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DEPARTMENT OF  
**Conservation**  
AND LAND MANAGEMENT

Conserving the nature of WA

# Western Wildlife



July 2002 Vol. 6, Number 3

NEWSLETTER OF THE LAND FOR WILDLIFE SCHEME

REGISTERED BY AUSTRALIA POST PRINT POST: 606811/00007

## A KERB TOO HIGH

Steve Reynolds

THERE are currently 23 recognised species of frogs in the south-west of Western Australia, with additional species in the wheatbelt and semi-arid zone. The great majority of these are endemic (i.e. restricted) to the south-west and are therefore unique from a world viewpoint or indeed from an Australian perspective. Around the Perth area there are about nine species that regularly occur, with a few more that exist in the hills to the east and others in the sandplain country to the north, making a total of 16 in the Perth region.

In the lakes and swamps of the Swan Coastal Plain there are six species of frogs that occur and breed regularly; the calls of these species are likely to be familiar to anyone who lives in close proximity to a wetland around Perth. These species are the Moaning Frog *Heleioporus eyrei*, the Pobblebonk or Western Banjo Frog *Limnodynastes dorsalis*, the Motorbike Frog or Western Green and Golden Bell Frog *Litoria moorei*, the Slender Tree Frog *Litoria adelaidensis*, and two species of 'froglet', the Pea-rattler or Glauert's Froglet *Crinia* (sometimes *Ranidella*) *glauerti* and the Squelching Froglet *Crinia insignifera*. Personally I prefer common names that give some idea about the call of the frog because each species has a unique call thus making identification possible on this basis, and also because a frog's call is about all you are likely to observe unless a thorough search is made. Frogs are very cryptic and often hide amongst vegetation or in burrows - however, on very wet nights, particularly after the first rains of autumn, frogs do move about and they are most likely to be seen at this time.

Hence the reason for this article, in which I want to talk about a few of the problems that frogs face in their



(newly established) urban environment. One of the big problems is that when frogs move around and end up on roads they tend to get run over. Although this is clearly detrimental to the individual the effect may be strong enough to influence entire populations of frogs at individual wetlands. Loss of frogs is particularly evident along busy roads in close proximity to wetlands, for example along Perry Lakes Drive, but also near Bibra Lake, Manning Lake and

Herdsman.

This loss of frogs on roads occurs because of movement and dispersal. Based on the information we have available it seems that frogs tend to move into wetlands in the breeding season, i.e. autumn and winter, and then move out into surrounding areas in the non-breeding season, where they shelter under leaf litter and bark, or in the soil. It is not just farmers then that wait expectantly for the first rains after summer - the frogs are also waiting for sufficient rain to allow them to head back to the swamps to breed. Based on studies elsewhere the usual scenario is that males move in first, establish territories (or burrows) and start calling, and then the females, laden with unfertilised eggs, follow. Frogs seem to move a long way from wetlands, and at sites near Perth have been recorded from several hundred metres to over a kilometre from the nearest wetland. Judging from studies by Ric How (WA Museum) at Bold Park, in summer the frogs only emerge and move around immediately following rain, so they are generally fairly inactive at this time of year.

So what can people do about all these frogs dying on our roads? Well, the obvious thing to do is to slow down and keep an eye out on rainy nights, but they are not always easy to avoid. It may be that Councils should

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## FAUNA

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erect signage to indicate that frogs are moving about in certain seasons, much as there are signs warning of tortoises crossing. If people are really keen then walking along roads near wetlands and moving frogs off roads and into the swamps or lakes will at least save a number of frogs. Unfortunately though, weather conducive to frogs is not likely to be suitable for humans, although it may be necessary to go out for only a few nights each year. (I have been told that, in Germany, Naturalists' Clubs put up drift fences of low flywire on the edge of a road, to hold frogs moving from surrounding country down into wetlands, and then each morning carry all the frogs that collect behind the fence, across the road to the nearest lake. Later on in the year, as the frogs move away from the water, the fence is moved to the other side of the road.)

Something that has come to my attention only recently is that some frogs seem unable, or at least find it difficult, to get over kerbs, even though the kerbs may only be 15cm high. This seems to be for several reasons, firstly because many Australian frogs don't seem to be all that agile - Moaning Frogs are fairly 'slow-witted' and only hop 20 - 30 cm in the horizontal, and don't appear to hop very high. The other reason is that many of the frogs moving around are juveniles, so they're not very big in any case. What this means is that many of the frogs are not able to reach the wetlands where they are headed. The simplest solution to this problem seems to be to ensure that sloping kerbs are used around wetlands so that the frogs can more easily move around. The frogs will still have the problem of crossing roads but at least they won't get stuck there, and so the chances of being run over should be reduced.

Just in passing, there are also a bunch of problems that affect the places that frogs live, i.e. wetlands. The first of these involves the increase in runoff when residential developments are established around the periphery of wetlands. The increased runoff occurs because roads, driveways and roofs are impenetrable to water, hence a lot more water ends up in drains and then eventually in wetlands. The effect that this change in water regime has on frogs is not well documented, but it is clear that many wetlands around Perth that were previously dry in summer are now permanent due to increased runoff. Obviously, the water that floods in from roads and drains is not always of the best quality either - it is filled with oily deposits, grime and rubbish.

The loss of vegetation fringing wetlands is also a problem - these areas provide a buffer into which frogs can disperse in safety. A concern in many areas is what I call the 'ornamentation' of many of our wetlands, with the wetland fringes converted into parklands. These areas are great for people, but leave little room for the natural inhabitants of our wetlands, which prefer native plants like Melaleucas and sedges. Clearing and drainage of swamps, or conversion into other land uses, e.g. water

ski parks or residential, has also affected numerous wetlands around Perth. Most of these changes are related to urbanisation and it seems that there is little we can do, but leaving adequate areas surrounding wetlands would be a first good step. The problem is that when wetlands become surrounded by housing, populations of frogs (and other organisms) become completely isolated from other areas. Where frogs would have moved between swamps in the past, they are now blocked by houses or are forced to cross roads. This means that there is no exchange between populations, and one component of biodiversity, genetic diversity, is consequently curtailed. Corridors of vegetation, particularly in low lying areas, are the best way to facilitate movement between wetlands.

(For more information about the frogs around Perth refer to: Dell & Turpin, 1992, 'Frogs of the Perth Area' WA Museum; or Bush et al., 1995, 'Reptiles and Frogs of the Perth Region'.)

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## BUSH DETECTIVE



What are the white plates hanging out of this magnificent jarrah habitat tree on Eddie Williams property at Baldivis? Are they fungi, or what?

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