



FROGSHEET

Official Newsletter of the Queensland Frog Society Inc.

Autumn 2016

W: www.qldfrogs.asn.au | E: questions@qldfrogs.asn.au | Camps E: frogcamps@qldfrogs.asn.au |



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Welcome and thanks to our New Members

Aaron Lister, Caroline Brundell,
Liz Christensen. Kim Douglas,
Sharon Douglas, Brad Douglas,
Anne Spencer, Hayley Waud,
Catherine Tiplady and the Gaunt
Family



Presidential Business...

Whilst we are yet to receive some serious wet season rainfall here in South-east QLD, isolated downpours have provided great opportunity to get out into the warm night and go



frogging! A few days prior to the 2015 year's end, Ben and I travelled west, beyond Dalby where recent rain had brought out all the desert burrowers, including the Holy Cross Frog (*Notaden bennettii*) (left) and the Water-holding Frog (*Cyclorana platycephala*).

This trip was the first time I had seen both species in the flesh and so it was particularly exciting. Ben saw a number of new species too, being his first trip to desert-burrowing frog country. Then shortly after the start to the new year, I headed up north with a friend to Cairns and spent four nights frogging around the wet tropics; my first visit there. The country side and crystal clear creeks and coastline is picturesque, while the frog life made for exciting nighttime exploring. I saw 20 new species for my first time, including the torrent frogs (bottom) and boulder frogs (right) further north of Cairns.



Since returning to the south-east corner (and during preparations for my wedding day!) the Committee has agreed upon proposed changes to the Society's membership fees, as motioned during the 2015 AGM. These proposed changes have been emailed to members and are printed in this newsletter on Page 8. We have received many responses from you to date, and are pleased to report the far majority of your responses were very positive and supportive for the changes. Not only do the changes provide more age and group appropriate membership choices, help the Society operate with increasing costs and bring us into line with other environmental non-profit groups, but we will be able to offer more resources and activities to increase member involvement.

Cheers, 



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Brisbane City Council



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Thanks to QWaLC for our
free insurance

QFS Public Trust Fund - Ric Nattrass Research Grant

The QFS Trust Fund was created with the purpose to help save QLD frogs through education and research, and now stands at **\$5,195.26** (+ \$51.18 since Summer Edition)



Coming Up

Ipswich Garden Expo

12th-13th March 2016

Green Heart Fair

29th May 2016

QLD Garden Expo (Nambour)

8th, 9th, 10th July 2016

QFS Management Meetings

Quarterly at 12pm Sunday, Caboolture BP rest stop. Next meeting is 20th March.

All welcome! Phone/email Jenny to register your attendance and find out which side of highway we will meet at.

Frog Habitat Site Working Bees

Bowman Park, Bardon

8-11am - Contact Phil for more info

Grinstead Park, Alderley (off Short Street)

Contact Debbie Dolby for more info

ddolby@hotmail.com, Ph: 3355 4134

Carseldine Bush Crew

editor@qldfrogs.asn.au

Cabbage Tree Creek, Carseldine

Contact James Hansen for more info at

jamna@powerup.com.au.

Working bees in frog habitat

If you are undertaking bush-care in frog habitat and would like your working bee dates included above, please email Jono at

Ashgrove Report

Due to the Christmas break and a fairly dry summer the frog activity around my neighbourhood has been very quite.

I have had quite a few phone calls regarding tadpole raising and frog identifications so they have been out and about which is good.

The last working bee at Bowman Park was well attended and this time Phil Bird arranged to have a fish and tadpole survey done while we put in more plants along the walkways.

This was instigated by a conversation Phil had with Kate Fink who wanted us to look at some management plans of where we wanted the group/projects to go and what was the increase in fauna now we have planted out the rest of the area.

The fish, tadpole and water quality monitoring was done by Karl in selected pools and he found a good population of Purple Spotted Gudgeons. Tadpole species were *Litoria falax* and *Adelotus brevis* which were in the lower pools. This survey will be hopefully repeated after the summer rains.

The coming working bee at the beginning of February will be held in the afternoon to continue the survey on frogs – at the 2 habitats areas and Ithaca Creek. Dan has been monitoring this area when he has the time.

Jenny Holdway

Brisbane Central Report

Two Toohey Forest Frog Habitats.

The first habitat we would like to share is living proof that something very small and wouldn't even be noticed by passers-by, can actually be very significant for a breeding population of frogs.

Changed your email address?

Please notify the Secretary of your current email address to avoid the risk of missing out on *Frogsheet* newsletters via email.

Updated Diary Dates

Please visit the QFS website and our Facebook page for updated and new events that arise between *Frogsheet* newsletters.

Frogs are cool - Spread the word!

If you're a coordinator, why not set up a QFS display at a community event and raise awareness of our awesome frogs? No expert knowledge is necessary, just a passion for frogs. Contact Jenny to arrange display and brochure pick-up. Or you may like to help arrange a frog ID workshop which are a fantastic way to introduce your community to frogs.

We frequently walk in a part of Toohey Forest behind the Innovation Park on Griffith University Nathan Campus. An area there has been previously quarried and currently contains several small ephemeral ponds, but the site from which we've heard both the Copper Backed Broodfrog (*Pseudophryne raveni*) and the Great Brown Broodfrog (*P. major*) calling is little more than a longstanding clay-based wheel rut at the edge of the track, with a border of sedges and frogmouth plants showing that there is moisture there most of the time.

These frogs lay their eggs in the vegetation where they stay until enough rain falls to wash them into the water where they hatch and develop very quickly. We have found tadpoles in the rut on several occasions, and this is one of the last known breeding sites in the area.

However, local council has been excavating tons of gravel for path restoration right beside the track, with heavy equipment coming and going. Some investigating also revealed that the area is State Land, and could be developed as it is not actually part of the Toohey Reserve but is on the list of land currently under consideration for purchase by Council.

We have done two things to try and save the situation! The rut that the tadpoles use had been half flattened, so we have deepened and restored it,



Wheel ruts home to tadpoles of both locally occurring Broodfrogs. Logs and sign placed for protection of their habitat

and surrounded it with fallen timber for protection (more now than in the picture). We have put up a sign to alert both Council workers and the bikers that frequently use the track of its importance, and hopefully these measures will help to pre-



serve the patch. We will be keeping a close eye on it! A letter has also been sent to Council on behalf of the QLD Frog Society requesting that they purchase the land, whilst further support of our cause was provided by the Queensland Herbarium who confirmed our finding of multiple stands of a shrub listed as near-threatened – *Kunzea flavescens*, never previously recorded anywhere near the locality.

There is some good news about the ponds in the Mayne Estate quarry, also in Toohey Forest, which we last reported on way back in 2010 after Council drained and destroyed an ephemeral pond without knowing that it was the prime breeding site for at least three frog species, the Green Treefrog (*Litoria caerulea*), the Graceful Treefrog (*Litoria gracilentia*) and the Striped Marsh Frog (*Limnodynastes peronii*).



Frog breeding pond that Council to their credit re-stored for several treefrog species.

NEW FROGS OF BRISBANE POSTER FOR SALE

Our newly revamped and expanded Frogs of Brisbane Poster is available!

This great resource is partly funded by the Brisbane City Council to whom we are most grateful.

NEW Poster

Existing member who renews: Free poster (plus postage at \$10)

New member: Free poster (plus postage at \$10)

Additional poster to members: \$5 (plus postage at \$10) = total \$15

Non-member: \$5 (plus postage at \$10) = total \$15

OLD Poster

Members/non-members: gold coin donation (plus postage at \$10)

Please contact our Secretary, Jenny, using the details on Page 2 to place your order, or come and say g'day at our QFS display at upcoming events and receive your poster minus shipping!



The pond was restored and improved and has been going well ever since, holding water for a long time - if it ever actually rains!

There is a pond at the opposite end of the quarry too, that the frogs insist on using to breed even though it never holds water long enough for the tadpoles to mature. Council have now agreed to deepen and extend it, lining it with clay matting to increase the water permanency, with work to start next month. This will make a great difference to the growth of the frog population next summer.

Julia Squires and Stefan Durtschi. ■

Bundabery Report

G'day fellow frogaholics,

It's been a bit quiet on the froggy front for me lately. A little bit of rain about, but I have had no real opportunity to get out and see what's about. Hopefully, I will get a chance in the near future before the breeding season ends.

I have had a couple of meetings with a local private school - Bundaberg Christian College - about installing a frog pond at the school in their sustainability garden. I have found it interesting and challenging to try to design a pond that is a suitable breeding habitat, acknowledges aesthetics but also considers and implements potential safety risks i.e. kids falling into the pond. At this stage, one idea is to task each class or grade level with researching and designing a

2016 Research Grant not awarded

Only one application was received this year and unfortunately the Trustees did not think it warranted funding.

We will once again offer another Research Grant for the next year. Stay tuned for the Application Form.

Please remember that donations over \$2.00 are tax deductible and go directly towards supporting QLD frogs through research.

component of the pond system, such as suitable local water plant species, mosquito control, etc. I feel that this would give the children more ownership over the pond and its maintenance, and would provide a great opportunity for ecological education. It has been uplifting to see the support by the sustainability team and the Head of Primary for this project, as there may also be opportunities to tie the pond project in with frog educational talks/activities and National Frog Week. I'll keep you all posted on the progress.

Happy frogging,

David Flack ■

Hard working Coordinator Steps Back

Those of our members in the Rockhampton and Central QLD region would be very familiar with hard working member and Area Coordinator, Bethlea Bell. She has been volunteering in this role

NEW FROGS OF BUNDABERG AND FRASER COAST POSTER AVAILABLE

This great resource was funded by the Bundaberg Regional Council, Fraser Coast Regional Council, and the QLD Frog Society.

Existing **Bundaberg or Fraser Coast** member who renews:

Free poster (plus postage at \$10)

New **Bundaberg or Fraser Coast** member:

Free poster (plus postage at \$10)

Additional poster to **Bundaberg or Fraser Coast** members:

\$5 (plus postage at \$10) = total \$15

Non-member within **Bundaberg or Fraser Coast** region:

\$10 (plus postage at \$10) = total \$20

Please contact our Secretary, Jenny, using the details on Page 2 to place your order, or come and say g'day at QFS display in the Bundaberg or Fraser Coast region to receive your poster without postal costs!



since 2010, representing the QFS at countless community education displays, facilitating numerous frog education talks at schools and local organisations, organising local meetings and resources, sending out regular email (and paper) updates and surveying local frog populations. During this time Bethlea also studied at university and has just graduated with a High Distinction! However, such hard work and commitment to uni and her QFS role has left her feeling burnt out, and understandably so.



Bethlea Bell (left) with a brand new marquee donated by the Fitzroy River and Coastal Catchments Inc (FRCC).

Bethlea says of the highlights was gaining funding for and implementing the “Frogs of Central Qld” Education project, with the brochures and posters that I designed and had printed, with lots of assistance from Dan Ferguson and lots of photos from Harry Hines. Bethlea has has the brochures re-printed twice

through self-funding such was the need for such a resource.

Whilst she will continue to be an amphibian conservationist in her own patch and will support the future Area Coordinator and local activities, Bethlea is taking a step back from the role she grabbed with both hands. She says “As usual, my cup is full and running over...” with family and work commitments, plus future post-grad studies and other voluntary roles.

Bethlea has forged many ties with local community groups and councils and has been a strong and active voice for our frogs in Rockhampton and surrounds. We will miss your dedication but really appreciate the time and effort you have put into your role! ■

Tails full of metal: Tadpoles picking up toxics from Queensland coal mines

Queensland coal mine waste affects tadpole behavior and survival and leaves them full of toxic metals

Brian Bienkowski | *Environmental Health News* | 22nd February 2016

Tadpoles exposed to coal mine wastewater in Queensland, Australia, had delayed development, hyperactivity and ended up full of toxic metals in their tails and livers, according to a new

study.

The study, published in the *Aquatic Toxicology* journal last month, is concerning as Queensland is a major coal mining region. It comes amid increasing concern about amphibian population declines throughout the world and adds to evidence that pollution may play a key role.

“Amphibians are currently some of the most threatened organisms on the planet,” said Central Queensland University researchers and co-authors Chantal Lanctôt and Steven Melvin in a joint emailed response.



Striped Marsh Frog

Credit: G. Wise/flickr

Camouflaged in earthy colours, striped marsh frogs live along the western half of Australia. Their call is an abrupt pop, like a racquetball return. Frogs and other aquatic animals hang out in wetlands near the holding dams where, during extreme rain or flooding, discharges of the mine waste can escape into the environment.

For four weeks the researchers exposed striped marsh frogs to 25, 50 or 100 percent coal mine wastewater from two dams in Central Queensland, Australia—an area known for heavy coal mining. All exposed tadpoles had hyperactivity, and elevated levels of selenium, cobalt and arsenic in tails and liver tissue. Those exposed to 100 percent wastewater were smaller as well.

None of the unexposed tadpoles died. But in the groups exposed to 50 percent and 100 percent wastewater, 40 percent and 55 percent of the tadpoles died, respectively.

Coal mining wastewater contains metals, hydrocarbons and salts that can impact the amphibians’ oxida-

tive stress and mess with their hormones, Lanctôt and Melvin said. “These can, in turn, result in delayed development, altered swimming behavior, and even reduced survival.”

Striped marsh frog populations appear to be stable. But the findings don’t bode well for amphibians.

Two main things are influenced by altered swimming and activity—“foraging and predator avoidance,” said Christopher Salice, an assistant professor and researcher at Towson University who studies environmental impacts on amphibians.

“Acquiring resources and preventing them from being a resource,” added Salice, who was not involved in the study.

The study had some limits—for example, they only used one mass of eggs, which limits the genetic variability. The ones used “could have been more sensitive or more resistant” to pollutants, Salice said.

But there is a complex interplay of factors affecting developing baby frogs, including species competition, habitat loss and climate change. The recent striped marsh frog findings add to a growing body of science that suggests coal waste might tip the balance, leading to declines in certain areas.

Black coal deposits in Queensland (Credit: Minerals Council of Australia)

For instance, researchers reported in 2014 that Blacksmith tree frogs from coal mining areas in Brazil had elevated levels of sulfur, chlorine, iron, zinc and bromine, and their antioxidant systems were sensitive to the pollution.

And Southern leopard frogs and Southern toads that emerged from areas contaminated with coal waste had concentrations of arsenic, selenium and strontium up to 35 times higher than those from unpolluted wetlands, according to a 2005 University of Georgia study.

The current research carries extra weight because of where it was done—Queensland, which sits on the northeast coast of Australia and is a major coal mining region. The Australian government estimates there are two deposits of coal in the area that are more

than five billion tons, five deposits between three and five billion tons and dozens more smaller deposits dotting the region.

The Bowen Basin in central Queensland has more than 50 active mines in a 29,000 square mile area, according to the Queensland Government's Department of Natural Resources and Mines.

Queensland has been under fire for its widespread coal mines and associated pollution. According to Australia's National Pollutant Inventory, central Queensland coal mines are nine of the top 10 emitters in the region for PM10, toxic air particulates greater than 10 micrometers or less in diameter. Coal mines in Australia account for almost half of such emissions, and PM10 emissions have doubled in the past five years, according to Environmental Justice Australia.


A survey released in December by 350.org of 1,500 people in Australia found 68 percent of respondents agreed Australia "needs to restrict coal mining because of the impact that it is having on our natural environment and biodiversity."

The Minerals Council of Australia, which oversees the country's coal mines, did not respond to numerous requests for comment.

Lanctôt and Melvin said "under normal circumstances, wastewater releases will be carefully controlled and limited to periods of high rainfall, as a means of reducing risks to wildlife" but added that accidental releases can happen.

And the pollution can stay with the creatures a lifetime, Salice said.

"Even if the initial effects of pollution don't last [in tadpoles], it still might be a signature of something else," he said. "Once they turn into terrestrial frogs everything that has happened to them is carried with them."

Source: <http://www.environmentalhealthnews.org/ehs/news/2016/feb/tails-full-of-metal-tadpoles-picking-up-toxics-from-queensland-coal-mines> 

Proposed Changes to Membership Fees

Following on from discussions at the 2015 AGM, a motion was passed that we alter our Membership Fee structure to provide more suitable options for members, to better reflect current costs and align ourselves with other environmental non-profit organisations in Australia.

At the QFS quarterly Management Meeting held on 12th December 2015, the following fee structure was proposed.

\$10 joining fee (fee waived at QFS displays)

- Junior (inc. Primary school)
\$10 membership/renewal;
- Student (High School, TAFE, Uni)
\$15 membership/renewal;
- Adult
\$20 membership/renewal;
- Family
\$25 membership/renewal;
- Corporate/Schools
\$50 membership/renewal;

Things to note:

- Membership remains annual (July to June).
- A free Frogs of Greater Brisbane poster (or if available a poster specific to your area) will still be issued to new members.
- Current members will only pay the revised renewal fee when they renew.
- If membership lapses for a period of over 1 year, another joining fee is charged. As we have done previously, several reminders will be sent for membership renewals.

In addition to the proposed increases in costs, we are also aiming to ramp up opportunities for member involvement with the Society this year. Furthermore, we are planning to make membership sign-up and renewal easier and streamlined.

Proposed fee changes are planned to come into affect from July 2016.

Please email all feedback to president@qldfrogs.asn.au or write to our PO Box.



Something for you...

Junior Frogologists

By Tim Williams, Junior Editor

Master of disguise



Frogs have many predators including birds, snakes and fish. Birds hunt visually, snakes use olfactory cues (e.g. smell and vibration) and fish use chemical and visual tactics. Frogs use different camouflage techniques depending on their predator.

Colour is an important camouflage for frogs to survive. They use colour to match their habitat, with canopy dwelling frogs tending to greens, trunk dwelling species adopting browns and greys, and forest floor dwellers colouring browns and reds. Strangely, sometimes they use bright colours to stand out instead as a visual warning to say "watch out, don't eat me, I'm poisonous!"

Pattern and shape can match frogs very cleverly to their environment.

Clever camouflage

What camouflage techniques are these frogs using?



Green Frog



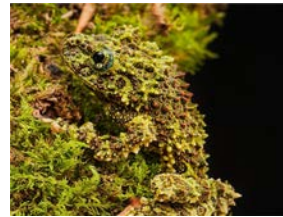
Eyelash Leaf Frog



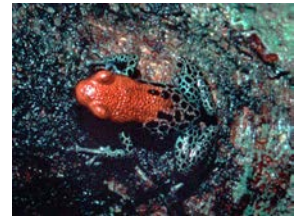
Reticulated Glass Frog



Granite Frog



Vietnamese Mossy Frog



Poison Dart Frog

Keen to see more? ... Check out <http://kids.mongabay.com/elementary/camouflage> to see more clever animal disguises!

Spot the frog

Can you find the eight frogs camouflaged below?



Pilling's Pond

Source: Seattle Times 03/07/12

Frotophraphy

Members Frog Photography

Send your neat frog photos to editor@qldfrogs.asn.au
or via Facebook by the next newsletter deadline.



Green Treefrog (*Litoria caerulea*)

Credit: O. Scully



Green-eyed Treefrogs (*Litoria serrata*) in amplexus

Credit: J. Hooper

Thanks to those who contributed to this newsletter!
Don't hesitate in contributing to the next edition.
**Deadline for Winter *Frogsheet* contributions is
12th May 2016**

If undelivered, please return to
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