

CREATING A FROG HABITAT WITH AUSTRALIAN NATIVES

Natural Frog habitats have become a rare and endangered resource along with some of the species that they supported. Thankfully, like the many birds of Australia, our Frogs have started to adapt to life in the suburbs quite well. Frogs do not ask for much in the way of habitat and will lay their eggs in a small bowl of water on your patio if that is the only choice that they have but with a little planning, you can make that water bowl into a thriving ecosystem.

Please remember that ponds and water bowls are like magnets to young children so if you have little ones in your life then it may be wise to include a little picket fence around your pond so they can look, but not fall into the water. It is also possible to build a barrier of mesh just below the surface of the water so no one can accidentally fall in or you can build a raised pond/rockery so the kids can splash their hands in the water but not fall headlong into it!

Ponds can be built in sunny spots or shady spots or both! Ponds in sunny spots will need overhanging foliage to provide a sheltered space in and out of the water for both frogs and tadpoles so that they can avoid the blazing sun or escape a predator quickly if they need to. Ponds in shady spots still need to have protective foliage around them so frogs can hide from predators but the tadpoles will need a reasonable amount of light to develop, so the foliage of the vegetation can be more upright so it does not restrict the light as much, or planted further away so only a small portion of the plant overhangs the water. You should also remember that if your pond is outside, it will fill with natural rain and could overflow so make sure to put a diversion trench or berm in place to funnel the water to somewhere that it will not cause a problem. You should also take care to make sure that the high side of the pond has a diversion in place so water, silt and mud cannot wash into and fill the pond.

Any frog habitat will benefit from a refuge in the middle of the water so the frogs and froglets can get out of the water easily. Frogs will jump into the water to avoid a predator and they can of course swim quite well, but they will drown if the pond is made of plastic and they cannot grip the sides to climb out. The platform can be a rock, driftwood or an aquatic plant that has foliage above the water line or a combination of any or all of these features – the platform will also provide a “point of lay” for the frogs to deposit their eggs in the water. Old wine barrels (once they are soaked & drained in fresh water until the water is clear) make great frog ponds for balconies and patios as do concrete bowls when they are weathered or sealed to remove the lime left after curing.

The refuge in the middle of any frog habitat will be most effective if the frogs are also able to hide underneath it to avoid predators – an overhanging rock or a piece of driftwood or foliage that arches out of the water is perfect. The Australian Water Ribbons (Triglochin species) are a good “in pond” species that will provide a safe haven

for tadpoles and emerging froglets. The Yellow Marsh Flower (*Villarsia exaltata*) is a shade loving species that has large leaves that rise above the water and provide excellent protection for frogs. The Fringe Lillies (*Nymphoides* species) are native water lillies for sunny ponds and will provide both protection and shade for tadpoles and their parents. The flowers are a different shape and not as large as the exotic water lillies but they are very hardy. The Jointed Rush (*Baumea articulata*) is a species of Rush that will add vertical interest to your pond and your tadpoles will be able to shelter in the reeds. The Bog Bullrush (*Schoenoplectiella mucronatus*) is an unusual water plant with a distinct vertical growing, triangular foliage. Very few of these water species grow in deep water though so you may need to use vertical stormwater pipes as pots to get the height you need. If you bind a few together, they should support themselves in the water OK.

The areas around the pond can be planted with broad leafed species such as the River Mat Rush (*Lomandra hystrix*). The clumping habit of the *Lomandra* allows the frogs to hide deep in the base of the foliage to avoid predators and it is also cool for them. *Lomandra hystrix* tends to have a softer leaf than *Lomandra longifolia* so it will also weep over into the water for the frogs to cling on to and deposit their eggs. *Lomandra spicata* is a perfect species for a pond in a shady location. It is a forest dwelling species that has developed bright orange seeds so the birds can see them in the dark shady forest areas. Both these *Lomandra* species have a nice broad leaf so a courting pair of frogs can “meet and greet” each other successfully. *Lomandra longifolia* can also be used but it has a more upright growth habit and would be used as a protective haven rather than a breeding platform to deposit eggs. Sedges (*Carex* species) and Rushes (*Juncus* species) both like moist spots around ponds and the *Juncus* will weep over into the water to provide a ladder for frogs and froglets to climb out of the water but their narrow leaves do not provide an ideal breeding platform. The foliage of both species create a dense clump for frogs to hide in and under.

Your frog habitat should not be limited to the water and the immediate surrounds. The water is their breeding grounds and for that reason is a popular destination and at times a noisy destination as the males call and compete for the attention of a female to join them in the cool of the evening. At other times, your frogs will travel and explore the area beyond the pond and look for food. Adult frogs are primarily insectivores which means to have a successful ecosystem, you need to put the insecticides away and let your habitats work for you. Many native grasses are favoured breeding spots for insect and butterfly larvae and can be included in the extended ecosystem around your pond. The grasses will also produce seed so you will attract both seed eating and insect eating birds to your habitat. The birds and the frogs will cohabitate together well because the birds need the water from the frog habitat and the frogs need the insects from the bird habitat! There will of course be some sacrifices to be made because your birds may well try and eat you frogs and tadpoles but if you have achieved a good balance in both

habitats, you will not even notice that there is a circle of life happening at the bottom of your garden!

One more very important element of your frog habitat you could consider is the option to include a “Frog Sauna”. The Chytrid fungus has spread beyond its natural boundaries and is wreaking havoc on worldwide frog populations that have not developed an immunity to the infection. The fungus has decimated the ranks of over 500 different species and rendered over 90 species to be presumed to be extinct. The fungus is at its peak voracity in the colder, winter months but researchers at Macquarie University have discovered that the simple act of including some common household bricks (the ones with the holes in them), creates a warm enough environment for the frogs to literally bake the infections off their skin. The good news about this is that frogs that manage to clear themselves of the infection, also develop a greater immunity to the infection.

FROG SAUNA INSTRUCTIONS – choose a nice sunny spot where you can lay a few standard clay bricks with holes in them on their sides so that the holes are horizontal and the bottom side of the brick is in direct contact with moist soil. The clay bricks seem to hold the moisture so it is a comfortable environment for the frogs. NEXT paint any exposed areas of the brick with black paint so it will absorb as much heat as possible. NEXT, create a mini green-house over the bricks to increase the temperature inside. There are small hothouses or tents that can be purchased from hardware store for areas where the visual amenity is not a concern but if it is for your home garden then why not get creative and build a fairy castle or a gnome-home somewhere close to your pond. As long as it increases the temperature inside, it does not matter what it is made of – mini orb corrugated iron painted works as does Polycarbonate sheeting that can be cable tied or glued together to make a little house that can be painted & decorated as well. A simple igloo can be made with any sort of plastic that is stretched over a frame made from pvc pipe or the 12mm micro spray water line or stiff wire. It is only for winter so a temporary cover may be an option for you. Leave a few inches between the soil and the greenhouse for the frogs to find their way inside. A plastic bucket or pot upturned will create a heated space as well. There are also store-bought seedling trays with covers that can be utilised. Alsynite rolled into a tube with the brick inside should work as well – as long as you create a hot spot your sauna should be well utilised. The frogs are clever enough to figure out that the warm environment will kill the infection and will readily occupy the holes in the bricks to kill the fungus – one more thought though – do not leave your frog sauna in place in summer or you may end up with a snake sauna too – just remove the greenhouse covering and leave the bricks in place.

The list of plants below are primarily those that grow either in water or on the margins of water. For a list of plants to use in the extended ecosystem around the garden, have a look at our article [Creating a Bird Habitat with Natives](#).

PLANTS FOR LARGE POND AREAS – IN THE WATER

Aponogetum elongatus – broad leafed submerged foliage to 30cm
Baumea species - vertical rush 1-2m high in deep water
Bolboschoenus caldwellii – vertical rush to 1m, shallow water
Carex fascicularis – bushy species to 1m, shallow water
Cyperus exaltatus – vertical foliage to 2m, shallow water
Elaeocharis sphacelate - vertical rush to 5m, deep water
Schoenoplectus validus – vertical rush to 3m, shallow water
Phylodrum lanuginosum – leaves to 60cm, flower spike to 2m in water to 60cm deep

PLANTS FOR SMALL PONDS – IN THE WATER

Baumea juncea – vertical blue foliage to 1m, shallow water or seasonally wet soils
Elaeocharis acuta – vertical foliage to 60cm, shallow water, moist soil or dryer spots
Elaeocharis pusilla – grass like sedge to 15cm, shallow water, moist soil.
Hydrocotyle verticillata – creeping pennywort, grows into the water and on the edges.
Schoenoplectiella mucronatus – vertical foliage to 50cm. Sun or shade, shallow water.
Triglochin species – flat leafed underwater species best in shallow water. Sun or shade.
Villarsia exaltata – large flat leaves up to 50cm tall. Shady spot.

PLANTS FOR DAMP AREAS AROUND THE POND

Alternanthera denticulata – broadleafed groundcover, full sun or shade
Carex brunnea – Lush weeping foliage to 30cm. Sun or shade.
Carex species – Lush green foliage. Ranges in height from 15cm to 1m. Sun or shade.
Cyperus gunnii – Vertical foliage to 1.5m. Full sun or shade.
Ficinia nodosa – Thicker foliated species, very dense growth leads to weeping effect.
Very ornamental. Deep green foliage. Excellent cool cover for lizards and frogs.
Isolepis species – Fine vertical foliage up to 50cm. Full sun or shade.
Isotoma fluviatilis – Mat forming perennial with blue star flowers. Shady spots
Juncus species – Forms a dense tussock to 50cm tall. Usually weeps due to the density of the growth. Provides excellent cool cover for lizards and little frogs.
Lobelia anceps (syn *alata*) – Pretty flowering groundcover to 30cm high. Shady area.
Lomandras – any species. Strappy leaves range from 50cm to 1m high. Sun or shade.
Sarcocornia quinqueflora – Spreading but bushy groundcover to 30cm . Grows in saltmarshes or alongside freshwater streams. Full sun or shade.
Selliera radicans – a succulent creeping herb growing in patches up to 1m across.
Grows in saltmarshes or alongside freshwater streams. Full sun or shade.

The choices are endless and will change based on seasonal availability and location so talk to your local nursery about options that will suit your project.