

## Background

There are over 2500 species of frogs throughout the world. Approximately 200 species are found only in Australia. Here in the Northern Region of NSW and Southern Queensland we have over 90 species. Frogs are known as an Indicator Species; that is they tell us something. For example having many frogs in an area tells us the environment is healthy. However if frogs are suddenly missing from an area or their numbers decline, this tells us that their environment is changing. This could mean a change in the quality of the air we breathe or the water we drink.

Frogs are amphibians, which means they have a double life. At a young stage (tadpoles) they live in water and breathe through gills. As adults they breathe with lungs and live on land. However they need to be around water to breed and keep their skin wet.



## Green Tree Frog (*Litoria caerulea*)

This species is noted as the second most widely distributed frog in Australia. It is found in all states except Victoria and Tasmania. Their average size is 10cm. Their upper surface is dark olive to bright green; sometimes they have a scattering of white spots or flecks. Their under surface is white. They have tiny sticky pads on their toes which help them climb smooth surfaces; they also cling with their belly skin.

## Habitat

They prefer cool dark places; Green Tree Frogs live in urban areas, forests, woodlands, wetlands and heath. They have a habit of taking up residence in and around suburban houses, in drain pipes, water tanks, letterboxes and even toilet bowls.

The Green Tree Frog population, like many frogs, has also suffered a decline over recent years. Frog experts are reporting that they have almost disappeared from the Sydney basin; it may even be listed soon as an endangered species in the Sydney bioregion. The main danger to the Green Tree Frog is the destruction of its habitat through wetland clearance and drainage, as well as chemical use.

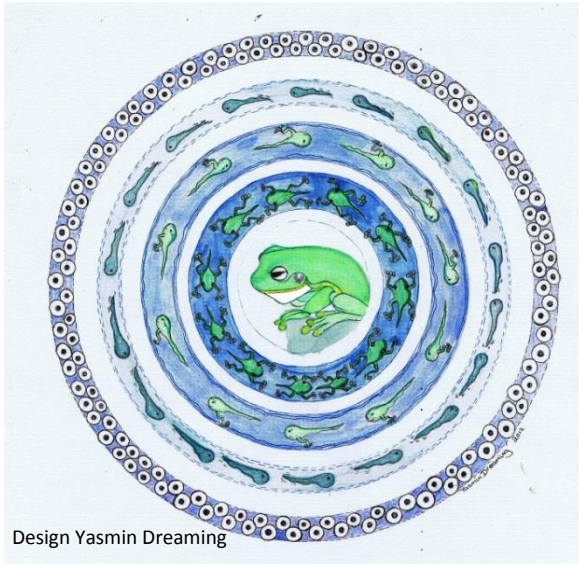
## Feeding and Diet

Frogs are nocturnal and they are often found around lit areas that attract various types of bugs and insects to them. Insects and spiders make up the majority of their diet, as well as crickets lizards, other frogs and cockroaches and, when in captivity, they will even eat small mice.

## Frog Call

Frogs are more often heard than seen. Only males call but both sexes may give shorter warning calls or screams when danger threatens. The males increase the loudness of their calls by ballooning out their throats. Very few Australian frogs make a croaking call, most whistle, cackle, grunt, moan and chime – but the Green Tree Frog is one of the few frogs that do croak; its call is a deep “waulk, waulk.”

### Frog Mandala



### Life cycle of a Green Tree Frog

Australian native frogs typically produce 1,000 to 2,000 eggs a year. Whereas the fearful imported Cane Toad (*Bufo marinus*), can lay as many as 30,000 eggs in one sitting. In spring and summer you will hear male frogs calling. This is the best time to mate and for females to lay their eggs in any water they can find; pools, puddles, swamps. They will even breed in water troughs and buckets filled with rainwater.



Native eggs or spawn appear as white foam floating at the surface of the water, it's a mixture of air bubbles and clear jelly, rather like beaten egg-whites. The female uses her hands as an egg beater to whip up the froth as she lays her tiny black and white eggs. The foam protects the eggs from sun and predators as they are hidden within and beneath the jelly-coated bubbles. The jelly has an awful taste, which protects the eggs from predators until they are ready to hatch.

Eggs of the Cane Toad are very unlike native species because they are laid in very long strings or chains. If you see any of these strings in the water ***pull them out.***

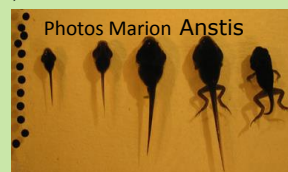


We can help increase frog populations by not draining breeding sites of water, not introducing new fish species to fish ponds and in fact changing a fish pond into a frog pond. It is also crucial that we stop using poisons around frog breeding areas.

Although frogs are protected across Australia, there are provisions that allow you to capture tadpoles, watch them change into frogs, and then return the juvenile frogs to the place you captured them. It's a golden opportunity to watch a small miracle of nature in action. Just remember to give the tadpoles plenty of clean, fresh water (rainwater is best) and some food (a bit of boiled spinach or lettuce) and the amazing change from tadpole to frog will take place before your eyes. ***Remember*** when they become frogs to return them to where you found the tadpoles.



Green tree frog tadpoles are a lighter colour and have longer tails than Cane Toads.



Cane Toad tadpoles are much darker and have shorter tails and their eyes are further in from the sides of their body.



Photo Lyn Thomson

### Interesting Facts

The study of frogs is called **Herpetology**

Most rainforest frogs have pads of sticky hairs on their fingers and toes and loose sticky skin on their bellies, which make them great climbers helping them to escape their predators. Many of these frogs live in trees for safety.

The scientific name *caerulea* means 'blue', which was the colour of the specimen that arrived in London in 1790. The alcohol preservation may have altered the frog's true colour, fooling the early scientists.

Green Tree Frogs are sometimes called the "*The smiling croaker.*"

Their life spans are longer than most of their frog cousins and can reach between 16 to 20 years in captivity. In the wild, their lives are shorter due to predators.

An amazing, less known fact about this frog is that its soft, green skin secretes compounds with antiviral and antibacterial properties.

Did you know that a group of frogs is called an 'army'? (A group of toads is called a 'knot'.)

Frogs don't drink water they absorb it through their skin.

### Create a frog-friendly Garden for your local frog species

- It's important if you want to set up a frog habitat that you make sure your family will not use any chemicals to spray the garden where the frogs live.
- Frogs have many predators, such as birds, snakes, cats, dogs and Cane Toads. So keep this in mind. For example if you decide to put both a bird bath and a frog pond in your backyard, make sure to place them in different areas not to close together remembering birds are predators of frogs.
- Frogs are nocturnal therefore try to keep your dog and cat inside or in the garage at night.
- Don't leave dog/cat food or water outside where frogs (or toads) have access to it. Frogs might be attracted to the water bowl and then be hurt by the dog or cat.
- Toads are ground dwellers, while Green Tree Frogs like to climb which helps to protect them from predators. Their green colouring helps them to blend into the vegetation; whereas toads being brown blend in with the soil and garden mulch.



Photo Lyn Thomson



### Setting up your Frog Friendly Garden

Remember that most Native Frogs prefer cool dark places, so find an area in your garden that is shady.

When setting up your frog habitat it's a great idea to add at least one or two solar lights as these will attract bugs at night when the frogs are looking for food. Plant some frog attracting foliage such as Bird Nest plants, Tree Ferns, Stagorns, and Elkhorns.



Make sure that the frogs have access to water. There are many ways to install water into your frog habit. You can utilize many containers; try to recycle unused things such as old baths, sinks, laundry tubs and unused bird baths. Remember if you use a bird bath to put a water plant in it as this will deter the birds and give the tadpoles and frogs somewhere to hide.

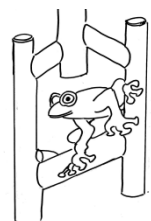


### Try making a Frog Hotel

You can make it from recycled or new PVC pipe. Cut holes in 3 pipes and join them together using smaller pipes. Remember to make it 60cm or taller keeping it away from any Cane Toads. You can put in single pipes but the frogs prefer having a few places to hide. They like the smooth surface, their sticky toes suck onto it enabling them to climb to the top and enter the pipe. Finally you can paint it green to blend into your garden.



They venture out of the Frog Hotel at night.



## Sustainable Habitat

*Other things that you can include in your backyard habitat to encourage sustainability are:*

**A worm farm** feed them fruit and Veggie scraps and they love tea leaves or tea bags.

**Vegetable gardens**, they don't have to be big just enough for your own family. There are many above ground gardens for sale or you can make your own out of recycled materials.



Make a **nesting box** to attract birds and possums to your garden. There are lots of simple plans on the internet for nesting boxes.



## Sustainable Habitat

### Australian Native Bees

are great in the garden for polinating veggies and plants; **and they are stingless.**



**2 compost bins** (2 so that when 1 is full it can break down further while you use the other bin.) It's important to turn the compost often to encourage the material to break down.

*A good rule is when you add food scraps to the compost also add the same amount of shredded paper, same with grass clippings as this stops it from getting too wet and speeds up the composting process*

Make a scarecrow one that turns of moves is the best deterrent to keeping birds away from your produce



Have a bird bath and keep it filled with fresh water, especially in dry times as birds are looking for water to drink and bathe in.

*Remember* if you decide to put both a bird bath and a frog pond in your backyard make sure to place them in different areas as birds can be frog predators.





# FACT SHEET:

## Green Tree Frogs

### Frogs as Bush Tucker

Native plants and animals eaten by Aboriginal people are referred to as bush tucker. Bush tucker varies depending on the region, climate, and season. Kangaroo, Emu, and possum are available all year round and are popular meat choices among the Aborigines. *Other meats, such as lizards, frogs, and turtles, are most often enjoyed during the summer.*

Seafood is also a common meal, particularly in communities along the seacoast. In the mountains of New South Wales, the Aborigines may feast on moths, which are rich in fat. The deserts of central Australia are home to witchery grubs (larvae) found in the roots of acacia bushes. The larvae, which are high in calories, protein, and fat, were once staples in the Aboriginal diet. Other insects in the traditional Aboriginal diet are bees, ants, and termites. Native edible plants include yams, onions, spinach, tomatoes, berries, and grass seed. Roots of some other native plants are also harvested to eat. Seeds and flowers of the acacia were ground to make a kind of flour that could be mixed with water to make a simple cake. Reptiles such as goannas (iguanas), lizards, frogs and snakes also found a place in the Aboriginal diet, as did birds of all sizes, emus, turkeys, swans, ducks, parrots and cockatoos. To catch flying birds such as parrots, the Aborigines set nets across trees. Boomerangs were thrown above the flock.

<http://www.foodbycountry.com/Algeria-to-France/Australia>  
Aborigines-and-Bush-Tucker.html

### Useful links

The Australian Museum has a program called Museum-in-Box. There are over 30 different boxes containing real museum specimens, casts, artefacts, dioramas, images, DVDs, CDs, games, books and web resources. They have one on frogs.

[www.australianmuseum.net.au/Museum-in-a-Box](http://www.australianmuseum.net.au/Museum-in-a-Box)

Another good website on frogs is called Backyard Buddies.

[www.backyardbuddies.net.au](http://www.backyardbuddies.net.au)  
[www.facebook.com/backyardbuddies](https://www.facebook.com/backyardbuddies)  
Phone: 1300 361 967

Nature Sounds by David Stewart  
Australian Frog Calls Subtropical East

You can purchase this CD and others of frog and bird calls by visiting his easy to follow website. All CDs are \$25 plus postage.

[www.naturesound.com.au](http://www.naturesound.com.au)

A FIELD GUIDE TO FROGS OF AUSTRALIA is a great book by Martyn Robinson

For information on Australian Native Bees visit [www.stevesnativebees.com.au](http://www.stevesnativebees.com.au)

### References:

[www.kidzone.ws/lw/frogs/facts](http://www.kidzone.ws/lw/frogs/facts)

Big Scrub Landcare June 2011 article Big Scrub Frogs by David Newell

A FIELD GUIDE TO FROGS OF AUSTRALIA by Martyn Robinson

Frogs Australia Network [www.frogsaustralia.net.au](http://www.frogsaustralia.net.au)

