

Australian Threatened Species

Fleay's Barred Frog *Mixophyes fleayi*

Conservation Status



Fleay's barred frog. Photo by Ed Meyer

Internationally: Endangered
(The World Conservation Union (IUCN))

Commonwealth: Endangered
(Environment Protection and Biodiversity Conservation Act 1999)

Queensland: Endangered
(Nature Conservation Act 1992)

New South Wales: Endangered
(Threatened Species Conservation Act 1995)

What does it look like?

Fleay's barred frogs are medium to large frogs growing up to 90 millimetres long. The females are often larger than the males. Fleay's barred frogs have pale brown backs with darker blotches starting between the eyes and running down the back. The arms and legs have dark bars which widen under the legs to form a triangular pattern. The belly is smooth and pale yellow. In adults the top half of the iris is silver-blue and the lower half is brown. The fingers are unwebbed and the toes are half-webbed.

This frog is distinguishable from other barred frog species by the spots on its sides, triangular pattern on the backs of its thighs and its distinctive eye colour.

The tadpoles are fairly large and dark brown in colour, with a fine layer of gold flecks across the back. These tadpoles are fast swimmers and dart under rocks when disturbed.

Where does it live?

The Fleay's barred frog has a restricted distribution extending from the Great Dividing Range in south-east Queensland, south to Yabbra Scrub in north-east New South Wales. This frog lives in wet forests such as rainforests, Antarctic Beech and the wetter eucalypt forests.

Adults often hide in leaf litter near permanent fast-flowing streams in

rainforests and adjoining wet sclerophyll forests. Males call from rocks in streams or from pools at the margins of these streams or from the forest floor. Females have been located well away from streams – over hundreds of metres from known breeding sites.

While the majority of records for the species are from altitudes above 400 metres the Fleay's barred frog is also known from lowland rainforest.

What does it eat?

Rainforest floor insects and smaller invertebrates are the primary food source for the Fleay's barred frog, which often shelter under moist leaf litter.

Did you know...

- Frogs communicate with each other through calls or croaks. These calls are used to attract a mate and indicate territory or distress. Fleay's barred frog has two distinct calls made after rain during spring and summer, an 'ok-ok-ok-ok-ok' made by solitary males and a long 'arrrrrrk' or growling call given in a chorus.
- Frogs have very special skin – they drink and breathe through it. Frogs don't usually swallow water like we do, instead they absorb most of the moisture they need through their skin. Frogs also rely on getting extra oxygen (in addition to what they get from their lungs) from the water they absorb through their skin.

Rising temperatures and reduced rainfall: a major threat

Why are rising temperatures and reduced rainfall a problem for Fleay's barred frog?

It has been suggested that frogs are "indicator species" that warn of detrimental changes in the environment. Of great concern is that frog numbers have already declined in what were once considered pristine environments. Fleay's barred frog is one of five species of upland stream-dwelling frog which has declined in south-east Queensland during the last 15 years. This species has disappeared completely from Bunya Mountains and Mount Tamborine in Queensland.

Changes in temperature and rainfall patterns may impact on the wet forests and stream habitats of the Fleay's barred frog. Populations of the Fleay's barred frog tend to be characterised by low density and are often isolated from other populations. Due to the restricted and fragmented distribution, and habitat preference of the Fleay's barred frog, the effects of climate change on rainforest ecosystems may impact on this species.

Fleay's barred frog is already threatened with extinction due to changes in water flow patterns, a reduction in water quality from pollution or sedimentation, predation by feral pigs, weed invasion, and the impacts of the chytrid fungus. Many sites where Fleay's barred frog occurs are the lower reaches of streams that have had major disturbances to riparian vegetation and clearing and fragmentation of habitat for agriculture or development.

Fleay's barred frog. Photo by Ed Meyer



What is being done?

A recovery plan is in place for the stream frogs of south-east Queensland.

There are also a range of programs in south-east Queensland and northern New South Wales that conduct regular, long-term population monitoring and assessments of likely habitat, and develop and distribute educational materials and information on the species.

A captive husbandry project has also been initiated at Queensland's Lone Pine Koala Sanctuary, and the New South Wales Department of Environment and Conservation has identified 17 priority actions to help recover the Fleay's barred frog in the state.

How you can help

- Only handle frogs when absolutely necessary.
- Maintain vegetation and deep leaf-litter around streams.
- Keep your garden free of chemicals including insecticides, pesticides, fertilisers. Frogs succumb to environmental poisons because their very thin skin absorbs chemicals easily. They also become sick and die after eating poisoned insects.
- Avoid sunscreens and insect repellents when swimming in rainforest streams.
- Report any records of Fleay's barred frog to the Queensland Museum or your state's National Parks and Wildlife Department.
- Walk, cycle or use public transport.
- Save on heating and cooling costs by insulating, draught-sealing and shading, while setting thermostats appropriately. For more information see the 'Heating and Cooling' fact sheet of the

Your Home Technical Manual:

www.greenhouse.gov.au/yourhome/

- Switch off lights, appliances and equipment when they're not needed and install energy-efficient fluorescent lamps such as compact fluorescent lights.
- Minimise waste of packaging and materials – refuse, reduce, re-use, recycle.
- For other tips on saving energy around the home, go to the Australian Greenhouse Office web site: www.greenhouse.gov.au/gwci/index.html

Contacts and references

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You can also find out more information about Australia's threatened species by visiting www.deh.gov.au/biodiversity/threatened or contacting the Department of the Environment and Heritage Community Information Unit, email ciu@deh.gov.au, or freecall 1800 803 772.

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