

The rains did come, but not before most of you had done your sampling! So the dry sites increased, and the few wet ones were under pressure. The state of the upper end of Sullivans Ck remains unsatisfactory, and with work going on at Flemington Rd it is unlikely to get better soon. Weston Creek still has too many weeds. Only the Queanbeyan appears to be still close to satisfactory. If we did M-CHiP on this month's results alone the general story would make very sad reading. Let us hope that the water in May looks very much better.

Wasn't it wonderful to see all the treasures in the Entomology Building! It was very gratifying for me to see so many people from the Molonglo group there, and happily participating in the QA/QC. We will be getting more calibration fluid very soon. Then people are very welcome to drop in and refresh their calibration fluids. This is especially important if your Electrical Conductivity calibrating fluid is over six months old!



Dr Beth among the beetles!

Some people have done their bug survey. We'd love more of you to have a go. As I said last month, we can loan out equipment so long as it boomerangs quickly.

Several people have been asking about the factors behind changes in readings, and how we come up with the comments about water quality. There is a table in the annual ACT Water Report that summarises all of this. Here are the relevant parts of that table:

Parameter	Regulation Limit	Sources	Consequences of exceeding limits
Phosphorous	<0.1mg	Soil & humus	If nitrogen and phosphate levels are in the right ratio, the flow is down, the water warm and clear, there may be cyanobacterial blooms
Nitrogen	[<0.15mg]	Organic decay + biological N fixation	If nitrogen and phosphate levels are in the right ratio, the flow is down, the water warm and clear, there may be cyanobacterial blooms
Turbidity	<10 NTU, flowing	Soil & country rock disturbance; humic tea	Murky water makes life hard for gilled animals, and most algae; and it looks unpleasant
Conductivity	[<250µS/cm]	Salts in country rock & ground water; sewage treatment	Salinity or corrosion problems, like clinker in cooking pots or increased rusting, when water is used.
pH	6-9	Local geology	Changes in the relative levels of minerals in water, or in oxygen availability
Oxygen	>4.0 mg/L	Plant & algal activity; atmospheric exchange	Biological stress when too low, too easily lost or shows sudden changes, especially for fish.

Water temperature is important when it is unseasonably hot or cold and in general is an indication of how stable the system is. Measurement of pH, conductivity and dissolved oxygen levels are all directly affected by temperature, and so it is an 'instant' quality control on your results. If they look funny and the temperature is unusual for the time of year the records are probably accurate, but if the temperature is normal then the records may need examining or the equipment may be faulty.

Flow is reported because it gives us some idea of the condition of the site and its catchment. The **rainfall** records become important if the changes in other parameters...like turbidity and dissolved oxygen...don't reflect the level of rainfall. And the **anecdotal records** about stock in the waterway, native birds, reptiles and frogs all help us get a more holistic picture of the waterway health. So all your reports count! Later in the year I would like to revive the reporting on **algal presence** in waterways.

Stephen Skinner

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