



August 2019

Welcome to Streamlines for August 2019. We begin this issue with an article by John Ness on beaver-like damage to gum trees in Airlie Road Park. What is the culprit? Further comments by John on likes and dislikes of various animals can be found on page 8. John has also summarised some interesting statistics from the Westside News on Council land purchases.

Our Wildlife Officer, Irene Darlington, reports on the effects the unseasonably warm winter has had on breeding of animals and the number of animals needing care. She appeals to anyone interested in becoming a foster carer, a rescuer or an animal transporter to contact her. She is also seeking suitable sites to release animals back into the wild and donations of blankets, animal carriers/cages and plant trimmings. Call Irene if you can help in any way.

Successive plantings of Richmond Birdwing Butterfly vines at Pullenvale Forest Park have made the Park a major Brisbane vine site so it seemed appropriate to provide some information on this beautiful butterfly once so common in and around Brisbane. The information is extracted from a Wildlife Queensland fact sheet.

Finally, a delightful poster from the Bulimba Creek Catchment group illustrates why planting new trees cannot replace the habitat lost when old trees are removed.

All members are welcome to submit articles to Streamlines via helian@pretirementresorts.com.au. The deadline for the next issue is 15 November 2019.

Enjoy!

Helen Ogle
Editor

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Pullen Pullen Catchments Group

A Landcare Group

Meetings

Meetings are held at 7pm on the first Wednesday of each month at Pullenvale Environmental Education Centre, 250 Grandview Road, Pullenvale.

Website

www.pullenpullencatchments.org.au

Working Bees

Anstead Bushland Reserve – 1st Sunday of the month, 8.30 - 11 am.

Pullenvale Forest Park – 2nd Sunday of the month, 8.30 – 11 am

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

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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.



"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

NEWS



Eager young volunteers at a recent Bushcare Morning

Pullenvale Forest Park. There has been considerable activity in the Park recently with the installation of a Southern Cross security system and the initiation of a fox and rabbit pest eradication scheme. A further 15 Richmond Birdwing Butterfly vines were planted at the July Bushcare Morning. To ensure that the vines establish well, a strict protocol must be followed so this is quite an intensive process. **Bushcare Mornings will be held on September 8, October 13 and November 10. All members are welcome to attend, participate as much as their abilities allow and enjoy an excellent morning tea.**

Anstead Bushland Reserve At the most recent Bushcare Morning, newly planted seedlings plus the 2018 plantings were well-watered again. Losses remain low largely as a result of a PPCG volunteer, Karen Roberts, attending the site with her family on several midweek days over the last few months and undertaking watering. Our Creek Catchment Officer, Andrew Willis, delivered cut and paint weed killer training to 12 people who immediately put the training to use on vines along the walking path. Five attendees undertook backpack sprayer training. A grant application has been submitted to Brisbane City Council for assistance with vine removal. Replacement pamphlet boxes have been installed in the picnic area by Rob P and Brian Dean has agreed to update the display boards regularly. **Bushcare Mornings will be held on September 1, October 6 and November 3. All members are welcome to attend, participate as much as their abilities allow and enjoy an excellent morning tea.**

Airlie Road The work of weeding, watering and replacement planting continued as usual with 40 more trees planted in July. If no rain is received over the next month or so then the creek itself will be dry all along the park riparian zone, although it is possible some water may remain in the billabong. Water in the creek is at the lowest since the 1983 drought. If there is no rain the BCC may be asked to assist with watering. There is no shortage of weed removal work available in the park.

Wildlife See Irene's report on page 5.

Education On Sunday October 27th, Rob Whyte is scheduled to give a presentation on Spiders in Pullenvale Forest Park. More details to follow.

Proposed PPCG/Local School Nursery Negotiations continue with Moggill State School about setting up a second stage nursery at the school in conjunction with the PPCG. Moggill is now a rather large school with about 800 students. It has quite a large amount of space, already has a vegetable area and a defunct small green house. There is good support from the groundsman, at least one of the teachers and parents. A final decision is pending on approval in principle from the principal but there are two of the latter and each has to approve.

Planning Workshop facilitated by Mark Creyton is being planned for Saturday October 26th between 9 am and 12 noon. The workshop will revisit our vision to 'foster awareness and appreciation within the community of the need to protect the natural environment throughout the catchment and to help conserve Pullenvale's extensive unique flora and fauna'. The major aims of the workshop are to establish ways of increasing recruitment to PPCG and to refocus existing resources to delivery of feasible and effective activities engaging the community. More details to follow.



Brisbane Beavers?

John Ness

The photos below of fallen eucalyptus trees in Airlie Road Park would indicate that beavers, as well as deer, are now feral animals in the area. Or perhaps it is a platypus from Pullen Pullen creek that has gone rogue and taken to attacking eucalyptus trees. The larger tree in the photo had a trunk of around 100 mm diameter where it was chopped off and the smaller tree was around 70 mm in diameter. Similar decapitation has been found in eucalyptus trees up to 200 mm in diameter.



Damaged eucalyptus trees in Airlie Road Park

The culprits are Sulphur-crested cockatoos. They cut their way through the bark and hardwood of the trees to get to the larvae of longhorn beetles. The larvae chew their way through to the middle of the tree when first hatched and then eat out vertical holes up to 25 mm in diameter as they grow. Before the final stage of the transformation to a beetle, the larvae eat their way back to the edge of the tree where they metamorphose into adult longhorn beetles and then go searching for other eucalyptus trees to infest.

Cockatoos have the strength in their jaws and rigidity in their beaks to chew through macadamia nut shells but these are only about 3 mm thick. It is amazing that cockatoos have the perseverance to chew through up to 100 mm of hard wood to get to the longhorn beetle larvae.

The larvae are well fed and up to about 40 mm long and 15 mm in diameter and probably weigh 5-8 gm. There is considerable food energy, about 80-120kJ, in such a larva but even so the energy expenditure required by the cockatoo(s) to get the larvae is not trivial. The food energy in the larvae is about twice the energy in the same weight of seed and probably tastes a lot better hence the cockatoos are prepared to spend quite a bit of energy to get the larvae.

Based on estimates of bird flight, a cockatoo flying at a typical speed of 10 m/s (~ 35kph) would be exerting about 60 W of power. The efficiency of flight of cockatoos is probably not high at around 12% so to generate 60 W of flight power consumes around 500 W of food power. In this case 80-120 kJ of larvae would last about 2.25 to 3.5 minutes of flight or enough to get the bird around 1.35 to 2 km. Presumably, it would take considerably less energy than this to chew through the tree!

How does the cockatoo know that there is one or more larvae buried 100 mm inside the tree and where they are located? If the cockatoo misses the larvae location by only 200 mm it will have a lot more chewing to do to get at the larvae. The larvae would be well entitled to 'think' that they are completely safe inside a protective wall of 50-100 mm of hardwood.

The beetles are a pest species of eucalyptus and become more of a problem after extended dry periods when the trees are weakened and lack high internal moisture levels. This is certainly the case with the most recent infestations where the beetles have mainly attacked the water-stressed trees well away from the creek. Unfortunately the cockatoo solution to the control of the beetle is more drastic than the effect of the beetles themselves as far as the survival rate of the eucalyptus trees is concerned.

From the Wildlife Desk

Irene Darlington

Wildlife carers have a ‘breather’ during winter months. Usually that is. The official late Autumn and Winter season is the time to recharge the old foster carer batteries. Batteries that have kept running while picking animals up, reuniting healthy babies accidentally separated from their parents, restocking and mending pouches and cages, baby blankets, building possum boxes, restocking vet surgeries with pouches, etc, etc.

This year, however, it's been a very busy winter. Far more than last year and any of the previous years. It's called the effects of ‘Climate Change’. It's warmer. We had unseasonal plants blooming and growing in this warmer weather. We have seen native birds breeding well into autumn, which normally hasn't been the case in the past. Some birds and possums even with babies through winter. Very uncharacteristic for winter.

This has totally disproved the theory that native animals breeding ‘clocks’ are set by the lengths of the day. The scientific theory goes that irrespective of the temperatures in the environment, it's the length of daytime which sets off the wildlife urge to breed. Normally this happens in the warmer and longer daytime Spring months when the weather is kinder. There is normally rain and everything blooming providing lots of food with insects and blossoms (without the cold snaps as we have been experiencing through this winter in the middle of very mild and unseasonally warm days).

As carers, we are observing more wildlife breeding through the Autumn and Winter months now, which still have short daylight hours but uncharacteristically warmer and warmer days. It's frightening. They struggle to feed their babies through winter and the cold snaps tend to kill off many also. Then there's the anticipation of those horrid scorching Summer days. I know most wildlife carers are not looking forwards to the incredibly hot days when we get so many animals with burns on their feet, dehydration killing off so many compromised animals and babies, and shortages of native food.

We do our best with what limited resources we have. Sadly, when numbers of sick/injured/orphaned wildlife increase beyond carer's capacity and or are unable to be returned to the wild, euthanasia for wildlife is very much a part of our lives as foster carers.

This is where the call goes out to our wonderful PPCG network: we need more foster carers and release sites for our wildlife! The Moggill Men's Shed has been wonderful in building possum boxes at minimal cost (see picture with Ron) to my specifications. Thank you to our local Men's Shed. But we need the bushland acreage properties to set up possum boxes with hand-raised possums or even have an aviary on their acreage to assist in the release process.



Possum box modelled by Ron Tooth

In addition, carers are needed to take on raising wildlife. This is a mentored process which involves obtaining a permit and the equipment which goes with the position. As a wildlife carer who mentors and trains new carers, I can assist with some of these aspects of caring, but it is the carer's time and effort which is needed. Time to do feeds, prepare food for the babies. Then as baby grows taking the half an hour a day to go around your neighbourhood picking native plants for baby to eat and preparing their food or feeding formula to pouched babies.

There's a lot more involved but it is do-able, irrespective of whether you are working fulltime or not. People always tell me “I would love to do what you do once I retire...or once the kids are grown up and move out”. No need to wait. You can do a bit now. You know what you can fit into your busy life. Two pouched babies in a basket or a few baby birds to raise? And people, the wildlife grows up and get released. They leave home and don't come back to borrow money or stay with you looking for a job well into adulthood!

So think about it. Are you up to being a release site for wildlife or a carer? A transporter even or rescuer if you want to help but are unable to fostercare at present? Ring me on 0409 026 883 if you wish to discuss this and see what's involved. We can meet and I can propose ways you can help if you are still interested.

Before I go, I would like to ask if anyone out there in the PPCG network has any spare baby blankets, cat/dog carriers or cages they can donate for our wildlife caring? They would be very appreciated. If we speak, I can also run through a few other items we need or plant trimmings we can use for our wildlife.

Richmond Birdwing Butterfly

From a Fact Sheet compiled by Wildlife Queensland

The Richmond birdwing butterfly (*Ornithoptera richmondia*) is the largest subtropical Australian butterfly. It was once abundant from Maryborough in southern Queensland to Grafton in northern NSW, breeding in rainforest habitat wherever food plants were plentiful. Much of this land was eagerly sought after for grazing and subtropical agriculture due to its rich soils.

The adult male birdwing has a wingspan of 12-13cm and is basically black, with green stripes and spots on both sides of the wings, and patches of green on the hind wings. The adult female birdwing has a wingspan up to 14-16 cm. The wings are black with white patches on both wings and a yellow band on the lower edge of the hind wings. Both male and female have a distinctive red patch on the body beneath the base of the wings and a green stripe on top of the thorax.



Male Richmond birdwing butterfly. Photo © Carolyn Rifello

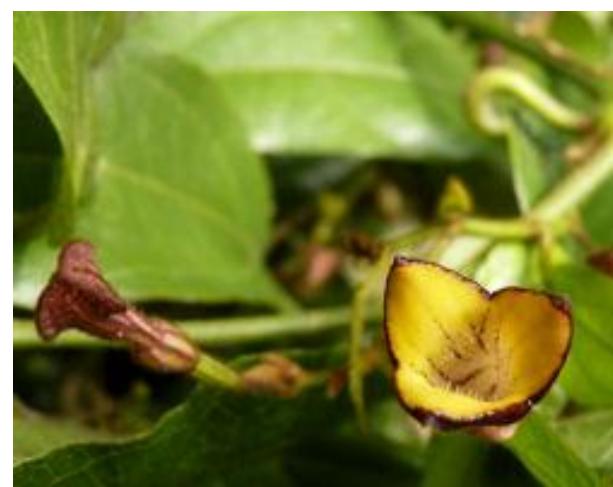


Female Richmond birdwing butterfly. Photo © Linda Hansbauer

Adult butterflies feed on nectar from flowers of many native plants, including native frangipani (*Hymenosporum flavum*), pavetta (*Pavetta australiensis*), black bean (*Castanospermum australe*) and lilly pillies (*Syzygium* species), as well as several exotic flowers, e.g. buddleia, pentas, honeysuckle, bougainvillea, impatiens and hibiscus. They prefer white and red blooms to other colours. However, the caterpillars (or larvae) only feed naturally on two species of vines – the lowland Richmond birdwing vine (*Pararistolochia praevenosa*) and the mountain aristolochia (*Pararistolochia laheyana*).



Pararistolochia praevenosa vine. Photo © Jenny Thynne



P. praevenosa flower. Photo © Jenny Thynne

The Richmond birdwing in its natural state breeds in moist subtropical rainforests wherever the two food plants occur. The butterfly will adapt to planted food plants in disturbed habitats such as gardens. Habitats are nearly always on rich soils, such as those of volcanic origin (e.g. basalt-derived) or of alluvial origin (e.g. in riparian zones near watercourses). Depending on food plant availability, habitats are distinctly lowland (to 600m altitude) near the coast or occasionally and seasonally at altitudes above 600m on the NSW/Queensland border ranges.

The butterflies breeding distribution is now restricted to fragmented patches from Kin Kin to the Glasshouse Mountains and west as far as Kenilworth on the Sunshine Coast, and from about Ormeau on the Gold Coast south to Wardell in NSW. It once occurred on the Great Dividing Range near Toowoomba, but has only survived in these more western areas at Mallanganee in northern NSW.

In 1870 the butterfly was reported in newspapers as occurring in the thousands on the streets of Brisbane, but by 1926 natural history enthusiasts noticed a massive decline in the south, west and east of the city.

Decline in numbers is attributed to several factors. Habitat losses from forestry, farming, residential clearing and burning and, more recently, mining are the principal threats. Currently, ongoing loss of riparian habitat and invasion by weeds, and mining of volcanic rocks for road base continue to threaten this butterfly. The South American vine, Dutchman's pipe (*Aristolochia elegans*), is toxic to the larvae of the Richmond birdwing and should not be cultivated in areas where the butterfly occurs.

In Queensland, the Richmond birdwing is listed as vulnerable, sharing the same conservation status (at least within the South East Queensland Bioregion) as the koala. Since 1900, community-based and research-guided projects have concentrated on cultivating and planting sufficient food plants to offset the losses incurred through habitat destruction.

In 2002, early signs of recovery in Queensland were seriously impacted by the drought, which affected the quality of food plants and prevented breeding and dispersal of butterflies. By 2010, wetter weather improved food plant quality and this, together with a massive effort to cultivate vines, led to a marked recovery of the butterfly in the southern Sunshine Coast and near the NSW border. These are the first confirmed signs of recovery for this butterfly following a 100-year period of population decline and range contraction.

To find out more about Richmond birdwing butterflies (and enjoying a day on the Sunshine Coast), Conservation Volunteers Australia and Noosa Landcare invite interested people to 'an educational morning tea to learn all about these amazing butterflies, what is being done to bring them back to South East Queensland and what you can do to help! This event is completely free and open to people of all ages, so bring your kids and grandparents along for a morning of educational fun.' Please RSVP by Thursday September 19 to <https://bookings.conservationvolunteers.org/project/richmond-birdwing-butterfly-community-education> to secure your place.

Council Land Purchases

John Ness

The Brisbane City Council runs a Bushland Preservation Scheme where it purchases land to nominally maximize protection of green spaces and habitats for native animals. The Westside News had a recent article about the political aspects of the scheme but some useful data can be processed from that article.

Since 2016, the BCC has spent about \$65 m on land purchases and acquired a total of around 435 ha.

The major purchases have been in the Lake Manchester and Kholo regions with 250 ha acquired. The area covered by PPCG has done reasonably well with around 25 ha, most in Priors Pocket Rd, Moggill at over 20 ha and in Hawkesbury Rd of 4.4 ha.

The money spent on acquiring land in the PPCG catchment has been around \$10 m or 15% of the total for a bit under 6% of the total area. The average price in the Pullenvale region was around \$400,000 per ha compared to \$150,000 per ha overall.

Presumably, the decisions on which land to acquire where and for what price represent a multi-variable problem with no particular optimum solution.

A new tree can't replace an old tree for habitat

A tree gets more valuable the older it gets. An old tree shouldn't be removed because a new tree (or several) can be planted in its place. When a tree is removed, wildlife is displaced and often unable to find a new place to live / hide / breed / eat etc.

trees:

- take many years to form hollows and suitable height for nest building etc
- can take many years to be a suitable food source
- are part of a complete habitat - including grasses, shrubs etc
- form a canopy when older and taller - providing wildlife and people with shade
- once well established, require little to no human intervention to keep alive and healthy



Expanding on John Ness' comments on animals' preferences for certain plants:-

John has observed that 'other animals have a penchant for certain trees. Deer, for example, will destroy small eucalyptus and similar trees by rubbing against them but are very fond of eating brachychitons (flame trees). They smell them out and wreck them unless the trees are well protected. Once the lower branches reach a height of 2 m or so the trees are not attacked by deer.'

Similarly, Scrub turkeys have a specific dislike for the three common species of native pines (hoop, bunya and brown) and will select these seedlings and root them out of the ground amongst a forest of other seedlings. Perhaps they don't particularly dislike the trees per se but are more interested in what insect life is specific to the root areas of these pines but on what basis do they actually select the pine trees?

Hares are less selective and will chew on most small trees. Wallabies are much more welcome in newly planted areas as they prefer grass and will usually not bother the trees at all.'