

## November in our Catchment

### IT WAS HOT!

Just about everyone found that water temperatures were at or above 20°C, and as a consequence the level of dissolved oxygen was down and the percent saturation either very high (over 120%) or low (under 80%). These are stressful conditions for gill breathing animals and may make daytime living hard for tadpoles and fish as well as the nymphs of dragonflies, mayflies and others. Where the water is only lightly shaded, filamentous algae of various kinds may exploit the situation for a short while, but even they find the high light levels problematic in the long run. The rafts of silkweed that are common at this time of year go very yellow with sunburn very quickly. The subsequent decay releases more carbon dioxide than oxygen and while the rafts continue to float they don't support the gilled breathers (like the caddis larvae that often live in and consume them) half as well as they would if it were less warm.

We continue to have high electrical conductivity in the Molonglo, Burra Ck and Jerrabomberra Ck; pH is satisfactory and we are so far spared the turbidity drama that Southern has been reporting, especially in the Murrumbidgee. The elevated phosphates in Sullivans Ck at ANU probably correlate with gardening and lawn work, then October's rain and then the low flows. Good to hear there was still some riverbank life about, even in the heat.

### Site Condition and Photo Points

John Bruggeman's photo looking downstream from QUE495 shows very well the value of



**Figure 1 The Queanbeyan just before she leaves NSW, photo by John Bruggeman**

photography to our Waterwatching. From the photo (taken in October this year) you can make quite a few observations about the condition of the site and the biodiversity at the site.

- The cobbled bottom of the waterway is easily seen.
- So is the cover of algae, where there are streamers of rusty brown diatoms and tufts of bright green *Stigeoclonium* (I'm sorry it doesn't have a common name).
- There are well developed beds of emergent vegetation,
- and both shrub and canopy layers are well developed.

This gives the site plenty of dappled light, to keep the water temperature lowered and the dissolved oxygen retained. So on first inspection the site is in quite good condition.

But... the extent of the algal cover indicates that there are plenty of nutrients available in the system. The emergent vegetation is moderately diverse in structure...some rushes, some leafy annuals...but while the River Rush (*Schoenoplectus validus*) is local, the buttercups may not be and the speedwell and dock almost certainly are exotic. The shrubs look suspiciously like plums and hawthorn, and the trees are willows. The structure is fine, the species are not the most suitable.

Tanya Noakes, the Coordinator for the Upper Murrumbidgee Waterwatch (that's us, and Ginninderra and Southern and the Waterwatchers in the Cooma area) would like to have everyone select a spot at their sampling site where they get a good view of the site looking both up and downstream. You call this your **photopoint**.

Once each year, at the same time each year, you take a photo of the view upstream, and downstream, directly across the waterway and through the riparian zone up the bank and send these four photos in to your catchment Waterwatch Coordinator. This will give us (and you) a permanent record of the site, and let us make some comments on structure and native/exotic diversity. You can get full instructions for this from the manual at <http://www.act.waterwatch.org.au/library.html> and open the Upper Murrumbidgee Waterwatch Manual and go to page 32.

As more and more of you take the opportunity to learn how to make Rapid Appraisal of Riparian Condition (RARC) we will collect your RARC scores and add them to our reports. All this helps us all Waterwatch more completely, so we can not only find out what is happening now, but also have the tools to make appropriate suggestions for site (and so Catchment) improvement. **Monitoring to Action!**

**Next water sampling date is 19<sup>th</sup> December.**

Stephen Skinner

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