

Aquatic Invertebrate Survey

Organ Pipes National Park

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On a sunny Sunday afternoon I met up with Sam Harrison the Healthy Waterways Waterwatch coordinator for the Maribyrnong catchment to conduct a survey for macro invertebrates on Jacksons Creek.



Sam Harrison

The last time we surveyed here was back in October 2007, the weather was more warmer then and the water level lower and flowing more slowly than today.

The survey in 2007 showed the creek to be in very good condition with a high abundance score and a very high signal score with many bugs caught in the sensitive to very sensitive range.

But today after some good rainfall in the past few days the creek was running quite fast with the

level around 700mm. To cross the creek and get to the test site just down from the pump shed ford we had to climb into waders and with armfuls of equipment slowly made our way across.

The samples were collected over 5metre riffle and edge sweeps.



Riffle test site



Edge test site

The samples of both sites were placed into four sorting trays, and then slowly searching through the debris with plastic teaspoons we placed the various types of bugs into the separate compartments of ice block trays.

There were many bugs caught but no tadpoles which most probably was due to the fast flowing water. In a way this is good, tadpoles can easily be killed with the trauma of edge sampling and it would be a tragedy if we found dead Growling Grass Frog taddies in the net.

Sam explained the adopted new method of scoring; this is called the ALT method which stands for Agreed Level Taxonomy and it replaces the old method known as Modified Signal Scoring.

Instead of sorting separate samples riffle and edge, both are combined and rather than identify the animals caught and scoring to the level of their Order, with closer observation looking at

colour, differences in body parts, shape and even behaviour the specimen can be identified further to its genus classification.

An example of this can be seen in the high scoring caddis fly larvae samples we caught. Under the old signal scoring the 54 specimens would be just listed in the order Trichoptera, with the new method they are sorted into their genus

Ecnomus (bandit caddis) = 40

Anisocentropus (sleeping bag caddis) =1

Tripletides (stick caddis) = 11

Notalina (head banger caddis) =2

All this can be done in the field with a magnifying glass (although for ageing eyes a microscope might come in handy) without the need to preserve specimens in alcohol to take back to the lab, apart from the problem that the alcohol can dissolve parts of the animal it is also a waste of life.

This new method was developed so that it can be done by the Waterwatch participant, but I suggest at first work with the coordinator, it takes longer but the results gives the freshwater ecologists so much more

Information which in the past was not recorded in determining the health of the waterway and it's a lot more fun too.

The specimens were then returned to the water.

And the results from the survey, I'm happy to say that again Jacksons Creek within the Organ Pipes National Park is in very good condition, the Platypus and frogs will be extremely happy to have such a smorgasbord of fine food.

Crossing back over the creek we took water samples and conducted the monthly chemical and physical tests at the ford.

The results for October 2011

Water temp -16.1c

Turbidity – 60 NTU

pH – 8.1

Conductivity – 430 μ S/cm

Dissolved Oxygen - 80%

Ammonium – 0

Phosphate – 0.14

Water level – 700mm

The water quite turbid after all the rain and the phosphate quite high but to be expected with all the run off.

A great afternoon and many thanks to Sam to come out on a Sunday to fit in with my time availability.

