

Suprising Results for Invertebrate Survey



Gwambygine Pool Reserve, York.

In 2009/2010, the River Conservation Society, based in York, completed a major invertebrate fauna study of the Gwambygine Pool conservation reserve, as a follow up to the Biological Survey of Gwambygine Pool in 1996. Well known zoologist Mr David Knowles was engaged to carry out the survey. The purpose of the study was provide a baseline inventory for the riparian habitat of a large, deep, brackish permanent pool on the Avon River, WA.

Gwambygine pool is about 1100m long and is 60m across at its widest point. The northern end is about 4m deep while it is quite shallow at the southern end due to sediment transport.

The remnant vegetation of the pool is characterised by three trees, *Casuarina obesa* (Swamp Sheoak), *Melaleuca raphiophylla* (Saltwater Paperbark) and *Eucalyptus rudis* (Flooded Gum), which are not found elsewhere in the local landscape. These three tree species are tolerant of both waterlogging and salinity.

While the vegetation is lacking in variety, David was, **“Surprised at the large number of insects considering the few flowering trees and shrubs on the reserve at that time.”** David carried out a variety of well known trapping techniques including pit-fall traps, hand netting, examination of bark and leaf litter, water traps hung in trees and light tent trapping at night. These surveys were carried out in Spring, Summer and Autumn.

David Knowles said, **“I had not anticipated such an abundance and diversity in such a small area.”** The River Conservation Society said, **“We already knew that there were more birds in the Gwambygine Pool Reserve**

.....and we attributed this to the composition of the invertebrate population. We did not expect the proportion of terrestrial invertebrates, particularly predator species, to be so high.” Cicely Howell said, **“Botanists should pay more attention to this ecological community which has already been identified as endangered.”**

Wheatbelt NRM Small

Community Grants 2009/10

Recipient: River Conservation Society Inc

Amount Funded: \$14, 989.23

People Involved: 4



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An unknown species of scorpion found at Gwambygine Pool during the surveys.

Three surveys were carried out in Spring 2009, Summer 2009 and Autumn 2010. There were exceptional catch rates in the Spring survey. The Summer survey time coincided with peak flowering time of many weed species and native species, with the Swamp Paperbark being in full bloom. David Knowles suspects that the Swamp Paperbark had the greatest diversity of generalised pollinators in the reserve. During the Autumn survey there were virtually no plants in flower. A small herb (*Heliotrope curassavicum*) was in flower and was very attractive to various moths, butterflies, wasps and flies.

Gwambygine Pool Conservation Reserve is situated on the western edge of the Avon Wheatbelt Bioregion, adjacent to the Jarrah Forest Bioregion. The survey revealed 556 species of insects, there were five species of frogs, seven species of lizards, 3 species of snakes and one species of turtle. Previous surveys had revealed 41 species of birds.

David Knowles recommends that at least two more inventory surveys be commissioned in order to make a comprehensive stocktake of the biodiversity of this unique reserve.

Insect Type	Number of Species
Arachnids (Mites, Ticks, Spiders, Harvestmen, Pseudoscorpions and Scorpions)	71
Centipedes	3
Slaters, Woodlice, Sowbugs	6
Millipedes	2
Cockroaches	6
Beetles	121
Earwigs	3
Flies	55
True Bugs	66
Ants, Bees and Wasps	76
Termites	4
Butterflies and Moths	94
Praying Mantids	1
Scorpionflies	1
Lacewings	11
Dragonflies and Damselflies	8
Grasshoppers, Katydid and Crickets	17
Psocids	3
Silverfish	3
Caddisflies	5



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