Frog ponds

Frogs live in many places, including suburban backyards. Getting to know your Froggy Friends can be very rewarding. Creating a frog friendly environment around your garden can be fun and it's easy. Frogs need plenty of moisture, shelter and food. This means planting native trees, shrubs and ground cover, using mulch on garden beds and providing rocks, logs, and water.

Use some of the ideas below, and wait for the frogs to come! But remember to be patient as frogs can take up to a couple of years to settle into your garden.

Shelter and protection

You'll need to plant native shrubs, ground cover and trees of different heights. Your local nursery can provide advice on varieties native to your area. Use a natural leafy mulch (not pine bark as this can be too acidic) around garden beds and ponds. Manicured gardens look good but do not provide much shelter and protection for frogs. Shrubs and ground cover provide frogs with a comfortable resting place, hiding spots from predators and shelter from wind. Vegetation also attracts insects to your garden. Frogs eat a variety of insects and can act as natural insect predators. Compost heaps raised off the ground (bricks work well) and covered with chicken wire also provide shelter and attracts food for frogs.

Moisture

All frogs need moisture. Just like you, frogs can get dehydrated too. Some frog species need water for breeding. Clean water is essential. A garden sprinkler system works well if used around vegetation. A pond will also attract frogs. Keep in mind that water from taps can contain chemicals which are not suitable for frogs. Stand tap water in sunlight for about a week to remove chlorine or treat the water with a chlorine-neutraliser available from aquariums or pet shops.

Hints on building frog ponds

Frog ponds are an effective way to attract frogs and are an attractive addition to your garden. Combined with vegetation and a moist environment, they provide excellent breeding areas for frogs.

Frog ponds can be as elaborate or as simple as you like, ranging from an old bath tub to specially designed ponds. You can use many different objects including styrofoam boxes, children's pools, old laundry tubs, baby's baths, plastic containers like bins, clay garden pots, fish ponds or aquariums (without the fish!).

Home-made ponds can be constructed from a sheet of plastic (check with your landscape supplier for a suitable type), sand, rocks and plants, both aquatic and terrestrial. A concrete pond would be suitable if seeking a permanent garden feature.

A pond should have sloped sides and ideally would be spoon-shaped with shallow sloping ramps. This allows access for the frogs and metamorphs (tadpoles turning into frogs) to get in and out of the pond. If using a container, tub etc you should create a ramp from the pond to the ground or near-by tree by using sand, gravel, rocks, logs, tree branches or overhanging vegetation.

Vegetation, rocks or tree branches around your pond provides a good hiding spot to protect frogs and metamorphs from predators and provides shelter from the wind. Vegetation also attracts food for frogs. A frog pond should contain a few aquatic plants like water lilies to provide shelter and aerate the water. Try not to place your pond directly underneath trees especially those used by flying foxes or those that have poisonous leaves and sap (check with your local nursery if unsure).

When filling your pond, water must be free from chemicals such as chlorine. Water from a metal tank is not suitable as tadpoles are sensitive to the chemicals found in metal. It's a good idea not to allow rain water to run into your pond as it can gather chemicals with it and contaminate the water. You can help to reduce chemicals and prevent toxic run-off entering stormwater drains by using natural insecticides and pesticides, minimise your use of detergents and wash your car on the lawn.

Preventing or reducing water pollution protects our water quality and is essential to maintaining the health of our environment and our own quality of life.

Frogs will help prevent mosquitoes breeding in your pond as frogs feed on the larvae. Mosquitoes prefer still water, so installing a water pump will circulate the water and stop the water stagnating. When buying a pump remember that mains-powered units should be installed by an electrician. Frog ponds do not necessarily need a pump to be successful.

Your pond should not be in direct sunlight. Water can become hot enough to kill tadpoles. A light in your garden near your pond during the evening will attract insects and provide dinner for your Froggy friends.

Try to keep family pets and small children away from your pond. Frog skin is very sensitive because they breathe and absorb moisture through their skin. Try not to handle frogs – if you do, make sure your hands are moist. Always wash your hands when you have finished handling them. Any chemicals or detergents that might be on your hands can be absorbed by the frog, with disastrous results. You can keep some frogs as pets but the best place for frogs is in your garden — not in a fish tank in captivity.

If converting an established fish pond, remove the fish, drain the water and let the pond dry to ensure no fish eggs remain. Your frog pond must have a sloping surface so the mature frogs can get out. Have plenty of shelter, plants and moist areas surrounding the pond. Most fish species are not compatible with frogs as they will compete with the frogs for oxygen and food and will eat the eggs and tadpoles. However, some native species such as the Pacific blue-eyes can be used until frogs become established. They will also help to control mosquito larvae.

Frogs are not the only ones that will find your pond attractive. If you have cane toads in your area it is a good idea to keep a watchful eye on your pond and surrounding garden. Freezing has been suggested as the most humane form of killing cane toads. When put into a freezer, a cane toad will become dormant as a reaction to the cold and will eventually die in its sleep. Remove cane toad eggs. They are black, and laid in water in long 'necklaces' of clear jelly. Most frogs lay their eggs as a mass of foam or clumps of jelly in water or land nests adjacent to seepage areas, or in holes in moist areas.

The cane toad produces many more eggs than native frogs. An individual cane toad can attach up to 35 000 eggs to water plants or debris in slow-moving or still water. Cane toad tadpoles are very dark, their tails are short compared to their body size and they gather in schools.

When native tadpoles hatch, they feed on decaying plant material and gradually develop legs and change into frogs. The change from tadpole to frog can take as little as 16 – 21 days under excellent conditions in the tropics and arid and semi arid regions. In rainforest streams and cool localities this can take up to a year!

For more details on how to set up a frog-friendly garden and how to grow frogs, you could read books, ask the State museum or wildlife authority, or join a frog club.

Food

Frogs eat a variety of insects including moths, mosquitoes (and their larvae), cockroaches, snails and flies. Their prey must move and be of a suitable size for the frog to detect, catch and eat. Don't use insecticides around your garden. Not only will these kill frog food, they'll affect the health of frogs too!

Tadpoles survive on algae and micro-organisms. Decaying plant matter in and around a pond will provide these essential nutrients. Provide washed, boiled lettuce leaves for tadpole food every couple of days. Remove any excess food so the water stays relatively clean.

Other ideas

If you don’t have the room to create a frog-friendly environment in your garden there are other things you can do to help.

Eliminate pesticides, insecticides and fertilizers. Harsh chemicals can run into stormwater drains and end up in your local creek or river inhabited by frogs. Get your neighbours, school or community group involved. Encourage them to use natural alternatives for pest control (both weeds and insects). When driving, cycling, walking, or even picnicking near creek or river banks remember to minimise your impact on these areas because this is a natural home for many frogs. Learn more about frogs and their habitats by reading books, or joining a frog society.

Frogs are protected in some states by law. You might need a permit to keep them — check with your state wildlife authority. And remember — it is illegal to remove frogs, tadpoles and eggs from national parks and other protected areas.

Australian Frog Declines

Australian frogs, although not cuddly critters, enjoy a pretty high profile these days. But the reason for their fame is not because they're hopping about in large numbers in our backyards and forests. Instead, frogs are vanishing at an alarming rate, and this phenomenon has baffled scientists since we began to notice the slippery amphibians were disappearing in the early 1980s.

The loss of so many frogs places about 27 of Australia's 208 known frog species on the threatened species list. Seven of our frogs are already extinct. Most of these threatened frog species live in Eastern Australia. When species like frogs become threatened this is a sure sign that our biodiversity is also under threat, and that it's time to act to improve our environment.

Scientists don't know for sure why frogs are dying, although the recent discovery of a fungal disease spreading through many frog populations is now known as a major cause.

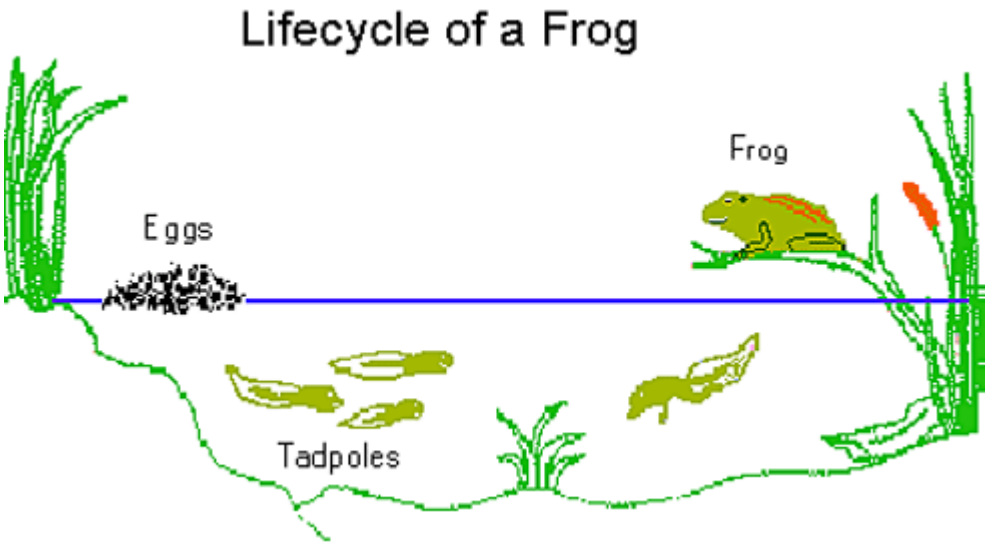

Image: Queensland Frog Society

They also know that some human activities are unhealthy to frogs and their habitats. These activities include:

- draining wetlands to claim land, causing habitat destruction
- spraying insecticides on crops, especially aerial spraying from planes
- converting ponds to dams for sheep and cattle use, causing a loss of breeding sites
- introducing mosquito fish from overseas, which prey on frog eggs and tadpoles
- other upstream land use practices affecting water quality.

Other reasons why frogs are disappearing may include:

- global warming, due to the enhanced greenhouse effect
- ozone layer damage, causing frogs to be more exposed to ultra-violet radiation.

How can you help?

By keeping frogs in your garden. You can do this by building a garden pond in your backyard, which will be very attractive and attract frogs that will add interest to your gardening and also help control insects. But be patient! Frogs sometimes take up to two years to begin settling in your garden.

Here's how you go about it

Firstly, the ideal place for a frog pond is a part shady, part sunny area, but not directly under trees. Some trees' leaves can be poisonous to frogs. To get the most enjoyment from your pond, make sure you'll be able to see it from your house, but not too close as frogs can be noisy at times! Place the pond near your compost heap. Part of the compost heap can be raised on old bricks, giving frogs sheltered access to tasty insects and worms falling through.

Plant shrubs and ground cover around the pond to give frogs a comfy resting place, hiding spots from predators and shelter from wind. Vegetation also attracts insects to your garden for frogs to eat. A rock pile or fallen logs work well to keep the area shaded and cool. You'll need to plant native shrubs, ground cover and trees of different heights. Your local nursery can provide advice on varieties native to your area. A low garden lamp illuminating the frog pond will look great.

Once you've found the ideal spot, it's time to build your frog pond. Frog ponds come in all shapes and sizes, ranging from an old bath tub to specially designed ponds. You can use many different objects including styrofoam boxes, children's pools, old laundry tubs, babies' baths and plastic containers like bins.

If you want to dig your own pond, here's how…

A pond should have sloped sides and ideally should be spoon-shaped with shallow, sloping walls. This allows easy access for the frogs and metamorphs (tadpoles turning into frogs) to get in and out of the pond. If using an old bath tub or other object, you should create a ramp from the pond to the ground or nearby tree by using sand, gravel, rocks, logs or tree branches.

- Remove any sharp objects and spread a thin layer of sand.
- Place a sheet of black plastic to line the pond and prevent water from escaping - you can buy this plastic from many pond product suppliers.
- Turn the edges of the plastic sheet up around the edge of the pond and anchor them with rocks.
- Add plenty of swamp plants in trays or pots in the shallowest region, and place a few potted aquatic plants and water lilies further down.
- Cover their soil with sand. The waterweeds will provide habitat for the tadpoles and baby fish to shelter in while they are small and vulnerable to predators.
- Fill the pond with tap water, but not from a metal tank, and let stand for at least a week before introducing frogs or fish. Any chlorine in the tap water will have dissolved by then.

Frogs are protected in some states by law. If frogs don't just move in of their own accord to your new froggy habitat, you might need a permit to introduce some - check with your state wildlife authority. Never introduce frogs from more than 20km away, as non-native frogs may upset the local species and you may inadvertently help spread the fungal disease. Transport frogs in a lightly inflated strong plastic bag with a few drops of water inside. Only transport one large frog per bag, or four small frogs per bag - never mix large and small frogs in one bag. Try not to handle the frog with your hands because their skins are very sensitive, but if you must handle the frog, wet your hands first and rinse them directly afterwards.

If you have tadpoles or immature frogs, transport them in jars with lots of water, preferably from where you found them. If there are no fish in your pond, then you can place them in the pond right away. If you do have fish in your pond, then wait until your tadpoles are at least 15mm long before releasing them, otherwise the fish will eat them.

Some types of frog-friendly fish, which also control mosquitoes, are Rainbow Fish (especially the Softspine Rainbow or Sunfish, Pacific Blue Eye, Dwarf or Red Line Jollytail or the White Cloud Mountains Minnow). Some people add local stream invertebrates such as backswimmers and damsel-fly larvae instead. Never place Goldfish or Mosquito Fish in your pond as they are poisonous to frogs or eat their tadpoles.

Check out the web sites below for more information:

- Departmental frog page
- Queensland Government frog pond page
- Queensland Government frogs page
- Queensland frog society site
- NSW Government DECC frogs page
- North Queensland frog site
- International frog decline site
- The Lost Frogs' Home
- Victorian Frog Group

Information Source: Australian Government. Department of the Environment, Water, Heritage and the Arts and Queensland Government, Environmental Protection Agency.