

Frogs in the CLLMM Region

MONITORING OUTCOMES OF 2013

Over the past three years the internationally recognised Ramsar Coorong, Lower Lakes and Murray Mouth (CLLMM) region has experienced stages of recovery to a functioning freshwater and estuary system following increased freshwater flows into the system in 2010. With the continued return of water to fringing wetland habitats, the recovery of many once-common species, including the EPBC vulnerable-listed Southern Bell Frog (*Litoria raniformis*) has had less-than-expected results.

Between September 2012 and January 2013, a monitoring project was undertaken to assess how frogs, particularly *L. raniformis*, have responded to continued water availability following drought and changes in the habitats they use within Lake Alexandrina, Lake Albert and the lower connected reaches of the EMLR tributaries. Monitoring methods included a combination of call identification and active searching. With the combined help from volunteers, nocturnal surveys were undertaken at 81 locations across the region (43 project sites, 38 volunteer sites). A total of 214 survey events were completed.



Photo: Green filamentous algae and sparse Common Reed (*Phragmites australis*) where adult Southern Bell Frog were observed rafting in while calling.



Photo: A Southern Bell Frog spotlighted during frog surveys near Clayton Bay township in September 2013
(Photo: Regina Durbridge, GWLAP)

SOUTHERN BELL FROG RESULTS

Although the amount of available *L. raniformis* habitat was considered to be greater than in past years, *L. raniformis* was detected at only two of the 81 sites sampled, located in the north and western areas of the study region at Wellington East Wetland and near Clayton Bay Township. Overall detected abundance across the study region was low to extremely low.

Adult *L. raniformis* were observed calling within semi-open vegetated sheltered waterbodies with plant material, such as algae for the frogs to raft on. Male *L. raniformis* frogs were recorded calling January 2014. One individual was spotlighted on open ground in September 2013 but not calling.

Although the increased available habitat in 2013/14 likely decreased the detectability of *L. raniformis* due to their known readiness to disperse to 'greener pastures', there are other factors to consider. Dense plant growth or dominance by reed species has changed the type of structural habitat available at sites that were once occupied by *L. raniformis*. An analysis of data from all years surveyed (2009, 2010, 2012 & 2014) show the highest abundance of calling males were found



amongst semi-open emergent vegetation of 5-50% cover and 1-25% cover of submerged or floating vegetation/debris, not in very dense vegetation even if it was in close vicinity. In some areas, water flow into wetlands is becoming obstructed by dense plant growth which can effect water quality (a key factor influencing aquatic plants and animals).

Results of this study outline the need to promote more complex and diverse habitats for frogs through the appropriate management of wetlands and waterways and the vegetation communities associated with *L. raniformis* breeding habitat. This can be done by building upon current land management practices and implementing a variable hydrological regime.

OTHER FROG SPECIES RESULTS

A total of eight frog species (including *L. raniformis*) were recorded in CLLMM region as part of this project in 2013/14. The most widespread and abundant species was the **Common Froglet** (*Crinia signifera*) which was detected at 89% of sites and in abundances of greater than 50 individuals at 47% of sites where the species were found. The **Spotted Grass Frog** (*Limnodynastes tasmaniensis*) and **Eastern Banjo Frog** (*Limnodynastes dumerilii*) were also abundant, detected at 82.7% and 72% of sites respectively.

One species identified in 2013 which had not been detected in previous years was the **Painted frog** (*Neobatrachus pictus*). Individuals were not calling, however adult frogs were spotlighted at seven locations at Point Sturt, Milang, near Raukkan, Hindmarsh Island and Goolwa in September 2013. *N. pictus* is a burrowing species and is known to call in autumn and winter (Tyler and Walker 2011), particularly after heavy rain.

Long-thumbed/Barking marsh frogs (*Limnodynastes fletcheri*) was found at a similar number of sites to 2012 (37% in 2013 compared to 35.5% 2012). The abundance score per site on average was less in 2013 than in 2012 when the species was recorded in abundances greater than 50 individuals at six locations.

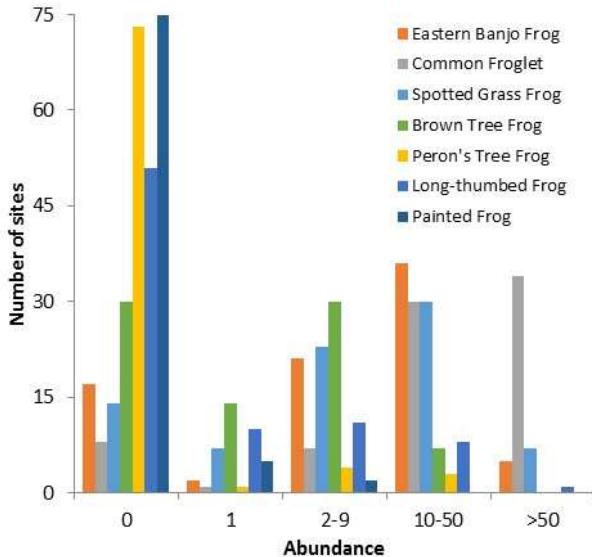
The **Peron's tree frog** (*Litoria peronii*) was observed at a marginally greater number of sites in 2013 (9.9%) and more often in higher abundances than previous years. An abundance score of 3 (10-50 individuals) were recorded at three of the eight sites occupied by the *L. peronii*.

The **Brown tree frog** (*Litoria ewingii*) was more common in the Wellington and Clayton Bay/Hindmarsh Island districts. It was detected at 63% of sites in 2013 which is greater than previous years. Abundance per

site was generally low (<10) with approximately 2-9 individuals calling.

The highest number of species observed was six species at three sites (near the townships of Clayton Bay and Goolwa and at Pelican Lagoon on Nalpa Station). The highest average number of species per site was observed in 2010 following the widespread inundation of fringing wetlands on the return of lake levels.

Figure 1: Distribution of abundance scores per species



in 2012 across 76 sites

GET INVOLVED

Over 20 volunteers contributed approximately 150 hours to the project enabling an extra 38 sites to be monitored as part of the project greatly increasing spatial distribution of surveys.

Frog monitoring kits are available for loan through the Milang and Meningie Lakes Hubs, the Strathalbyn Natural Resources Centre and the Goolwa Visitor Information Centre.

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FOR MORE INFORMATION OR A COPY OF THE FULL REPORT

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