was newly married, renting in Hornsby, Sydney, NSW. With the exception of ONE year (when I was renting in a strictly non-animal facility during paid job training), I've been rescuing and fostering wildlife for the last 41 years.

Everything seemed perfect in my newly married life when one day a tiny orphaned ringtail possum came into my life. I was talking with a 'friend' (let's call him a friend to hide his true identity) one day when he told me his cat had brought a baby ringtail possum into his house. He couldn't see any injuries on the possum (usually there are punctures under that thick possum fur from cats' teeth, damage even most vets and vet nurses can't find). My friend said he had the possum on cow's milk and was trying to train this nocturnal baby into a 'pet' and a 'daytime' possum to fit into his own lifestyle.

Every wrong thing imaginable was happening to this baby possum in my friend's care – a diet of pizza and takeaway food, riding on this man's dogs and cats (yes, the same cat that had attacked the baby possum in the first place), being dragged around everywhere and shown off to everyone. I knew that if I didn't get that baby possum from my friend, it would become ill and die.

After a couple of attempts, this sweet yet ignorant man who had no idea about raising a wild animal FINALLY surrendered this baby to me. I brought this baby ringtail home with me and already I noticed dried smeared diarrhoea over his cloaca (houses the anus and urethra openings of marsupials). Little did I know then that he was already on his way to irreversible health issues.

I contacted a local wildlife carer recommended by NSW National Parks and Wildlife. Her name was Helen George. I had no idea just how significantly this woman was going to change my life in future years.

Helen agreed to have the baby brought to her the following morning. I set the baby possum up in my laundry overnight. A eucalyptus branch, a snuggly warm cave, a dish of milk and sleep to catch up on. I still wasn't aware that native wildlife is lactose intolerant, meaning the little possum's poor tummy was bloating with gas from the cow's milk I ignorantly continued to feed him. The diarrhoea just continued.

I named this baby ringtail possum Bobby and fell in love with this darling animal. Totally besotted as I was with him, I knew giving him over to the wildlife carer was the best possible future for this little helpless darling. Helen knew so much about raising these animals and had several in care at the time so she could place Bobby into a crèche of ringtail possum babies she had at her home.

Little did I know that his life was going to be very short. I found Bobby dead in his pouch the next morning. The terrible diet, the stress, the lactose in the milk he'd been drinking for a few weeks or even the cat's teeth punctures ... all potentially fatal management errors of which most people are totally unaware. I had Bobby in my care for less than 24 hours, yet his death was devastating. I cried and cried for two weeks solid!

Helen George consoled me and invited me to her place at Mt Colah for a chat. This chat was life changing for me.

I entered a warm, beautiful 'earthy' home with incredible straw ceilings, full of dark, wooden antique furniture, backing straight into the bushland of the Kuringai National Park. Helen had a huge kitchen with a wood-burning stove and all the modern appliances to boot. Everything was so earthy and 'natural' in this house. It was filled with such warmth and love and human kids, too! (Helen and her husband John had their own children and also foster-cared troubled youth from the Department of Children's Services!)

It was the wildlife which filled Helen's and John's house that really enchanted me. The minute I walked through the front door, my footwear was 'assaulted' by two baby wombats who were endlessly playing chasings and rumbling through the house. My expensive sneakers had wombat baby teeth marks from that day on. I learnt that clothing, feet, footwear, even tiles, ANYTHING within their reach was fair game. I noticed the scars and damage from the wombats all through their house. Helen and John just took it all in their stride.

That beautiful warm kitchen with its wood-burning stove was a sanctuary in itself. On both sides of the kitchen walls were large hooks at waist height and from each hook there was a beautiful rucksack hanging. Each rucksack had a little gorgeous head of a baby kangaroo pop out the minute Helen and I walked into the kitchen and they heard her voice. It was 'Mum's' voice and meant a bottle, playtime and a cuddle from 'mum' was on the way. There were Red Kangaroo joeys, wallabies, Eastern Grey joeys, lots and lots.

Other rooms had baby possums sleeping in pouches, in baskets and small cages and carriers. An echidna, an orphaned baby koala and lots more. Lorikeets in cages on the massive balconies surrounding the house, a tawny frogmouth.

Helen's husband, John, was the builder and helper with all the wildlife. John explained to me how NOT enchanting it is to wake up in the morning, get ready to go to work and walk into a disaster zone in the kitchen. The wombat babies apparently spent the night lifting up all the kitchen floor tiles. They destroyed the kitchen floor in a single night while no one in the family heard a single thing. John shrugged his shoulders and apparently said he wasn't fond of those tiles anyway, so it was time for new tiles.

Helen then took me into a beautiful back yard where a massive enclosure housed an adult wedge-tailed eagle with a plaster cast on his leg protecting a healing fracture. So many aviaries and a gorgeous path leading into the beautiful national park. It is illegal to release wildlife into national parks without permission these days. Helen had permission from NPWS even back then.

I was in awe and decided there and then that raising and rehabilitating sick, injured and orphaned wildlife is what I will spend my life doing.

Helen sat me down that Saturday morning to tell me the truth about wildlife caring. The good, the bad and the ugly facts, as they say. I've learned over the past four decades that her 'chat' was spot on. It is time and energy sacrificing, but the toll on the weekly household budget really is significant. All the formulas, equipment, treatment, medications, Xrays, pathology, etc. Carers have to find money for a lot of these. They're not cheap and often the vet cannot afford to cover the costs.

Then there are other escalating bills: phone, electricity and water. All through the roof. It's essential to also maintain and repair your car, influences the type you purchase (vans and utes are great). The number of scratched vehicles and flat tyres I've gone through as I use my vehicle to enter bushland properties to collect or deliver wildlife to other carers, collect bush food for my own animals, release wildlife, etc. Huge!

The toll wildlife caring can take of a relationship is the most dangerous though. Helen warned me 'look after your husband as well as you look after the animals. If he sees you are placing his needs far behind those of the wildlife, the cracks in the relationship will get wider and wider until marriage ends'. Helen was spot on. She warned me that she'd seen it happen over the decades she'd already been foster-caring wildlife. I must add I've seen this emerge in my 40 years of wildlife caring. Unless a partner of a wildlife carer develops an interest in the wildlife caring, a huge void develops between the carer and their partner. Very often this leads to divorce.

I asked Helen just how I could help. She gave me the address of an office on The Corso at Manly where Valerie Thurlow and Mikla Lewis were setting up a volunteer wildlife group called WIRES which stood for Wildlife Information and Rescue Service.

I contacted Valerie and Mikla and started coming into the office at Manly on weekends and after work to answer phone queries. I started foster-caring baby birds and possums whilst I was learning lots about wildlife caring. Valerie, Mikla and I attended management meetings with politicians, vets, etc to set up WIRES.

Valerie fell in love and left WIRES after one year and I stepped into her position as State Coordinator. It took lots more meetings to put the group's constitution together and then to get wildlife carers on board, train them and begin to function as a coordinated group. Then we finally and formally launched WIRES and my foster-caring took off in a big way.

Part two in the next issue of Streamlines.

Watergum is a not-for-profit organisation and registered charity that helps the community engage in real, on-ground work to restore, maintain and protect the natural environment. It is based in Burleigh Heads and has a very helpful and easy to read website.

Is it a Toad or a Frog?

Since we are working so hard to rid Australia of toads and regain habitat for native frogs, it would be tragic if ID mistakes resulted in the culling of any of our amazing native frog species. The information below will help you learn about the differences between native Australian frogs and cane toads at all life-stages and should help you to make a positive ID when you are out toad-busting.

If you are ever unsure, **just leave it alone!** Leaving one extra cane toad in the environment is far less damaging than accidentally removing one of our precious native frogs.

Amphibians

Frogs and toads are amphibians along with newts and salamanders. This means they need a moist environment to survive. This doesn't mean they need to live in the water, but they do need to be near it for two very important reasons;

- **Amphibians 'drink' through their skin**

Amphibians have permeable skin which absorbs water. They don't necessarily need a pool of water to stay hydrated but they do need a moist environment full of water particles to absorb. Amphibians also lose water through their skin so they can easily dry out if they can't find moisture. Ground frogs and desert frogs will burrow to find and absorb moisture.

It is not just water that passes through amphibians' skin but gasses too. Amphibians breathe by taking in oxygen and releasing carbon dioxide through their skin. Permeable skin makes amphibians very vulnerable to pollution, pesticides, and other chemicals such as chlorine. You should avoid handling frogs in case your hands have perfumes, creams, soap or other toxins on them and you should install a wildlife float in your pool so that frogs can escape. Placing frogs in tap water will often prove fatal, and they are vulnerable to sudden water changes, so please be aware of this if you ever clean out your pond.





- **Amphibians eggs need to be kept moist**

If amphibian eggs dry out they will die so they must be laid in a damp environment. Most amphibians lay their eggs in water, although there are some that will lay them in trees, on land or even attach them to their bodies and rely on a moist environment to keep them alive.

There are over 240 frog species in Australia and they are the only amphibians that are native to this continent. Although there are some species of native frog that have 'toad' in their name, they are not true toads and Australia has no native newts or salamanders.

Table comparing characteristics of toads and frogs at all stages of their life

Life stage	Cane Toads	Frogs
Spawn	 <p>Toad spawn forms into long jelly strings which come to rest under the water and among vegetation. Female cane toads will</p>	 <p>Most frog spawn forms into lumps of jelly or foam. Most frogs lay their eggs in the water, among vegetation although some will lay</p>

	<p>lay between 8000 and 35,000 eggs in one clutch and may lay up to 2 clutches per year. The mother coats the eggs in toxin for protection making this a highly toxic life-stage. The eggs are short-lived and will hatch after around 3 days, so if you see them in the water, pull them out!</p>	<p>their eggs in trees or on land. Frog egg clutches are much smaller than that of toads, ranging from just 16 for the Corroboree frog to nearly 4000 for the Bleating tree frog. Hatching times vary between species. After rain, some frog species will lay their eggs in puddles.</p>
<p>Tadpole</p>	 <p>Cane toad tadpoles can be identified by their appearance and behaviour. They will swam together in a big family group with their siblings, in the shallows where the water is warm. They love the sun and will be seen basking in the heat of the day at the water's edge and on rocks. There may be thousands of them in a small space. Toad tadpoles are jet black with an opaque sheen to their belly and they will grow to about 3cm in size. They have black tails surrounded by clear frill which makes their tails appear quite slim. Their eyes are placed on the top of their heads and they will already have a hint of that strong ridged brow developing which makes them quite bulky and diamond shaped in appearance. In contrast, many frog species have longer bodies.</p>	 <p>Unlike toad tadpoles, frog tadpoles don't swarm unless they have to. In an ideal environment (large waterbody) they don't bask in the sunny shallows as cane toad tadpoles do but potter around looking for food among water plants. However, in small waterbodies, ponds, pools, puddles, they may be forced to swarm! They come in a variety of colours ranging from browns to greens and beiges and will sometimes have spots or striped patterns. They come in a variety of shapes with some appearing big and bulgey and others slim and dainty. Some of them will look similar to cane toad tadpoles like the spotted marsh frog tadpole which is a chocolate brown colour, almost black, so make sure you pay attention to small details. Catch one in a glass so you can get a better look at them.</p>
<p>Small toad or native frog?</p>	<p>If you are new to the amphibian world, this can be the hardest stage to be ID confident in. However, once you get more familiar with cane toads and native frogs, you will find that you are able to tell them apart quite easily. The main thing you need to be aware of at this life stage is that many Australian frogs are quite small, so fully grown native frogs can get confused with baby cane toads.</p>   <p>Michael Day</p>	

Small cane toads come in a variety of colours and patterns. When they first leave the water their skin will be black and smooth and when they are a little older, their skin will get rougher and become more colourful. They will generally be grey, beige or brown and usually have some stripes, as in the picture above. The vast majority will have orange spots on their backs to begin with, but these will quickly fade. Another common marking is a line down the middle of the back. Not all little cane toads will have this line and beware as some native frogs have it as well such as the Striped marsh frog. They have horizontal pupils and their expression appears angry due to their strong brow. Even at this age, you will be able to see their parotid glands on the back of the neck, behind the eyes; these glands are where toads excrete their powerful toxin from. Where you find one small toad, there will be many. You will see them just about everywhere but they particularly love to hang around the water's edge, lawns, grass verges, grassy edges and rockeries, and you will find them at all hours of the day and night. They are fast and cautious of humans but you should be able to get much closer to them than small frogs. When sitting still they tend to sit up straight and when they move they lurch around in a gangling movement which is less streamlined and less graceful than a frog. They don't truly climb, and can't jump very high compared to most frogs. Remember, if you are unsure, leave them alone. Take a picture and send it to us for ID so that you know for next time.

Young frogs or small frogs such as the Common eastern froglet in the picture above come in a great variety of colours, shapes, sizes and patterns. Frogs within the same species can even vary greatly from one another (just as cane toads can) so appearance alone is not usually a reliable ID technique, you really need to hear their calls. However, once you know what you're doing, you should be able to easily differentiate between a cane toad and a frog. Behaviourally, frogs are quite different from cane toads. Many can jump much higher and are much more springy than toads. Many of them can climb high and stick to things, however there are also many species of ground frogs in Australia which don't climb. It will be quite difficult to get close to them and sudden movements will spook them. You are much more likely to find frogs at dusk and during the night although you will see them in the day sometimes, particularly if it is overcast or rainy. Frog's posture is usually flat or poised, ready to spring. They mostly have wider, beadier eyes and are much cuter in expression and appearance than toads. You will occasionally find a native frog under a rock, underground or anywhere in the environment that may look similar to a toad so you must pay attention to the smaller features. A number of threatened frog species are similar in appearance to cane toads so if you are unsure, **please leave it alone**. Leaving one extra toad in the environment is less damaging than removing a native frog.

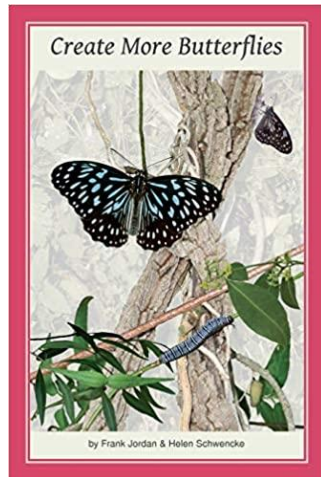


What is Weed Spotting?

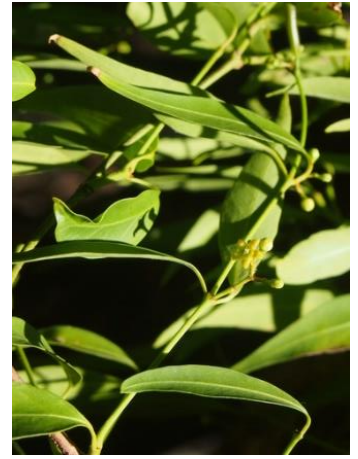
Weed Spotting is the detection and reporting of new and emerging weed threats that you may come across in your region. The Weed Spotters Network is particularly focussed on sightings of species assessed as being of risk to Queensland and listed as Prohibited or Restricted (Category 2,3,4,5) under the Biosecurity Act 2014. **Are you ready to start spotting weeds in your region? See the Weed Spotters Network webpage for more information.**

Butterfly Plants for Southeast Queensland

Helen Schwenke, co-author of 'Create More Butterflies: a guide to 48 butterflies and their host-plants for southeast Queensland and northern New South Wales', sees raising butterflies as an introduction to those new to interacting with nature. Helen's top ten plants for attracting butterflies in southeast Queensland are shown here.



1. Climbing senna (*Senna gaudichaudii*)



2. Corky milk-vine (*Secamone elliptica*)



3. Emu foot (*Cullen tenax*)



4. Karamat (*Hygrophila angustifolia*) - aquatic



5. Love flower (*Pseuderanthemum variabile*)



6. Mangrove wax-flower vine (*Cynanchum carnosum*)



7. Native mulberry (*Pipturus argenteus*)



8. Thornless caper (*Capparis lucida*)



9. Zig zag vine (*Melodorum leichhardtii*)



10. Finger lime (*Citrus australasica*), also citrus: mandarin, lime, orange trees