



# Barossa Bushgardens

Place Plants People

## FROGS

Frogs can be found nearly everywhere, from rainforests and mountains to deserts and subarctic regions. The greatest concentration of species diversity can be found in tropical rainforests.

There are over 240 species of native frog in Australia of which most live close to water. They don't like changes in their environment and observing populations can help indicate changes in the condition of their environment.

Frogs typically lay their eggs in water, which hatch into aquatic larvae called tadpoles that have tails and internal gills to breath under water. Some species bypass the tadpole stage by depositing eggs

on land.

Adult frogs generally have a carnivorous diet consisting of small invertebrates but omnivorous and species that feed on plant matter do exist as well.

From a classification perspective, there is no difference between frogs and toads but only species in the family Bufonidae are considered 'true toads'. The term frog refers to species that are aquatic or semi-aquatic and have smooth, moist skins. The term toad generally refers to species that live on land with dry, warty skins. However, there are numerous exceptions to this rule with warty frogs preferring wet environments and vice versa.

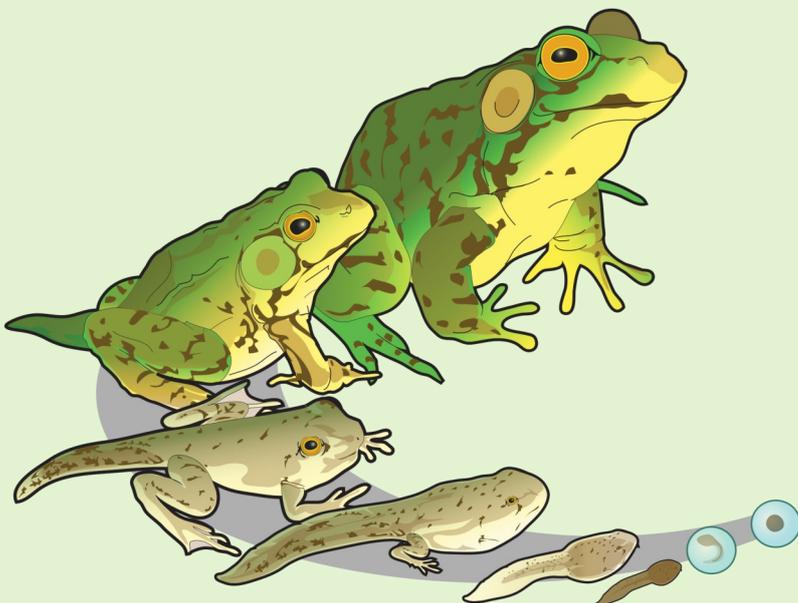


Image: Lifecycle of a frog; Source: Mariana Ruiz Villarreal, Wikimedia Commons, 2012

## CREATING A FROG FRIENDLY GARDEN

There are six species of frogs currently living in the Barossa. Introduced populations of the native Peron's Tree Frog (*Litoria peronii*) have established in some parts of the region and have previously been found in the Barossa Bushgardens.

They are usually found in the Murray-Darlin Basin and can be easily identified by the 'cross' in their eyes.



Photo: Peron's Tree Frog with the distinct cross in its eye; Source: Shane Chinca, Barossa Bushgardens volunteer

Frogs are sensitive to changes in their environment and are also threatened by a disease that is caused by chytrid fungus. Insecticide use, polluted stormwater, loss of habitat and the introduction of predators such as the Mosquitofish (*Gambusia holbrooki*) which consumes tadpoles and frog eggs, as well as climate change can significantly impact amphibian species.

The skin of frogs is semi-permeable and allows moisture and oxygen to be absorbed. This also explains their sensitivity to chemicals and pollutants in waterways and why they are good indicators for environmental changes.

Creating a frog pond or bog in a backyard can help provide habitat and in return, frogs will help with the control of insect pests. They are incredibly adept in discovering a new home and it shouldn't take long for them to move in if some important rules are followed.

The location and design of a frog pond is important and should ideally:

- not disturb you or your neighbours. Frogs can be very vocal, especially at night.
- Be protected from predators, including cats and dogs.
- Receive part sun and part shade (two-thirds of the pond should be shaded at all times), but not directly under trees, especially ones with poisonous leaves e.g. Oleander and Pines should be avoided.
- Be located near a source of insects (e.g. local native plants, mulched area or standing water).
- Not enter a waterway directly or indirectly.
- Ensure no run-off that contains potential pollutants will enter your pond (such as from a compost bin).
- Have gently sloped edges to help terrestrial frogs move in and out of the water easily (design with your local frog species in mind).

For example Bibron's Toadlet prefer ephemeral soaks, with plenty of leaf litter and debris, which dry out over summer and fill following the autumn rains, whereas other species will utilize ponds that are permanently filled with water.



Photo: Tussock grass; Source: Gardening with Angus

## CREATING A FROG FRIENDLY GARDEN

### Plant Selection

The plants used in and around ponds should be native and local to the area. It's also good to have a varied mix of grasses, reeds, dense matting groundcovers, small shrubs, ferns and sedges.

Tall plants should be at the back and depending on the depth of the pond, providing emergent, submerged and floating plants will provide cover and reduce algae blooms. A damp depression of native

tussock grasses, groundcovers and clumping plants such as *Lomandra* sp. and *Dianella* sp. Will provide excellent habitat. Placing rocks and logs around the pond provides extra cover as well.

An important thing to consider when trying to attract frogs to dams is the stopping of access from stock. They will damage surrounding vegetation and pollute the water. A dam should be fenced off and stock supplied with pumped or siphoned water.



Photo: Frog Pond; Source: Lori Wagerman Walker, Pinterest

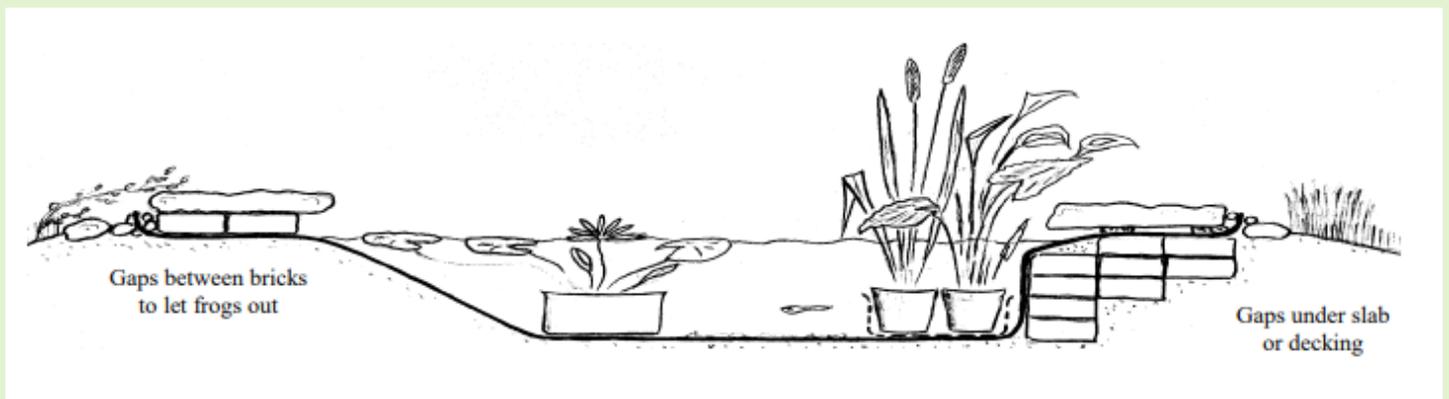


Image: A 30cm deep pond example with two ways for frogs to enter and exit; Source: Martyn Robinson and Lothar Voigt, Frogfacts No. 2, FATS Group NSW

## FROG OF THE BAROSSA

### *Litoria ewingi*

#### Southern Brown Tree Frog

A widespread and common species found in great numbers in flooded grassland or marshes. An agile climber and jumper. Like most of our small tree frogs, this species is a voracious insectivore capable of leaping to catch a fly in mid-flight!

Adults can be found in all habitat types, and are even common in gardens in suburban areas. They frequent wet and flooded areas for breeding but can often be found calling long distances from water. Eggs and tadpoles can be found in still water in ponds, dams, lakes, streamside ponds and flooded roadside ditches.

Males usually call from the ground or in low vegetation, at the water's edge or in water, floating amongst the vegetation. The call is a series of rapid harsh, whirring pulsing notes repeated 5-15 times - "creeeeeeee creee creee cree cree cree". The first note is usually the longest.



Photo: *Litoria ewingi*; Source: Frogs of Australia.org.au



Photo: *Crinia signifera*; Source: Frogs of Australia.org.au

### *Crinia signifera*

#### Easter Common Froglet

A small ground dwelling frog, the Common Froglet is one of Eastern Australia's most common and widespread species. Its cricket-like chirping can be heard all day and all year round.

Adults are most common in wet and dry forests, woodlands, floodplains, open and disturbed areas, and alpine grasslands.

Within these habitats they shelter under logs and other debris, usually in moist depressions or near water. It is not uncommon to find dozens of individuals under one log or

rock. Eggs and tadpoles are aquatic and can be found in ponds, dams, swamps, flooded grassland, ditches and hollows.

Males call from among vegetation at the waters edge or floating in open water supported by vegetation. The call is a series of three to five pulsed calls, with a chirping quality, rapidly repeated in a long series - "crick crick crick crick crick".

## FROG SPECIES

### *Limnodynastes dumerili*

#### Eastern Banjo Frog

##### Pobblebonk

This common and widespread burrowing frog may often be found in large numbers at night, particularly after rain.

Adults frequent all habitats with the exception of alpine areas, rainforest, and extremely arid zones. Eggs and tadpoles inhabit still water in swamps, streams, dams, and lakes.

Males usually call concealed in floating vegetation or less commonly from land at the water's edge. The call is a short musical, explosive note producing a resonant "bonk". The call is usually repeated every few seconds. Some individuals from eastern populations can produce a rapid series of "bonk bonk bonk bonk" lasting about one second.



Photo: *Limnodynastes dumerili*; Source: Frogs of Australia.org.au



Photo: *Limnodynastes tasmaniensis*; Source: Frogs of Australia.org.au

### *Limnodynastes tasmaniensis*

#### Spotted Marsh Frog

One of the most common frogs within its range. The frog is usually found in association with water, and in dry periods shelters in cracks in the ground, usually under large rocks.

Adults are most often associated with wet areas, flood plains, and semi-permanent water in habitats ranging from open forests and woodlands through shrublands and grasslands and including open and disturbed areas. They can often be found on farms and in farm dams.

Eggs and tadpoles can both be found in still water in dams, streamside ponds, lakes, swamps, and flooded grasslands.

Males call while floating in water, most often concealed in floating vegetation. There are two call races for this species. The northern call race (central, northern, and eastern Victoria) has a short staccato call of three or four distinct notes repeated in long series - "kuk-kuk-kuk".

## FROG SPECIES

### *Neobatrachus pictus*

#### Mallee Spadefoot toad

A powerful burrower inhabiting arid and semi-arid zones of the Mallee. This frog is common in areas of South Australia but only locally common in Victoria.

Adults can be found in a wide range of arid and semi-arid areas including woodland, mallee, shrublands, heathlands, open and disturbed areas and farmland.

Eggs and tadpoles are aquatic, in still water in ponds, dams, flooded ditches and clay-pans.

Males call whilst floating in open water. The call is a long rapidly pulsed musical trill with a purring quality and lasting 2-3 seconds - "cra-aw-aw-aw-aw-aw-aw-aw-aw-aw-aw-aw-aw-awk".



Photo: *Neobatrachus pictus*; Source: Frogs of Australia.org.au



Photo: *Pseudophryne bibroni*; Source: Frogs of Australia.org.au

ponds, flooded grassland and roadside ditches.

Males call from within the nest or burrow, producing a short harsh grating "cre-ek" repeated every few seconds.

### *Pseudophryne bibroni*

#### Bibron's Toadlet

A small and secretive autumn-breeding frog found across much of south-eastern Australia. Like all members of its genus this frog tends to walk rather than hop.

Adults frequent dry forest, woodland, shrubland and grassland. They shelter under leaf litter and other debris in moist soaks and depressions.

Eggs are spawned in shallow burrows (or nests) under litter, in low areas, near water, that will later be flooded. Tadpoles are aquatic in

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Opening hours:

Monday and Friday by appointment

Tuesday & Thursday

9 am - 4.30 pm

Wednesday

9 am - 12.30 pm

