

In Our Catchment – February 2016

Dear Molonglo Catchment Waterwatchers

Firstly, a change to the date I sent out previously. **Our next QA/QC will be on Sunday 15 May.** I hope as many of you as possible can come. It will be held at a great venue, the Cultural Centre, beside Lake Burley Griffin. More details below.

Secondly, I want to say something again about the Waterwatch data you collect. Although it may seem that it doesn't vary much at some sites, remember that it forms part of the bigger picture of data in the Molonglo catchment, which in turn forms part of the picture of Upper Murrumbidgee catchment health.

Your site may be upstream or downstream of another Waterwatch site, and your data tells us what is happening close to the site, as well as what is happening upstream and in the subcatchment above. It can tell us about a short, sharp event that causes some change in water quality - though thankfully these are generally rare and short-lived. However it also tells us about gradual change over time near particular sites and across the catchment, and this is generally how waterways and catchment health are affected: by many small changes accumulating. These could be changes such as a new development that reduces water quality downstream, hopefully only for the short term; or the changes could be planting, erosion control, changes to stock management, or perhaps urban wetlands, that gradually improve water quality over time.

My summary below focuses on the short term changes and I mention some of the extremes. But the Waterwatch data we collect is there for the long term, for analysis, for our yearly CHIP report and catchment summaries, and for catchment managers who make decisions about how our land and water are managed and used.

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Most areas across the catchment received around 30mm rainfall in February, apart from the uppermost part of the Molonglo River catchment, south of Captains Flat, which received over 100mm. After the excellent falls in January, rainfall was mostly below average for February and the rain only fell over the first few days of the month.

However, the creeks flowing out of the Tinderry Mountains had medium or high flows on the sampling weekend. This may be because those catchments are very well vegetated, so they tend to capture and slow down runoff, and good rainfall from January may still have been flowing out of those areas. Otherwise, only the Molonglo and Queanbeyan Rivers had medium flows and all others were dry or had low flows.

Water temperatures over the February sampling weekend ranged from 15 to 29 degrees, with higher temperatures almost exclusively matched to sampling later in the day. Some creeks have a significant input of groundwater which can also affect the water temperature, pushing it either up or down depending on the time of year. The proportion of groundwater to runoff also varies a great deal so I'll just mention this in passing because it is complex and beyond my limited knowledge.

Around the catchment, pH ranged from 6 to 9.5, but only 2 sites were over pH 8, both of them on upper Sullivan's Creek. Electrical conductivity was very similar to January and within the usual range for every site.

Turbidity was good or excellent at all but 3 dam sites and Kelly's Swamp, which is typical for those sites, particularly at this time of year.

Apart from a couple of rural creek sites which have had slightly elevated total phosphorus for several months, only the lower catchment sites such as lower Sullivan's Creek and the lower Molonglo River had high total phosphorus readings. Nitrates were also zero or very low at all sites except Barracks Flat Creek in Queanbeyan, but it was an order of magnitude higher again at the lower Molonglo River site.

Dissolved oxygen at two Jerrabomberra Creek sites was super saturated (about 115% when calculated on our website), but was low or extremely low at many of our other sites. This is also fairly typical for this time of year, when water temperatures are higher, sunlight is more intense, and algae and bacteria make the most of any nutrients that become available and start madly photosynthesising / respiring / reproducing / dying and repeating these cycles, sometimes resulting in big fluctuations in dissolved oxygen (and pH, and measurable nutrients including P and N).

Autumn QA/QC is on Sunday 15 May

Please put this date in your diary (& cross out the other one I gave you. We couldn't book a suitable place for 1st May).

The Waterwatch QA/QC (Quality Assessment/Quality Control) event is on: SUNDAY 15 MAY at the Cultural Centre, Lake Burley Griffin, near Yarramundi Reach. Starting at 10am, with lunch and a small fish identification workshop to follow, it will finish at 2pm. What a great way to spend half a day on a Sunday! We need you to take part at least once a year in a QA/QC if at all possible.

We would like you all to come if you can, along with your water testing kits and calibration solution. For the first time ever, we'll be testing mystery turbidity solutions too. Please stay for lunch if you can and for everyone interested there will be an early afternoon small freshwater fish identification workshop with Dr Dan Starrs, our resident fish expert.

This QA/QC event will give you more confidence about your water quality testing techniques and gives us confidence that we are getting reliable, consistent results. And if you can stay for the early afternoon, you'll learn lots about small native and introduced fish species in our local waterways.

Upcoming Bug Blitz days

I will be doing Bug Blitz days on Thursday 21 April (inner urban wetlands) and Saturday 30 April ("middle Molonglo" sites). Join me for one site or the whole day. It is great fun and really interesting for kids and adults. I know I say that every season, but it's true! And I really appreciate the help too.

We are also planning a day in the upper Queanbeyan catchment and one in the upper Molonglo catchment, probably in the next week or 3 but I don't have firm dates for those yet. Please let me know if you might like to come. There is a Bug Blitz flyer attached, with more details about what a bug blitz is. You might like to pass it on to someone keen.

Other News & Events

DEAD PLATYPUS FOUND BESIDE QUEANBEYAN RIVER

I was sad to learn that fishermen found a dead platypus beside the Queanbeyan River a couple of days ago. It seems it showed evidence of being caught up in fishing line. Please keep an eye out for yabby traps and fishing line and remove them if you see them. It's tragic that a platypus was killed because of thoughtless behaviour. The more of us there are keeping an eye out and telling people about the risks, the more we will reduce the chances of this happening.

COD-O-METER - A FREE APP TO HELP THE MURRAY COD

Alan Couch from Uni of Canberra has created what he describes as a 'modest app' that he wants us all to use to generate interest in the welfare of the Murray Cod and track where they are being caught. The app is supposed to be available for Android and iPhone. However, I can't find the Android app so I think only the iPhone version is working.

It is a great way to get people involved in protecting and sustaining our Murray Cod populations. I really encourage you to take a look and share with others: <http://maccullochella.mobapp.at> or search for 'Murray cod' in the App store.

WHY WATER SCIENCE IS IMPORTANT

Bruce Haigh's opinion piece "CSIRO water science cuts leave precious resource untapped" in 12 March 2016 *Canberra Times* is a strongly worded piece which criticises the planned cuts to CSIRO's Land and Water division, as well as politicians and governments from both sides who have reduced and devalued Australian water science over many years. It's worth reading as a reminder that "Water is Australia's most precious natural resource – bar none. It underpins our cities, our food supply and much loved landscapes and wildlife. Yet we still do not know how much we have, where it is, how ground and surface water interact, and how climate is affecting our supplies...". Bruce Haigh is described as a political commentator, retired diplomat and farmer. <http://www.canberratimes.com.au/comment/water-unknowns-how-much-is-there-where-is-it-when-is-the-next-crisis-20160310-gnga8v.html>

RIPARIAN ZONES AS 'FUSES' FOR FIRE – FACTS AND MYTHS ABOUT BUSHFIRES & CLIMATE CHANGE

"Although many landholders are worried that vegetated riparian land, including land revegetated through riparian management programs, poses a fire risk to their property, the opposite is true." <http://riversofcarbon.org.au/rivers-of-carbon/riparian-zones-are-fuses-for-fire-facts-and-myths-about-bushfires-and-climate-change/>

Thank you to all of you for getting out into our catchment to sample water quality. Everything you do is appreciated and helps to give us a detailed and consistent picture of water quality, right across 2,000 square kilometres of the Molonglo catchment. We learn so much, and it wouldn't be possible without your efforts.

There are now over 4,600 Molonglo catchment water quality records. What an incredible lot of data to have for analysis, to find trends, and to help manage our catchments.

Deb Kellock
Waterwatch Coordinator, Molonglo Catchment Group
waterwatch@molonglocatchment.org.au
(02) 6299 2119