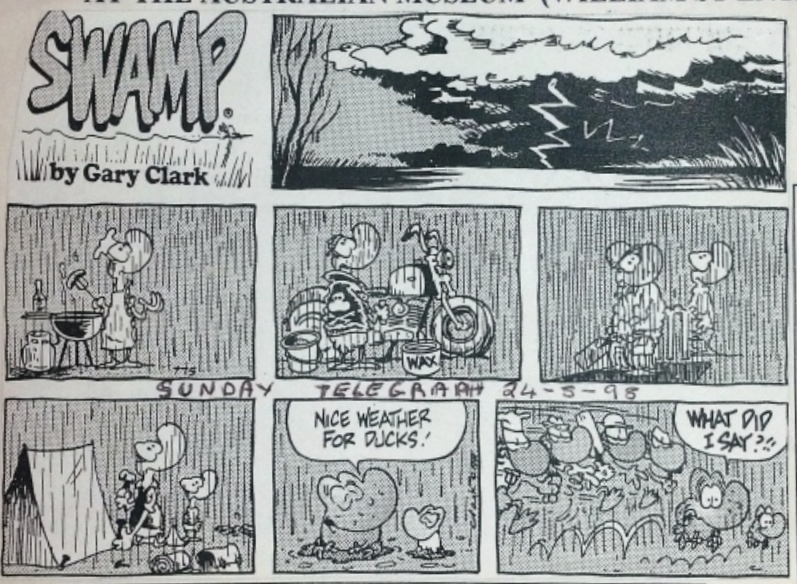
FROGCALL

THE FROG AND TADPOLE
STUDY GROUP OF NSW INC.

NUMBER 37 - September 1998
PO Box A2405
Sydney South NSW 1235

THE NEXT MEETING

7 00 PM, FRIDAY 2nd October 1998 for a 7.30 pm start
AT THE AUSTRALIAN MUSEUM (WILLIAM ST ENTRANCE)



CONTENTS

Last meeting
Andrew Hamer discussing Bell Frogs of Kooragang Island p2
Meet frogophiles p2
Threatened Species Day p2
A former FATS Frogger in Far North Queensland p3
Error in last Frogcall p4
Device to prevent animals drowning in swimming pools p4
NASA offers data p5
Psychic frogs p5
Book Review p6
Press clippings p6
Tadpole Page p7
Herpdigest Jottings p8
Annual financial statement p9
Frogbits and Tadpieces p10
Amphibian declines p10
Frogweek p10
Press Clippings p11
Committee contacts p12

MEETING FORMAT for 2nd October 1998

7:30pm	Michael Mahony presenting:- Frog declines and diseases - the current state of knowledge
8:15pm	5 favourite frog slides or 5 minutes
8:40pm	Raffle and Auction
9:00pm	Finish for tea, coffee & biscuits

THE LAST MEETING 7TH AUGUST 1998

BELL FROGS OF KOORAGANG ISLAND

Two coal stacks are now distinguishing features of Kooragang Island but to Andrew Hamer the industrial site is frog haven. Andrew is completing his Masters in Environmental Studies. We were fortunate to hear and see slides of his studies of amphibian life on the island that was once agricultural land and is now a critical site for conserving an estimated 500 Bell Frogs. Very few such sites exist North of Sydney.

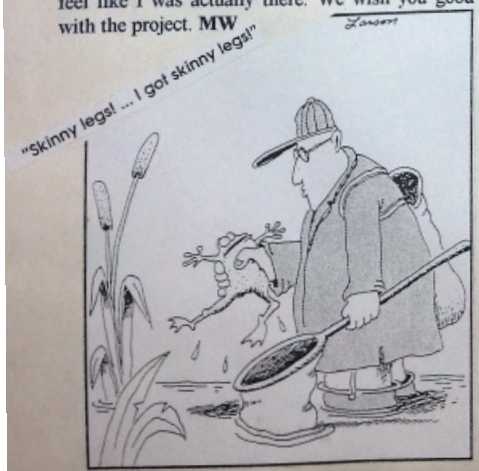
The island is surrounded by salt water, and two bridges connecting it to the mainland. It has habitat that includes sedgling and ephemeral swamps, seasonal freshwater pasture, mangrove trees, watercooch, paspalum, compungy, pampas grass, and reeds cohabiting with three industrial sites.

In addition to Green and Golden Bell Frogs, Kooragang Island is home to Bleating Tree Frogs, Spotted Marsh Frogs, Tyler's Tree Frogs, Peron's Tree Frogs, Ornate Burrowing Frogs, Dwarf Tree Frogs, Common Eastern Froglets, and Striped Marsh Frogs.

Andrew's main research is at the BHP ponds. One of his interests was the eradication of the Gambusia (Mosquito Fish aka Plague Minnow), and in 1997 a pond barrier and draining work were done. The drought had reduced gambusia numbers. Rotanol fish poison was used with net sweeps to collect and save tadpoles. Future activity will include dragging ponds "A1" and "A2". (These are not related to any bananas in pyjamas namely B1 and B2) However with the reduction in gambusia numbers came an increase in giant water beetles and dragonfly larvae which are predators to the tadpoles. Tadpoles take five weeks to turn into metamorphs and as tadpoles they were preyed on by adult Bell Frogs.

Other suspected occurrences include overfull cormorants regurgitating (hiccuping) gambusia and carp into the ponds. The site seems to hold more male than female Bell Frogs and no mutations have been observed although limbs have been lost in the battles to be the eater and not the eaten.

Thank you Andrew treating us to your in vivid and in depth account of the Bell Frogs of Kooragand Island. I feel like I was actually there. We wish you good luck with the project. **MW**



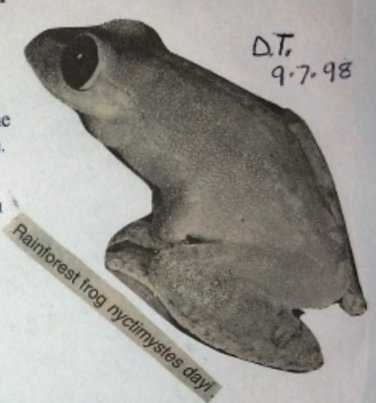
Far North Queensland and Eastern Australian frog call CD's ($25) and tapes ($15) with accompanying explanations are available at FATS meetings.

Graham Pyke and Julia Shoulder offered to include any interested members in their field trips at Long Reef Golf Course and Ourimbah. Ken Griffiths continues his offer to FATS members. Join him frog spotting. Just give him a call.

Martyn Robinson ran our auction, bidding was frantic. Your lively contribution is appreciated. Thanks to our members who donated the auctioned items.

We offer a big thank you hug to Sam and Adéle Avery for providing our suppers after each Frog and Tadpole Study Meeting at the Australian Museum.

Come and join the fun and information at the next friendly Frog and Tadpole Study Group meeting on Friday 2nd October. **MW**



THREATENED SPECIES DAY / WEEK

National Threatened Species week was held from the 5th to the 11th of September, with Threatened Species Day being the 7th of September. FATS was asked to contribute to the events and we did through three activities. On Sunday the 6th of September, FATS and Taronga Zoo made a special presentation at the Zoo about the captive breeding of Green and Golden Bell Frogs. Also at this function, the launch of David Stewart's new CD of frog calls of Eastern Australia was made. This CD can be purchased through FATS for $25 (we are the only one's with the CD at present). On Monday the 7th, a field survey for breeding sites of the Wallum Froglet was carried out at Kurnell, in the Botany Bay National Park. Those present were able to catch tadpoles, measure and identify them, do water quality assessments and record various other frog data.

It was a great day, sunny with lots of Wallum Froglets calling, tadpoles of six species were collected (along with a leech for Martyn). On the 8th of Sept. the venue shifted to Marrickville, to the Addison Road Community Centre, the site of a successful translocation of Green and Golden Bell Frog tadpoles.

Those present were able to see basking frogs and follow the history of this experimental population, thriving in one of the most urbanised parts of Sydney. The Wallum Froglet survey was so successful that FATS may seek to continue this as a long-term survey. Thanks to all those who came along and helped.

Arthur.White.

A FORMER FATS FROGGER IN FNQ

Since leaving Sydney for more tropical climes, I've used what I learned as an active member of the FATS Group to increase my activity level with frogs - hopefully, my efforts might result in positive results sometime. It was extremely helpful to arrive in a new, expansive frog area and have access to the likes of Mike Trenerry to teach me about the multitude of FNQ species. Mike is one of the area's foremost experts on the subjects of tropical ecology and wildlife and his photography is brilliant - have a look in the frog books currently on your shelf and you will find Mike's name scattered throughout most of them.

There are presently only two groups in Far North QLD that are involved in frog activities, those being the Tablelands Frog Club (TFC) in Atherton and the Cape York Herpetological Society (CYHS) in Cairns. For a little over a year, I was producing the newsletter of the Tablelands Frog Club but most of my activity was concentrated on the CYHS because of their location (and the fact that I still don't drive). I was appointed their Frogs Co-ordinator in mid 1996 and in that position, I did the usual sort of bureaucratic stuff I did for FATS but some other 'thankless' jobs as well. I spent over a year lobbying to try to get changes made to the QLD frog keeping regulations (this is what I call a 'severe headbanging exercise') and to restore state funding for endangered frog work. Now that Labour has returned to power, my efforts on both those scores may yet come to fruition.

I've found that the FNQ frogger differs somewhat from the Sydney frogger. Although both groups advertise field trips, hardly anybody ever goes. We have one fourth of all Australia's frogs up here but its always the same few who venture out into the lovely rainforest to see them. We did get a small stream of volunteers involved in the CYHS' frog monitoring efforts (see below) but many were uni students who were not members of either group.

The Tablelands Frog Club also tries to steer well clear of any political issues and focuses their efforts on the annual Frog Festival. (As FATS Committee members know, I'm not one to shy away from political issues or the odd acrimonious submission to a government department ... okay, okay - all of them are acrid!) Many of the TFC members are keen about frog ponds, though, which is important as a substantial amount of the Atherton Tablelands has been cleared for agricultural purposes. The CYHS has concentrated its efforts mainly on declining frog monitoring (which is to their credit) but this has alienated some of their membership which is composed almost entirely of snake keepers.

Being such a bureaucratic animal, I became the natural choice to join the NQ Threatened Frog Recovery Team in 1996 as the herpetological groups' representative. I was able to catch up with a few FATS people in Canberra as WWF graciously sponsored me to attend the National Threatened Frog Workshop. I must admit, I was quite tickled pink to be chosen to go!

There is some good news from FNQ to tell you: a researcher from Griffith University stumbled upon a few specimens of *Taudactylus rheophilus* (Northern Tinker frog) on Mt. Lewis in November 1996. Two volunteers accompanied me to the same spot in November 1997 and we found one calling male and tape recorded its call. A search by Jean-Marc Hero, Graeme Gillespie and others in February 1998 was successful at confirming that *T. rheophilus* also still survived on Mt. Bellenden Ker but, again, in very low numbers.

On the "official" frog recovery front, things have been relatively quiet in Far North Queensland over the past couple years. When the Coalition government took power in 1996, funding for endangered frog monitoring was eliminated with Environment Australia coming to the rescue in 1997. To assist the QLD Dept of Environment and Heritage (QDEH), the Cape York Herp. Society approached them with an offer to take up the endangered frog monitoring at two sites in the Cairns region. This offer was accepted and about 20 volunteers became involved in what is referred to as 'population status monitoring' - the middle level of the three types of monitoring intensities.

Thankfully, however, it looks like what I would term a 'low-level period' in frog recovery activity is about to come to end at last with NHT funding for SOME of the actions in the QLD frog recovery plans coming through. In FNQ, the frog monitoring program has been reviewed and a new, expanded program is about to commence in September. This program will be co-ordinated by a new Technical Officer position (funded by NHT) and will include some 30 sites throughout the Wet Tropics (including the two that have been done by the CYHS). Volunteers will be eagerly sought for this monitoring to be successful as there are a lot of sites involved scattered across an area reaching from Cooktown to Townsville.

The recent news about the chytrid fungus is also timely but it should be remembered that while we have now identified a piece of the puzzle called a fungus, we still don't know where the piece belongs. Some media reports have presented the fungus as 'the answer to the global frog crisis' and this sort of misrepresentation can have disastrous consequences on funding availability and people's perceptions about the affect of their activities on frogs.

As the closing to my long-overdue update on my activities since leaving FATS: FNQ has almost entirely escaped winter this year, having only a few cold nights during July. The cane toads are already emerging (early August) and frog breeding activity may commence early this year. Any serious frog enthusiasts from FATS who are planning on visiting the Far North this summer are welcome to contact me when your plans are made. Depending (of course) on what's happening when you're here, I might be able to show you some frogs while you're in Cairns (you'll have to do the driving). So I look forward to seeing my FATS colleagues up here in the tropics! **Deborah Pergolotti**

GPO Box 2731, Cairns, FNQ 4870 email: frogcrusader@north.net.au
Cape York Herpetological Society POBox848M MunandaFNQ 4870
Tablelands Frog Club, Mailbag 71, Yungaburra, FNQ 4872

FROG FUNGUS CORRECTIONS

Just got FROGCALL and noticed the frog fungus articles from the newspaper, especially the one from the Australian. There is one BIG error the reporter of that story made: she got the extinct species ALL WRONG. Perhaps in the next newsletter, could you put in a little update on the status of our declining frogs up here in FNQ?

Litoria rheocola - certainly not extinct and still locally common at altitudes lower than 400 metres
Litoria nannotis - certainly not extinct but rare and found at altitudes under 300 metres except for the Windsor Tablelands where a reasonable population occurs above 800 metres
Taudactylus acutirostris - one of the missing frogs, an unconfirmed sighting exists near Palmerston national park but remains unconfirmed due to lack of manpower to go look
Taudactylus rheophilus - was a missing frog but has been rediscovered in EXTREMELY low numbers at two locations in the World Heritage Area: Mt. Bellenden Ker (5 individuals found Feb 98) and Mt. Lewis (7 heard calling in Nov 96 and 1 male found Nov 97)
Litoria lorica - missing, possibly extinct
Litoria nyakalensis - missing, possibly extinct
Litoria genimaculata - went through severe decline in mid 90's but seems to be in full recovery and common at lower altitudes
Nyctimystes dayi - gone from altitudes above 300 metres and rare below

Please pass along the word that if anyone from FATS is coming up to Cairns, please let me know!
Deborah Pergolotti frogcrusader@north.net.au
Editor: Thanks Deborah

Jim Finn, the noted biologist, was stumped. He had spent months studying the little green frogs in the local swamp. Despite all efforts at predator control, population was declining at an alarming rate. Finn finally went to the chemistry department at his university to see if anyone there might be able to help. A chemist looked into the problem and came up with a solution. The little frogs had succumbed to a chemical change in the swamp'swater and simply couldn't stay coupled long enough to reproduce. The chemist brewed up a new adhesive, made from a dash of this, a bit of that and, most critically, one part sodium.
"You mean...?" said Jim.
"Yes," said the chemist. "They need a mono-sodium glue to mate!" **with compliments Martyn Robinson**

A Simple Device to Prevent Small Vertebrate Animals from Drowning in Swimming Pools

MICHAEL J. TYLER
Department of Zoology, University of Adelaide South Australia 5005, Australia

In many parts of the world small mammals, reptiles, and amphibians drown after falling into swimming pools, from which they are unable to escape. My attention was drawn to this matter following the discovery of a drowned pine marten, *Mustela martes,* in a pool at Toulouse, France, and of a live toad, *Bufo bufo,* in the skimmer box of the same pool. Here I describe the design of a simply constructed wooden raft now proven, from its use there, to have assisted the escape of such animals.

The device consists of two units comprising tongue and grooved wooden planks attached to a 4 x 4 x 50 cm square section wooden frame (Fig. 1). The two identical components are connected by a continuous brass hinge, permitting the ramp to adjust to changing water levels. The ramp is equipped with closely spaced bars to provide purchase for a creature leaving the water (Fig. 2). To minimize the angle at which the device touches the water, an empty plastic water bottle has been attached to the undersurface by means of a plastic strap (Fig. 1).

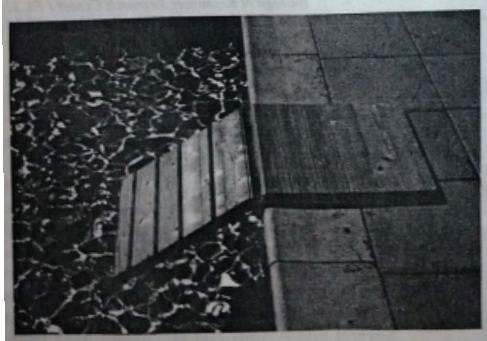


FIG. 1. Device in position: the right hand portion is placed directly ove the skimmer box.

FIG. 2. Undersurface of device showing the framework upon which the boards are mounted, and the plastic water bottle in place.

The positioning of the device is vital to maximize access to trapped animals. The direction of pool water flow towards the skimmer box means that a weakened animal will float towards, and often into, the skimmer box where ultimately it will drown. The device was therefore placed over the skimmer box as shown in Fig. 2. Its first observed success, one week after its installation, was the emergence via the inclined ramp of a juvenile viper, *Vipera berus.*

with compliments Martyn Robinson

ONE SMALL STEP FOR MAN ... A GIANT HOP FOR FROGKIND

NASA is helping scientists around the world try to understand the reasons behind "a great frog plague" ravaging amphibian populations. A recent article in the Daily Telegraph, by Environment Reporter Simon Benson, said NASA is offering thirty years of advanced satellite data to biologists around the world.

"It is very exciting," says James Cook's Ross Alford. "They have given us ridiculously enormous amounts of information they have gathered over 30 years."

Biology teams around the world are looking at links between global climate variations and frog population crashes. Already a fungus affecting at least 10 species of Australian frogs appears to have become opportunistic in species weakened by environmental distress.

NASA will provide weather and climate data including information on temperature, rainfall, cloud cover and evaporation rates. **With compliments Carl Spears**

PSYCHIC FROGS

FROGS CAN TELL YOUR FUTURE

By Dr Rich I.R. Chinwag

The following article appeared in the 1989 autumn edition of the SKEPTIC, the quarterly journal of the Australian Skeptics.

Ever since the turn of the century, when physical scientists decided that they understood the nature of electricity, the strange phenomenon discovered by Galvani has gone largely ignored. However, for those who are seeking after the eternal truths of how energy in the universe is connected together, the behaviour of severed frog's legs is a valuable, if hitherto undiscovered, tool. Some background information is necessary here, so that others may understand the significance of what I have discovered.

Sun Teleg 9-8-98

Electricity is known to be one of the fundamental forces of life. All biologically living matter produces electrical currents, as does much so-called 'inert" matter such as lightning and stars. Last century, Galvani demonstrated the connection between life and electricity when he showed frogs' legs twitching when connected to a battery. However, this vital discovery was never treated as anything more than a scientific curiosity.

However, electricity is known to be a common force throughout the universe. Galvani missed an overwhelming hint when he first saw the frog's legs dancing to the tune of the all-soul; for he simply thought he had discovered a physical property. With the benefit of hindsight, it is easy to se that he missed the spiritual implications of his observations.

Revelation came to me when I was trying to faith heal the toaster by the lying of hands. I never unplug it when I am doing this, as I need to be connected to its energy source to identify the place where the current is not getting through. Anyway, when the acupuncture needle went in, the toaster objected to my interference in its autonomy, and left me twitching on the floor like one of Galvani's frogs. When I had recovered enough to think clearly, I realised that I had jumped in the opposite direction to when I had tried to fix the juicer. This obviously had some deeper significance, and so, in the spirit of true scientific enquiry, I decided to find out why.

Galvani's frogs suggested themselves as a way of observing the things that effect the direction of 'jump" when external electricity is applied to an organism. Of course, I did not kill the frogs to get their legs: I had ample supplies by finding frogs that died of natural causes.

Armed with the frog legs and battery, I went to work, and what I learned amazed me. From day to day, very slowly, the amount and direction of the twitch varied according to the procession of the stars. This should not be surprising, since we know that the stars also emit electric currents. This gives us an extremely powerful tool in the search for truth, since we cannot always view the stars; because clouds can obscure them, and anyway, the lights and pollution of our cities prevent an accurate fix of their position. However, with frog's legs, we can measure the effects that the stars are going to have on our own lives. Here's what you do:

Find a frog with the same astrological characteristics as yourself. Since this is not always easy for the non-physic to determine, I can supply frogs to order. Put the frog on a macrobiotic diet – not only does this ensure that the frog will be in tune with the whole universe, it also kills them quicker. When the frog dies, cut off its legs and stimulate them with a battery. You must be most careful here, since an artificial battery will not work. The best thing to do is to buy some of the natural wires that I can supply, and put them in a lemon which has been grown without any artificial assistance. This will ensure the purity, and thus accuracy, of your measurements.

The frog's legs should be placed on a chart, which I can make up according to your astrological details. Then, send your observations in to me for analysis. Then a computer will process your measurements. I can personally vouch for the ideology of the programmer.

A complete frog observation kit costs only $850. There is also a computer program available for an extra $200. It will prove an invaluable aid in plotting the course of your life, and helping you take your future into your own hands.

Compliments of Mark Avery, edited by Carl Spears

BOOK REVIEW

A Field Guide to Australian Frogs

by John Barker, Gordon Grigg and Michael Tyler, Published October 1995.

This book is an excellent all-in-one reference guide to the many Australian amphibian species. The first four chapters contain excellent background information on frogs.

The first chapter is devoted to the evolution and classification of frogs and describes in detail the tools that taxonomists use to classify different species. There are also chapters on the biology of frogs, including modes of feeding, locomotion and reproduction.

The bulk of the book, some 340 odd pages, are devoted to describing the Australian frog families. This chapter contains a colour photo for each species as well as information on the size and habitat. Also included are call and tadpole descriptions. A useful inclusion is with each species description; there is a similar species listing so identification of particular frogs is made easier. The last chapter talks about keeping frog and tadpoles and tips on photographic techniques.

Overall, an excellent reference that will last. The hard cover binding ensures its durability. The book is small enough to carry in a small backpack or large pocket. However, one feels it may be too precious to subject it to harsh treatment in the wet and soggy outdoors. **Jennifer Davis**

Cane toad virus makes our native frogs croak

THE relentless march of the cane toad appears unstoppable following the revelation that a once promising biocontrol virus kills Australian frogs.

CSIRO scientists announced yesterday they had ruled out using a family of viruses believed to keep cane toads under control in Venezuela as laboratory tests showed they also killed native frogs.

And in a further slur on the unlovable toad's reputation, researchers believe Aussie toads may be carrying the double whammy of a similar home-grown virus with the potential to infect or kill Australian wildlife and a fungus already linked to frog deaths.

CSIRO Animal Health researcher Dr Alex Hyatt said researchers became excited when trials showed the overseas viruses could kill the toxic toads.

"We then injected the most virulent virus into an Australian frog species, the green tree frog, which died," Dr Hyatt said.

"So based upon that, we are not recommending the use of this virus for biocontrol.

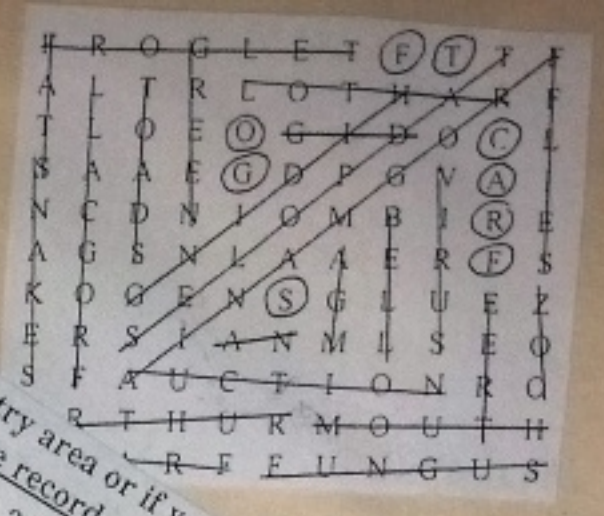
"It did look promising ... but the last thing you want to do, though, is recommend work that could wreak havoc on the environment.

"If people did use them, they could have done a lot of harm."

In a surprise sidelight, the investigations also revealed a small percentage of the Australian toads had developed antibodies to a virus similar to the Venezuelan viruses known to cause death and disease in fish and frogs.

DTeleg. 23-7-98

TADPOLE PAGE



FIND / GUESS A WORD ANSWER

from last Frogcall is:-

Frogfacts (our information sheet)

We look forward to other articles from our junior readers. email wangmann@tig.com.au or mail to: FROGCALL C/- FATS PO Box 2405 Sydney South 1235

Q What Past Australian Event occurred on Threatened Species Day 7th September?

1. FATS Group was created
2. Date that toads were released in Queensland
3. Anniversary of death of the last Tasmanian Tiger
4. Discovery of amphibian fossil sites in Australia
5. Joseph Banks birthday

If you live in or visit a country area or if you go bush walking, please make sure you have your tape recorder, a few of the FATS Group's frog survey data forms, a torch and a thermometer with you. Then, whenever you come across a good frog chorus, simply do this:

Take a 5 minute sound recording of the frogs so that we can identify them by their distinctive calls. Also speak onto the tape the location, the date and time, who you are and which data form will correspond to this recording.

SAMPLE OF DATA SHEET

Fill in the data form by observing the location in detail.

COLLECTOR(S) AND LOCATION: ESSENTIAL!

YOUR NAME:		DATE:
YOUR ADDRESS AND PHONE NUMBER:		
LOCATION & DESCRIPTION: (enough information for another person to find the site)		

SITE DESCRIPTION

	SURROUNDING DOMINANT VEGETATION	☐ Rainforest	☐ Wet Sclerophyll	☐ Dry Sclerophyll ☐ Woodland ☐ Exotic ☐ Swamp
HABITAT (tick or describe in COMMENTS if you are not sure)		☐ Riparian	☐ Alpine	☐ Heath ☐ Grassland ☐ Urban ☐ Other
	COMMENTS:			
HABITAT DISTURBANCE SEEN		☐ Logging	☐ Clearing	☐ Vehicle ☐ Drainage ☐ Stock ☐ Other
TREE HEIGHT (estimate)		☐ 0-5m	☐ 6-10m ☐ 11-20m	☐ 21-30m ☐ >30m
GROUNDCOVER (tick the one to three most common ones)		☐ Rock	☐ Log	☐ Sand/Soil/Gravel
		☐ Litter	☐ Grass	☐ Other Low veg.
GENERAL COMMENTS				(photos welcome)

DETAILED SITE DESCRIPTION

SITE AT WHICH FROGS, TADPOLES, EGGS ARE FOUND

DETECTION METHOD(S): ☐ Heard ☐ Seen ☐ Active ☐ Uncovered ☐ Dug up ☐ Pitfall ☐ Other

WEATHER: RAIN: (tick one or more) ☐ Rained 7 + days ago ☐ Rained 6 to 24 hours ago ☐ Rained 1 to 7 days ago ☐ Rained 0 to 6 hours ago

CLOUD COVER ☐ Heavy ☐ Moderate ☐ Sparse ☐ None

WIND STRENGTH: ☐ Strong ☐ Medium ☐ Calm

AIR TEMPERATURE: WET BULB °C DRY BULB °C WATER TEMPERATURE °C

WATER QUALITY: ☐ Still ☐ Flowing Comment:

COLOUR: ☐ None ☐ Stained TURBIDITY: ☐ Clear ☐ Cloudy

UNPLEASANT SMELL: ☐ Strong ☐ Little ☐ No COMMENT::

FINE FROTH: ☐ Strong ☐ Little ☐ No COMMENT:

WATER BODY DESCRIPTION: ☐ Lake ☐ Pond ☐ Swamp ☐ Puddle ☐ Ditch ☐ River ☐ Stream ☐ Creek ☐ Seep ☐ Tree Hole ☐ Other _____

☐ MAN-MADE ☐ NATURAL

COMMENT:

SECTION 5 - FROG, TADPOLE, METAMORPH, EGG MASS PRESENCE/ACTIVITY DATA

SITE WIDTH: (m) SITE LENGTH: (m) MAXIMUM DEPTH: ☐ <1m ☐ 1-2m ☐ >2m

COMMON SUBSTRATE IN WATER: ☐ Mud ☐ Silt ☐ Sand ☐ Gravel ☐ Rocks ☐ Boulders ☐ Bedrock ☐ Leafpack ☐ Detritus ☐ Other

EMERGENT VEGETATION COVER ☐ present ☐ absent COMMENT:

EMERGENT VEGETATION (any name(s) or description):

PHOTOGRAPHS WELCOME	STAGE OR SEX (Tadpole, Metamorph, Adult, Male, Female)	HOW MANY? Heard	HOW MANY? Seen	ACTIVITY (describe)
SPECIES NAME				INDICATE WHETHER ANY MATING PAIRS, TAPE RECORDINGS MADE, ANY SPECIMENS COLLECTED

Other animals seen in the vicinity: (e.g. insect larvae, yabbies, birds, fish, snakes, stock etc)

Any comments/notes about above (e.g. tadpole colour, behaviour, distinctive features)

SPAWN, EGG MASS(ES) (if seen)

EGGS/SPAWN DESCRIPTION: clumps, sheets, foam, strips	NUMBER OF CLUMPS: DID YOU SEE THE FROGS LAY THEM? Y ☐ N ☐	
	SHAPE (sketch):	SIZE (give dimensions):
EGG/MASS BEHAVIOUR (float, stick, entangle etc.)		EGG COLOUR: Above Below
OTHER COMMENTS:		

Full size A4 data sheets are available from FATS

Send both, with your name, address and phone number, to the

FATS Group,

PO Box A2405, Sydney South, 1235.

We will reply to you, -

BEAUTIFUL BUT DEADLY CREATURES
BOTH KILL AND CURE

The tiny red-and-yellow striped frog looked harmless enough but just a single touch to the skin could mean instant death. For weeks it had been kept carefully imprisoned and denied the insects it normally ate. What Edson Albuquerque and his colleagues hoped was that their theory would prove right -- the frog got its alkaloid poisons from eating ants or some other insect and the toxins would disappear after the special diet. ``To prove whether this was true we held the frog in our hands to see whether it would kill us or not," Albuquerque told a recent seminar. That he was alive to tell the tale showed the value of his theory. However, the poison-dart frog is more than a curiosity. People living in the Amazon for centuries used the toxins produced by the frogs on arrows and darts to hunt with -- thus the name. Aimed at a monkey high in a tree, they were mercilessly deadly. ``One shot and goodbye," Albuquerque said. Now it seems these poisons could benefit more than just hunters. Chemical analysis has shown they are targeted at some of the most basic cell processes, and just a little tweaking can turn something deadly into a valuable human drug. One of the poisons made by the tiny Amazon frogs, known as batrachotoxin, works against sodium channels. Since the frog does not make the poison, as Albuquerque's experiment proved, why does it not die when it eats the ants or whatever it is that does make the poison? ``Over millions of years the frog has made subtle modifications of the receptor molecule and it has become insensitive to the effects of batrachotoxin," Albuquerque said. If scientists could figure out just what the modifications are, they could possibly use the same mechanism to treat human diseases in which sodium can destroy cells such as Alzheimer's and Parkinson's, both fatal and incurable brain diseases.

FROGS ON PROZAC?
PHARMACEUTICALS CREATE DRINKING WATER HEADACHE

Pharmaceuticals of all kinds are turning up in European water supplies, according to an article published in Science News. Cholesterol-lowering drugs, antibiotics, analgesics, antiseptics and beta-blocker heart drugs, are just a few of the drugs in the drinking water, lakes, rivers, and streams of Europe. There is practically no data for gauging the potential toxicity of these pharmaceuticals to humans, wildlife or aquatic ecosystems, scientists say. New studies show the drugs are coming from human wastes. Half of a prescribed pharmaceutical may be excreted from the patient's body in its original form, or in another biologically active form. In some cases up to 90 percent of the drugs originally ingested, find their way into water supplies.

Some 5,000 species of amphibians inhabit the world, mostly frogs, toads and salamanders, and they seem to be dying at unprecedented rates. Amphibians are widely regarded as uniquely sensitive indicators of the planet's health. Much of the damage to amphibians comes from habitat destruction, but what has scientists particularly worried are the declines and apparent extinction in areas far removed from obvious human intrusion. Many researchers, including Andrew Blaustein of Oregon State University, believe the reported rates of decline and extinction is so extraordinary that they cannot be a part of the natural cycle. If the reported declines and extinctions are indeed highly abnormal--and this seems to be the majority viewpoint--what might have caused them? A variety of causes are probably at work here. Among the leading culprits are acid rain, synthetic chemicals, metallic contaminants and infectious diseases. Excessive ultraviolet radiation (presumably caused by the thinning of the ozone layer) working synergistically with fungal disease may explain some of the declines. Another possible cause is global warming and related droughts, a particular threat to amphibians, which generally require high humidity or an aquatic environment. There has also been a recent surge of reported amphibian abnormalities, such as missing limbs and eyes.

POST COMMUNIST FROGS CAN NOW TRAVEL FREELY

Hundreds of frogs used to be killed each spring while migrating across a busy road in Moravia in the Czech Republic. The first frog tunnel in the area has cut the death toll down to only dozens this year.

The news agency CTK said Wednesday that about one third of the frog population near Petrov, 150 miles east of Prague, had been killed each spring. This spring only dozens died the agency said. The idea came from similar tunnels in neighbouring Germany.

The rarely seen victory dance of the poison-arrow frog

Frog and Tadpole Study Group of NSW

ANNUAL FINANCIAL STATEMENT

3 June 1997 to 5 June 1998

		$
Opening Balance:		1490.88
Income:		
	Membership	4241.20
	Auction/Raffle	578.50
	Donations	36.50
	Frog Tape Sales	330.00
	Endfrogs Books	4,669.10
	Other Sales (kits etc)	666.00
	Smith's Lake Trip	210.00
	L & WC Grant	5.350.00
	Total Income	16,081.30
Expenditure:		
	Endfrogs Printing	850.00
	Endfrogs Postage	268.70
	Endfrogs Flyers, Ads	352.00
	Endfrogs-authors pay	1,906.00
	Frog Week materials	551.05
	Frog Posters- Qld	255.00
	Frog Call Postage	401.57
	Frog Call Printing	922.55
	Sundry Postage	205.00
	Dept.Fair Trading	110.00
	Insurance	280.87
	Herpetofauna	700.00
	Tadpole Field Guide	266.70
	NCC Subs.	80.00
	Aust Mus Venue Hire	220.00
	Sundry photocopy, paper	348.27
	Post Office Box	125.00
	Smiths Lake Hire	147.00
	Bank Fees & charges	57.06
	Dishonoured Cheque	20.00
	Total Expenditure	8066.77
Surplus for year		+ 8014.53
Closing Balance:		9505.41

Arthur White
Treasurer
10 June 1998

Internet SMH 15/7/98

Slice of life

RESEARCHERS at Stanford University say they have developed a new and improved virtual frog so that squeamish students can dissect it over the Internet without the blood and gore associated with an actual lab.

The Frog Island Web site (**www-med.stanford.edu/creatures**) lets users view the computer-simulated frog from any angle, or hit a command that turns its skin transparent so that its internal organs and skeleton are visible. Other commands will peel back the frog's muscles to expose more of the inner anatomy.

The frog is the first creation of the Virtual Creatures project at the Stanford University Medical Media and Information Technologies Group (SUMMIT). Parvati Dev, director of the group, says it hopes to continue its work by digitising other lab animals and parts of the human cadaver.

Summit says its creation is not the first frog to be posted on the Internet but offers more detail than earlier images. Still, is this an adequate substitute for hands-on experience in the lab?

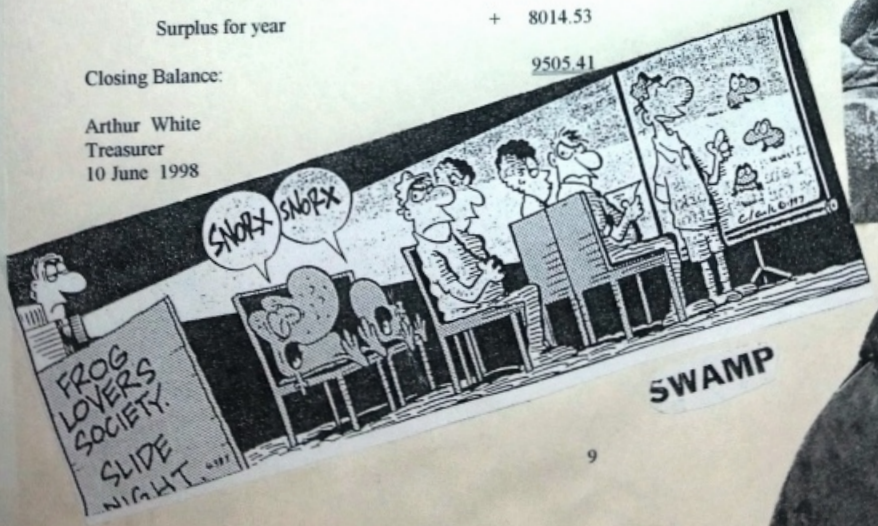
"This in no way stops the need for hands-on experience. I'd hate to have a doctor who had never worked on an actual cadaver," says Dev with a laugh. But she says the virtual frog could help provide a glimpse of anatomy to students who are not geared toward sciences. "There are a lot of kids who would bypass biology altogether because of the blood and the gore. Some people really cannot handle that."

The image for the virtual frog is created by freezing an actual frog, embedding it in gelatin, slicing it into pieces less than a millimetre thick and then digitising the images of those slices.

"It is a gruesome process," says Dev. "But all anatomy is gruesome and that is partly why we're doing it – so that students don't have to."

Reuters

Bloodless: A virtual frog means dissection without gore.



FROGBITS AND TADPIECES

REMINDER TO AMPHIBIAN LICENCE HOLDERS

Annual amphibian licence returns are now overdue and should be completed and forwarded promptly.

VACANCIES IN FATS COMMITTEE

Invitations to join our friendly committee are extended to Frog And Tadpole Study Group members. We have two vacancies one on the editorial committee and the second Publicity/Exhibition Officer.

AUSTRALIAN HERPETOLOGICAL SOCIETY 50 YEAR CELEBRATIONS OCTOBER 1999

Watch out for this event next year. Its bound to be a splendid, if their last celebrations are any guide.

INVITATION TO MEET FROGOPHILES

Contact Lothar Voigt on 9371 9129 if you would like to be involved with the following events.

Water week end of October

Frog Week 1st November to 7th November

Streamwatch open day in November (live frog display)

Ocean care day at Manly 5th December

HOMEBUSH BRICK PIT FROGS IN DANGER

Have you noticed that there is a $10,000 grant being offered in the newspaper to develop the Homebush Bay brick pit. The Green and Golden Bell frogs need your help. Please pass on your concern to your local State member and/or the New South Wales Institute of Architects indicating that the first priority is the conservation of the Bell Frogs.

THE NEW BIODIVERSITY EXHIBITION

in the Australian Museum opened on 18 September. It sports, amongst many other marvellous displays, a big fat FATS poster. The exhibition is a permanent one, poster and all.

A BIG THANKS TO MASTERPIECE PICTURES

of 161 Broadway, who have been laminating our large froggy posters over the last year at a destitute's discount. (I always walk in there looking the part – the plight of frogs written on my face.) It's good to be able to conserve the frogs by laminating them. So far, nothing else seems to work.

COURSES AND WORKSHOPS

"The Study and Care of Reptiles and Frogs" now runs in the eastern suburbs (2 consecutive Sundays) and at the Colo River (live-in, Friday night to Sunday night). Various dates.
Ring me on 9371 9129. **Lothar Voigt**

MULTIPLE CAUSES OF AMPHIBIAN POPULATION DECLINES.

The Declining Amphibian Populations Task Force is a worldwide network of scientists which has been investigating the declines since 1991. Their work so far has led to three conclusions with which most FATS members may be familiar, but which stand repeating. First, the declines are occurring worldwide, although some regions are unaffected. Second, in most affected regions, some species are in decline but others are not. Third, there is no single cause for all the declines.

This year, joint efforts by scientists from several countries identified a newly-discovered genus of fungus, the chytrid fungus, as the cause of frog deaths in two locations on opposite sides of the Pacific, Queensland and Panama. This is the first time this fungus has been identified as a cause of disease in animals. It has now been found, in addition to the natural localities, in captive amphibians in Australia and the U.S.A. It is an unusual cause of population decline since it affects only the adult frogs, whereas many other declines are associated with factors leading to deaths of eggs and tadpoles. It may also be the first time that an infectious disease has been implicated in the decline and possible extinction of any animal species.

Some experts suspect that the immune systems of many amphibian species may be compromised by an assortment of environmental factors (climate change, chemical contamination, increased ultraviolet radiation) which may lead to increased susceptibility to a variety of diseases. For example, the bacterium which causes "red leg", *Aeromonas hydrophila*, is widely distributed and is thought normally not to cause disease. Nevertheless, red leg has been implicated as contributing to some declines. Similarly, iridovirus infections have been associated with other declines.

We have no idea as yet whether the fungus has always been around in Queensland and Panama, or whether it only found its way there recently. If it has been around for a long time, it is not clear why frogs have only recently become susceptible to it. If it was recently introduced, we don't know where it came from or how it was spread. This disease-causing organism is one of many which might be unwittingly spread by people on footwear or other gear, and the effect natural transfer by birds and other fauna is quite unknown. However, if these are important means of transfer, it is likely that they will be very difficult to control, and some speculate even more difficult than preventing habitat destruction and chemical pollution.

Halliday, T. "A declining amphibian conundrum". Nature; 394:418-419. With compliments Anne Peaston

FROGWEEK 98 SUNDAY 1 .11. to SATURDAY, 7. 11.

Ever since we started Frogweek in 1993, we've had no shortage of offers from other organisations wanting to work with us.
This year, we're doing displays at:
Taronga Zoo, on 7th and 8th November. Frog Explainers needed!!!
Australian Reptile Park, from October to 6th November.
Australian Museum, dates being finalised.

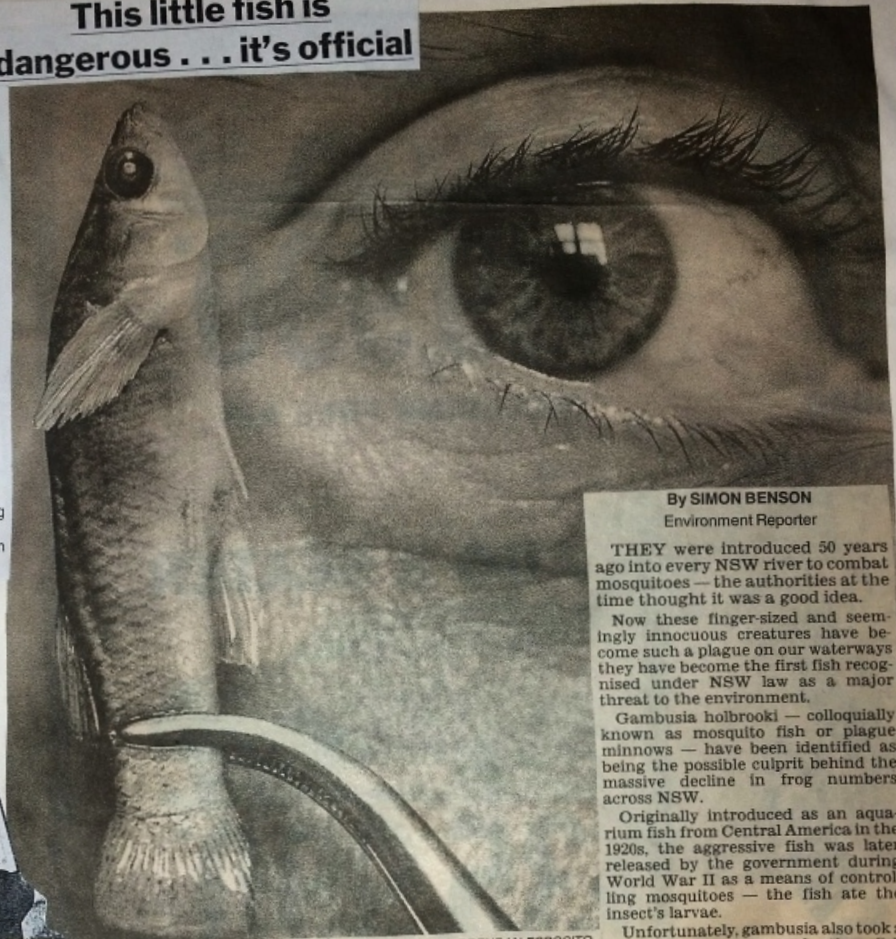
All the things you can do for Frogweek:
--Become a Frog Explainer. Just ring 9371 9129. You won't be thrown in at the deep end, and you won't be on your own.
--Write an article for your local rag and promise them a frog photo to go with it. (Ken Griffiths or otherwise one of the others on the committee can probably lend them a picture.)
--Write a letter to the editors and ring your friendly talkback show. Let them know it's Frogweek, and that many frogs ain't doing too well, and that they might be next, and that they might as well do something about it. (Like joining the FATS Group.)
--Talk to your school class or scout club. Take your neighbours frogging.

D.T. 13·6·98

This little fish is dangerous . . . it's official

Gambusia holbrooki

- Also known as mosquito fish or plague minnow
- Native to central America
- Introduced to Australia in 1927 as an aquarium fish
- Widespread release by the government during World War II to control mosquitoes
- Grows to about 12cm
- Now inhabits almost every waterway in NSW
- Attacks frog eggs and native fish larvae
- Is suspected of being responsible for massive frog declines in NSW — including endangered green and golden bell frog



Dr Graham Pyke examines a plague minnow. *Picture: BRENDAN ESPOSITO*

By SIMON BENSON
Environment Reporter

THEY were introduced 50 years ago into every NSW river to combat mosquitoes — the authorities at the time thought it was a good idea.

Now these finger-sized and seemingly innocuous creatures have become such a plague on our waterways they have become the first fish recognised under NSW law as a major threat to the environment.

Gambusia holbrooki — colloquially known as mosquito fish or plague minnows — have been identified as being the possible culprit behind the massive decline in frog numbers across NSW.

Originally introduced as an aquarium fish from Central America in the 1920s, the aggressive fish was later released by the government during World War II as a means of controlling mosquitoes — the fish ate the insect's larvae.

Unfortunately, gambusia also took a liking to frog eggs and other fish larvae and have since posed a major menace to our native species.

The NSW Scientific Committee, the 10-member independent body advising the Government, has made a preliminary determination that it be declared a "key threatening process" under the Threatened Species Conservation Act.

"Predation by gambusia is a serious threat to the survival of the green and golden bell frog, the new england bell frog and to other species of frog," says the committee's findings.

"Gambusia is therefore eligible to be listed as a key threatening process because it adversely affects two or more threatened species and could cause species that are not threatened to become so."

A team of scientists from the Australian Museum, headed by Graham Pyke, believes the fish is the main cause of the decline in a family of frogs including the green and golden bell frog, and not the human destruction of habitat — although this is still a large factor.

"This fish is very successful [in adapting to Australia]," said Dr Pyke, the Australian Museum's principal research scientist in earth and environmental sciences.

Laboratory experiments have shown that the fish will avidly eat frog eggs and tadpoles as well as mosquito lavae.

Environment award . . . Anabelle Nader from St Anns School, South Strathfield, with her merit certificate

Inner Western Weekly 2-6-98

Tadpoles swim off with awards

WHEN do Year 4 students turn into tadpoles? When they enter Strathfield Council's Primary School Environmental Awards.

As part of the council's Local Environment Awareness Program (LEAP), Year 4 students in the municipality were invited to take part in a competition on water pollution.

This year the students were asked to write a story under the title: When I was a tadpole in Powells Creek.

As well as nurturing lateral thinking skills, the competition is designed to raise environmental awareness. Nine out of 10 schools in the area took part.

First prize went to Amelia Blefari of South Strathfield Public School, second was Jason Fong of St Dominics Primary School and third was Megan Brewer of Santa Maria Del Monte Primary School.

11

"See, Frank? Keep the light in their eyes and you can bag them without any trouble at all."

Both her hind legs are working and she is doing rathe...

Picture: BLUEY THOMSON

S.H. 7.6.98

Frog that refused to croak

SAFE AND WELL: Hilda has made a miraculous recovery thanks to the efforts of Safe Australia and Dr Howard.

By SIMON CRITTLE

SHE has been hit by a car and left for dead, undergone two operations and had steel pins inserted in her pelvis. This giant burrowing frog refuses to die.

Known as Hilda, the rare creature has made a miraculous recovery after fracturing her pelvis and a leg and finding favour with a retired wildlife vet.

The brown and grey amphibian takes her name from the woman who rescued her after the frog leapt in front of a car near Maroota, near Wisemans Ferry, last month.

Conservation group Safe Australia was alerted and recruited the help of Dr Ralph Howard, who has nurtured Hilda back to health in his Braidwood home.

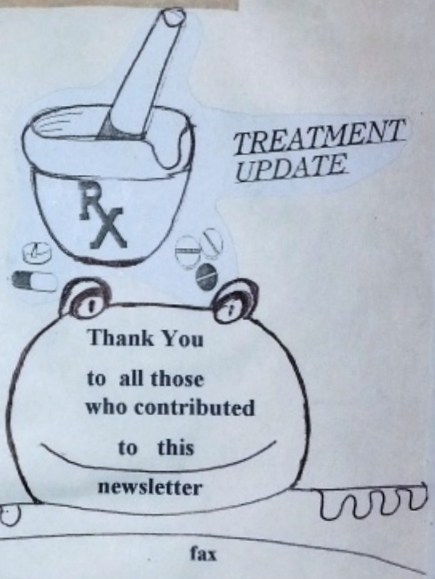
"It was a bit of a mess," he said of her initial condition. "But she was sitting quietly and didn't seem to be on her last legs. So we thought she had a chance."

The frog underwent a tense three hour operation as two tiny steel pins were inserted into her pelvis and she is now eating again after a course of antibiotics.

"She opened her bowels, which was a joyous occasion," said the former Taronga Zoo vet. "She is now able to move about, both her hind legs are working and she is doing rather well."

When she is able, Hilda will make the return trip home to Marramarra National Park, clocking up around 400 kilometres on her journey to recovery.

The frog, which burrows into the soil and can go without water for weeks, is one of only two individuals of its threatened species encountered in Sydney in recent years.



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Karen White	Treasurer	(02) 9599 1161 (h)	(02) 95991161 (h)
Anthony Nicholson	Membership Officer	(02) 9660 4393 (h)	(02) 9361 7981 (w)
Lothar Voigt	Publicity / Exhib Officer	(02) 9371 9129(h)	phone first (h)
Vacant	Publicity / Exhib Officer		
Ken Griffiths	Field Trip Co-ordinator	(02) 9520 9961 (h)	between 7pm and 8pm
Julia Shoulder	Asst. Field Trip Co-Ordinator	(02) 9418 7627 (h)	
Monica Wangmann	Editorial Panel	(02) 9797 6543 (h)	wangmann@tig.com.au
Carl Spears	Editorial Panel	(02) 9247 3953 (w)	
Vacant	Editorial Panel		

We hold six informative, informal, topical and practical meetings each year at the Australian Museum (William Street entrance) in Sydney. Meetings are held on the first Friday of every even month (February, April, June, August, Oct. and Dec.) at 7 pm for a 7:30 pm start. Visitors are welcome. We are actively involved in monitoring frog populations and in other frog studies, and we produce the newsletter *FROGCALL* and *FROGFACTS* information sheets. All expressions of opinion and information are published on the basis that they are not to be regarded as an official opinion of the Frog and Tadpole Study Group Committee unless expressly so stated.