

## Acknowledgements

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## Photography

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## Introduction

The Hunter Region is a large and geographically diverse area covering the Upper Hunter,


Lower Hunter and Mid Coast areas and containing the state's second largest city, Newcastle. The environment is a mixing zone between bioregions of the Sydney Basin in the south, NSW North Coast, and the southern Brigalow Belt in the west. In addition, the region varies from lowlands with coastal plains and swamps up to sub-alpine mountains, dense forests and a large portion of naturally open grassy woodland. With such diverse ecosystems and habitats, it is no wonder the Hunter Region has such a rich diversity of Amphibian fauna, with 48 species of native frog, an amazing 20\% of Australia's recognised frog species, occurring within the region.


This booklet aims to assist with the identification of these 48 native species as well as one invasive species, the cane toad (Rhinella marina). Unfortunately frogs across Australia face many threats with land clearing, feral predators or competitors, pollution, climate change, and an invasive fungal disease leading to the decline of many species.


While some species within the Hunter Valley are thriving and commonly seen within local backyards, the region is also home to 12 threatened frog species that have declined in number. The conservation of our local frogs depends on our understanding of them and with the development of fantastic citizen science projects everyone can play a role in understanding where frogs are and how their populations are changing over time. This citizen science project also helps you to learn to identify the frogs you find.


## User guide

This guide's aim is to assist in the identification of frogs by providing clear and simple features to identify species. However, because many frogs use their calls to tell each other apart, some species can look incredibly similar and pose an identification challenge to even the most experienced frog enthusiast. In other cases the one species of frog may be so variable that it cannot be simply explained within this guide. In cases where identification proves difficult, we encourage the user to go to citizen science projects such as FrogID and iNaturalist to confirm identifications.

Within this guide, frogs are grouped by those that are closely related to each other, first in their major families, such as Limnodynastidae, and then into their genus and individual species, indicated by the italicised text i.e. Genus species. While this may appear confusing at first it provides a natural system to find those frogs that might be most easily confused, with species in the same genus usually looking similar, and those in the same family more similar to each other than those in a separate family.

The species profiles begin with the toads - family Bufonidae. There is only one toad in Australia, the introduced cane toad (Rhinella marina). This guide provides you with ready information on how to identify the difference between cane toads and commonly confused native species, and what to do if you find a suspected cane toad, including how to report it.


## Features used to identify frogs



6

## Typical frog identifying features



## Citizen science observation projects

## FroglD

FrogID is the Australian Musuem's national frog identification project, which involves a free smartphone app to record frog calls whenever they are heard calling. Once downloaded the app can be used to read information, listen to example calls, and record frog calls for expert identification, all without internet reception.

The data obtained through FrogID helps scientists and land managers fill important knowledge gaps and betterunderstand the distributions, breeding seasons and the breeding habitat of Australia's frogs. Through FrogID, we can determine how frogs are adapting to a changing environment and track the distribution of the introduced cane toad. To help monitor local native frogs and the cane toad in the Hunter region, download the free FrogID app and record the calls around you as often as possible.

## How to get involved with FrogID

1. Visit www.FrogID.net.au
2. Register a free FrogID account
3. Download the FrogID app
4. Visit your local frog habitat and record any frogs you hear calling


## iNaturalist

Join an online community of citizen scientists to document the biodiversity of your backyard, and beyond iNaturalist is a global online community allowing citizen scientists to help observe and identify all types of life on earth including plants and animals. iNaturalist members can upload images or sound recordings via the iNaturalist website or phone app and participate in an online community learning from others how to identify the observations they are making.

## How to get involved with iNaturalist

1. Visit www.inaturalist.org or find iNaturalist in the app store.
2. Register a free account.
3. Upload photos you have taken or sound recordings you have made.
4. Participate and learn in a large online community.

## Frogs and disease

One of the primary causes for the decline of frogs around the world has been the spread of a pathogen called chytrid fungus (Batrachochytrium dendrobatidis) and the frog specific disease it causes, chytridiomycosis. In Australia this has led to the probable extinction of seven species and the decline in many more. Because of this disease and the possibility of introducing other new diseases, it is best not to touch frogs at all and important to follow hygienic protocols if frogs do need to be handled.

## Frog hygiene protocol

## Frogs, and animals in general, should never be moved between locations.

Doing so can increase the risk of transferring disease from one location to another, in fact even if the disease is already present in both locations mutations of the disease could still be specific to one location, so you could be increasing the risk of population decline in an area.

If you do find a frog in a location where it needs to be moved, such as inside your house, then it is safe to move it by wearing unpowdered disposable gloves or wetting your hands before picking it up. Alternatively, gently shepherd the frog into a clean container.

The frog should be moved into a moist dark location as short a distance away as possible - under a plant in a nearby garden is ideal.

After handling any frog, wash your hands thoroughly with soap to remove any potential pathogens or irritants produced by the frog. Any gloves or containers used should be discarded or thoroughly washed.

If you have to move a frog, follow these guidelines...


OR...
Use a clean container to transport your frog.

Place frog in a new location that is moist, dark and not too far away from where you found it.


Wash your hands and/or containers thoroughly afterwards.

## Toads

## Family: Bufonidae

There is only one toad in Australia, the introduced cane toad.

Toads lay their eggs in long attached strings of eggs which are quite distinct.

While it is commonly expressed that toads are rough-skinned, warty and dry, these features are actually present in a variety of native frogs especially within the ground frogs and foam nesting frogs.

Toads completely lack toe pads.


## Cane toad

Rhinella marina

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Silver-gold eye with protruding eyebrow
- Hard bony ridge over snout
- Large glands on neck
- Bumpy skin in adults
- Faint marbling on belly


## Habitat

Ponds, swamps and flooded areas. Invasive and can adapt to new habitats including urban environments.

## Other information

The cane toad is an invasive species, that should be reported immediately.

## Conservation status

Invasive pest


## A close look at the identifying features of cane toads



## NSW CANE TOAD BIOSECURITY ZONE MAP

Relatively dry, bumpy skin. Cream, yellow, reddish brown to nearly black in colour.
'Dirty' cream belly often with faint dark marbling.


No toe-pads, leathery webbing between toes, about half webbed.

# Identifying native frogs from cane toads 

## Which is which?

Because cane toads have not colonised the Hunter Region but occasionally hitch a ride to the area, it is important to keep an eye out and report any sightings immediately. Many native frog species can look very similar to cane toads so learning some features to tell them apart will help enable you to report any cane toads to authorities!


Cane toad (Rhinella marina)

- Large gland on neck.
- Bony ridge over eye and snout.
- Dry looking bumpy skin.
- Short fingers and toes with blunt darker brown tips.


## Juvenile

- May lack gland on neck.
- Horizontal pupil.
- Gold iris.
- Often covered red-orange spots.



## Eastern banjo frog

(Limnodynastes dumerilii)

- No gland on neck.
- Large gland on top of back legs.
- No bony ridge over nose.


Giant barred frog

- No gland on neck.
(Mixophyes iteratus)
- Vertical pupil.
- Strongly webbed toes.



## Giant burrowing frog

- No gland on neck.
(Heleioporus australiacus)
- Usually yellow spots on sides.
- Spines on males fingers.



## Sudell's frog

(Neobatrachus sudellae)

- No gland on neck.
- Vertical pupil.
- Strongly webbed toes.


Bibron's frog
(Pseudophryne bibronii)

- No gland on neck.
- Red-orange patch on upper arm.


Ornate burrowing frog
(Platyplectrum ornatum)

- No gland on neck.
- No bony ridge over nose.
- Vertical pupil.


Froglets

- Fairly smooth skin.
- Long pointy shape and relatively flattened body.


Glandular ground frogs

- Gland on neck.
(Uperoleia spp.)
- Some - yellow-orange patch on upper arm.
- All - yellow-orange patch on thigh.


Juvenile cane toads start
without the distinctive gland on the neck and slowly develop it. This can lead to confusion with many small native frogs. Juvenile cane toads are active both day and night and are usually present in abundance. If you see a large number of small brown frogs that look similar, especially if they are active in the daytime, you should take a photo and report it.

## What to do if you find a suspected cane toad

## Do you think you have found a cane toad?

## Catch it

- Don't harm it - it might actually be a native frog.
- Wear protective clothing such as disposable gloves, glasses, long sleeves and eye protection before touching it.
- Watch out for poison. When stressed, cane toads can ooze and sometimes squirt poison from glands behind the head.
- If you can do so safely, keep it in a well-ventilated container with a little water in a cool location as it may take 24 hours to determine the species once you report it.


## Report it

Take a photo (if you can).

Record your location.


Report the detection using the NSW DPI Report an unusual animal form found at dpi.nsw.gov.au/biosecurity/ forms/report-an-unusual-animal-sighting

If you believe you have found their distinctive eggs, please report these too.

## Foam nesting frogs

Family: Limnodynastidae

This family is separated by the females characteristic of whisking her eggs into a foamy mass that floats on the water surface.

All frogs in this family live on the ground and many burrow, leading to a fairly round, squat and rotund body shape.

Most species have a gland-like stripe behind the mouth which is less conspicuous or absent in ground frogs - Myobatrachidae.

They completely lack toe pads.
The following ten foam nesting frog species occur in the Hunter Region.

## Tusked frog

Adelotus brevis
J F F M A A M J J J A S S O

## Key identification features

- Dark patch between eyes
- Bright red mottling in groin and thighs
- Banded pattern on fingers and toes
- Bumpy skin


## Habitat

## sбoxt 6u!qsou ueot

Slow moving creeks and ponds in forested areas.

## Other information

Males have tusks inside the mouth used to fight
 other males.

## Conservation status

Not threatened

## Similar species

Lechriodus fletcheri, Limnodynastes peronii, Limnodynastes tasmaniensis, Philoria sphagnicola


## Giant burrowing frog

Heleioporus australiacus

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Usually yellow spots on sides
- Distinct grey-purple colouration
- Body large and rotund
- Bumpy skin


## Habitat

Pools in sandstone creeks on the southern edge of
 Hunter Valley region.

## Other information

This frog has declined due to habitat clearance and disturbance; it breeds in unpolluted creek- lines.

## Conservation status

Vulnerable

## Similar species

Limnodynastes dumerilii


## Fletcher's frog

Lechriodus fletcheri

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Rough skin and ridges on back
- Dark marking over top of ear


## Habitat

Temporary puddles in wet forest mainly in mountainous areas.

## Other information

Usually flattens itself to camouflage as a leaf when approached.

## Conservation status



Not threatened

## Similar species

Mixophyes fasciolatus, Litoria wilcoxii


## Eastern banjo frog

Limnodynastes dumerilii

| $J$ | $F$ | $M$ | $A$ | $M$ | $J$ | $J$ | $A$ | $S$ | 0 | $N$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Large gland on back legs
- Body is large and rotund


## Habitat

Occurs in most habitats around ponds and slow-moving creeks or rivers.


## Other information

A coastal colour form and more inland colour form occur in the Hunter Region.

## Conservation status

Not threatened

## Similar species

Heleioporus australiacus, Limnodynastes terraereginae, Neobatrachus sudellae


## Striped marsh frog

Limnodynastes peronii
J F F M A A M J J J A S S O

## Key identification features

- Dark and light stripes down back
- Completely lacks any toe pads


## Habitat

Habitat generalist, preferring ponds over creeks.

## s6odt 6u!łsəu weod

## Other information

Common in backyards even in urban areas, call often mistaken for leaky tap!


## Conservation status

Not threatened

## Similar species

Limnodynastes tasmaniensis, Litoria
nasuta

## 

Limnodynastes tasmaniensis

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Irregular splodges and spots on back
- Sometimes a white or red line down mid-back


## Habitat

Ponds in open areas and flooded grasslands.

Other information
Common in disturbed habitat including farmland.

## Conservation status

Not threatened

## Similar species

Limnodynastes peronii

## Northern banjo frog

Limnodynastes terraereginae

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Large gland on back legs
- Red colour on inner thighs


## Habitat

Ponds, flooded areas, and slow-moving creeks in a variety of habitats.

## Foam nesting frogs

Other information Only in far west of Hunter Valley region.

Conservation status
Not threatened


Similar species
Limnodynastes dumerilii


## Sudell's frog

Neobatrachus sudellae

| $J$ | $F$ | $M$ | $A$ | $M$ | $J$ | $J$ | $A$ | $S$ | 0 | $N$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Toes strongly webbed
- Rotund body
- Highly variable back pattern


## Habitat

Open habitats - breeds in temporary ponds after rainfall.


## Other information

Not commonly recorded in the Hunter Valley region.

## Conservation status

Not threatened

## Similar species

Platyplectrum ornatum


## Sphagnum frog

Philoria sphagnicola

| M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Dark stripe from eye to upper arm
- Dark splodge pattern on side and above groin


## Habitat

Bogs in steep mountainous areas.

## Foam nesting frogs

Other information More widespread further north but occurs within the Elands area of the Hunter Region.


Conservation status
Vulnerable

## Similar species

Adelotus brevis, Crinia species, Paracrinia haswelli


## Ornate burrowing frog

Platyplectrum ornatum

| $J$ | $F$ | $M$ | $A$ | $M$ | $J$ | $J$ | $A$ | $S$ | 0 | $N$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Toes without webbing
- Rotund body


## Habitat

Ponds in a variety of habitats, often with sandy soil.

## Other information



Body colouration and pattern highly variable.

## Conservation status

Not threatened

## Similar species

Neobatrachus sudellae


# Ground frogs 

## Family: Myobatrachidae

This family lays individual jelly covered eggs, sometimes attached to sticks or otherwise randomly scattered.

Several species lay their eggs on moist ground to later be washed into a puddle.

All species occur on the ground and many hide under damp leaf-litter, while some are rotund they are generally more flattened in shape than the foam nesting frogs.

They completely lack toe pads.
The following fourteen ground frog species occur in the Hunter Region.

## Eastern sign-bearing froglet

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Lacks glands
- Small size and elongate body
- Brown to grey
- Best identified from other Crinia by their call


## Habitat

Ponds and flooded areas in
 a variety of habitats.

## Other information

Common in the western Hunter Region including open farmland areas.

## Conservation status

Not threatened

## Similar species

Other Crinia and Pseudophryne species

## Common eastern froglet

Crinia signifera

|  | J | F | M | A | M | J | J | A | S | 0 | N |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Lacks glands
- Small size and elongate body
- Brown and often striped
- Best identified from other Crinia by their call


## Habitat

Habitat generalist.
Other information
One of the most
common and widespread

frog species, including in
backyards and urban areas.

## Conservation status

Not threatened

## Similar species

Other Crinia and Pseudophryne species

| 0 mm | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 |  |  |  |  |  |



## Southern barred frog

Mixophyes balbus

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Smooth skin
- Dark flecks on upper lip


## Habitat

Flowing streams in well forested
mountain ranges. Often associated with rainforest.

## Other information

Sometimes a blue streak can be seen at the top of the eye.


## Conservation status

Endangered

## Similar species

Lechriodus fletcheri, other Mixophyes species


## Great barred frog

Mixophyes fasciolatus

| $J$ | $F$ | $M$ | $A$ | $M$ | $J$ | $J$ | $A$ | $S$ | 0 | $N$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Smooth skin
- Pale streak on upper lip
- Dark eyes


## Habitat

Ponds in forested areas.

## Other information



More generalist than other
NEWCASTIE •
Mixophyes but still requires forest with leaf-litter to hide in.

## Conservation status

Not threatened

## Similar species

Lechriodus fletcheri, other Mixophyes
species


## Giant barred frog

Mixophyes iteratus

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Habitat

- Heavily mottled upper lip


## Key identification features

- Smooth skin
- Bright golden eyes

Habitat
Flowing streams in well forested areas.

## Other information

This is among Australia's largest frogs.

Conservation status
Endangered

## Similar species

Other Mixophyes species


## Haswell's froglet

Paracrinia haswelli


## Key identification features

- Dark strip from eye, over ear and arm
- Red marking on groin, thighs, and often armpits


## Habitat

Ponds generally in sandier coastal areas.

## Other information


Can range in colour from pale silver to dull red.

## Conservation status

Not threatened
Similar species
Crinia species


## Red-crowned frog

Pseudophryne australis

|  | J | F | M | A | M | J | J | A | S | 0 | N |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Red-orange crown marking on head
- Squat body shape
- Lacks glands


## Habitat

Temporary puddles or creeks in forests located on sandstone in the region's south.

Other information Has declined due to habitat disturbance,
 requiring unpolluted nu....

## Conservation status

Vulnerable

## Similar species

Pseudophryne bibronii


## Bibron's frog

Pseudophryne bibronii

| J | F | M | A | M | J | J | A | S | 0 | N |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Yellow-orange patch above arm
- Squat body shape
- Lacks glands


## Habitat

Temporary ponds, puddles or creeks generally in more forested
 areas and coastal heath.

## Other information

Has patchily declined but is still locally common in the Hunter Region.

## Conservation status

Not threatened

## Similar species

Pseudophryne australis, Uperoleia and
Crinia species

## Red-backed frog

Pseudophryne coriacea

|  |  | $F$ | $M$ | $A$ | M | J | J | A | S | 0 | N |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Red colouration across whole back
- Squat body shape
- Lacks glands


## Habitat

Temporary ponds, puddles and creeks in the east of the region.

Other information Sometimes has a white stripe along its side.


## Conservation status

Not threatened

## Similar species

Pseudophryne bibronii, Pseudophryne australis

## Dusky glandular frog

Uperoleia fusca

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Large gland behind eye and often a second lower on side
- Red-orange colour patch in groin


## Habitat

Generalist including disturbed habitat in eastern half of Hunter Region.

## Other information

Hard to identify from Uperoleia laevigata without expert call analysis. Please record with FrogID.

## Conservation status

Not threatened

## Similar species

Other Uperoleia and Pseudophryne
species

## Smooth-bellied glandular frog

 Uperoleia laevigata| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Large gland behind eye and often a second lower on side
- Red-orange colour patch in groin


## Habitat

Generalist including disturbed habitat in south and west of the Hunter Region.

## Other information

Hard to identify from Uperoleia fusca without expert call analysis. Please
 record with FrogID.

## Conservation status

Not threatened

## Similar species

Other Uperoleia and Pseudophryne species


## Mahony's glandular frog

Uperoleia mahonyi

| F | M | A | M | J | J | A | s | 0 | N | D |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Key identification features

- Large gland behind eye and often a second lower on side
- Red-orange colour patch in groin
- Mottled colouration on lower sides


## Habitat

Sandy coastal ponds around Tomago and Norah Head.


## Other information

This Endangered species is only found in the Hunter and Central Coast regions.

## Conservation status

Endangered

## Similar species

Other Uperoleia and Pseudophryne
species

## Wrinkled glandular frog

Uperoleia rugosa

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Large gland behind eye and often a second lower on side
- Red-orange colour patch in groin


## Habitat

Flooded grasslands in the central Hunter Valley.

## Other information

Best identified from other Uperoleia by its distinct clicking call.


## Conservation status

Not threatened

## Similar species

Other Uperoleia and Pseudophryne species


## Tree frogs

Family: Pelodryadidae

This group has many members well suited to climbing, but a few that live mainly on the ground. They are relatively flattened, long legged frogs; features that assist with their climbing lifestyle. All species have toe pads, which also help them to climb.

Many tree frogs display bright colours like green or yellow, but there are some exceptions of muted brown.

This group's egg laying strategy includes attaching eggs to vegetation just below or above streams, permanent and temporary pools and even water filled holes in tree trunks.

The following 24 tree frog species occur in the Hunter Region.

## Green and golden bell frog

Litoria aurea

|  |  | $F$ | $M$ | $A$ | $M$ | $J$ | $J$ | $A$ | $S$ | 0 | $N$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Usually brightly green and golden in colour
- Blue colouration on thighs


## Habitat

Habitat generalist but has declined in all habitats except the coast.

Other information This Endangered species has heavily declined, but a local population on Kooragang Island is stable.

## Conservation status

Endangered
Similar species
Litoria fallax


## Barrington tree frog

J F F M A M M J J J A A S O 0 N

## Key identification features

- Green with small black dots
- Pale and dark stripe backwards from eye above ear


## Habitat

Streams and creeks in the north-east of the region.


## Other information

Can occur together with the similar Litoria phyllochroa but has a different call.

## Conservation status

Not threatened

## Similar species

Litoria phyllochroa

## Booroolong frog

Litoria booroolongensis

|  | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Mottled brown colouration
- Relatively smooth skin


## Habitat

Flowing creeks north of Scone.
Historically occurred in the Barrington and Goulburn River areas but has declined.

Other information
This Endangered species lives on rocky creeks, many
 of which flow through farmland. Protecting creeks helps this species.

## Conservation status

Endangered
Similar species
Litoria wilcoxii

## Green-thighed frog



## Key identification features

- Vivid green colouration in groin
- White or pale stripe across top lip


## Habitat

Paperbark and Sawsedge swamps in the east of the region.

Other information
Calls for just a couple nights after intense rain.

## Conservation status

Vulnerable
Similar species
Litoria wilcoxii, Litoria jervisiensis

| 0 mm | 10 | 20 | 30 | 40 | 45 | 50 | 60 |  | 70 |  | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 |$|$

## Green tree frog

Litoria caerulea

|  | J | F | M | A | M | J | J | A | S | 0 | N |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Often green but can turn brown
- Large and generally rotund
- Skin fold over ear
- Sliver-gold eye colour


## Habitat

Generalist, usually breeding in flooded areas or ponds after heavy rain.

Other information A common backyard species especially in rural and farmland areas, often
 living in gutters or pipes.

## Conservation status

Not threatened

## Similar species

Litoria chloris, Litoria gracilenta


| 0 mm | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Red-eyed tree frog

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Uniform green across body
- Red eyes
- Often yellow colour under body and limbs

Habitat
Temporary puddles in forested areas in the east
 of the region.

## Other information

Generally, breeds after heavy rainfall.

## Conservation status

Not threatened

## Similar species

Litoria caerulea, Litoria gracilenta

## Blue Mountains tree frog

Litoria citropa

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Red colour through groin, thigh, and armpit
- Body is mottled brown and green in colour


## Habitat

Streams on sandstone in the south of the region.

Other information Usually calls from near fast-flowing water.


## Conservation status

Not threatened

## Similar species Litoria daviesae <br> Similar species Litoria daviesae

## Davies'tree frog

Litoria daviesae

|  |  | n | 1 | M | J | J |  |  | 0 | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Key identification features

- Pale yellow-cream colour through groin, thigh, and armpit
- Body is mottled brown and green in colour


## Habitat

High altitude creeks and swamps in the Barrington
 and northern Hunter Region.

## Other information

Much of this species' habitat burned in the Black Summer fires, except for Barrington Tops.

## Conservation status

Vulnerable

## Similar species

Litoria citropa


## Bleating tree frog

Litoria dentata

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Brown hourglass pattern on back
- No bright colours in groin or inner thighs
- Browny-yellow vocal sac when calling


## Habitat

Generalist, breeding in puddles and ponds after heavy rain.

## Other information

A common species in suburban and farmland
 areas with some bushland.

## Conservation status

Not threatened

## Similar species

Litoria quiritatus, Litoria verreauxii, Litoria jervisiensis, Litoria littlejohni, Litoria rubella $\qquad$


## Eastern sedge frog

Litoria fallax

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- White stripe from armpit half-way along upper lip
- Narrow body shape with pointed snout
- Small body size

Habitat
Ponds and wetlands, often
 in suburban backyard ponds.

## Other information

Can quickly change colour from
completely green to completely brown or somewhere in between.

## Conservation status

Not threatened

## Similar species

Litoria phyllochroa

## Wallum rocket frog

Litoria freycineti

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Pale tear-drop shaped mark in front of eye
- Sharply pointed snout
- Mottled back pattern
- Bumps and ridges on back


## Habitat

Sandy coastal swamps and sandstone creeks.

Other information Spends most of its time
 on the ground.

## Conservation status

Not threatened

## Similar species

Litoria jervisiensis, Litoria nasuta


## Graceful tree frog

J J F M A A M J J J A A S O O N

## Key identification features

- Green body
- Red-orange eyes
- Yellow line from snout across eyelid and above ear

Habitat
Open coastal habitats north of Bulahdelah,
 breeding in temporary puddles and flooded areas after rain.

## Other information

Sometimes turns up transported in fruit, vegetables, or building materials.

## Conservation status

Not threatened

## Similar species

Litoria chloris

## Jervis Bay tree frog

Litoria jervisiensis

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Yellow in armpits and orange inner thighs
- Long and thin shape
- Obscure pale stripe under eye


## Habitat

Swamps and ponds in coastal heath habitat.

Other information
Often breeds in water that is somewhat acidic.


## Conservation status

Not threatened

## Similar species

Litoria verreauxii, Litoria littlejohni, Litoria dentata

## Broad-palmed rocket frog

J J F M

## Key identification features

- Pale tear-drop shaped mark in front of eye
- Strongly pointed snout
- Relatively plain back colouration


## Habitat

Diverse habitats, calls
 around ponds and flooded areas.

## Other information

Common in rural and farmland habitats in open areas around ponds.

## Conservation status

Not threatened

## Similar species

Litoria freycineti, Litoria nasuta


## Northern heath frog

Litoria littlejohni

|  | M | A | M | J | J | A | S | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Red-orange in armpit, groin, and thigh
- Dark brown stripe from the snout, over the eye and ear
- Large size compared to similar species


## Habitat

Ponds and slow-flowing sandstone creeks in the south of the region.

Other information
This vulnerable species can be assisted by
protecting and minimising disturbance to ponds and streams in the Watagan Mountains.

## Conservation status

Vulnerable

## Similar species

Litoria jervisiensis, Litoria verreauxii

| 0 mm | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Striped rocket frog

Litoria nasuta
J J F M

## Key identification features

- Pale tear-drop shaped mark in front of eye
- Strongly pointed snout
- Striped back pattern

Habitat
Coastal swamps and ponds.


## Other information

More common further north, this species is rarely seen in the Hunter region.

## Conservation status

Not threatened

## Similar species

Litoria freycineti, Litoria latopalmata

## Peron's tree frog

## Litoria peronii

$\square$

## Key identification features

- Grey colour with green flecks
- Bright yellow and black markings on inner thighs


## Habitat

Diverse habitats; commonly in backyards and houses, including in urban areas; calls around ponds.

Other information Very similar to Litoria tyleri, but best identified
 by call.

## Conservation status

Not threatened

## Similar species

Litoria tyleri

## Green stream frog

Litoria phyllochroa

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Green body colouration
- Orange-red armpits and thighs
- Dark and light stripes from the snout, over the eye and ear

Habitat
Streams in forest habitats in the region's east.


Other information
Can occur with the very similar Litoria barringtonensis but has a different call.

Conservation status
Not threatened

## Similar species

Litoria barringtonensis

## Screaming frog

## Litoria quiritatus

| $J$ | $F$ | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Brown hourglass pattern on back
- No bright colours in groin or inner thighs
- Yellow vocal sac and yellow body when calling.


## Habitat

Generalist, breeding in puddles and ponds after heavy rain.

Other information A common species that calls in ponds and
 puddles after heavy rain, it makes an extremely loud call.

## Conservation status

Not threatened

## Similar species

Litoria dentata, Litoria verreauxii, Litoria jervisiensis, Litoria littlejohni, Litoria rubella


## Whirring tree frog

## 

Litoria revelata

| F | M | A | M | J | J | A | s | 0 | N | D |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Key identification features

- Obscure white stripe under eye
- Small bumps on eyelid


## Habitat

Paperbark and Sawsedge swamps, generally in forested areas.


Other information
Males turn yellow when calling.

## Conservation status

Not threatened

## Similar species

Litoria jervisiensis, Litoria verreauxii


## Red tree frog

Litoria rubella

|  | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Chubby body shape
- Indistinct pattern on back


## Habitat

Open woodland and grassland, breeds in flooded areas and ponds.

Other information
Common in the semiarid and arid zones, but only just reaches the western Hunter region.


## Conservation status

Not threatened

## Similar species

Litoria dentata

## Tyler's tree frog

## Litoria tyleri

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Grey or yellow colour with tiny green dots
- Indistinct yellow and black markings on inner thighs


## Habitat

Ponds and swamps within forested areas in the
 east of the region.

## Other information

Very similar to Litoria peronii, but best identified by call.

## Conservation status

Not threatened

## Similar species

Litoria peronii

| 0 | mm | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Whistling tree frog

Litoria verreauxii

| J | F | M | A | M | J | J | A | S | 0 | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Key identification features

- Small toe pads
- Dark stripe from nostril, through the eye and over the ear


## Habitat

Diverse habitats and water bodies in the eastern half of the region.

Other information
Common in rural areas and may call around houses in water pots or
 feature ponds.

## Conservation status

Not threatened

## Similar species

Litoria jervisiensis, Litoria littlejohni,
Litoria revelata

## Eastern Stony Creek frog

## Key identification features

- Dark stripe from snout, through the eye and above the ear
- Somewhat pointed snout
- Mottled pale colour on inner thighs


## Habitat

Diverse habitats, breeds
 along streams but often found far away from water.

## Other information

Males turn bright, golden yellow when calling.

## Conservation status

Not threatened

## Similar species

Litoria brevipalmata, Litoria jervisiensis

## Further Reading

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Field sketches


