

## August 2013 in our Catchment

Here we go again, after a sort of wet July, we have had a very windy and chill, but not very wet August so far. Things are just about ready to stir; when I joined the Wamboin and Bywong potential Waterwatchers for the Yass system, we had a look at the animals in Hidden Lake. There were a few early starters including quite a few mayflies. Platypus are also out and about, even for the Platypus Walk the weekend before last.

### 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 pH levels are at usual levels, while Roberts Creek in the upper Queanbeyan is more acid than usual, Lyneham Wetland is a little alkaline and Banksia Street wetland is very alkaline at 9.5.
Electrical Conductivity	The ground water and soil determine the EC	Limey soils are naturally more conductive, more dissolved CO <sub>2</sub> ; waterlogging also increases mineral content.	The mineral streams are quite elevated (Stoney Creek at Carwoola is 1230). Kelly's Swamp is high (1390) and Jerrabomberra Ck at Narrabundah is higher than the rest of the creek.
Turbidity	This is how much light can penetrate the water.	Silt and dissolved humus change turbidity	Kelly's Swamp has just refilled and is at 80 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.	The dissolved oxygen at Dawes Rd at Norgrove Park is just over 4.0mg/L
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.	The two bottom stations in the ANU, along Sullivans Creek are very high.
Algal Growth	Most algae, planktonic and benthic, are seasonal; blanket weeds are perennial	Smothering and blooms interfere with biodiversity	There is velvet moss in Telopea Ck drain at Telopea Park, and grey, fine cotton streamers of diatoms in the bottom of Googong Ck
Pollution			The Dawes Rd end of Norgrove Park went a beautiful blue last week, with paint, it would appear!

## Adopt Your Local Swales

There are all kinds of swales – those shallow drain lines where stormwater travels – constructed across Canberra. They range from the open grassy ones in parts of Kambah and other older suburbs to the elaborate constructions of banks and bedding shrubs and blue metal in Springbank Rise or the rain-gardened boulevards in Crace. At least they are easier on the eye than open concrete drains.

In the wild, as I have described before, the upper hillside above a creek has gullies that are hardly distinct from the surrounding woodland.



There may be some deeper soil development and a greater concentration of leaf litter, but you can walk across such swales without even noticing them. They are stable until they begin to develop pool patches. Although these are potential erosion points...and to become a creek that is what has to happen, they are generally constrained by local topography. So in the Canberra region, where most suburbs are built on grassy woodland, the ideal constructed swale should reflect the natural ones.

A swale is a working machine. The swale has to capture and confine the stormwater long enough to take out any destructive energy. The design needs to allow the water to seep in, so that subsurface flow quickly takes over from overground flow. Then, when there is no stormwater to collect, the swale needs to fit seamlessly into the topography. What then is the drama of the swales in the built environment? Well; all the usual social problems arise.

- They don't please everyone aesthetically.
- They either provide or restrain amenity, depending on your point of view.
- Their management is always a point for discussion.

### **Aesthetics:**

In gently sloping country, wide, grassy swales with scattered trees may be attractive. Some people may want more 'natural' inclusions like several sizes of shrubs, and some variation in the evenness of the ground. Others will argue that the open space allows for light active recreation (dog walking, picnicking or games of forcings-back) which the beds of shrubs makes less possible. There will always be someone who feels that shrubbery may encourage lewd behaviour or provide cover for thieves.

Where the topography becomes more varied, it is often important to build more structure into swales. The aesthetics here can be problematic. Is a manicurable box hedge preferable to a sprawling native ground cover? "Will that gabion full of bluestone ever blend into the landscape?" "Why can't those logs be piled neatly?" "That's all just a trap for Macdonald's boxes!"

Time and familiarity often make constructed landscape tolerable and even enjoyable.

### Amenity:

The people who want to play ball games will always object to shrubs and garden beds. “That sort of grass collects snakes!” “My dog won’t walk through there.” “I have to walk an extra block to get to the shops.” “There is nowhere safe for the kids to play cricket.” And... much more seriously...”all that shale/scoria/bark chip washed out onto the road last time we had a storm, and drained through my garage.”



Enjoy the spinebills in the Correa and Grevillea! Listen to the wren families having domestics. Look out for the blue tongue on the exposed boulder. Take a delight in little things...and I cannot keep the scoria off your drive! You still get snakes in the weeds along the drains or

sunning themselves on the concrete.

### Functionality and Management:

Whatever the topography, there seem to be problems with management. If it is an open space system, should it be mown, and if so how low and how frequently? If it is left rank, will it collect weeds (any quicker than mown areas?) or harbour snakes? What about blue tongue lizards, striped legless lizards, sun moths, Key’s grasshoppers and, well, all kinds of grassland animals!

If the swale were more vegetated, and also more variable in terrain, who becomes responsible for the upkeep of the shrubs, and the other features? Is it common property within the development or public open space?

Swales do have to be maintained, even the high tussock ones as at Forde. Mowing and weeding and litter removal are all actual concerns. Why not adopt a local swale?! If you enjoy the natural look or the mix of grass and shrubbery why not get involved. Find out who is responsible for the maintenance, and find out if you and your neighbours can participate. Maintenance will help with functionality, even when the big storms come.



### Calendar

Sunday, 8 <sup>th</sup> September	Platypus Walk	4:00 pm starting from the suspension bridge at the bottom of Isabella St, Queanbeyan
21 <sup>st</sup> /22 <sup>nd</sup> September	Waterwatch Monitoring	Your sites

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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 GVESH0 program.