

FROG CALL

THE FROG AND TADPOLE STUDY GROUP NSW Inc.

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NEWSLETTER No. 169 OCTOBER 2020

Photo by Craig Broadfield *Crinia tasmaniensis*,
endemic Tasmanian Froglet, Ulverstone



*You are invited to
our FATS meeting.
It's free.
Everyone is welcome.*

Arrive from 6.30 pm for a 7pm start.

Friday 2nd October 2020

**FATS meets at the Education Centre,
Bicentennial Pk, Sydney Olympic Park**

Easy walk from Concord West Railway
Station and straight down Victoria Ave.

Take a torch in winter.

By car: Enter from Australia Ave at the
Bicentennial Park main entrance,
turn off to the right and
drive through the park. It's a one way road.
Turn right into P10f car park.

Or enter from Bennelong Rd/Parkway. It's
a short stretch of two way road. Turn left.

Park in P10f car park, the last car park
before the Bennelong Rd. exit gate.

FATS MEETING 7PM FRIDAY 2 OCTOBER 2020

Due to COVID19 requirements the Education Centre can hold no more than 25 people. Please contact Arthur White by email (P10) to confirm your attendance and total number of people with you. He will advise if there is room, or whether the meeting is booked out.

6.30 pm Lost Green Tree Frogs seeking forever homes: Please bring your membership card and cash \$50 donation. Sorry, we don't have EFTPOS. Your NSW NPWS amphibian licence must be sighted on the night. Adopted frogs can never be released. Contact us before the night and FATS will confirm if any frogs are ready to rehome.

7.00 pm Welcome and announcements

7.30 pm Frog-O-Graphic People's Choice voting
and announcement of winners.

8.00 pm Arthur White's, talk "Riversleigh, fossil frogs and frogs".

9.30 pm Show us your frog images. Tell us about your frogging trips or experiences. Guessing competition, frog adoptions continue, supper, relax and chat with frog friends and experts.

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FATS 2 OCTOBER 2020 MEETING

The October FATS meeting is going ahead. We are setting a maximum of 25 people to attend. Those who want to come will have to pre-register by emailing our president Arthur White at l.athur@tpg.com.au. If you don't pre-register you won't get in. COVID restrictions will apply at the meeting. Everyone who attends will have to sign in and leave contact details. We will have sanitiser available.

The two main items for the meeting will be the selection of the People's Choice winner for the Frog-O-Graphic competition, followed by the announcement of the winners in the other divisions.

Arthur will be give a talk about Riversleigh, fossil frogs and frogs.



FATS' next newsletter No 170 is our Christmas, bumper, glossy, colour, hard copy, collector's edition. Don't miss out.

Have you renewed your 2020/21 FATS membership?

IMPACTS OF 2019-2020 FIRES ON VICTORIAN FROGS

The late 2019 –early 2020 'Black Summer' fires were frightening in their ferocity and sheer scale. Massive tracts of the coastal side of the Great Diving Range in south-eastern Australia were affected, and entire towns lost -not only many homes and other buildings, but the very character of the bush and coast that made them desirable places to live and holiday. And, of course, the fires took a predictably awful toll on nature.

Ecosystems that "shouldn't burn", such as rainforests, went up as surely as the dry forests that we know burn so well.

The faunal death toll is literally unimaginable. Estimates were made by shocked experts, but the caveats of those estimates matter almost as much as the necessarily rubbery figures: were we counting invertebrates too? What about eggs and tadpoles of frogs –do they count in the tally? Further muddying the estimates of loss was the mud. Tonnes of it, washed with ash (and probably fire retardant) from the now-barren surrounding hills into the stream channels as heavy rains helped to finally slow and stop the angriest of summers.



Giant Burrowing Frog *Heleioporus australiacus* Critically endangered A poorly understood species, the subject of Zoos Victoria Fighting Extinction involving research and monitoring. Image: Zoos Victoria. Map source; VBA 2020.

As this slurry washed into the streams entire cobble banks, so important for our riverine frogs like Spotted Tree Frogs and Blue Mountains Tree Frogs, were buried outright. And the spaces between rocks in streams and streamside pools where these frogs lay their eggs filled with the muck.

So what does this mean for the frogs of eastern Victoria? Are they all still there? And even if they are, are their populations still healthy enough to carry on over a very uncertain short-and longer-term future? Targeted surveys for most species have simply not yet happened. By the time the smoke cleared, and the tracks were gradually re-opened, it was autumn. And then, while your scribe was racing along as many of those tracks as we could manage, surveying fire-affected reptiles in a brutally truncated field season, Covid-19 was beginning its insidious emergence back in the cities, putting a stop to the autumn frog surveys.

So, we don't know much, but at this stage this is what we do know: Matt West and Glen Johnson made a heroic effort to get into the Spotted Tree Frog streams and begin the post-fire assessment. Some populations were in areas that were hit hard by both the fire and the post-fire sediment inputs. It will be the coming spring/summer before Matt can say for sure how things are looking for those populations. But already there is talk is of getting some of the survivors into the care of Zoos Victoria in order to work on a captive population designed for maximum health and vigour to rejuvenate affected populations.

As long as there is some water left, Victorian populations of the Green & Golden Bell Frog are remarkably tough. During our post-fire work around Mallacoota we stood respectfully amidst the charred ruins of the home previously occupied by young Mallacoota naturalist Bryce Watts-Parker; Although Bryce's home had been flattened in the conflagration, a lovely wading pool in the backyard had survived; and there sat four beautiful Bell Frogs, acting like the world hadn't really collapsed after all.

Despite the savagery of the fire around and in Mallacoota, we found this species at several other local sites too. Tough. As for the rest of the species? Right now we can only make educated guesses. There is simply no way that losses have not been enormous. And we know from work done before and after Black Saturday 10 years ago that just because some frogs survive a fire does not mean that all is A-OK.

If recolonisation is based on too few founding animals, genetic bottlenecking is a problem. And increasing fire frequency under our "new" climate trajectories means that such bottlenecking might not be an infrequent event – a whole new challenge for conservation managers! Surveys this coming spring / summer / autumn will tell us more. But

one thing we know with absolute certainty is that we cannot be complacent; with disease and habitat degradation / destruction and non-native species (on the land and in the water) already pushing so many Victorian frog species in unhealthy directions, the last thing they need is events like these "mega" fires.

And, frighteningly, events of this magnitude can mean that species that were not really on the conservation "radar" are suddenly in a very precarious position.

But, like the frogs, we need to hang tough. Perhaps these fires can be part of the wake-up call that is so urgently needed if we are going to stop the losses. We need to use these fires to help educate our communities that the frogs need our attention and our help, and that "she'll be right mate" is not good enough.

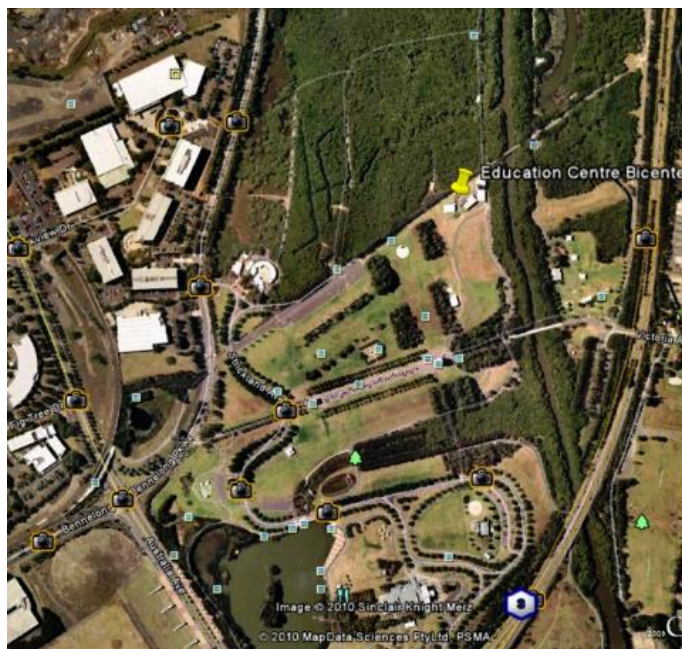
It's time to get fair dinkum about frog conservation.

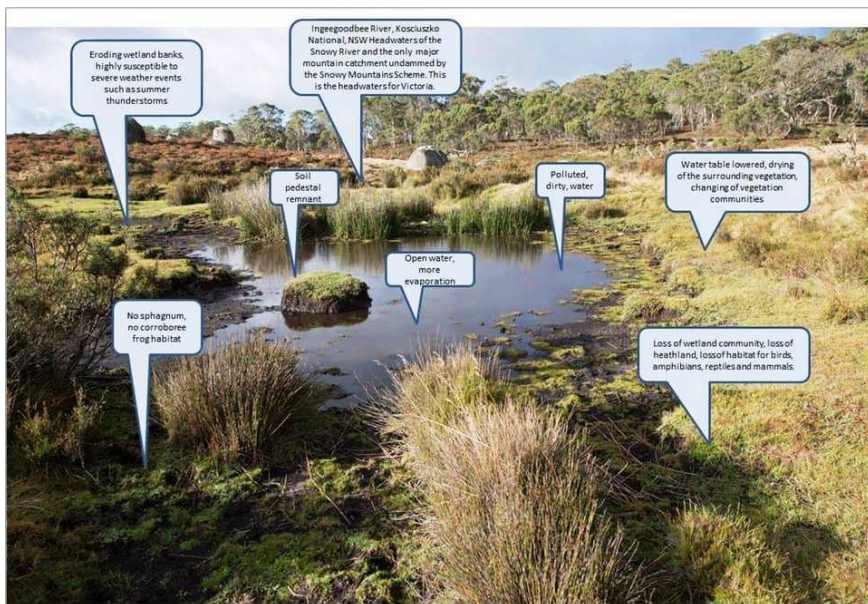
By Nick Clemann Reprinted here with permission of Frogs Victoria Society and Nick Clemann
www.frogsvic.org Find them on social media:
 @frogsvic #frogsvic Email: info@frogsvic.org Frogs Victoria Society, August 2020



ABOVE Left to right: Genoa River after 2020 fires; Green and Golden Bell Frog, *Litoria aurea* in Bryce Watts-Parker's backyard, Jan 2020; Silt in small stream, NE Vic, March 2020

BELOW Education Centre, Bicentennial Park





FERAL HORSE CONTROL IS NEEDED IN THE AUSTRALIA ALPS

The save-the-brumby debate has kicked off again recently and I've been asked a bit what the sitch is so I thought I'd share some perspective. I've tried to summarise the scientific part (the political gets messy). As a horse rider and lover of nearly 20 years I understand why we would want to support this cause. They're beautiful, charismatic, and exciting to spot poetically flowing through the trees. Domestic horses provide so much for us, and they most definitely have a place in our life. But, the problem is a lot more complicated than some people just wanting to shoot animals. To jump on the save-the-brumby bandwagon without understanding the full picture is irresponsible.

Do you identify as a general lover of animals and biodiversity? Do you have a drive to conserve wilderness areas for their vast endemism, beauty, social, recreational, ecological, hydrological, economic and indigenous value? If so, I urge you to consider the details.

Australia accounts for ~five percent of the world's landmass, yet ~12.5% of chordate species, and ~8% of all described plant, animal and fungi species. The majority of these species occur nowhere else on earth, with >85% of Australia's plants, mammals, reptiles and amphibians being endemic. National Parks and conservation areas reserved for protecting native biodiversity make up only 11.5% of the Australian landmass and will inevitably shrink in response to human population growth and expansion of development. Australia has the highest mammal extinction rate of any country.

One of the largest threats to our native our wildlife is invasive species. They impact 1,257 species of ours. ~82% of which are trending towards extinction as a result. Inappropriate fire regimes, habitat loss and agricultural impacts are also responsible. We record loss of at least one native species to extinction every year. The number is likely much higher due to the incredible diversity and inability to describe them all before we lose them. (Side note: keep your cats inside, please).

Horses are not native to Australia. They are an introduced species. Impacts by horses are listed under state legislation (Biodiversity Conservation Act 2016) as a key biodiversity threatening process. Listed by of research experts with decades of experience in the field. Australian vegetation did not evolve to cope with large

hoofed animals, we only have small soft footed native herbivores whose grazing habits are very different, adapted to live in this nutrient poor landscape. Direct impacts of horses in native vegetated areas include but are not limited to: pugging and erosion of water ways and drainage lines (the top 10cm of all soil holds all the native seed bed, nutrient content and regenerative capacity. It takes 1000+ of years for a soil profile to recover), increased turbidity of water ways, inhibiting capacity as an aquatic habitat, spread of invasive weeds which out compete and smother our native plants, destroy native plants by grazing and trampling, foul waterholes, collapse wildlife burrows, compete with native animals for food and shelter, spread disease and pose a risk to public safety - on high speed roads and highways. Additionally, they are not native and consequently have no natural predators here controlling their numbers and the natural equilibrium.

An area that free roaming horses impact heavily in Australia is the Alpine bioregion. This region makes up only 0.1% of the Australian landmass. This is the only place where snow falls and sticks. The Australian alpine bioregion covers 1% of the Murray-Darling Basin catchment area but contributes ~30% of its' water yield. The Murray-Darling Basin catchment system feeds much of Australia and provides a large portion of our exports. 40% of the country's annual agricultural production come from here – worth ~\$3 billion per annum.

Three springs within the Australian alpine area make up the source of the Murray river, the beginning of the whole Murray-Darling Basin catchment. Sphagnum bogs (a type of wetland which behaves like a sponge) are responsible for retaining moisture along these alpine water ways. They release water slowly, year-round, nourishing the immediate habitat and subsequent system downstream constantly and dependently. Without them, rainfall events (which are increasingly few and far between) cause sheet and gully erosion, causing loss of regenerative capacity, blocking the waterways, smothering everything below, and impacting agricultural practices downstream. This same water exclusively runs the country's largest hydroelectric scheme (the Snowy Hydro); a clean and renewable energy source which produces ~%40 of mainland renewable electricity generation.

Horses among other introduced ungulates, are incising, trampling and destroying these critically endangered and integral Sphagnum bog communities. Additionally, horses directly impact 39 native species and communities (google *Burramys parvus* and/or *Pseudophryne corroboree* for cuteness). Read points 6 to 11 within this determination for a list of impact mechanisms, supported by years of ongoing research (<https://www.environment.nsw.gov.au/.../habitat-degradation-lo...>).

It is true and often pointed out that other introduced ungulates cause damage too. The difference is all these species are controlled as a result. In April 2020 alone 192 fallow deer, 149 sambar deer, 14 red deer, 96 pigs, 105 goats, 4 wild dogs and 1 fox were aerial culled in Kosciusko national park. Feral pig numbers are estimated to be between 1 and 20 per square kilometre, equating to somewhere between 8,000 and 158,000 pigs existing in the Australian alpine area, at least 15% of which are culled annually. It is also often claimed that we can't dissociate between impacts of each species. Camera trapping and dung transects used to calculate population density indicate otherwise. My own research as an example: In 1987, no evidence of horses or deer from dung surveys, only rabbits and kangaroos. In 2018, density had significantly changed. 84% of the dung was from horses, 13% from deer, 1% from rabbits and 2% from macropods. Total herbivore dung density increased fourfold since the 1987 survey. Native herbivores have been driven out and replaced by introduced ones. <https://onlinelibrary.wiley.com/doi/full/10.1111/emr.12353>



In 2014 there were an estimated 9187 horses in Kosciusko national park, there are now 25,318+ and growing. That is a population growth rate of 23% per annum. There are more than 25,000 horses roaming here. Remember this is one small place conserved for native biodiversity. Remember there are more than 60,000,000 horses in the world. There are more than 400,000 wild horses in Australia. There is only one delicate Australian alpine bioregion. Only one Mountain Pygmy Possum. Only one Southern Corroboree frog. Only one Murray-Darling Basin.

If you have a medical issue, you would ask a doctor, right? If you want to cook something delicious, you consult a chefs' cook book? You would ask a mechanic if you had issues with your car? All these experts spend years honing their knowledge to make their craft work the best they can. Why are conservation experts ignored? They don't want to kill horses because it's fun and they hate them. They do it because they love and care for the health of the whole ecological system and we can't simply sacrifice the whole for one charismatic one. They recommend a cull because it has been intricately researched to be the best action for the greatest benefit. Are you a vegan or vegetarian? If not, claiming the inhumaneness of shooting would be hypocritical. The standards by which an invasive species hunter must abide by are equal or higher than those for commercial abattoirs. The RSPCA reviewed evidence and support aerial culling over all other removal methods. Leaving an unsustainable density of horses who are unadapted to the oldest terrestrial, most drought stricken, nutrient poor landscape

to starve, is arguable crueller. Alternatively, inducing great stress by rounding up an animal which has never been handled and trucked away doesn't sound much better. Watch here for what a round up looks like: <https://www.youtube.com/watch?v=P5OT00oHxss>.

99 of the 25,000+ (0.003%) horses in the Alpine area were rounded up for removal in November last year. For the first time in more than a year due to lapse in management while addressing this debate. Before the devastation of the bushfires had ensued. 68 animals were re-homed. 31 were either sent to a knacker, in such poor condition they were euthanised, or sustained fatal injuries as a result of round up. On average, 18% of horses trapped in Kosciuszko National Park annually go to homes. There is no demand for the remaining which consequently end up at an abattoir. Furthermore, rounding up or trapping a horse costs significantly more per head than ground or areal shooting. An expense tax payers wear.

It is not suggested that horses be eradicated from the whole continent, merely excluded from the extremely limited and delicate conservation areas that exist to protect native biodiversity, not as an uncontrolled horse breeding pen. I'll point out that here that brumbies are not their own species. They are just horses. Which at a worldwide population of 60,000,000+ are very far from being eradicated.

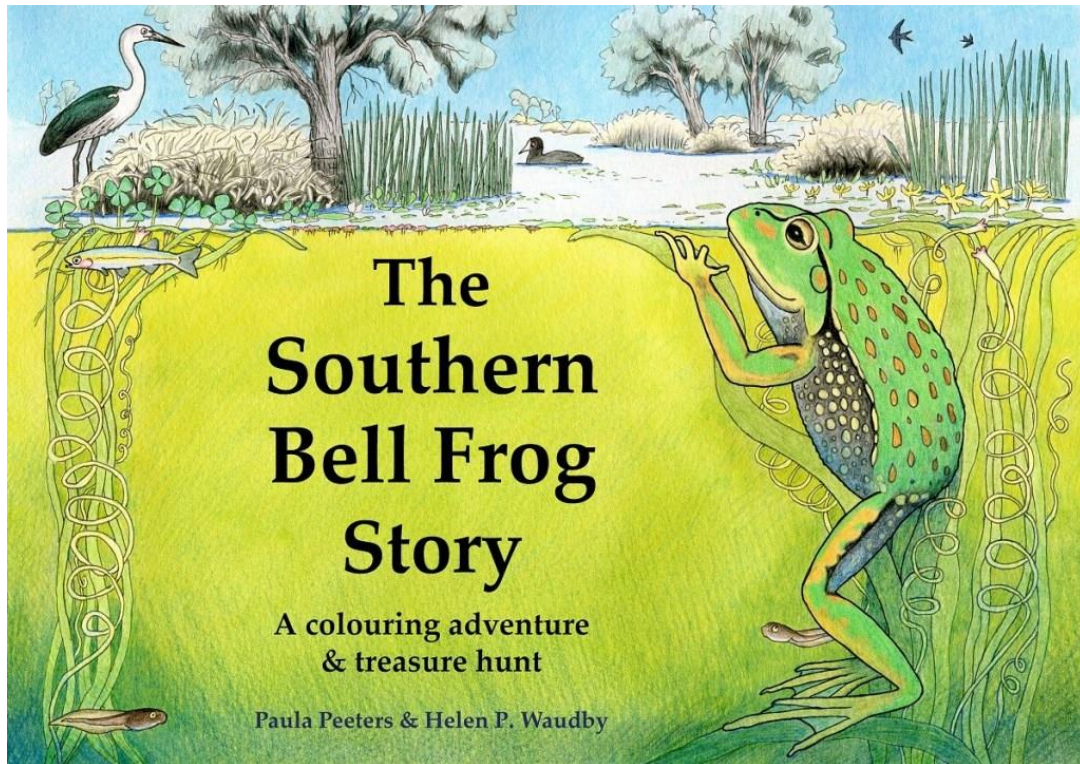
No one is fighting for invasive pigs, goats or camels. They're not cute enough. And so conservation experts go on controlling them appropriately. The only difference here is horses are pretty and we ride them sometimes. I don't think the 200 years horses have spent here match up to the 55 million our native wildlife have, or the 60,000 our Aboriginal people have spent caring for the land. Colonialist ideas are ruining native Australian habitat constantly. These really are just normal horses who don't happen to be fenced. Every other introduced species that causes damage in conservation areas are controlled, I'm unsure why this one should be treated differently?

As a Graduate Ecologist working in the civil engineering industry, I thoroughly enjoy prodding living things and tramping around in the bush. I am skilled in Research design, Field surveys, GIS, Teamwork, Leadership, Data Management, and Report Writing. I'm a passionate research professional with First Class Honours in Landscape Ecology from The Australian National University and experience publishing and presenting research. With a background in education, I am flexible, creative and enthusiastic member of any team.

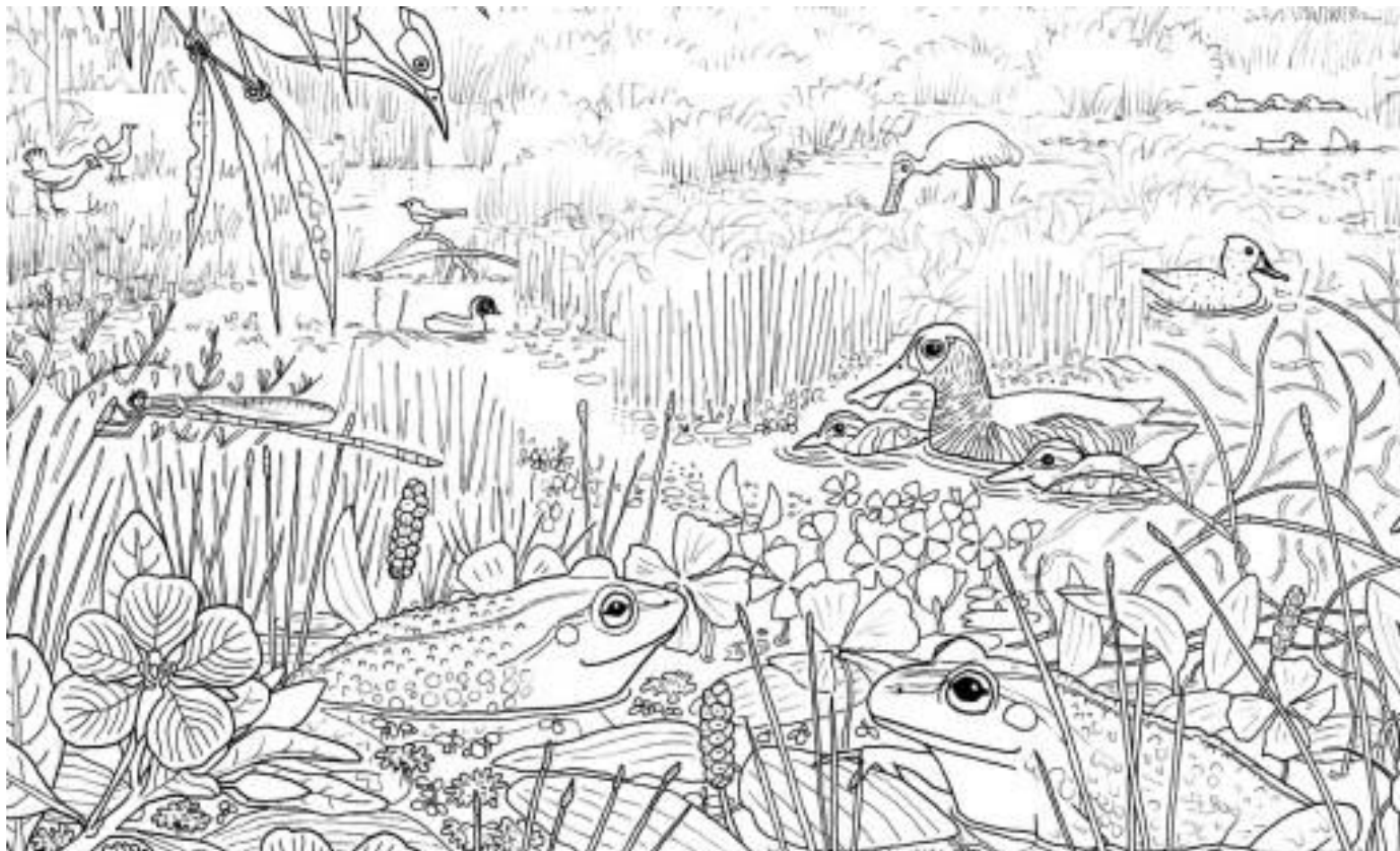
Jess Ward-Jones

<https://reclaimkosci.org.au/2020/05/27/feral-horse-control-is-needed-in-the-australian-alps/?fbclid=IwAR2SN-LLoJIBiA8yAOxE8Urh1EIFKzRXlweZaPVimFwVsMdmVtfs0Cd-7Y>

Free froggy colouring book to download https://www.paperbarkwriter.com/free-froggy-colouring-book-to-download/?fbclid=IwAR1AWwZAn9JAXqwC6SgYVDAKR70XFv6rE6ao3QV6768NcHSszQUrnN_Te-c



Back in 2018 I spent some winter weeks exploring the habitat of the Southern Bell Frog in southern NSW. Black box and River Red Gum wetlands. Tangles of lignum swamp, rice paddies and irrigation channels. I tried to see the landscape from a frog's eye view.



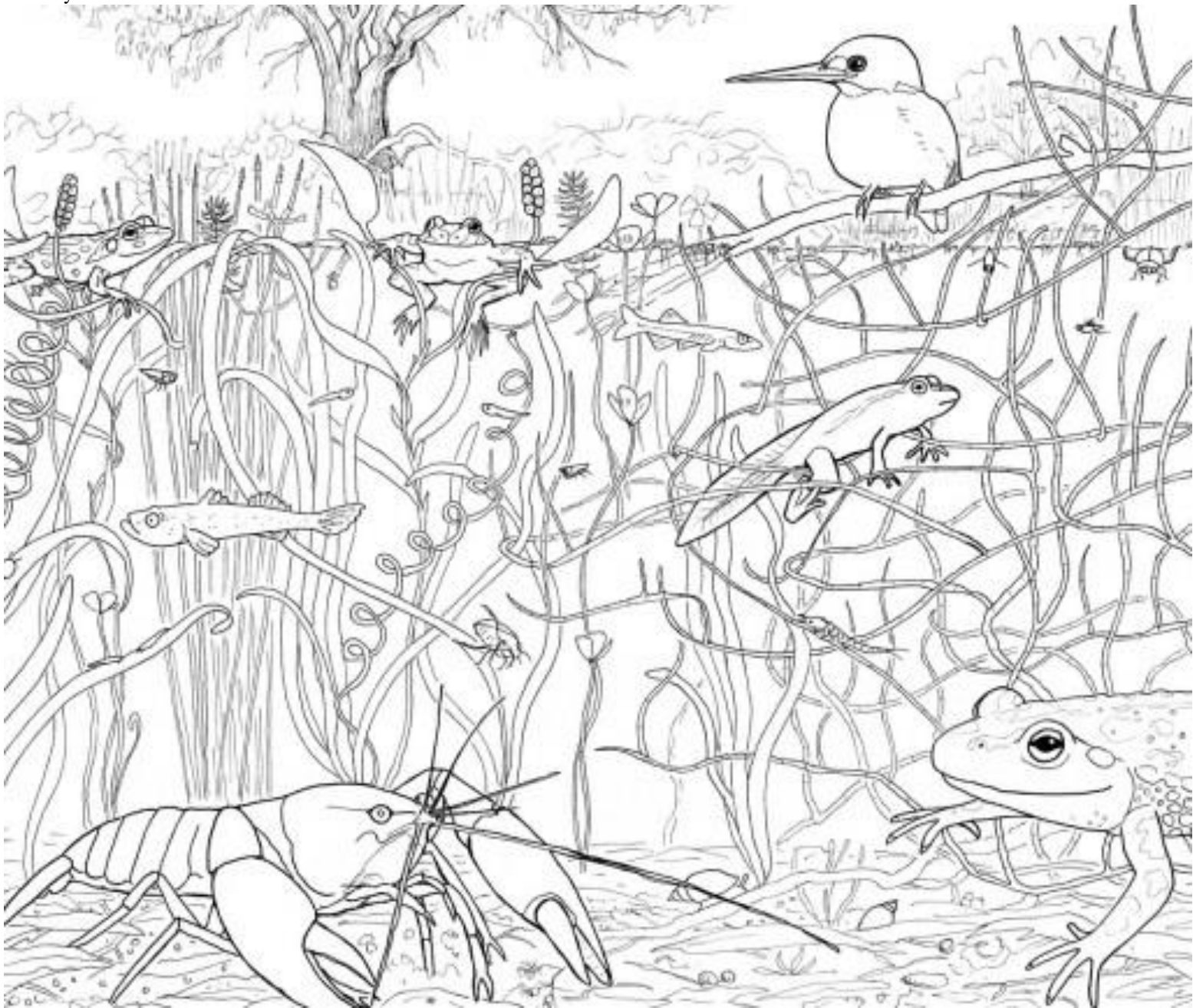
copy and colour in

Many months and many hours of drawing later, I'm thrilled to announce the launch of *The Southern Bell Frog Story*. This colouring book has been commissioned by some of the wise folks who work on threatened species conservation for the New South Wales government, who realize that education and extension work are integral to any wildlife conservation project. Thanks in particular to Helen Waudby and Matt Cameron for understanding the value of art for communicating science and conservation messages.

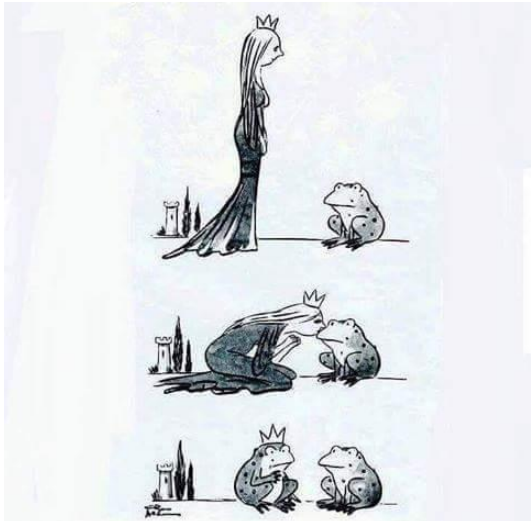


copy and colour in

The Southern Bell Frog Story will be distributed to landholders and other people who live and work in the same wetland ecosystems as this threatened species of frog. I'm not allowed to sell hard copies of this book, as it was created with funds from the NSW government Saving our Species program. But for the same reason *The Southern Bell Frog Story* free for you to download as an ebook. Woohoo! Thanks to Paula Peeters, Helen Waudby and the NSW Dept of Planning, Industry and Environment for permission to copy and colour in [Click here to go to the project page that includes the download link.](https://www.paperbarkwriter.com/portfolio/the-southern-bell-frog-story/) <https://www.paperbarkwriter.com/portfolio/the-southern-bell-frog-story/> Have fun!



If you're looking for a hard-copy colouring book all about Australian wildlife, check out my [Bimblebox Wonderland colouring book, which can be purchased through my online store.](#)



NATIONAL THREATENED SPECIES DAY - 7 SEPTEMBER HELP SAVE OUR THREATENED SPECIES

In NSW alone there are nearly 1,000 animal and plant species at risk of extinction. Saving our Species is committed to securing a future for these species in the wild for the next 100 years, but this ambitious objective is not without its challenges and obstacles.

Our program's success relies on the amazing work done by our passionate conservationists, researchers, volunteers, and community experts, who are all pitching in to help save our species.

newsletter@sos.environment.nsw.gov.au

<https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/help-save-our-threatened-species>

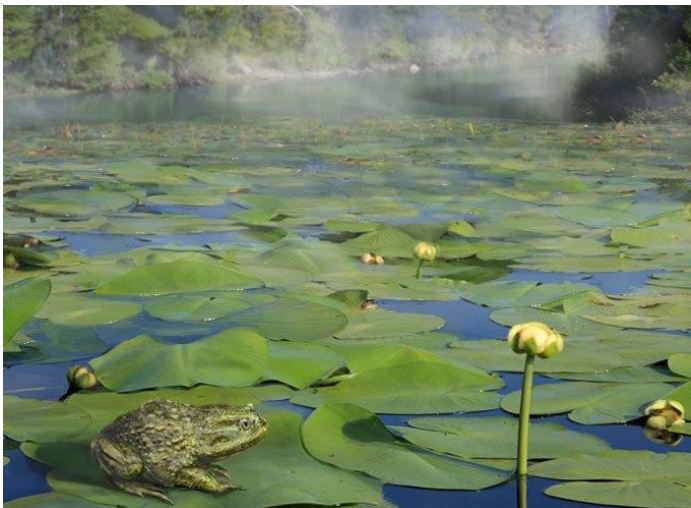
THE FIRST FROG FOSSIL FROM ANTARCTICA HAS BEEN FOUND



An ancient amphibian sheds light on when the continent iced over. A 40-million-year-old frog fossil from Seymour Island (pictured) near the Antarctic Peninsula is the first evidence that amphibians like those alive today once inhabited Antarctica. The first fossil of a frog found in Antarctica gives new insight into the continent's ancient climate.

Paleontologists uncovered fragments of the frog's hip bone and skull in 40-million-year-old sediment collected from Seymour Island, near the tip of the Antarctic Peninsula.

Scientists have previously found evidence of giant amphibians that walked Antarctica during the Triassic Period, over 200 million years ago, but no traces on the continent of amphibians like those around today (*SN*: 3/23/15). The shape of the newly discovered bones indicates that this frog belonged to the family of *Calyptocephalellidae*, or helmeted frogs, found today in South America. The fossilized frog's modern relatives live exclusively in the warm, humid central Chilean Andes. This suggests that similar climate conditions existed on Antarctica around 40 million years ago, researchers report April 23 in *Scientific Reports*.



A new frog fossil suggests that millions of years ago, at least part of Antarctica (shown in this illustration) looked a lot like the Chilean Andes. Pollyanna von Knorring / Swedish Museum of Natural History, Simon Pierre Barrette, José Grau de Puerto Montt, Mats Wedin/Swedish Museum of Natural History, Wikimedia Commons (CC BY-SA 3.0)

That offers a clue about how fast Antarctica switched from balmy to bitter cold (*SN*: 4/1/20). Antarctica quickly froze

over after splitting from Australia and South America, which were once all part of the supercontinent Gondwana (*SN*: 10/10/19). But some geologic evidence suggests that ice sheets began forming on Antarctica before it fully separated from the other southern continents about 34 million years ago.

"The question is now, how cold was it, and what was living on the continent when these ice sheets started to form?" says study coauthor Thomas Mörs, a paleontologist at the Swedish Museum of Natural History in Stockholm. "This frog is one more indication that in [that] time, at least around the Peninsula, it was still a suitable habitat for cold-blooded animals like reptiles and amphibians."

Federico Degrane/Centro de Investigaciones en Ciencias de la Tierra, Jonas Hagström/Swedish Museum of Natural History By Maria Temming 23 April 2020 T. Mörs, M. Reguero and D. Vasilyan. First fossil frog from Antarctica: implications for Eocene high latitude climate conditions and Gondwanan cosmopolitanism of Australobatrachia. *Scientific Reports*. Published online April 23, 2020. doi: 10.1038/s41598-020-61973-5. <https://www.sciencenews.org/about-science-news>

AUSTRALIAN REPTILE PARK



Frogs on Youtube

https://www.youtube.com/watch?v=WpiqKrHWPpo&list=PLQD_qJVx0NfDYVbEWMGWFdv6WryLsHt_&index=13



Giant Barred Frog – Photo by Chloe Newman

The FATS meeting will commence at 7 pm, (arrive from 6.30 pm) and ends about 10 pm, at the Education Centre, Bicentennial Park, Sydney Olympic Park, Homebush Bay. FATS meetings are usually held on the **first Friday of every EVEN month** February, April, June, August, October and December. Call, check our web site, Facebook page or email us for further directions. We hold 6 informative, informal, topical, practical and free meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, field studies and trips, have displays at local events, produce the newsletter FROGCALL and FROGFACTS information sheets. FATS exhibit at many community fairs and shows. Please contact Events Coordinator Kathy Potter if you can assist as a frog explainer, even for an hour. No experience required. Encourage your frog friends to join or donate to FATS. Donations help with the costs of frog rescue, student grants, research and advocacy. All expressions of opinion and information in FrogCall are published on the basis that they are not to be regarded as an official opinion of the FATS Committee, unless expressly so stated.

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FATS ON FACEBOOK: FATS has about 3,200 Facebook members from across the world. Posts vary from husbandry, disease and frog identification enquiries, to photos and posts about pets, gardens, wild frogs, research, new discoveries, jokes, cartoons, events and habitats from all over the world. The page includes dozens of information files. <https://www.facebook.com/groups/FATSNSW/>

RESCUED FROGS are at our meetings. Contact us if you wish to adopt a frog. A cash donation of \$50 is appreciated to cover care and feeding costs. Sorry we have no EFTPOS. FATS must sight your current amphibian licence. Licences can be obtained from NSW National Parks and Wildlife Service, Office of Environment and Heritage (link below). Please join FATS before adopting a frog. This can be done at the meeting. Most rescued frogs have not had a vet visit unless obviously sick. Please take you new, formerly wild pet to an experienced herpetological vet for an annual check-up and possible worming and/or antibiotics after adoption. Some vets offer discounts for pets that were rescued wildlife.

<https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences/native-animals-as-pets/frog-keeper-licences>

FATS has student memberships for \$20 annually with electronic FrogCall (but no hard copy mail outs). <https://www.fats.org.au/membership-form>



Thank you to the committee members, FrogCall supporters, talented meeting speakers, Frog-O-Graphic competition entrants, event participants and organisers David, Kathy and Harriet Potter, Sarah and Ryan Kershaw. The FrogCall articles, photos, media and webpage links, membership administration and envelope preparation are greatly appreciated. Special thanks to regular newsletter contributors, Robert Wall, George Madani, Karen & Arthur White, Andrew Nelson, Josie Styles, Wendy & Phillip Grimm and Marion Anstis.



FROGWATCH HELPLINE 0419 249 728

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Andre Rank	General Committee member		

6 - 8 November

Smiths Lake

Leaders: Karen and Arthur White

Our Smith's Lake trip has become such a popular field trip destination that changes are needed to ensure that everyone gets a chance to go. Up until now, it has been first in goes to the head of the list, but this approach has meant that the same people often get to go and newcomers miss out. In addition, we have people cancel late so their place goes unfilled. To overcome both of these problems we have changed the booking arrangements, which will include a **non-refundable** pre-payment for the booking. Most people will still be able to attend, this arrangement is in case we have too many people wanting to go on the field trip.

1. For the next field trip, you must email both Arthur and Karen White lthur@tpg.com.au and white.kazzie@gmail.com ASAP. Indicate that you (and how many others in your group) want to attend and what day you intend to arrive. Karen will then put your name on a list. If you attended the previous Smiths' Lake field trip you will automatically go on the Reserve List. Spaces are reduced, due to COVID19 restrictions, to a maximum of 20 people. We will have to change how we allocate dormitory space and vehicle space allocation, due to COVID19.
2. Karen and Arthur will send you a reply email to let you know which list you are on. If you are on the A list you must pay your accommodation to confirm your booking. If you do not pay you will be removed from the A list. You can pay electronically to the FATS account:- **Account Name: Frog and Tadpole Study Group - BSB 082 342 Account No. 285 766 885.** Cost is \$17.50 per person, per night.
3. Karen will send you confirmation of your booking when your payment has been received.
4. Karen will email people on the Reserve list, 2 weeks before the field trip dates. You will be told if there are spaces available for you or not. If are able to go, you will now need to forward your payment to guarantee your place. Payment must be received by the nominated date. If not, your place will be given to the next person on the list. We think that this will be the fairest way to ensure that everyone gets a chance to go to Smith's Lake.

5 December

8.30 pm Darkes Forest

Leaders: Josie Styles and Cassie Thompson

Take the Princes Hwy south (not the freeway), then take the Darkes Forest Rd turn-off. Meet 200m from the corner.

A frog's call is one way of easily identifying a frog. Significantly, only male frogs ever call. Most male frogs have an inflatable vocal sac around the throat area. As this vocal sac expands, it amplifies the sound. This sound can sometimes be carried considerable distances. Curiously though, some frogs, like *Litoria lesueurii*, (Lesueur's Frog, or sometimes simply called the "Rocky River Frog"), lack any significant vocal sac, and have a surprisingly soft, muted call. It is thought by some that the noisy stream-sides and loud bubbling rapids, the preferred habitat of *L.lesueurii*, may negate any advantage of a loud call. Tonight, using *L. lesueurii* as a starting point, we will look at the vocal sacs of frogs. We will compare the vocal sacs and call behaviour of some of the local species here. We will discuss the rather complex behaviour around the calls of a frog, and how important calls can be in finding and identifying frogs.

Josie and Cassie are both professional field biologists and have developed an acute understanding of call behaviour. Along with this understanding, they have also developed a remarkable sense of listening for, and identifying, frog calls. It has become an essential part of their work in finding frogs and reporting on the health or vulnerability of frog populations, particularly those threatened by infrastructure projects. We are fortunate tonight to have their expertise in showing us the importance of call behaviour, both to frogs and to froggers.

6 December The Australian Reptile Park will hold a free Herpetological Societies' Christmas BBQ and small groups tours, within COVID19 guidelines. Please contact them for further information: COVID restrictions, date, times and what identification you need to gain free entry. Ph 02 4340 1022

<https://www.facebook.com/AustralianReptilePark/> website <https://reptilepark.com.au/>

Pacific Highway Somersby NSW

Email admin@reptilepark.com.au

<https://youtu.be/WpjqKrHWpPo> frog video



2020/ 2021 SPRING / SUMMER FIELD TRIPS PROGRAM

Please book your place on field-trips; due to strong demand, numbers are limited. Be sure to leave a contact number. Regardless of prevailing weather conditions, we will continue to schedule and advertise all monthly field-trips as planned. It is YOUR responsibility to re-confirm in the last few days, whether the field trip is proceeding or has been cancelled. Phone Robert on 9681-5308.

26 September 7.00 pm

Norah Head, Central Coast

Leader: Grant Webster

Take the expressway north. After approx. 70km, take the Sparks Road exit towards Norah Head. The Bowling club is about 30mins away. Meet in the carpark at the Norah Head Bowling and Sports Club, at the end of Victoria Street, Norah Head.

One of the features of the coastal floodplains were the wetlands that formed in the swales of ancient sand dunes. This was the home of “*Wallum*” habitat. Wallum was originally the name given, by the traditional owners of the Sunshine Coast, to a species of *Banksia*. Over time, this name was broadened to refer to the complex of swamps, heaths and woodlands growing on low sandy soils along the coastal strip. These wetlands today grimly hang on in isolated pockets on the highly-urbanised coastal strip. Tonight, we will look at the coastal heathlands, particularly Wallum habitat. We will look at some of the unique frog species that have adapted to the dark, tannin-stained, highly-acidic waters of these coastal heaths.

Grant’s research takes him to many unusual frogging locations with a high scientific value. Tonight, we are fortunate to once again have Grant lend his time and skills to show us another of his research sites. Grant has an unrivalled familiarity with the wallum habitat and of the broader coastal heathlands. He is expertly placed to show us the unique ecology of these areas.

10 October 7.45 pm

Castlereagh Nature Reserve

Leader: Peter Spradbrow

Meet at the Shell Service Station, Richmond Rd, Berkshire Park (opposite Windsor Downs Estate). It is between St Marys Rd and Llandilo Rd.

Natural disturbances such as fire, drought, windstorms, floods, landslides and insect attacks are important natural processes that help create a diverse range of habitats. Many animal species respond differently to natural disturbances, and importantly, to the frequency of these disturbances. Sometimes, we need to be careful as to what we regard as “catastrophic”. Often, more subtle human-induced manipulation of the environment can prove far more disastrous for wildlife. Too-frequent burn-offs, suburban drainage works, fragmentation of the landscape, run-off from roads etc. can have a far greater impact on our wildlife than periodic drought. Tonight, we will look at some of the harsh conditions that confront Castlereagh’s woodlands, and how our frogs have learned to cope with them. We will compare the man-made disturbances alongside the natural disturbances. We will try to unravel the effects these have on the local frogs.

Peter has studied these woodlands all of his life. He has an intimate knowledge of most of the animal species to be found in this area. His acute observations have given him a great understanding of wildlife movements and of the seasonal changes here. He has also accumulated a great understanding of the subtle, long-term changes in the wildlife, and has always some very interesting insights and comments to make. Tonight, he will discuss the changes he has seen in these very important woodland remnants.

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In the event of uncertain frogging conditions (e.g. prolonged/severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 02 9681 5308. Remember! rain is generally ideal for frogging! Children must be accompanied by an adult. Bring enclosed shoes that can get wet (gumboots are preferable), torch, warm clothing and raincoat. Please be judicious with the use of insect repellent – frogs are very sensitive to chemicals! Please observe all directions that the leader may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience – parents are asked to help ensure that the leader is able to conduct the trip to everyone’s satisfaction. All fieldtrips are strictly for members only – newcomers are however, welcome to take out membership before the commencement of the fieldtrip. All participants accept that there is some inherent risk associated with outdoor fieldtrips and by attending agree to; a release of all claims, a waiver of liability, and an assumption of risk.