



Streamlines

Newsletter of Pullen Pullen Catchments Group Inc.

May 2024

The year is racing away and it's hard to accept that I'm already welcoming you to the May edition of Streamlines, the quarterly newsletter from Pullen Pullen Catchments Group.

This issue begins with an advertisement for a Secretary to replace Liz Dominguez who has been the vital link in our Group for as long as I can remember. Liz is desperate to continue travelling around Australia without having to coordinate PPCG activities from all sorts of remote locations with questionable internet connection!

The advertisement for Secretary is followed by two items from the March 2024 edition of 'This Week by the Creek'. The first concerns the Creek Champion for March 2024 and I'll let you read on to find out just who that is! The second describes the Freshwater Gold Clam, an invasive species recently found at Colleges Crossing and other sites along the Brisbane River.

With Fire Ants in the news again, I've updated an old Streamlines item about Fire Ants and added some information on the effects of fire ant bites and also appropriate first aid to apply in case of humans and animals being bitten. Imagine trying to play sport in an area infested with fire ants!

Following the articles about fire ants is a short article introducing mycorrhizas, a relationship between a plant and a fungus that greatly increases the volume of soil a plant can access for water and nutrients.

Finally, the excitement generated by koala sightings in our bushcare areas prompted me to include an item on the National Koala Monitoring Program which aims to monitor and assess koala populations across Australia.

All members are invited to submit articles to Streamlines via helian@pretirementresorts.com.au. The deadline for the next issue is 15th August 2024.

Happy reading!

Helen Ogle
Editor

CONTENTS

	Page
Pullen Pullen Catchments Group.....	2
Position Vacant – Secretary	3
Creek Champion – March 2024.....	3
Freshwater Gold Clam.....	4
Fire Ants.....	5
A Small but Dangerous Pest.....	6
Fire Ant First Aid.....	7
Mycorrhizas.....	7
National Koala Monitoring Program (NKMP).....	8



Pullen Pullen Catchments Group

A Landcare Group

Website

www.pullenpullencatchments.org.au

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.

Committee Members 2024

President:	John Ness	3202 7556	john.ness@emsolutions.com.au
Treasurer	Kaaren Ness	3202 7556	john.ness@emsolutions.com.au
Acting Secretary	Liz Dominguez	0419 794 550	contactus@pullenpullencatchments.org.au
Committee Members	Margaret O'Grady	3202 5115	m.ogrady@live.com.au
	Ron Tooth	0407129 734	
	Jim Williams		jimawilliams@hotmail.com
	Karen Roberts	0438 458 935	bobnbert@internode.on.net
	Corinne Foster		
Bushcare Coordinator, Pullenvale	Lynn Brown	0417 648 050	emmacaja@bigpond.net.au
Bushcare Coordinator, Anstead	Gillian Whitehouse		gillianmw1949@icloud.com
Bushcare Coordinator, Woodward Place Park	Esther O'Brien		estherbreen@gmail.com
Wildlife Officer	Irene Darlington	0409 026 883	irene.darlington@outlook.com
Streamlines Editor	Helen Ogle	3323 7407	helian@pretirementresorts.com.au
Creek Catchment Officer	Brendan McIntyre	3178 2484	brendan.mcintyre@brisbane.qld.gov.au

Membership Options

Membership fees are:

Annual Membership – \$20 per person payable on March 1 each year; Life Membership – \$100 per person

We are delighted to accept donations. Transfer 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)

Woodward Place Park: 3rd 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

Position Vacant – Secretary

PPCG's long term secretary wants desperately to retire but will be able to assist an incoming secretary in the short term. The main roles for the secretary are to:

1. Attend monthly PPCG meetings, take minutes and circulate minutes to committee members
2. Organise paperwork/on line material for monthly meetings and AGM
3. Circulate notices of working bees, events, general points of interest etc to PPCG members
4. Occasionally attend Brisbane Conservation Network meetings when PPCG delegate is unavailable
5. Act as contact point for liaison between committee and members of the public
6. Assist with completing the annual return, surveys and membership details.

Monthly meetings are held from Feb to Nov on the first Wednesday of each month at the Pullenvale Environmental Education Centre on Grandview Rd typically from 6-7.30pm. The AGM is normally held on Sunday in early December.

The position requires computer literacy and the laptop and other facilities are provided by PPCG or occasionally the Brisbane City Council or the local elected members of all three levels of government.

Creek Champion – March 2024



'In Creekyland, we've been making use of radar technology to track one of our highly active catchment group members in an attempt to better understand his ecology. Preferably, we'd like to monitor his movements through the use of wildlife forensics and have been trying to apply these principles to

track some of our volunteers more broadly, but *This Week by the Creek's Creek Champion for March* is notoriously difficult to catch in an orthodox fashion.

Our data suggests this individual has been particularly active in Sugar's Quarry in Anstead for a number of years. There's a lot of rock down there, so we're not entirely sure his activities were only limited to bushcare. Perhaps he has been using bushcare as a front to run sophisticated covert experiments? Maybe he has simply been deep in thought pondering rock fig biomechanics whilst sitting on his favourite blue milk crate? Nobody knows.

The one thing we do know for sure, is that the milk crate has been doing the rounds on numerous bushcare sites in the Pullen Pullen Catchments (PPCG) for quite a while now. To that end, the milk crate has become a vehicle for him to unconditionally support his bushcare group leaders achieve their goals through thick and thin.

John Ness, president of PPCG, has stoically led the Group for over a decade and has been its most prolific bushcarer by tackling SEQ's most pernicious weeds from his own patch at Airlie Road Park to others in the catchment. His committee members describe him as composed, enthusiastic, supportive, encouraging, dry sense of humour, lets people get on with their jobs without interfering, takes on jobs other people are reluctant to (especially bureaucracy), regular contributor to Streamlines (see the Wonders of Wood article). In that light, the Creekie team takes its hat off to you, John Ness, and your leadership and service to the community and the environment.'

Freshwater Gold Clam

The freshwater gold clam, *Corbicula fluminea*, also known as the Asian clam, Asian golden clam or Pygmy clam, is an invasive freshwater clam that has been detected at Colleges Crossing and at some other sites along the Brisbane River. It had not been positively identified in Australia before this detection. Surveillance is underway to determine the extent of freshwater gold clams in the river system.

The freshwater gold clam is a highly invasive species owing to its rapid growth rate, short life span, high reproductive rate and ability to broadcast its larvae over a broad area using water flows in rivers. It is a long-distance hitchhiker in ballast water and through the aquarium trade.



Freshwater gold clam showing shape, colour and ridging



Close-up of multiple freshwater gold clams showing colour, shape and size



Multiple freshwater gold clams amongst rocks on river bank

The clam's shell is inflated, round to triangular, yellowish brown to black with evenly spaced ridges. It can grow to a length of 50–65mm, although it is usually less than 25mm. The clam looks similar to native freshwater bivalves that inhabit waterways throughout South-East Queensland. It is generally thought to

reproduce twice a year, but this may depend on climatic and ecological factors. Fertilised eggs form larvae, which exist in plankton for up to 55 days before settling. It lives up to 7 years.

The clam tolerates a wide variety of substrate/habitat types. At present, it occurs in limited locations along the Brisbane River in the Ipswich region but it is established in New Zealand, and North and South America. It spreads when it is attached to boats or carried in ballast water, used as bait, sold through the aquarium trade or carried with water currents.

The freshwater gold clam is highly invasive and can displace native clams and diminish water quality. It is known to block plumbing, heat exchangers and other water infrastructure.

Slipway operators, vessel inspectors and vessel owners should thoroughly check, clean and, where possible, dry vessel hulls and niche areas such as internal seawater systems.

If you think you have seen a freshwater gold clam, report it to Biosecurity Queensland online, by phone or in person. Take reasonable and practical measures to prevent gold clams from spreading until an authorised officer contacts you.

Fire Ants

Fire Ants (Red Imported Fire Ants, to give them their full title), *Solenopsis invicta*, are very aggressive ants that may cause severe bites to humans and other animals, but the major concern is the damage they may do to plants, and crops in particular. They feed on seeds and can kill plants by tunnelling through their roots and stems. They also protect some species of pests that produce honeydew that reduces the quality of vegetables and helps spread diseases.

In addition, their mounds may block irrigation equipment and damage farm equipment. In the United States, where fire ants are out of control, they affect 50 different types of crops and cause over \$7 billion of damage a year. Corn and sunflower crops have been most severely affected. Corn yields in Mississippi have been reduced by 65% and sunflower yields by 40-50% in Texas.

Fire Ants are 2-6 mm long with a variety of sizes in each nest. Their head and body are coppery brown and the abdomen darker.

Their mounds are not always easy to identify. They may be up to 40 cm high but may be flat and look like a patch of disturbed soil. They are usually found in open areas such as lawns and pastures, along roadsides, in unused pastures, where soil has been disturbed and in piles of organic matter. They often occur next to objects on the ground such as logs, bricks, pavers, timber, footpaths and drive-ways or near water sources such as taps, sprinklers and pools of water.



Group of fire ants showing variation in size



Individual fire ant with darker abdomen (larger than life)



Fire ant mounds

In nature, fire ants spread when a mated female queen flies up to 2 km from her original nest, finds a new nesting site, sheds her wings and starts a new colony. In nature, fire ants spread quite slowly. However, humans speed up distribution when moving infested soil, nursery stock, materials, containers, machinery, etc.

Fire ants occur naturally on the floodplains of the Paraguay River in northern South America. They reached the southern United States in the 1930s, probably in soil used as ballast in ships.

They have been introduced into Australia at three different locations: Yarwun near Gladstone in Central Queensland, the Port of Brisbane and the south-western suburbs of Brisbane. How they were introduced is not known but it was possibly on shipping containers. They were first detected in Brisbane in February 2001.

The Yarwun and Port of Brisbane infestations have been successfully eradicated but spread from the initial Brisbane infestation has led to infestations around the Greater Brisbane area, Ipswich, Logan, Moreton Bay and Redlands. Infestations have also been found in the Scenic Rim, the Gold Coast and Lockyer Valley. Since the Lockyer Valley provides 40% of southeast Queensland's vegetables, infestations in this area are of major importance. Isolated infestations have been found beyond these areas.

The National Fire Ant Eradication Program aims to find, contain and destroy fire ants in South East Queensland. The 10-year Eradication Plan involves an intensive and targeted eradication effort over South East Queensland, spanning from Lockyer Valley in the west to Redlands in the east, north to Moreton Bay and south to the Gold Coast.

Fire ant biosecurity zones are in place to help prevent fire ants from spreading through human-assisted movement. Fire ant biosecurity zones apply to anyone who deals with materials that can carry fire ants, sourced from inside the zones. This includes materials such as soil, hay, mulch, manure, quarry products, turf, and potted plants. There are two fire ant biosecurity zones. **Zone 1** covers suburbs that have received or are scheduled to receive fire ant eradication treatment. **Zone 2** covers suburbs yet to receive eradication treatment. New suburbs may be added to the zones each month, while others may change zones. Check the National Fire Ant Eradication Program website for details.

Fire ants pose such a serious social, economic and environmental threat that Queenslanders are legally required to report suspected sightings of fire ants to Biosecurity Queensland on 13 25 23 or by completing the online fire ant notification form on the Queensland Government website.

And from the National Fire Ant Eradication Program Fire Ant News April 2024:-

A Small but Dangerous Pest

Fire ants can wreak havoc on our environment, economy and outdoor way of life, and they also pose serious health risks to humans and animals.

When disturbed, fire ants are aggressive, swarming in numbers and inflicting painful stings on their victim. They repeatedly strike, injecting venom until removed from the skin. The aftermath is an intense burning, itching, and potentially infected blisters.

For some, the consequences are severe. Unlike other insect stings, fire ant venom builds up in the body and you cannot build a tolerance to the venom. This means the more a victim is stung, the greater the risk of an extreme reaction. Anyone prone to anaphylaxis – a potentially fatal allergic reaction – is especially at risk.



Blisters or pustules resulting from fire ant stings

Fire Ant First Aid

Human first aid

Most people do not need medical treatment for fire ant stings. If breathing is normal and the sting victim does not have a history of insect allergies, the following home treatments can be effective: applying a cold compress to relieve the swelling and pain, gently washing the affected area with soap and water and taking an antihistamine to manage minor, localised reactions and itching. It is important to keep the blister intact. There is a risk of secondary infection if the blisters or pustules break.

A severe reaction may occur if a sting victim has a history of allergic reactions to insects. The following symptoms may be experienced – rapid onset of flushing, general hives, swelling of the face, eyes or throat, chest pains, nausea, severe sweating, breathing difficulties or faintness. Seek urgent medical advice if symptoms are severe.

Animal first aid

If your animal or pet has been stung, it is important to quickly move them away from the ants or the nest and remove any fire ants from their skin or fur to ensure there are no further stings. Wear a pair of gloves to protect yourself and brush the ants off the animal's skin or fur. You can use a brush or comb or pick the ants off individually. **Do not** try to hose them off as this can make the ants more aggressive.

Giving your pet a cool bath after being stung can provide some relief. Seek further advice from your vet if the animal is in pain or is showing signs of an allergic reaction. This can be drooling or vomiting, lethargy and trouble breathing. Anaphylaxis can be life-threatening, but it can also be treated quickly. Fortunately, in most cases, pets recover well from fire ant stings.

Mycorrhizas

Helen Ogle

Plants grown in sterile soils or in growth media often perform poorly unless spores or hyphae of certain fungi are added to the growing medium. These fungi, known as mycorrhizal fungi, colonise the roots of plants and form an underground network linking various plants in a community. Nutrients and other substances can move between different plants through the fungal network.

The associations between plant roots and fungi are known as mycorrhizas (or mycorrhizae) from the Greek words for 'fungus' and 'root'. Since at least the middle of the 19th Century, scientists have known that associations exist between fungi and plant roots. Only in more recent times have the nature and effects of this relationship been studied more intensively and exploited.

Mycorrhizas are symbiotic (mutually beneficial) associations between plants and fungi. The plants produce organic molecules such as sugars through photosynthesis and supply them to the fungus. The fungi supply the plants with water and mineral nutrients, such as phosphorus, and trace elements from the soil. The exchange of materials is not always equal.

The major role of mycorrhizas is to assist in the uptake of mineral nutrients from the soil. They do this both physically and chemically. Physically, the hyphae of most mycorrhizal fungi are much smaller in diameter than the smallest root or root hair. This means they can explore soil material that roots and root hairs cannot reach. They also provide a larger surface area for absorption of substances. Chemically, fungal cells may secrete organic acids that dissolve compounds in the soil, bond with metal ions in the soil or release metals from minerals. These nutrients are then available to the plant through the fungal network.

Plants with mycorrhizal associations not only grow better because of their greater ability to absorb nutrients, but benefit in other ways:-

- They are often more resistant to diseases caused by pathogens both above and below ground. For example, mycorrhizal fungi may secrete enzymes that are toxic to soil-borne pathogens such as

nematodes. More recent studies have shown that mycorrhizal associations activate or enhance defence responses when a plant is under 'attack'.

- They are more resistant to the effects of drought and salinity.
- They are more resistant to insect attack. Plants connected by mycorrhizal fungi use these underground connections to send and receive warning signals. For example, a plant attacked by an aphid signals surrounding, connected plants of its condition. At the same time, it produces volatile organic compounds that attract aphid predators. Plants connected by mycorrhizal fungi also produce identical volatile organic compounds that protect uninfected plants from attack.
- They are protected from toxicity in acidic or contaminated soils.
- They are more able to colonise degraded landscapes and barren soils in the early stages of succession of plant communities.

At least 80% of the world's plants from well-watered forests to arid areas form mycorrhizas. Some simply have a beneficial association with mycorrhizal fungi. Others are absolutely dependent on mycorrhizas. For example, some orchid seeds cannot germinate if the appropriate fungus is not present.

National Koala Monitoring Program (NKMP)

The National Koala Monitoring Program (NKMP), led by CSIRO, is working with partners to improve our understanding of the size and status of Australia's koala population. It will also build a long-lasting capability to monitor and assess trends in koala populations.

A data-driven population model has been developed using innovative analytical approaches to bring together all available data. The latest estimate of the koala population size is now available on the NKMP website. You can find information on both the listed and unlisted koala population. Please be aware that at this point in the program changes in population estimates from year to year do not mean there is a change in the actual number of koalas. Instead, it is due to a refinement of the modelled estimate as new data becomes available.



A Lone Pine koala

You can also find useful resources on the NKMP website, including:

- links to two koala sighting mobile apps developed to inform the NKMP: *Koala Counter* (for collecting survey data) and *Koala Spotter* (for reporting sightings)
- [Guidance on koala survey methods](#) that have been developed, tested with key experts and published under the program
- [Koala rescue and habitat data](#) that has been integrated and collected to inform better koala rescue release decisions

CSIRO is also developing a new interactive dashboard to provide more information on the program and additional resources. This will be available on the NKMP website in the coming weeks.

If you have any questions about the population estimate or have data to share, please send the NKMP team an email – KoalaMonitoring@csiro.au. Suggestions on how to improve the website are also welcome. The [Australia wide koala estimates](#) and the interactive [Koala rescue and release map](#) are interesting. There are also 2 apps available – the Koala spotter app for citizen scientists and the koala counter for transects.

