

## The Frogs of Little Llangothlin Nature Reserve

Alexander Dudley

PO Box 222

Warialda NSW 2402

ap\_dudley@yahoo.com.au



Little Llangothlin Nature Reserve is a high altitude (1360m) freshwater lagoon located on the New England plateau. A frog survey was carried out on 12-12 March 2011 and included spotlighting, active searching (including searching beneath rocks and fallen timber and scanning floating vegetation using a Bushnell Spacemaster spotting scope and Swarovski 8 x 20 binoculars) identifying frogs by call and using call playback (using an iPod connected to a Cygnett CY-3-MS rechargeable speaker) to encourage frogs that might not be calling to call. Special effort (involving call playback and scanning floating vegetation) was used to try to locate Spotted Bell Frogs *Litoria (Ranoidea) castanea*, but none were detected. The vegetation of the lagoon itself is fairly homogenous, but there is some variation in topography around the lagoon. In the south-west corner of the reserve is The Billabong which is separated from the main lagoon and has more surface vegetation, which was searched on 13/3/2011. Importantly, there are a number of freshwater seeps that provide important habitat to some species of frogs that are probably seasonally dry, restricting access to the mosquito fish (also known as a Plague minnow) *Gambusia affinis holbrooki* which is present in the major waterbodies around the lagoon. The presence of the Mosquito fish is of concern as they are listed as a threatening process for a number of Australian frog species, including members of the Bell Frog group (subgenus *Ranoidea*). The Yellow-spotted bell Frog *Litoria (Ranoidea) castanea* was not detected during this survey, however in the absence of this fish Little Llangothlin Lagoon could be considered to be potential habitat for this endangered frog.

Conditions on both nights were suitable for frog activity. On 12/3/2011 at 19:55 the temperature was 18.5°C and the relative humidity was 76%, with little breeze and 95% cloud cover. On 13/3/2011 at 19:55 the temperature was 17°C and the relative humidity was 78%, with cloud cover being about 60%. During the day there was patchy sun which was ideal for reptile activity; it was decided to undertake an opportunistic reptile survey given that both reptiles and amphibians share the same microhabitats. Given the good conditions for frog activity the author regard the frog component of the survey to be fairly comprehensive, however cryptic species such as Brood frogs of the genus *Pseudophryne* may not have been detected if they were not calling. Detailed results of the survey have been supplied in the form of a spreadsheet, however a summary of the findings is provided below.

## Frogs

### Myobatrachidae

#### *Crinia signifera* Common Froglet



Common, calling around lagoon shore and in seepage areas. Calls throughout the year, usually after rain. This species is very similar in appearance to *Crinia parinsignifera* (below) but *C. signifera* can be easily distinguished by the call, or by possession of black and white marbling on the belly in combination with a grey throat. The call is usually a coarse, cricket-like clicking chirp. 25mm.

Status: Secure.

***Crinia parinsignifera* Eastern Sign-bearing Froglet, Beeping froglet.**



This tiny frog was heard calling from four localities in the reserve but is likely to be more widely distributed. This species lays eggs in shallow water on the substrate or attached to aquatic plants. This species is distinguished from *C. signifera* by call and by the possession of a pale white-flecked belly. The call is usually a high-pitched, strained beeping "reeet" but may be followed by a descending "gdick gdick gdick gdick". 23mm.  
Status: Secure

***Uperoleia laevigata* Smooth Toadlet**



Four specimens found, all under rocks or logs during the day. None were heard calling during the survey.

This species breeds in flooded grasslands. The call is a long quack. 32mm.

Status: secure.

### **Limnodynastidae**

#### ***Limnodynastes peronii* Brown-striped Frog.**



Abundant- calling pretty much all around the lagoon shore in huge numbers, also found in many localities further away from water. Brown-striped frogs shelter in dense grasses close to and in the water, and is known to be relatively tolerant of pollution. Eggs are laid in a floating foam nest, usually amongst vegetation. The call is a deep, tapping "tock", repeated regularly. 73mm.

Status: secure.

#### ***Limnodynastes tasmaniensis* Spotted Marsh Frog**



Abundant, recorded from 23 localities around the lake, but not calling. This species was found sheltering beneath rocks and logs and was the most abundant species found on land. The Spotted Marsh Frog lays its eggs in a floating foam nest close to the edge of the water, they breed between August and March. The call is a rapid three or four pulsed staccato burst. 47mm.

Status: Secure.

***Limnodynastes (Platyplectrum) dumerilii dumerilii* Eastern Banjo Frog.**



Eastern Banjo Frogs are a large, burrowing species capable of withstanding extended periods of dry weather by sheltering underground. They usually call following prolonged summer rain events. The call is a deep "bonk". 70mm.

Status: Secure

## Hylidae

### *Litoria (Drymomantis) fallax* Eastern Dwarf Tree Frog



This species appears to have a clumped distribution. A small frog which shelters amongst grasses and standing vegetation, as this species was only heard calling occasionally, it may have been more common than the limited number of records may indicate. Small individuals of this species were found well away from the main water bodies. This species breeds in pools, swamps or lakes with emergent vegetation. The call is a high, slightly pulsed chirping- "reeet tk tk". 32mm.

Status: Secure

### *Litoria (Pengilleyia) peronii* Peron's Tree Frog



Peron's tree frogs shelter in hollows during the day. This species was not common, nor was

it heard calling at any stage during the survey. Four specimens were found. The cross-shaped pupils and emerald speckling distinguish this species from others in the area. This species has a distinctive call, a descending, drawn out, machine-gun like laugh. 65mm. Status: Secure.

### ***Litoria verreauxii* Verreaux's Frog**



This was a common species around Little Llangothlin Nature Reserve, and was heard calling both day and night, beside the main Lagoon, around the Billabong and at various soaks. Verreaux's Frog is characterised by the presence of black patches in the groin, red thighs without black marbling and small toe discs, scarcely wider than the digits. The call is a slightly ascending "weep weep weep weep" with a whistling quality. 36mm.

Status: Secure.

### **Reptiles.**

The following reptiles were recorded incidentally and were located by scanning fallen logs and looking beneath rocks and logs. The following list should not be considered definitive, nonetheless it should be noted that no geckos were encountered during the survey. Other species of snakes, such as Brown Snakes *Pseudonaja textilis* , Black-headed Snakes *Parasuta dwyeri* and Tiger Snakes *Notechis scutatus* are likely to occur in the reserve.

**Scincidae**

***Acritoscincus platynota* Red-throated Skink.**



An egg-laying skink found around logs, hunting insects amongst leaf-litter and humus. 80mm.

Status: Secure

***Ctenotus taeniolatus* Copper-tailed Skink**



The Copper-tailed skink was found in clustered populations where there was short grass and basalt rocks concentrated on the surface. This egg-laying skink enters a torpor during winter months. 80mm.

Status: secure



***Egernia cunninghami cunninghami* Cunningham's Skink (nominate race)**



This species was recorded at two localities around the reserve; a single adult individual was observed basking on a hollow log in the south-east of the reserve, and a family group was found on a rock outcrop in the northeast of the reserve. These social lizards often show strong association with a particular habitat that may last for generations. Protection of the outcrop where these lizards occur is important to retain this species on the reserve. Heavy equipment used in fire-fighting has the potential to do irreversible damage to this microhabitat. 180mm.

Status: Secure

***Lampropholis delicata* Dark-flecked Garden Sunskink**



This small egg-laying species of skink is usually associated with denser woodland where it basks on and forages around fallen trees. Five specimens of this species were recorded. 51mm.  
Status: Secure

***Lampropholis guichenoti* Pale-flecked Garden Sunskink**



An egg-laying species usually observed basking on logs and rocks. 48mm.  
Status: Secure

***Liopholis whitii* White's Skink**



White's skinks are a common species in the reserve, associated with fallen logs and rock outcrops. They are a social skink, with small family groups often living together. 113mm.  
Status: Secure.

***Pseudemoia pagenstecheri* Tussock Skink**



A number of this shy species were observed basking on logs, seeking refuge in thick grass when disturbed. Tussock skinks are live-bearing and are predominately insectivorous. 62mm. Status: Secure

***Saiphos equalis* Three-toed Skink**



This livebearing species was found beneath logs and rocks at various localities around the reserve. 75mm. Status: Secure

***Saproscincus mustelina* Weasel Skink**



Weasel Skinks are an egg-laying species that prefers moist, shady areas. They shelter beneath rocks and logs. 55mm. Status: Secure

**Elapidae (Hydrophiinae)  
*Austrelaps ramsayi* Highland Copperhead**



A single specimen was observed in the south-east of the reserve but it is likely that this potentially dangerous species is found throughout the reserve. Highland Copperheads are live-bearing snakes that feed predominately on frogs and reptiles (including other snakes). TL 1.1m. Status: Secure

***Drysdalia coronoides* White-lipped Snake**



This small live-bearing species feeds predominately on skinks. In northern NSW it is restricted to high altitudes. A single individual was found foraging around a seep in the north-eastern section of the reserve. White-lipped snakes are venomous, but not considered dangerous. TL 450mm. Status: Secure.

***Pseudechis porphyriacus* Red-bellied Blacksnake**



A large individual of this species was found beside a log on the Lagoon Circuit on the northern side of the lagoon. Red-bellied blacksnakes are potentially dangerous, but usually shy. They feed on reptiles, amphibians, fish and small mammals. TL 2m. Status: Secure.

## Chelidae

### *Chelodina longicollis* Eastern Snake-necked Turtle



Given the suitability of habitat the author was surprised not to see more *Chelodina longicollis* around the lagoon. A single individual was observed on the north side of the lagoon. These freshwater turtles lay their 8-24 eggs on the land. Carapace length 254mm. Status: Secure.

The following mammal species were also observed during the survey:

European Rabbit *Oryctolagus cuniculus*

Red Fox *Vulpes vulpes*

Common Ringtail Possum *Pseudocheirus peregrinus*

Common Brushtail Possum *Trichosurus vulpecula*

Eastern Grey Kangaroo *Macropus giganteus*

Swamp Wallaby *Wallabia bicolor*

Red-necked Wallaby *Macropus rufogriseus*

Common Wallaroo *Macropus robustus*

Echidna *Tachyglossus aculeatus*

Evidence of Water Rat *Hydromys chysogaster* was found at The Billabong in the form of a number of chewed crayfish claws on flattened reeds in shallow water.

Note: in spite of the fact that "Water skinks" are listed as occurring in the reserve on the on-line notesheets, and "water lizards" are listed as occurring on the information board, no species of *Eulamprus* were found during the survey. *Eulamprus kosciuskoi* could potentially occur in the area, but in spite of looking for this species under ideal conditions, none were found. However, other species of skink were recorded to the water's edge.

This survey was undertaken for DECCW Glen Innes under Scientific Licence S11435.

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**Komak, S. and Crossland, M.R. 2000.** An assessment of the introduced mosquitofish (*Gambusia affinis holbrooki*) as a predator of eggs, hatchlings and tadpoles of native and non-native anurans. *Wildlife Research* **27**: 185-189

**Robinson, Martyn 1993.** *A Field guide to Frogs of Australia*. Australian Museum/Reed, Chatswood.

**Stewart, David 1999.** *Australian Frog Calls Subtropical East* (Compact Disc). Nature Sound, Mullumbimby NSW

**Tyler, M. J. & Knight, F. 2009.** *Field Guide to the Frogs of Australia*. CSIRO

**Wilson, S. & Swan, G. 2010.** *A Complete Guide to Reptiles of Australia (Third edition)* Reed New Holland, Chatswood.

<http://www.environment.nsw.gov.au/determinations/PlagueMinnowKTPListing.htm>