

Jahrany (frogs) on Bundjalung Country

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Common name: Frogs
Scientific names: Many
Language name: *Jahrany*



Status

The conservation status of *Jahrany* on Bundjalung Country is varied with some species more common and others listed as threatened.

Description

Bundjalung Country is a frog diversity hotspot in Australia with over 40 species of *jahrany* recorded¹.

Jahrany skin is highly permeable, allowing them to absorb water, oxygen and other substances directly from their environment. This permeability is essential for their survival, as they don't drink water like many other animals; instead, they absorb it through their skin. Their porous skin also makes them highly sensitive to environmental changes, pollution and toxins.

Jahrany are known as 'environmental barometers', meaning that when an ecosystem becomes degraded, *jahrany* will be one of the first group of animals to disappear.



Green tree frog (*Litoria caerulea*). Photo: Michele Lockwood.

Distribution

Some species are widespread across Bundjalung Country (e.g. Striped marsh frog, *Limnodynastes peronii*) while others have very restricted distributions (e.g. Wollumbin hip-pocket frog, *Assa wollumbin*).

Habitat

Jahrany occur in a suite of different habitat types, climatic conditions, altitudes and water conditions, including acidic, ephemeral, freshwater and disturbed.

Many species are associated with specific habitat types. For example, on Bundjalung Country, there are wallum *jahrany*, sphagnum moss *jahrany*, alpine *jahrany* and heathland *jahrany*.

Threats

Anthropogenic processes that threaten *jahrany* include:

- **Climate change**, including changes in hydrology (drought and flood) and increased fire
- **Urban, industrial and commercial development**, leading to habitat loss, degradation, inbreeding depressions, as well as car strikes
- **Agricultural practices**, such as chemical use, trampling by livestock, leading to water quality degradation
- **Forestry practices and recreational impacts**
- Diseases such as **Chytrid fungus**
- **Invasive animal predation**, particularly Gambusia species, feral pigs and Cane toads
- **Weed encroachment**, leading to habitat degradation.

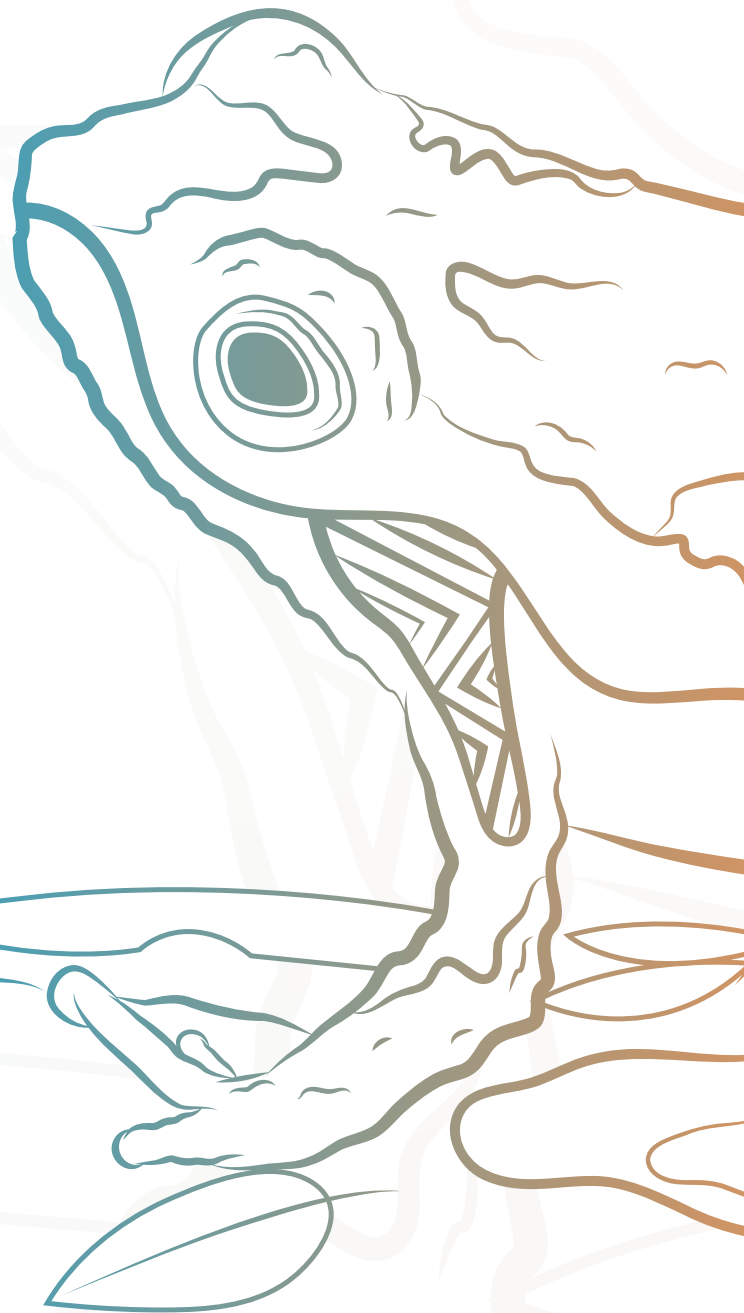
Cultural Connections

Jahrany are known to have cultural and spiritual significance to many groups across Australia. Some stories featuring *jahrany* are known by many groups and are used to teach lessons about resource management and community responsibility. A well-known Dreamtime creation story often shared with children is *Tiddalik*, a greedy frog who drank up all the water.

Jahrany are represented in Dreaming stories; they are totems for some and, for others, they are avoided. *Jahrany* are used for food and medicine, and as a source of water and as fishing bait.



Wollumbin hip-pocket frog (*Assa wollumbin*).
Photo: Michele Lockwood.





Cultural Values

Country

Jahrany are indicators of changes in weather and they can tell us about imminent natural hazards like floods due to their ability to detect changes in barometric pressure. Hearing a chorus of different species calling is a sign of healthy Country.

“Jahrany can tell us a lot when we listen.”

Oliver Costello, Bundjalung

Knowledge

Jahrany are foundational to knowledge of Country and culture. Their calls are part of ceremony, corroboree, song and dance. Their calls were included in songs about places, so that when Bundjalung travelled to those places, they would hear their calls and know they were in the right place.

“If Bundjalung don’t have access to important places they may not hear jahrany and therefore not talk about them.”

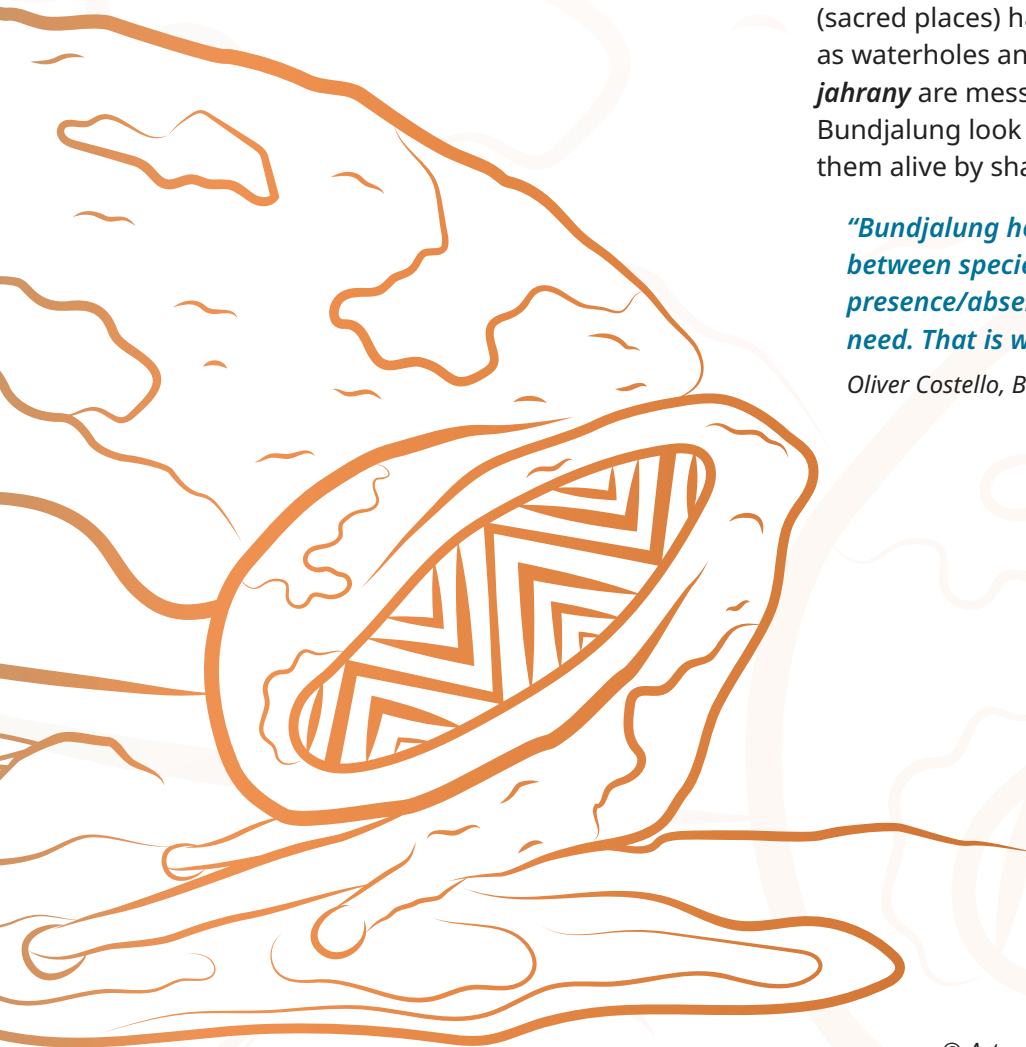
Oliver Costello, Bundjalung

Kin

Jahrany are connected to water. Many **djurbils** (sacred places) have water associations, such as waterholes and waterfalls. For Bundjalung, **jahrany** are messengers to those **djurbils**. In turn, Bundjalung look after the **jahrany** stories; they keep them alive by sharing them through the generations.

“Bundjalung hold knowledge about relationships between species, about thresholds of abundance, presence/absence, about what different species need. That is why kinship is so important.”

Oliver Costello, Bundjalung



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Results of Poor Management

Frogs in decline

Currently, many Bundjalung *jahrany* are threatened. The area and quality of habitat for many species continues to decline because of land clearance, agricultural practices, changes to water flows and poor fire management. These impacts also reduce their resilience to disease and climate change.

For species that are restricted in their range (such as the Richmond mountain frog, *Philoria richmondensis*), a single large hot wildfire, prolonged severe drought, or other natural disaster can threaten the species with extinction.

Lack of access to Country for Bundjalung

If access to special places was increased for Bundjalung, it would be possible to unpack more of the relationships between different species and places.

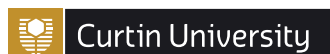
Focusing on *jahrany* may help us to reinterpret the relationships, to start talking about them again, reclaiming Traditional knowledge and improving intergenerational knowledge transfer. The behaviour of different species can tell us more about the place in which they occur. They can teach us about survival, the roles of family members and the relationships (kinships) they have with other species.

Government processes around threatened species assessments/management

Western reductionist systems focus on individual *jahrany* species: they talk about one species in one place, in isolation from its kinship. This can lead to reduced opportunities for incorporating Indigenous knowledge into plans, which then also leads to reduced opportunities for empowerment and involvement in the ongoing management of these species.



National Environmental Science Program



¹ Cutajar T, Portway C, Gillard G, Rowley J. Australian Frog Atlas: species' distribution maps informed by the FrogID dataset. Technical Reports of the Australian Museum online. 2022;36:1-48.

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Bundjalung Vision

Greater acknowledgement of Bundjalung as Traditional knowledge holders

Some species of *jahrany* are rare and cryptic or not used for food or medicine. That doesn't mean that Bundjalung don't hold knowledge for them that may be critical to their survival. Their scientific name might not be known, but Traditional knowledge holders for that place may know the best way to find them on a songline or how to look after that *jahrany*. Sometimes other indicator species are linked to a place and if these species are cared for, so too will the *jahrany*.

This recognition of Traditional knowledge must also extend to management. Bundjalung hold knowledge about different species and their habitats and what is required to best look after them. Some species may need the focus to be on restoring wetlands, revegetation, fire management or weed control. These things can help build their resilience. They also provide opportunities for meaningful employment and access to Country for Bundjalung.

Engagement processes around planning for the protection of *jahrany* need to focus on building trust and being open to other types of knowledge about species or groups of species. If they were less restrictive, extractive and transactional, it would lead to better outcomes for *jahrany* and for Bundjalung.

Broader understanding of how species can be culturally significant

Different species are significant for different reasons, including their appearance, behaviour, diet, relationships with other species or because of the stories that they teach us.

Some *jahrany* are considered significant because of where they live, for example, the Wollumbin hip-pocket frog is found only within the upper altitudes of Wollumbin National Park, a place of deep significance for all Bundjalung People. This area has been declared an Asset of Intergenerational Significance (AIS) under the NSW National Parks and Wildlife Act 1974.