

July 2012 in our Catchment

I know we had a reasonable drop of rain last week, but the late autumn and winter this year has been quite dry: 16.9 mm in April, with 3 wet days, 33.2 mm in May with 3 wet days, 47.8 mm in June, with 6 wet days and 34.6 mm so far this month with 3 wet days (at Canberra). Only June was close to the long term average! The trend in the last few years has been for dry winters; even so it is looking a little challenging. So long as the soil moisture holds up, we should be fine in the waterways.

Your Results

The pH in the Queanbeyan River may be a little elevated at present. While Kelly's Swamp and the limey creeks round Carwoola have elevated Electrical Conductivity as usual, the elevated readings in the Molonglo at the edge of the Hoskinstown Plain and at the pump station on Burra Creek are worth a mention. Barracks Creek appears to be another with regular elevated EC, and so is Reedy Ck. You reported high phosphates in Sullivans Creek in the ANU grounds and at Kelly's Swamp...both may be the result of decomposition of aquatic plants. There were three places where blanket-weed streamers were reported. All of them are open areas with the tree canopy kept back by roads, and with concrete pipes and boulders. The sunny days will let the blanket-weed thrive, hopefully only until we have some spring flushes or some of the water bugs grow enough to eat the weed!

Sulfur bacteria, anaerobic conditions and black mud.

The Jerrabomberra Wetlands are worth the visit at any time of the year. The Friends of Jerrabomberra Wetlands had both a Waterwatch sampling day and a planting day last Saturday. It was well attended. There was plenty to see: the black shouldered kites are looking healthy, and there was a Harrier flypast; the coots and moorhens are in good numbers; the swamp hens were active; there were grey teal and black duck and a white faced heron and at least one grebe. The notorious cows were over on the river bank so we didn't see cattle egrets this month. Two young swans were very interested in the Waterwatchers' sampling technique. All across the wetlands the click-click of the common eastern froglets provided a background tune.

At this time Kelly's Swamp is at its least attractive. The water has a greenish-white scum on it and the air a distinctive whiff! When you wade out to take your samples the water quickly goes very black where you have been. All the water couch around the margins has died back and is making a rich vegetable soup in the swamp. This is just what is supposed to happen. There isn't much life in the upper 15 cm of the water; a small amount of water repellent algal scum (probably a euglenoid or the green alga *Botryococcus braunii*) in bubbly masses and a few water fleas in the water column. Lower down, in the warmer vegetable soup interesting things are happening. Last year's plant production is being broken down to supply nutrients for the burst of growing that will come with the spring. Much of this break-down is done by the army of sulfur bacteria that can thrive in the black,

oxygen depleted ooze. In this important part of the decomposer cycle two things are released into the system: phosphate and hydrogen sulphide (rotten egg gas).

Some of the hydrogen sulphide provides the whiff ... and some of it quickly degrades to



sulfur and provides the bulk of the filmy scum that is on the swamp. In the local nutrient system this is as important as the sulfur produced by mangroves down the coast. Sulfur is needed in very small amounts in plants and animal, for the links in some proteins, and the black ooze of winter pond bottoms provides enough for the system. So the scum and the whiff are less than aesthetically pleasing but they do have a place in the scheme of things.

Calendar

Sunday 5 th August, all day	Glenburn/Burbong Walk (with Friends of Glenburn) Col McAlister, 6288 4171	Join car pool at Kingston before 9:00am or be at Charcoal Kiln Dr and Kings Highway between 9:20 and 9:30 am. (lunch, water & boots)
18 th & 19 th August	Sampling Weekend	Your sites
3:00 pm 18 th August	Platypus Walk	Barracks Flat Meet at the far end of River Drive, at Doeberl's Reserve

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.

Stephen Skinner

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