

# FROG CALL



THE FROG AND TADPOLE STUDY GROUP NSW Inc.

Facebook: <https://www.facebook.com/groups/FATSNSW/>

Email: [fatsgroupnsw@fats.org.au](mailto:fatsgroupnsw@fats.org.au)

PO Box 296 Rockdale NSW 2216

Frogwatch Helpline 0419 249 728

Website: [www.fats.org.au](http://www.fats.org.au)

ABN: 34 282 154 794

NEWSLETTER No. 171 FEBRUARY 2021

Jayden Walsh, Crucifix Frog *Notaden bennettii*



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

*Everyone is welcome.*

Arrive from 6.30 pm for a 7pm start.

**Friday 5<sup>th</sup> February 2021**

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 5 FEBRUARY 2021

**Due to COVID19 requirements the Education Centre can hold no more than 25 people. Please contact Arthur White by email P11 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** Arthur White's, talk: "Measures to recover Green and Golden Bell Frogs in Sydney." There will be other speakers but were not confirmed at the time of publication.

**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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Dr Graeme Worboys. Picture: Ian Pulsford

**H**onorary Associate Professor Graeme Leonard Worboys of Gilmore in the ACT was a courageous leader of exceptional stature in the field of nature conservation, not only in Australia but in the world.

From 1973 until 1999 he pursued a distinguished public service career in protected area management, beginning as a park ranger and ending as an executive director with the New South Wales National Parks and Wildlife Service (NPWS). For much of this time Dr Worboys held responsibility for the protection of Kosciuszko National Park.

In the last few years of his life, undeterred by seriously declining health and spurred on as ever by his absolute passion and commitment to the conservation of the Australian Alps, he produced with Deidre Slattery a definitive and visually stunning work of history, *Kosciuszko - A Great National Park*. And he campaigned for the removal of destructive feral horses from this beloved Park until he was too ill to continue.

Dr Worboys was more than a leader: he was an innovator. After leaving NPWS, he embraced the role of environmental consultant and specialist in protected area management. His dedication to the improvement of training and support for conservation managers around the world will be his lasting legacy. He marshalled his unique expertise to become lead editor and author of the book *Protected Area Governance and Management* (ANU 2015), a comprehensive guide to protected area management, available in three languages. Each of its chapters can be downloaded for training and instruction, and that has now occurred more than 100,000 times.

Graeme was also a national and global pioneer of the increasingly influential concept of integrated connectivity conservation. This is the understanding that for effective conservation, communities and institutions must work not to create isolated islands of national parks or protected areas but rather to restore ecological flows, species

movement and dynamic processes across land of all tenures in landscapes that are large. He compiled a major book, *Connectivity Conservation Management: A Global Guide* (Earthscan 2010). He was the originator, with Ian Pulsford, of the continental-scale Australian conservation project called the Great Eastern Ranges Initiative.

In 2014 Dr Worboys won the Fred Packard Award, the world's most prestigious award in the field of protected areas. The World Commission on Protected Areas of the International Union for Nature (IUCN) acknowledged that Graeme had been, "an outstanding champion of the importance of connectivity for conservation across landscapes globally". "With enormous drive and dedication, he has consistently built a body of knowledge and advice to promote connectivity conservation initiatives around the world, and in the process, has developed a suite of publications and a committed cadre of protected area professionals to carry out this work," it said.

Dr Worboys also became a great contributor to UNESCO World Heritage. His expertise in heritage protection and his early background in geology saw him lead IUCN World Heritage site evaluations and advisory visits to Vredefort Dome in South Africa, Danxia in China, the Dolomite Mountains in Italy and the Trang An Karst Landscape in Vietnam; while he also provided critical support to the South Australian Government for National Heritage and possible World Heritage nomination for the Arkaroola geological area the Flinders Ranges.

Graeme's humbleness, integrity, sparking smile, energy, determination and commitment to protecting "nature's gifts" inspired his many colleagues, students and friends to do better wherever he worked.

Graeme is sorely missed by his beloved wife Bev, children Patty and Andrew, four grandchildren, large family, many friends and colleagues in Australia and overseas.

**Written by Bob Debus, Ian Pulsford**

[https://www.canberratimes.com.au/story/6982592/farewell-to-a-courageous-defender-of-nature/?fbclid=IwAR1WM-KpKo-1ht4AtWv0ltYuide7bUj9S\\_BWs8pB8awMBrbpzw2Fzd9JD7A](https://www.canberratimes.com.au/story/6982592/farewell-to-a-courageous-defender-of-nature/?fbclid=IwAR1WM-KpKo-1ht4AtWv0ltYuide7bUj9S_BWs8pB8awMBrbpzw2Fzd9JD7A)

## GENERAL NOTICES TO FATS MEMBERS

**T**here is a limit of 25 people permitted at the February FATS meeting. You must pre-register with Arthur White by email before attending. If you just turn up on the night, you may not be admitted. Ensure you have received a return email acknowledgement that you are able to come. The COVID register will be in place, social distancing and measures apply. Please bring your masks with you.

Keep taking those photos. The FATS 2021 Frog-O-Graphic opens later this year.

If you have pet frogs, your licence returns are due in April. <https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences/native-animals-as-pets/frog-keeper-licences>

World Frog Day is Saturday 20 March 2021.

## RELOCATING SPAWN, TADPOLES OR FROGS IS VERY RISKY FOR AMPHIBIANS.

**F**rogs encountered on roads, around dwellings and gardens or in swimming pools should not be considered as displaced frogs unless they are of a species not local to the area. Local frogs encountered in these situations should be assisted off roads, away from dwellings, or out of swimming pools, preferably to the nearest area of vegetation or suitable habitat. Extract 6.6 Displaced Frogs:

<https://www.environment.gov.au/system/files/resources/1e8d9000-4bf3-4cdb-9b21-abe243a0473b/files/frogs-hygiene-protocols.pdf>

If you need to rescue tadpoles or spawn, please have a look at Frog Facts 2 Frog Friendly Gardens, Frog Facts 3 for larger properties and farms and Frog Facts 6 for tadpoles kept indoors, see [www.fats.org.au](http://www.fats.org.au) under the publications tab. There is useful reference material in the FATS Facebook page, files tab, eg animal rescue devices for swimming pools and raising tadpoles on the mid north coast of NSW (applies almost anywhere in Australia). In cases where tadpoles need rescue, it's best to create a temporary pond such as a clean broccoli box on the property (try talking with the developer or land owner). If that fails, try relocating next door.

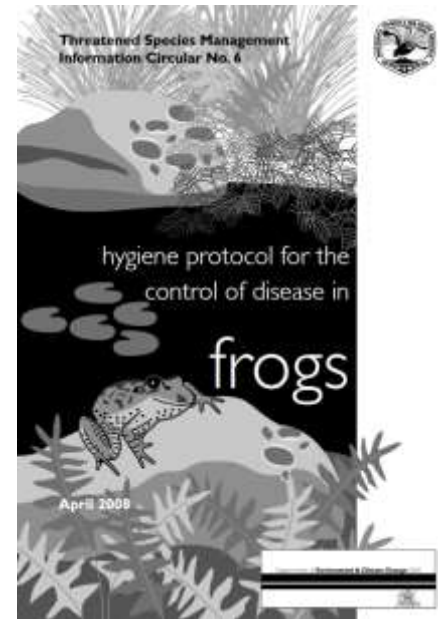
Moving tadpoles, spawn or frogs, should be the last resort. It should never be more than a few metres away. Relocating more than 100 metres away or to any wetland or waterway, could spread deadly pathogens to an uninfected frog colony elsewhere. *Batrachochytrium dendrobatidis*, also known as Bd or chytrid fungus causes the deadly disease chytridiomycosis in amphibians. Chytrid is very common in wild populations of amphibians, across the planet and in captive and pet amphibians. This pathogen is water borne. Chytrid is likely to have caused the extinction of many frog species, world wide.



Even if the tadpoles are not infected with any pathogen, moving them, far away, could jeopardize the local species at the new site, if the relocated spawn, tadpole or frog species becomes the dominant breeder at the new site, at the expense of an existing different frog population. Some frog species in Australia are only found in a very small area (eg one square kilometre) in the whole world and would definitely be threatened by an introduced, non local frog species.

The tadpoles you may be trying to save are likely to be very common and moving them will not help frogs. There are usually many tadpoles in a spawn. Frogs are nearly at the bottom of the food chain and most never reach

maturity. If they all made it, they would starve. Whilst we all love our tadpoles and frogs, please consider whether your actions are wise and safe.



<https://www.environment.gov.au/biodiversity/invasive-species/publications/hygiene-protocols-control-diseases-australian-frogs>

[https://frogwatchsa.com.au/files/618\\_hyprfrog.pdf?v=982](https://frogwatchsa.com.au/files/618_hyprfrog.pdf?v=982)

<https://wildlifehealthaustralia.com.au/Resources/TabId/161/ArtMID/821/ArticleID/1780/Information-on-Amphibian-Diseases--Hygiene-Protocols.aspx>



LOVERS OF FROGS! We want to hear about your experience keeping pet amphibians.

<https://petamphibian.wixsite.com/home>. We are researchers from Stellenbosch University trying to understand how and why people keep these wonderful critters. I have my reasons, I want to hear yours. Fill it out as many times as you like for all the wonderful amphibians you have had in your care over the years. Teamwork makes the dream work, and I am sure you all have some great stories. We are hoping to collate insights from around the world. Thanks! Center for Invasion Biology, Stellenbosch University, South Africa. Dr James Baxter-Gilbert Postdoctoral Fellow <https://peerj.com/BaxterGilbert/>

**Fauna rescue programs highlight unresolved scientific, ethical and animal welfare issues**

Peter Menkhorst<sup>A B C</sup>, Nick Clemann<sup>A B</sup> and Joanna Sumner<sup>B</sup> Author Affiliations *Pacific Conservation Biology* 22(4) 301-303 Published: 20 June 2016  
<https://doi.org/10.1071/PC16007>

**Abstract** In response to a paper advocating large-scale, multi-species ‘fauna-rescue’ programs when habitat is being destroyed, we urge caution by highlighting the lack of evidence of success in such programs. We argue that any benefits are likely to be outweighed by ecological and animal welfare risks, and that any conservation gains are likely to be illusory.



**Green and Golden Bell Frog, *Litoria aurea***  
 photo by Peter Spradbrow

Growth of human populations and human consumption of resources often involves the destruction of wildlife habitat, such as the removal of native vegetation to make way for agriculture, urban expansion, mining and industrial development. Such habitat destruction results in the death of vast numbers of organisms – vertebrate and invertebrate animals, vascular and non-vascular plants. This loss is widely recognised as a problem by the Australian community and, consequently, all levels of Government (Federal, State and Local) have developed both legislative and policy instruments aimed at conserving and protecting flora and fauna and its habitat.

In a recent example of such habitat destruction, Thompson and Thompson (2015) describe two cases of land development in Western Australia that involved the total removal of native vegetation; on land parcels of, 14 ha of shrubby heathland on the Swan Coastal Plain and 1000 ha of coastal dunes and sandplain near Onslow in northern Western Australia. They document ‘fauna-rescue programs’ at these sites in which much effort and resources were expended to capture as many of the resident, small, terrestrial vertebrates as possible and release them elsewhere. The large number of individual animals and species involved (960 individuals of 41 species on the Swan Coastal Plain and 17 057 individuals of 70 species near Onslow) brilliantly highlights what is lost when habitat is destroyed (and that’s only the small vertebrates). Thompson and Thompson (2015) documented the different techniques used to collect small

vertebrates, the range of species and numbers of individuals captured, and the level of observed deaths and injuries during the clearing process associated with the use of different machinery. Animals collected alive and uninjured during these clearing events were released in ‘adjacent suitable habitat’. There was no assessment of the survival of the translocated animals. Despite this, Thompson and Thompson (2015) went further and recommended that State Government agencies should prepare guidelines for fauna rescue and that development companies should fund fauna-rescue programs.

This is not an isolated example: such activities, also referred to as salvage, or mitigation translocation, have become a common strategy aimed at reducing mortality when habitat is destroyed (Edgar et al. 2005; Germano et al. 2015). Mitigation translocations are often undertaken at relatively short notice and without a clearly defined purpose. Further, they lack agreed principles and guidelines, in contrast to conservation translocations, for which a clear decision-making process and standards have been developed (IUCN Reintroduction Specialist Group 2013).

We are alarmed that mitigation translocations seem to be widely advocated when there are important scientific, ethical and animal welfare issues that have not been adequately addressed. We are particularly concerned that the use of translocation techniques can create a perception that development and loss of native vegetation can proceed with minimal ‘cost’ to biodiversity – which then creates an environment that justifies further and on-going loss of habitat. Here, we highlight six issues of particular concern with mitigation translocations: (1) defining and measuring success; (2) assessing suitability of release sites; (3) meeting animal welfare standards; (4) failing to recognise the complexity and diversity of potential impacts; (5) lack of clear aims, monitoring strategy and contingency planning; and (6) creating unrealistic community expectations of positive outcome

### **Defining and measuring success in wildlife translocation**

Defining success of wildlife translocations is neither straight-forward nor easy (e.g. Edgar et al. 2005). However, we suggest that a translocation cannot be considered successful unless it can be shown, as a minimum, that some proportion of the translocated animals survived being moved, established home ranges, and successfully participated in breeding activities. Ideally, success would equate to the establishment and long-term persistence of the taxon at the release site (IUCN Reintroduction Specialist Group 2013) without significant detriment to any resident taxa at the release site. Capture and translocation with subsequent death of most or all individuals cannot be considered a success and cannot justify the effort and costs of a ‘fauna-rescue

program'. Similarly, the impacts of the new animals on resident populations of all significant taxa at the release site need to be considered, from both the ecological and animal welfare perspectives. Thus, some form of measurement of post-release outcomes is essential for any translocation project.

### **Suitability of release sites**

A precondition for successful 'fauna rescue' is that alternative habitat is available, can be accurately recognised as such, and has the capacity to receive, and indefinitely support, the translocated individuals and their offspring. If we define habitat as 'the environment of a species, and particularly those features that determine where the species occurs' (Bamford and Calver 2014) (i.e. habitat is species specific), then clearly these judgements need to be made for each taxon that is to be relocated. We suggest that the proportion of taxa for which our understanding of habitat is adequate to allow reasonable judgements about these issues is small. This means that mass, indiscriminate 'fauna rescue' faces a high risk of inadvertently placing animals into suboptimal habitat. Alternatively, if the release area does represent good habitat for a given taxon it is likely that it already supports a population of that taxon – if it does not, careful consideration is required into why this is so (i.e. are there unresolved threatening processes operating?). Either way, we maintain that the conservation and animal welfare outcomes may well be no better than doing nothing (see following section).

### **Animal welfare issues associated with poorly planned translocations**

Individual animals placed into less than optimal habitat, or habitat that already supports a population of their species, face an uncertain future. They are unlikely to thrive, may be forced to undertake long and risky movements, and will likely die from predation, starvation, exposure or misadventure. Recurring themes from fauna translocations for which outcomes have been determined and documented include high mortality and atypical, and probably detrimental, spatial ecology and habitat use (e.g. Butler et al. 2005a,2005b). High mortality of translocated individuals has been demonstrated for mammals (e.g. common brushtail possum, *Trichosurus vulpecula* (Pietsch 1994), lizards (e.g. Platenberg and Griffiths 1999; Sullivan et al. 2015), turtles (Hester et al. 2008) and snakes (e.g. Roe et al. 2010).

Failing to recognise the complexity and diversity of potential impacts Animal 'rescue' programs are often indicative of a narrow perspective that focusses on the individuals being 'rescued' and does not give adequate consideration to potential impacts on the receiving ecological communities (Deem et al. 2001; Clemann 2013). Proponents need to consider what cascading effects might be set in train by adding new taxa to an existing faunal (and floral) community, and new individuals to an existing population – for example, potential aggressive or territorial interactions between conspecifics or competitors (Done and Heatwole 1977; Pietsch 1994). The threat of inadvertent transmission of disease, for example Chytridiomycosis, is another concern that is becoming increasingly apparent (Sainsbury and Vaughan-Higgins 2012). The risk of outbreeding depression due to translocations may have been overstated in the past, but genetic effects on the recipient population, such as a loss of local adaptation, should also be considered before translocations occur (Weeks et al. 2011).



**Green Tree Frog Tadpole, "Bubbles" rescued by Margot from a dog water bowl. Arm finally pops out.**

### **Lack of clear aims, monitoring strategy and contingency planning**

Mitigation translocations are not the same as conservation translocations – but there is much to learn from the detailed research, monitoring and policy work that has gone into conservation translocations, summarised and distilled by the IUCN Reintroduction Specialist Group (2013). Conservation translocations have the following characteristics that would appear to be absent from many mitigation translocations:

- they usually involve only a single species, not whole assemblages;
- they are based on detailed planning, including careful selection of individuals to be translocated and detailed assessment of release sites, including habitat quality, long-term security and capacity to absorb the added individuals of each species;
- they include a risk-assessment process and contingency planning in case expectations are not met;
- they often involve prior trialling of release techniques, including soft and hard releases; and

□ they always include careful monitoring of outcomes for the translocated animals.

When the outcomes of translocations are actually measured, the results indicate that conservation translocations are usually considerably more successful than ‘mitigation’ translocations (e.g. Sullivan et al. 2015; Germano et al. 2015). These results indicate that translocations that are poorly conceived and planned are usually unjustifiable from a conservation perspective (Pe´rez et al. 2012).

**Creating unrealistic community expectations of positive outcomes** The assumption that animals forced to move from their home range can survive elsewhere is commonly held amongst the general public, but lacks convincing scientific support. Advocating for the continuation of mitigation translocations ignores the complexity of the problem and creates an impediment to achieving reasonable conservation and animal welfare outcomes. There is a risk that developers and Governments could view mitigation translocation as a ‘feel good’ solution to the problem when the most likely outcome may be worse than doing nothing. As a society we need to openly and honestly acknowledge the conservation and animal welfare costs of destroying habitat, and build those costs into the planning and assessment processes for proposed developments. Furthermore, if the true and accruing costs of incremental habitat loss were widely understood, without the distraction of relocating animals, the value of existing habitat will be more thoroughly appreciated.

**Conclusion** We contend that mitigation translocations rarely produce the desired outcomes and should not be used as a surrogate for habitat retention, or, failing that, a meaningful habitat-offset system, properly applied. We are particularly concerned with the promotion of mass, generic mitigation translocations, and suggest that such projects have a high probability of doing more harm than good. Until carefully designed studies have been undertaken on the outcomes of mass mitigation translocations they should not be part of any environmental mitigation plan. We have argued elsewhere that a better use of a sample of animals whose habitat is about to be destroyed is as voucher specimens for the appropriate State Museum (Clemann et al. 2014), rather than releasing them at an unfamiliar location to an unknown, but probably unhappy, fate.

**Acknowledgements** We thank Andrew Bennett and Tim O’Brien for comments on a draft, and fellow members of Victoria’s Threatened Fauna Translocation Evaluation Panel for helping to clarify our thoughts around the roles and efficacy of fauna translocations. List of references is available online

P. Menkhorst et al. CSIRO PUBLISHING Pacific Conservation Biology <http://dx.doi.org/10.1071/PC16007>  
Journal compilation CSIRO 2016 20/6/2016  
[www.publish.csiro.au/journals/pcb](http://www.publish.csiro.au/journals/pcb)  
<https://www.publish.csiro.au/PC/PC16007?fbclid=IwAR3ZrJB8luYXkiGNSFFHeYQ8pY2if9p8F5bzSumA6pkBLn-n01Mji0lZ4aWE> A Arthur Rylah Institute for Environmental Research, Department of Environment, Land, Water and Planning, PO Box 137, Heidelberg, Vic. 3084, Australia. B Museum Victoria, Carlton Gardens, Melbourne, Vic. 3000, Australia. C Email: [peter.menkhorst@delwp.vic.gov.au](mailto:peter.menkhorst@delwp.vic.gov.au)



**Pet Green Tree Frog ambassadors, from FATS translocated frog rescue, photo by Christian Hofmann**

### **FROGS SURVIVING THE FLAMES: CITIZEN SCIENTISTS REVEAL FROGS CALLING ACROSS THE FIRE ZONE**

**W**e have made a big leap in our understanding of how frogs respond to fire, thanks to citizen scientists across Australia! In late 2019 and early 2020, more than 17 million hectares of forest burnt in Australia. By size, it was the largest fire season in southeastern Australia since European occupation. The huge coverage and great intensity of the fires has taken a great toll on Australia’s wildlife, particularly for those species already in trouble.



**Burnt forest in the Blue Mountains, New South Wales. Image: Jodi Rowley © Jodi Rowley**

Frogs are one of the most threatened groups of animals on earth and there’s a very real threat that the fires pushed many frog species even closer to the brink of extinction. Determining which frog species most need our help in the aftermath of the fires is an enormous challenge, as there is limited existing information available on how frogs respond to fires.



**Much of the habitat of the New England Tree Frog (*Litoria subglandulosa*) was burnt in the 2019/20 bushfires in southeastern Australia. The impact of these fires on this threatened species remains unknown. Image: Jodi Rowley © Australian Museum**

Following the ‘black summer bushfires,’ we needed rapid information and real-time data on how frogs were faring after the fires. This was particularly challenging, as the fire zone was too large for scientists to be able to survey for frogs in the first few months after fires, especially with COVID-19 restrictions. But all was not lost; thousands of citizen scientists across the fire zone, armed with their mobile phones, took up the challenge of monitoring their local frogs with the citizen science project FrogID.



**Recording the calls of frogs in burnt habitat in the Blue Mountains, NSW. Image: Jodi Rowley © Jodi Rowley**

FrogID is citizen science project led by the Australian Museum based around a free app, that allows anyone to record the calls of frogs, and upload them to the project to form part of national frog database. By matching each FrogID record with the best available remote sensing data on the fires, we were able to get a snapshot of the short-term persistence of frog species across southeastern Australia, up to four months after the 2019/20 bushfires.

Remarkably, there were 2,655 observations of 66 frog species in pre-fire burnt areas and 632 observations of 45 frog species post-fire. The most often recorded frog species in the FrogID database in burnt areas post-fire were common species distributed throughout large areas of eastern Australia and of low conservation concern. The Common Eastern Froglet (*Crinia signifera*) and Striped Marsh Frog (*Limnodynastes peronii*) were recorded the most often in burnt areas post-fire. Rare and threatened species were also documented calling post-fire,

including the threatened Southern Barred Frog (*Mixophyes balbus*), and Mountain Frog (*Philoria kundagungan*). Surprisingly, all 33 summer-breeding frog species (frogs recorded between December and March since November 2017) with more than 5 FrogID records detected pre-fire were also detected post-fire! In other words, there were no obviously “missing” frog species!



**An endangered Southern Barred Frog (*Mixophyes balbus*) in burnt areas. This species was recorded via FrogID calling in burnt areas post-fire and also seen and heard calling in burnt areas in northern NSW by Australian Museum scientists. Image: Jodi Rowley © Australian Museum**

While really positive news, the full impacts of the 2019/20 fires on Australian frogs will not be evident for some time. The ability of Australian frogs to recover from this catastrophic event is unclear, particularly when you consider all the threats faced by frogs - including habitat modification, climate change, and disease, to name just a few. Continued use of FrogID, combined with scientific surveys, will allow a greater understanding of the impact of the fires on these frog species in the immediate aftermath and further into the future. So, keep on recording frogs, Australia!



**Stream running through burnt habitat in northern New South Wales. The breeding habitat of frogs has been dramatically altered in some places, and while frogs were heard calling in this stream post-fire, the long-term impact of the 2019/20 bushfires is not known. Image: Jodi Rowley © Jodi Rowley continued on P8**

Continued from p7 **Dr Jodi Rowley, Curator, Amphibian & Reptile Conservation Biology, Australian Museum Research Institute & UNSW Sydney. Dr Corey Callaghan, UNSW Sydney. Dr William Cornwell, UNSW Sydney. More information Rowley, J.J.L., Callaghan, C. T. & Cornwell, W. K. (2020). Widespread short-term persistence of frog species after the 2019-2020 bushfires in eastern Australia revealed by citizen science. *Conservation Science and Practice*. e287 <https://doi.org/10.1111/csp2.287>**

**Acknowledgements We thank the >13,000 volunteers who have contributed to the FrogID project, the Citizen Science Grants of the Australian Government, the Impact Grants programme of IBM Australia, Bunnings Warehouse Australia, Fyna Foods, John T Reid Charitable Trusts, and other project partners and support for FrogID. <https://australian.museum/blog/amri-news/frogs-surviving-the-flames/> Author(s) **Dr Jodi Rowley, Dr Corey Callaghan, Dr William Cornwell** Published 28 September 2020 Forwarded to FATS by Marion Anstis**



Photo by Craig Broadfield *Limnodynastes dumerilii*, Tasmania

## RETURNING INJURED AND AT RISK RESCUED WILDLIFE BACK TO THEIR HABITAT OR INTO PERMANENT CARE

**M**any of us share the valid concerns regarding handling and translocating wildlife however some might argue that we don't need to let "nature take its course".

Rescues should be limited to animals displaying signs of unwellness or trauma. The aim of a rescue is to alleviate suffering and, if appropriate, ultimately release the animal back into its original location and population. Translocated or introduced infectious diseases pose a very real risk with potentially significant consequences for wild populations and so biosecurity and mitigating disease risk must be factored into any rescue.

Common pathways from rescue to release include:

- 1 Rescuer → veterinary assessment → release or euthanasia;
- 2 Rescuer → vet assessment → treatment under direct veterinary care → release or euthanasia;

3 Rescuer → vet assessment → in care with a licensed carer → further vet assessment → release or euthanasia; OR

4 Rescuer → in care with a licensed carer → release (+/-vet assessment)

From this rescue team, veterinarians are likely to be the most knowledgeable, trained and experienced specifically in managing disease risks, and clinics are purpose-designed to minimise risk of transmission. However there needs to be plans and housing to facilitate strict hygiene and biosecurity at EACH stage of the rescue pathway to avoid accidental transmission of diseases from one animal to another and introduction of novel diseases into populations.

Rescuers should always consider the following:

- Does this animal need to be rescued, is it injured? If not then leave it be. Australian wildlife cannot be held by an unlicensed member of the public for any other purpose than for directly transporting to a vet or wildlife carer.
- Where will the animal be held during transport? Individual clean towels/paper and cages/boxes are used to avoid contaminating a rescued animal with infections from another (including other wildlife or domestic animals)
- Where is the animal's rescue location? Precise location details are needed for release to ensure return into the original population.
- Does the local veterinarian have experience with the species? Call the veterinary clinic prior to transporting any animal to avoid excessive travel time and check time availability.
- Is it 'worth' rescuing common species? A fracture repair in a common species requires the same skills as a fracture repair in a threatened species. In other words: a lot can be learned from treating and housing common species that help inform management for captive care of injured threatened species. Diseases, including outbreaks, can also be monitored and reported indirectly through veterinary case admissions.

Thinking about the consequences of well-meaning rescue actions, can bring positive change to the rescue process and help reduce disease transmission risks. The complexity of rescue and release scenarios can easily be lost in a short article, however compassion for animal welfare should not be devalued. Caring and contributing to the welfare of individuals vs broader conservation concepts or population health is not mutually exclusive. **Lee Peacock, experienced wildlife veterinarian**





### AT LAST GREENIE HAS FOUND HIS BROTHER OLLIE

I hadn't seen or heard from Ollie the Green Tree Frog, *Litoria caerulea*, at all for 2 months since he left his rain gauge hibernation place in our greenhouse / orchid house in Grays Point, southern Sydney.

I was starting to get worried. By contrast, his brother of 17 years, Greenie had been out and about and active for quite some time. Last week I had a chat with Greenie as I often do, and asked him to see if he could find his brother (Greenhouse frog update posted 24-10-2020). The next morning when I looked into the greenhouse I could scarcely believe what I saw; the two frogs sleeping only inches away from each other, high up on the pot hanging pipe. Greenie had kept his word and found his brother Ollie. I'm sure that night they had gone on a cricket hunt together. We are surrounded by miracles, large and small. Surrounded by miracles.

Follow Greenie and Ollie's adventures in videos and photos by Jim Greenstein, posted on FATS Facebook page since 31 October 2020. Enjoy the varied members' posts, information, debates, images and chats on our FATS Facebook page.

<https://www.facebook.com/jim.greenstein/videos/3749415651756300/?t=3>

<https://www.facebook.com/jim.greenstein/videos/3690654074299125/?t=72>



## LOST FROGS REDISCOVERED WITH ENVIRONMENTAL DNA

**S**cientists have detected signs of a frog listed extinct and not seen since 1968, using an innovative technique to locate declining and missing species in two regions of Brazil. The frog, *Megaelasia bocainensis*, was among seven total species, including four other declining species and two that had disappeared locally for many years, that were detected. The findings appeared in a paper, "Lost and Found: Frogs in a Biodiversity Hotspot Rediscovered with Environmental DNA," published in August 2020 in *Molecular Ecology*.

*Megaelasia bocainensis*. A disappeared species from Parque Nacional da Serra da Bocaina, Brazil, known only from this museum specimen collected in 1968, and detected by eDNA surveys. In the study, the researchers collected and screened environmental DNA (eDNA) in the biodiverse Atlantic Coastal Forest and Cerrado grasslands of Brazil.

The eDNA technique offers a way to survey that can confirm the presence of species undetected by traditional methods, providing a tool for conservation scientists to evaluate the presence of threatened species, especially those with low population densities and those not seen in years .....

Around the world, conservationists have been challenged to keep pace with declining and disappearing amphibians. At the same time, living organisms leave DNA traces in the soil, water and air. Now, scientists are increasingly using highly sensitive sampling techniques to detect eDNA for conservation purposes.

In the study, the researchers targeted 13 frog species that have totally disappeared and are presumed extinct; 12 frogs that have disappeared locally but are still found in other parts of their range; and five species that were once very abundant and are still there but hard to find.

The researchers hiked into the sampling sites carrying battery packs, a shoebox-sized peristaltic pump and backpacks of sterile tubing. They used the pump and tubing to draw up to 60 liters of stream or pond water through a capsule fitted with a filter for capturing DNA. A buffer was then applied to stabilize and preserve the DNA on the filter. Back in the lab, the researchers extracted the DNA, genetically sequenced it, weeded out genetic material from humans, pigs, chickens and other organisms until they could isolate all the frog DNA .....Identifying *M. bocainensis* required clever detective work: The species disappeared long ago, and there

were no tissues from which to extract DNA for comparison with the eDNA. But the researchers did have the sequences for all the sister species in the genus *Megaelasia* and they knew the ranges of the sister species and *M. bocainensis*. ..... The Brazilian National Council for Scientific and Technological Development and the São Paulo Research Foundation funded the study.

**Extracts of article. Materials provided by Cornell University. Original written by Krishna Ramanujan. 8 September 8, 2020**  
**Journal Reference: Carla Martins Lopes, Délio Baêta, Alice Valentini, Mariana Lúcio Lyra, Ariadne Fares Sabbag, João Luiz Gasparini, Tony Dejean, Célio Fernando Basptista Haddad, Kelly Raquel Zamudio. Lost and found: Frogs in a biodiversity hotspot rediscovered with environmental DNA. *Molecular Ecology*, 2020; DOI: [10.1111/mec.15594](https://doi.org/10.1111/mec.15594)**  
**Forwarded to FATS by Marion Anstis**



***Megaelasia bocainensis*. disappeared from Parque Nacional da Serra da Bocaina, Brazil, known only from this museum specimen collected in 1968, and detected by eDNA surveys.**

## THANK YOU TO ALL OUR FIELD TRIP LEADERS

**T**he FATS Committee and members, would like to once again thank our intrepid team of fieldtrip leaders for giving up their time and providing their expertise in putting together fieldtrips for our members. Without their generosity, and without the time-consuming work in checking sites out before each fieldtrip, our fieldtrips would not be of the high standard that they are. Sometimes, we need to cancel fieldtrips at late notice, and this season proved no different. This leads to a lot of "wasted" time by our leaders. We appreciate the very gracious and considerate manner with which they accept the nuances and difficulties in running frog nights. Our frogs are not always the most compliant or reliable of subjects. Your good humour and indulgence is much appreciated by us all!

We would like to thank Robert Wall for taking up the challenge and doing a fantastic job as Field Trips Convenor, not only coordinating with leaders, but with government agencies, the committee and our members.

**The FATS meeting commences 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 3,500 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. NSW pet frog licences, can be obtained from the NSW Department of Planning, Industry and Environment (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**

**FATS COMMITTEE CONTACTS**

**FATS MAILING ADDRESS:** P O Box 296 Rockdale NSW 2216

Arthur White	President	ph/fax (02) 9599 1161	1arthur@tpg.com.au
Marion Anstis	Vice President and Chairperson	(02) 9456 1698	frogpole@tpg.com.au
Punia Jeffery	Vice President		puniamje@gmail.com
Jilli Streit	Secretary	02 95646237	jillistreit@yahoo.com
Karen White	Treasurer	ph/fax (02) 9599 1161	1arthur@tpg.com.au
Phillip Grimm	Memberships, Web Master & Facebook Manager	(02) 9144 5600	phigrimm@gmail.com
Kathy Potter	Events Coordinator	0403 919 668	kathy@the-pottery.org
Robert Wall	Field Trips Coordinator	(02) 9681 5308	rjw2008@live.com.au
David Potter	Frog Helpline Coordinator	0413 210 789	david@the-pottery.org
Monica Wangmann	Editor		monicawangmann@gmail.com
Andre Rank	General Committee member		

## 2020 / 2021 SPRING / SUMMER FIELDTRIPS 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 field-trips as planned. COVID19 restrictions and fires can mean last minute changes to our plans. 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 02 9681 5308.**

**12 – 14 February      Smiths Lake Camp-Out      Leaders: Karen and Arthur White**

Our Smiths Lake trip has become such a popular destination that changes were made to ensure that everyone gets a chance to go. We have changed the booking arrangements, which will include a **non-refundable** pre-payment. This arrangement is in case we have too many people wanting to go on the field trip. Due to fires previously in the area, please confirm with Karen if the trip will proceed. Pre-payments are refunded if the university or national parks cancels the booking.

1. For the next field trip, you must email Karen White [white.kazzie@gmail.com](mailto:white.kazzie@gmail.com) by the 29 January and indicate that you and 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.

2. Karen 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 by 5 February to confirm your booking. If you do not pay by this date you will be removed from the A list. You can pay electronically to the FATS account. Cost is \$17.50 per person, per night.

**Account Name: Frog and Tadpole Study Group      BSB 082 342      Account No. 285 766 885**

3. Karen will send you a confirmation of your booking when your payment has been received.

4. Karen will email people on the Reserve list. 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 10 February. 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 Smiths Lake.

**20 February      8.15 pm      West Head, Ku-ring-gai N. P.      Leader: Cassie Thompson**

Meet at the Duckholes Picnic Area in West Head Rd, near the corner of McCarrs Creek Rd, Terrey Hills.

In the early days of Sydney, several green spaces were set aside for the crowded, urban slum-dwellers of the city. It was thought that this would provide an affordable day of rest and recreation for the city's less privileged residents. These urban fringe reserves, with close proximity to the city, often with lovely views, and importantly, on land considered superfluous to the city's needs, were administered by the "Scenic Views Board". This perhaps underlined the primary focus of these reserves. They were for the quiet enjoyment and passive recreation of man, their purpose was not wildlife conservation. These parks, nonetheless, became the precursor to our present-day National Parks system, and almost accidentally, have become important refugia for Sydney's wildlife.

Tonight, Cassie will lead us around West Head. Cassie is an Environmental Officer with the Roads and Maritime Service. She specializes in biodiversity issues and has an acute understanding of the "flow-on" effects of the encroachment of the once-distant, outer-limits of the city. Tonight, she will introduce us to some of the very unique species that have survived at West Head. These frogs will provide us with an insight into those frog populations that once ranged across much of Sydney before the onslaught of suburbia.

**This concludes our fieldtrips for the 2020/2021 Spring/Summer season. They will recommence in September.**

**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.**