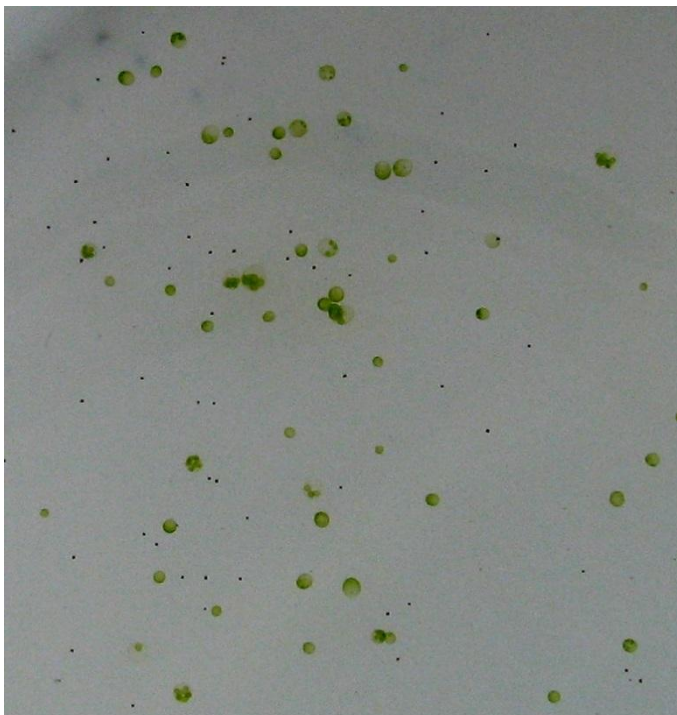


April 2013 in Our Catchment

It's still very dry! The long-term forecast gives us just a chance of better than average rain across the winter, but the reality is that we have now had ten dry months in a row. A number of spots have dried up, and most others are going slow.

Your Results

Parameter	Where it comes from	How it affects things	Local events
pH	The country rock is largely responsible for water pH; acid over granite or sandstone, alkaline over basalt or limestone	pH helps keep the main minerals dissolved in the stream or pond; too acid, too much sulfur; too alkaline too much phosphorous	Elevated pH levels in Dickson wetland are probably part of the life of a pond; Burra Creek may be worth watching.
Electrical Conductivity	The ground water and soil determine the EC	Limey soils are naturally more conductive, more dissolved CO ₂ ; waterlogging also increases mineral content.	The creeks in rural areas that run over metamorphic rocks, and the usual urban drain-lines showed elevated EC. It is worth noting that there was a pronounced elevation of EC in the middle of Woolshed Creek, and this should remain the case until the Majura Parkway has been completed.
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 were the usual elevated phosphorus readings in the lower part of Sullivans Creek



Rolling through life

The tiny green balls in this picture – they are about a millimetre in diameter – are colonies of a green alga called *Volvox*, the roller. In large bodies of water in the spring and the autumn, when the water turns over, the rising water from the bottom brings with it a flush of nutrients. This gets the *Volvox* growing and for a short few weeks the lake water may be crowded with tiny spinning green spheres until all the extra nutrients are mopped up.

Volvox reproduces sexually by developing rafts of antherozoids (plant

sperms) and individual ova in different parts of the colonies, then letting them meet and form zygospores. Each species of *Volvox* makes a different sculptured coat on these spores. The spores sink to the bottom of the lake or pond and wait for the correct conditions to germinate. Their thick coats mean they can even dry out with the pond and still return. It is a device to preserve the species against hard times.

Volvox multiplies by budding off new whole colonies inside the parent colony...up to eight of them at a time. The parent colony may have 2000 or 3000 cells, and so will the daughter colonies...they are true, natural clones. The parent colony becomes ragged with the battering of life being grazed by pea animalcules and eaten from the inside out by rotifers and all the other trials of planktonic life. As the old colony falls apart, the new colonies emerge and expand to mature size; eight for one in a few days...not a bad return!

The pepper grains in the picture are tinier crustaceans that graze on the *Volvox*. So the flush of nutrients goes from the floor of the lake to the green alga to the pea animalcules to the larger plankton feeders like river prawns to the Yellow Bellies to the Darters...just the web of life.

Calendar

18 th and 19 th May	Waterwatch Monitoring	Your sites
Saturday 4 th May	Autumnal Wander	Lindsay Pryor Arboretum, Lake Burley Griffin

The new Nitrate kits are yet to turn up. When they do, we will arrange a training day for you all. **I have calibration fluids in quantity which many of you now need.** When you come in to the office to get them, please bring your containers, and we will happily refill them. The test solutions will be kept for another month; after that they will be disposed of. If you would like to get yourself tested, you can do this when you come to get the calibration fluid.

Stephen Skinner

Waterwatch Coordinator, Molonglo Catchment Group¹

¹ The operation of the Molonglo Catchment Group and Waterwatch program 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 GVESHO program.