

## October 2013 in Our Catchment

It has become very dry, very, very quickly! One rain day in the last four weeks...and that was a night anyway! The winds have been very willing...and probably more sustained than for a number of years; not a very propitious run into summer at all. [Long, long days start on the 5<sup>th</sup> November and go to the 4<sup>th</sup> February, that's the day-length clock the plants run on]

### Your Results

Parameter	Where it comes from	How it affects things	Local events
Electrical Conductivity	The ground water and soil determine the EC	Limey soils are naturally more conductive, more dissolved CO <sub>2</sub> ; waterlogging also increases mineral content.	All the Carwoola and Wamboin creeks have the expected elevated EC levels. The bottom of both Sullivans Ck and Jerrabomberra Ck also show elevation, as do East O'Malley Ck and Norgrove Park.
Turbidity	This is how much light can penetrate the water.	Silt and dissolved humus change turbidity	Sullivans Creek, where it enters Lake Burley Griffin is turbid.
Phosphorus	Phosphorus is found in small amounts in disturbed soil; the other source is fertilizer.	Every cell needs P to carry its Oxygen: excess leads to rapid growth of planktonic algae.	There is evidence of runoff of P at the ANU sites
Ferals	Introduced fish	Gambusia and European Carp outcompete the locals	Gambusia are present in numbers at East O'Malley

Urila Ck and Woden Creek are both dry, again.

### A crowded month for catchment information.

Here we go again! The bush is alive with flowers and insects, and so are the waterways. Waterwatch in the ACT and region is having a Bug Blitz over the next couple of weeks to try to get a spring snapshot of macroinvertebrate activity for 2013...along with the Bioblitz, the Frogwatch Census and all kinds of things to do with Water Sensitive Urban Design...from Cooma to Yass.

Macroinvertebrates Rating for Catchment Health indications (CHiP)

Excellent (1)	Good (2)	Moderate (3)	Poor (4)	Degraded (5)
SIGNAL > 5.5, >10 bugs	SIGNAL > 5.5, 8–10 bugs	SIGNAL < 5.5, > 7 bugs	SIGNAL < 5.5, 1–6 bugs	SIGNAL < 5.5, 0–6 bugs

The Regional Waterwatch Facilitator (Woo O'Reilly) and I took a generous volunteer and her child on a run around the upper Queanbeyan and Molonglo on Monday 14<sup>th</sup> and found some interesting contrasts.

Site description	SIGNAL2 Score	No. bug kinds	CHiP Score	Comments
Queanbeyan R, below Googong dam wall, riffle	<b>6.44</b>	<b>7</b>	<b>2</b>	Taken together, these two indicate that the river is in quite good condition, but...
Queanbeyan R, below Googong dam wall, edge	<b>4.25</b>	<b>9</b>	<b>3</b>	...the edge still needs some planting of emergents, after the last upgrade of the low bridge.
Burra Ck, at the Murrumbidgee to Googong (M2G) outfall, edge	<b>4.87</b>	<b>8</b>	<b>3</b>	Time will improve this site also, but a little encouragement wouldn't go astray.
Queanbeyan R, Boolboolma Crossing, edge	<b>6.57</b>	<b>9</b>	<b>2</b>	Such a variety in stoneflies, mayflies... and a toebiter. Great
Molonglo R, TSR just upstream from <i>Foxlow</i> , edge	<b>4.25</b>	<b>5</b>	<b>4</b>	The mining may still be affecting this area...50 years down the track.



Toe-biter and some stoneflies, Boolboolma Crossing

Two things come out of this snapshot. One is that the Queanbeyan River is in really good condition, but can be rather fragile when disturbed. The contrast between the riffle and the edge at the low bridge where the river meets Montgomery Creek is easy to explain: the road went across and disrupted the south bank and it is still a mess of silted cobbles and boulders, with little or no emergent vegetation.

The other one is that before too much could be said about the upper reaches of the Molonglo River samples need to be collected at a site upstream of the mine and town of Captains Flat, and another further downstream, in Carwoola. I'll make an appointment with myself to do this shortly.

- What does all this tell us about Catchment Condition?
- How does it help us plan 'on-ground' works?

The Catchment Condition thing is clear enough. Where you have both a high score and this is supported by a broad spectrum of macroinvertebrates the waterway is healthy, and the adjacent (riparian) vegetation is supportive. In many cases aquatic macroinvertebrates are amphibious, with the juvenile stages aquatic and the adults airborne... like dragonflies. The riverbank provides food, shelter and courting grounds, or not, as the case may be. If the bank vegetation hasn't had a chance to recover, as at the low bridge below Googong Dam or the M2G outfall on Burra Creek, the bugs will let you know!

Repairs? Well, yes...why not a little judicious work on emergent water plants for both places?

Tim Yiu from ANU Green and I will be doing a run round the urban catchment on Thursday 14<sup>th</sup> November. If you'd like to join in, even for a site, we'd be happy to have you. Ring me on 6299 2119 on Monday, Tuesday or Wednesday and we'll see how you can fit in.

### Calendar

14 <sup>th</sup> November	Bug Blitz	Metropolitan Molonglo Catchment, all day
16 <sup>th</sup> /17 <sup>th</sup> November	Waterwatch Monitoring	Your sites

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The operation of the Molonglo Catchment Group is assisted by the Australian Government's Caring for our Country and the ACT Government. Some administrative assistance is provided by the Australian Government's GVESH program.