

## December 2012 in Our Catchment

It really has been very dry this last month! There have been two rain days, and one of those was a gesture rather than a decent effort. We have also had some hot dry weather followed by cold dry weather. This is not good for soil moisture. Waterways become sluggish and the sluggish water becomes as warm as a bathtub, with about as much dissolved oxygen. When this happens for a few days the system recovers quickly, but...

### Your Results

In general the results that are in so far indicate that most measurements are in the expected range. This may indicate that in most places there is still sufficient background flow to allow things to remain healthy.

#### Electrical Conductivity:

The Carwoola creeks have high readings as usual, and both Reedy Creek and Woolshed Creek are climbing. Both Eddison Pond and Yarralumla Creek at Curtin have high readings, but as Jo Thompson noted, the rain overnight brought the Yarralumla Creek reading down to only  $400\mu\text{S}\cdot\text{cm}^{-1}$ . The story in Jerrabomberra Creek is rather more dramatic. Royalla, Little Burra and Fernleigh Park are high, but often are. The reading at Canberra Avenue is higher than any of those rural ones, and that at the footbridge is still high. The closed system of Kelly's Swamp is also very elevated, but this may reflect a very long accumulation of salts of various kinds.

#### Oxygen Saturation

The least favourable reading for this reported so far is for the Molonglo River at Fyshwick. The water may be rather warm there and flow may be minimal. There is a moderate presence of fringing algae on the water plants and lowish turbidity. So the depletion of oxygen by warming of the water and biological activity isn't being balanced by water movement or photosynthesis.

#### Conspicuous Algal activity

There are large amounts of algae in the now flowing waters of Eddison Pond, but the activity has elevated the oxygen saturation to well above 140%. Such saturation is life threatening for water life if it continues – it can cause embolisms. The dark green of the algal carpet in Yarralumla Creek in Curtin may not be *Stigeoclonium*, but may turn out to be *Tolypothrix* or one of the summer growing attached cyanobacteria. Most of these do not have the toxic chemistry of the planktonic bloom formers.

#### Reeds, knotweeds and rushes

A short walk along the sand and cobbles of the river bend at present can be rather interesting. The teatrees and bottle brushes are at the stage where the fruits are plumping and the foraging beetles are having a last feast on the remaining nectar. Those little black and tan Nectar scarabs may be joined by corduroy winged Lycid or two and other smaller friends.

Appearing through the sand, to join the scattered tussocks of *Juncus usitatus*, are the bright green leaves of the knotweeds, some with crimson spots. These knotweeds will grow quickly to about a metre, and then produce their tassels of pink flowers. The canes will go rusty red by the end of the season. Both closer to the water and in the seepage behind the beach the reeds will now be clearly coming through. They will form dense stands as the season progresses, then produce their fluffy feather duster heads and dry to a crisp dull cream in autumn.



Right at the water's edge, especially where there is a bit of a riffle, two of the sedges are usually found. The tall, dark green tubes of the river rush (*Schoenoplectus validus*) wave happily in a thin band, and blend into the reeds. Bright green tall tussocks of Club Rush, commonly *Bolboschoenus caldwellii*, form where there is a bit more mud than cobble and sand. They do very well unless pruned by the local kangaroos!

Taller, and sometimes more vigorous than any of these are the bulrushes or Cumbungi (*Typha* spp.) that thrive where the water slows down a bit and the mud settles. Whether they are responsible for the enriched mud or exploit it is a bit of a teaser, but either way they thrive in pools and off stream wetlands.

All of these little plant communities are vital to the health of a river bank. The danger is that only one may develop at a site overwhelming the others with its vigour or exploiting a degraded habitat. The more varied the bank edge the more communities that will be represented. Bank subsidence and silting are the main offenders. Do let us know if your banks are doing this. We can join you to conduct a Rapid Appraisal of Riparian Condition, and may be able then to do some repair work.



### Calendar

When	What	Where
19 <sup>th</sup> and 20 <sup>th</sup> January 2013	Waterwatch Monitoring,	Your sites

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