

June 2010 in Our Catchment

Isn't it wonderful to see all the fungal fruiting bodies this year! The few poor puff balls and mushrooms that have struggled to appear during the drought have been replaced with a kaleidoscope of colourful fruiting bodies ranging from the spectacular Fry Agaric (*Amanita muscaria*) through pine boletes (*Boletus* spp) to delicate *Mycena* and Thumbtacks (*Omphalina*). Beautiful, but best left where they are! Even the Rootrot (*Armillaria luteobubalina*) can put on a display.

Your Results:

Many people reported neutral or slightly acid (6.5–6.9) pH readings this month. This is a pleasant effect of rain and refreshed ground water flow.

Electrical Conductivity also appears to have returned to non-drought levels, as most waterways have had some flow since April, and the concentration of minerals in the water has depleted. Turbidity is uniformly low.

The very high PO₄ levels around Urialla Creek and the Queanbeyan above Googong Reservoir may be associated with some construction work in the area or with pasture improvement. The higher than usual nitrate reading in Yarralumla Creek is curious and may bear investigation if it persists.

Thanks for all the algal comments. The presence of a gossamer-like coating of *Oedogonium* or *Klebsormidium* in the winter is to be expected after such a long period of poor flows.



The QA/QC

It was most gratifying to see so many of you at the QA/QC on Saturday 29th of May! I hope you all feel confident and competent! And for those who couldn't make it, we do have plenty of calibration fluids in the office. The Electrical Conductivity calibration fluid has a shelf life of about eight to ten months; if yours is older than that, it should be replaced. And while the pH calibration fluids are more stable, it never hurts to refresh them. The refreshed calibration fluid is a service that Ecwise (now ALS) provides to support you volunteers, so please take advantage of it. And talking of service, we propose to be in the MCG office on the sampling Saturday morning from 11:00 am, to provide resources for those of you who cannot visit on week days. If this is helpful do let us know.

The new look data entry

The new data entry portal is open.

- Once again, if there is no water at your site, enter 'no water' into the temperature comments box and send the report. We do need these for the report and to let the ACT government know how flow is going away from the continuous sampling sites.

- The Algal abundance and algal form boxes give you choices. That should make it easier to enter the information. If there is no sign of algae, don't enter anything.

The remaining boxes should be self explanatory. If you have a range, enter the upper limit.

For Field Data Sheets go to the data entry portal and hit *Download*.

Ground cover and soil crusts



Keep an eye out for the state of the soil crusts around the sites you sample. In areas where gully erosion remains an on-going problem, well developed soil crust along with ground cover plants and loose timber combine to slow down surface water damage. Water backs up behind the timber and leaf litter, increasing the likelihood of absorption rather than rapid and potentially destructive runoff.



Just now, after all the good rain and the frosty mornings, the lichens, mosses and liverworts of the soil crust put on their best show. The soil crust is an integral part of the soil, providing protection, nutrition and structural development.



The crust forming Cyanobacteria combine with several of the rosette forming liverworts called *Riccia* to stabilise mud and sand after floods. Those cyanobacteria that have the ability to fix nitrogen do so more consistently when wet, and so enhance soil nutrition. The 'bird lime' lichens form a wind and raindrop resistant film on bare soil. The sheet forming lichens, that can roll up when it's dry and unroll very quickly when it's wet, trap moisture and cover soft soil. The hairy filaments underneath lichens and some liverworts, referred to as rhizines, catch both mineral and organic particles and help the humus

develop. 'Resurrection' mosses burst through the gradually wetting soil and give that soil a chance to absorb even more water.

Soil crusts can withstand many things ... in the mallee they can even survive sand drifts ... but they are not adapted to hard-hoofed animals or off-road tires. Combined with ground cover and tussock grasses they give our landscape a chance to survive. Protect them!

Top: *Riccia* rosettes **Middle:** *Nostoc commune* or Snot, a nitrogen fixer, and *Heterodea* a sheet forming lichen **Bottom:** birdlime lichens

Calendar

July Sampling Day: Saturday 17th July. I will be in the Cassidy Arcade office from 11:00 to 12:30 this morning, for enquiries and/or supplies. 6299 2119

This is also the **CleanOut** day for SERROC and the Queanbeyan Council, Collett St Car Park, 8:00–14:00.

Queanbeyan Frog Call Evening: Thursday 22nd July at the Queanbeyan TAFE on the corner of Buttle and Macquoid Sts. RSVP coordinator@molonglocatchment.com.au or 6299 2119 by 15th July.

August Sampling Day: Saturday 21st August I will be in the Cassidy Arcade office from 11:00 to 12:30 this morning, for enquiries and/or supplies. 6299 2119