

July 2013 in Our Catchment

Wasn't it fun in the hail and the sleet! So now we have had a few days of what we perceive to be real winter. I watched the snow come and go on the mountains, and even found myself in Woden looking beyond Mt Taylor, where it did look as if it were snowing in Duffy! You can see the top of Castle Hill from my verandah, and it was white several times across that weekend.

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	Most were close to neutral, but Kelly's Swamp was quite acid at 6.4 and Burra Creek was still high at 8.9. Perhaps in the Swamp it is a reaction with the black 'sulphate' soil when it had dried out.
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.	Two of the Carwoola creeks are well down on the drier times; even so Kelly's Swamp and the Googong creeks are elevated, rain or no rain.
Turbidity	This is how much light can penetrate the water.	Silt and dissolved humus change turbidity	Quite a few were up: Whiskers Ck at 35, the dam in Justice Robert Hope Park at 30, and the two top sites on Jerrabomberra Ck between 60 and 150 NTU.
Oxygen Saturation	Oxygen gets into water through flow, wave action and plants growing.	More than 120% saturation causes embolisms in animals, big or small; below 60% and it is hard for things to breathe.	Some are improved, notably the top of Jerrabomberra Ck at Royalla!
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.	Only one really awful one, the bottom of Sullivans Ck at 0.15 mg.
Algal Growth	Most algae, planktonic and benthic, are seasonal; blanket weeds are perennial	Smothering and blooms interfere with biodiversity	The warmish winter has allowed some silkweed pontoons to survive among the reeds and bulrushes at some sites.

That was then, this is now!

Somewhere back in the past, when I taught at a large High School in northern Adelaide, I took advantage of the constructed wetlands that had been built to compensate for the presence of a large cement works in the suburb. The wetlands had been constructed into the eroded banks of a flood and dry creek. The clayey soils were not very friendly, but the mixture of ponds and swamps allowed a good range of plants to thrive; ponds covered with nardoo leaves competed with thickets of cumbungi. The cleaned water then ran into the mangroves to the north of Torrens Island. Those mangroves burst with biodiversity following the improvement in water quality and persistence of flow. Most of the surrounding suburb was curbed, guttered and drained, and the stormwater was lost to the saltings near St Kilda often swamped by blooms of sea lettuce.



Barton and Kingston demonstrate the same thing. The older parts of those suburbs have the two wide open drains of what was Telopea Creek drawing stormwater from the eastern side of Capital Hill and the Manuka shops and delivering it, in a rush, into Lake Burley Griffin. There is little in the way of in-line infrastructure to clear floating rubbish or silt.

When the first part of Kingston Foreshore was redeveloped, Water Sensitive Urban Design had caught on. The wondrous machine of Norgrove Park was developed, with the soft kerbing, the screens and sumps, the swales and serpentine ponds that collect the water from across the redevelopment, clean it up naturally and ease it into the Lake.



When that was happening, the eastern part of O'Malley was being subdivided. The tributary of Yarralumla Creek that runs off Mt Mugga Mugga was being threatened by silt and developers waste. So the East O'Malley Stormwater control pondage was developed, with its numerous rock mattresses and other water slowing devices. It is still there, collecting builders waste! Lovely colour!



Last week I went out to Crace to have a look at the whole suburb integrated stormwater retention scheme. The pond and wetland look good, and will look better with time. The really impressive thing were the wide swales down the boulevards that catch the overground flow and infiltrate it into the landscape to be released into the wetland after watering the raingardens and the playing surfaces. The road surface on both sides is clear of water; the bike path snakes back and forth across the swale; the trees and raingardens are probably largely self-watering. Water probably does collect in the middle, but it won't rush anywhere, and will seep away into the subsoil and so down to the wetland and pond.

The really important thing about Water Sensitive Urban Design is that it pulls in a

range of tools to link storm- and grey-water collection from all the backyards, all the shopping centres, all the office sites or factory spaces and all the infrastructure in a catchment and turn that same water into a public amenity. The water leaving your community is as close to the water that fell on it as you can make it: that's the hope! It also aims to be cost efficient and self-regulating, but it still needs to be maintained, and everyone has to be in the scheme. This takes work on the part of every single one of us, it won't work if it is left to THEM to implement it.

Calendar

17 th /18 th August	Waterwatch Monitoring	Your sites
18 th August	Palerang Shire Household Chemical waste (see www.Palerang.nsw.gov.au)	Bungendore, 8-11 am,
Sunday, 18 th August	Platypus Walk	3:30 pm starting from the suspension bridge at the bottom of Isabella St, Queanbeyan

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The operation of the Molonglo Catchment Group 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.

