



Catchment Update

Autumn 2013

In General:

It did rain on a few days over autumn but I remember it being generally drier than average. The raw stats from the BOM site confirm this. Sorry I have no graph this time.

A new group emerged at the start of the season to monitor Angle Crossing and lasted 2 months. We also say sad goodbyes to **Eric Malcolm** and **Ian Long** at either end of the catchment. Both have put in many years valuable service. Waterwatch volunteering is a significant commitment and I am actually surprised by how long many in this program have been going. A good number of you have been with us for over a decade now. I can't thank you enough. On the new team front, we welcome **Lake Tuggeranong College's Sustainability Unit** who have established 3 new sites around the lake. Other new members include **Josh Moloney** who has taken over the '**Bidgee Blue**' sites and **Sharon Koh** has joined the Lake Tuggeranong team. **Ian Bell** moves from the burbs to the bush to take on the Naas River WMA. More below.

Here's the summary of measured parameters.

Water Temp: As usual the big puddles took longer to cool than the little upland creeks. At least there were no more fish kills from high temperatures.

pH: Extremely high (caustic) readings were recorded in Lake Tuggeranong (10.6) and to a lesser extent at Westwood Farm (9.7). More on these below.

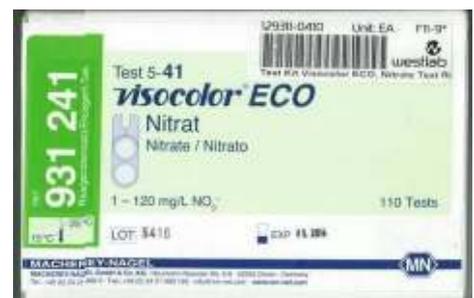
E.C: McQuoid's Creek on Westwood Farm recorded a reading of 1010 μ S in April.

Turbidity: This season all of the still bodies of water in our region recorded high turbidity readings during at least one month. The worst was McQuoids Ck Dam on Westwood Farm (85NTUs) in April closely followed by Conder Wetlands at 80NTUs in the same month. There is no clear cause. Many recorded showers around the time of monitoring but this had little effect on the low turbidity of our rivers and streams.

Dissolved Oxygen: The gross pollution trap on the north arm of Isabella Pond became extremely stagnant in March recording only 1.6mg/L dissolved oxygen. This equals only 15% of the waters holding capacity and would be lethal to most aquatic organisms. In May the DO readings went haywire (readings of nearly 20mg/L!) in the south end of the Lake Tuggeranong. Initial research suggests interference by a reducing chemical. A suspect is ammonium, which may be acting like oxygen in the test driving up the final result. A research proposal will be put forward to the Lake Tuggeranong College team.

Total Phosphorus: The highest readings came from the 2 dams on Cooleman Ridge (0.3mg/L). A high reading (0.2) was also recorded at Angle Crossing. A possible cause may have been the recent blackberry spraying in the riparian zone. This remains unsubstantiated.

Nitrates and Nitrites: We are now moving to a new test for Nitrates. Many groups have ceased using the Quantofix test strips and have been issued the new Visocolor kits (see photo). If you don't have one yet don't panic. I will be chasing you soon. Nitrites will no longer form part of our testing and will be dropped from the data base and record sheets soon. Schools will continue to use the old strips so please do not throw them out. No readings of concern were recorded. In fact, the new tests are revealing much lower levels of nitrates than were indicated by the strips. This makes sense as the strips simply gave a choice between 0 or 10 for low readings whereas the new test covers low values more accurately.



Algae: Diatoms were still flavour of the season even in urban waterways. They were even more abundant than other species usually found in lower Tuggeranong Creek.

Autumn macroinvertebrate monitoring.



Signal 2 (macroinvertebrate) scores were generated for **16** sites. This is nearly twice the number for the same time last year. A special thanks goes to **Candice Dent** from Charles Sturt Uni for her assistance with surveys this season, as well as the teams that took her into their fold. An average of signal 2 scores is included for each sub catchment where conducted (next to the shrimp).

Lower Murrumbidgee:

(Includes Uriarra Crossing, Casuarina Sands and the Cotter Camp ground sites.)

As mentioned above **Eric** has hung up his hat after 4 years. He has passed the baton on to the **Canberra Ornithological Group (GOG)**. I will introduce them more in the next news letter.

Low flows and noxious weeds, dominated lower Murrumbidgee landscape this autumn. African love grass (*Eragrostis curvula*) was going to seed from Casuarina Sands through to the Lower Cotter, and beyond. **Anne and Wendy** reported 'deadly night shade' (*Datura*) at Casuarina Sands and advised a parent not to let his daughter handle it. Please continue to report weeds of concern. This information is passed on to the relevant rangers. Action may not be immediate but it does keep them informed and you may well be the first to spot something they are unaware of.

Upper Murrumbidgee:

(All Murrumbidgee sites up stream of the Cotter junction. Includes lower Cudgenby River site and all creeks and dams east of the Murrumbidgee not flowing into Lake Tuggeranong)

Ian Bell who inherited, rather suddenly, the 'Bidgee Blue' flag will take on our other Ian's sites in the deep south. Bidgee Blue now has new carer, **Josh Moloney**, recently arrived from 'Norn' Ireland. Josh is doing volunteer research work with Canberra University as well as adopting other new Waterwatch volunteers for us.

Arminel and Pat in their botanical summaries also recorded the advance of 'ALG' up the fire tails of Cooleman Ridge. **Wieslaw** at Westwood Farm (just south of Cooleman Ridge and adjacent to Kambah Pool) scored a dubious trifecta of worst pH, worst EC and worst turbidity. Rural dry flow creeks often become quite salty during periods of low flows and his farm dam suffered the same fate as the other small still bodies of water in the region which all became very turbid at the slightest bit of rainfall.

The Engineered Log Jam project was completed this season as 4 enormous rock 'groins' were installed just downstream of Tharwa Bridge. They are quite visible as you drive over the bridge. The aim is to drive the sand built up in that part of the river, down stream using increased water velocity and eddying caused by the structures. They already seem to be working as a nice trench of deep water has appeared between them. The long term aim of these is to improve habitat and passage for native fish, which have not coped well with the shallow sandy river beds that have appeared in the slower reaches of the Murrumbidgee. Waterwatch monitoring by **Rhonda** of Cuppacumbalong, at the site showed no negative affect on the river during the construction works. This is a credit to the careful planning and execution of the project by the Conservation Planning and Research team and their contractors.



Construction underway in late February.



The finished groins in April (Photos courtesy of CPR)



Average Signal 2 score= 4.6 with 6 bug types. 'Suggests Pollution'

The bug results for this sub-catchment become unfairly distorted by very poor scores at a couple of sites. The worst of which is Conder Wetlands. **Julie** and her sons **Daniel and Nathan** did a valiant job of trying to catch as many water bugs as they could but the signal score of 3.2 shows how the little suburban wetlands struggle to cope with built up contaminants.

Tuggeranong:

(Tuggeranong Creek and all storm waterways flowing into Lake Tuggeranong.)

At the time I began in this role, Lake Tuggeranong had no representation in the Waterwatch data. The 'Lake Watch' program, a corner stone of Waterwatch in the Tuggeranong Valley in the 90's had long since ceased operating from **Lake Tuggeranong College (LTC)**. There has been a steady increase in volunteer interest in the lake since 2010 thanks to **Kim and Caroline**, and in 2012 thanks to the community forums in response to the b/g algal blooms. This year LTC has re-entered the Waterwatch fold thanks to the enthusiasm of teacher **Nikey Mylordi** who, with the support of her principal **Julie Murkins**, offered a sustainability unit as part of the curriculum. The small group of highly energetic students that enrolled have added 3 more monitoring sites to their workload. The Waterwatch surveillance on the lake now comprises 2 schools as well as a team of 4 community volunteers giving a total coverage of 11 sites.

On a not so positive note, photographer **Kym Bradley** took photos of a pelican wrestling with a plastic bottle in Isabella Pond. It was posted in the Canberra Times on Saturday May 18th. Our Tuggeranong Lake Carers group are always keen on attracting more volunteers especially for their 'Lake Clean Up' days.



Pelican on Isabella Pond. Photo; Kym Bradley.



Average Signal 2 score= 3.2 with 8 bug types. 'Suggests high salinity or nutrient levels'. (Not surprised.)

Cotter:

(All sites on the Cotter River upstream of the Cotter Camp Ground.)

No data was submitted for this season.

Paddy's:

(Includes Paddy's River, Gibraltar Creek in Corin Forest and all sites in the Tidbinbilla Nature Reserve)

Miranda, Woo and I had the kind acceptance by Anna and John Hyles to our request to visit Booroomba Homestead to have a look at the head waters of Paddy's River after some persistently high turbidity readings in the previous months. John showed us an area that had been washed away in March 2012 that covered an area roughly that of a football field. The river bed on his property changed path significantly and the subsequent gouging and soil movement has continued. This is similar to the events south of the ACT that drove huge inflows of mud into the Murrumbidgee. Below is a photo taken by Miranda on the property. That the water looks quite clear matches what Fleur and Maree saw down stream at Murray's Corner. The low seasonal flows fortunately masked the damage done to the surrounding catchment. John has worked with a partnership by Greening Australia and ACTEW's Source Water Protection Program, to fence stock from sensitive sections of the river and restore reaches of other tributaries within his property.



Paddy's River on Booroomba Homestead (Photo: Miranda Gardner)



Average Signal 2 score= 5.3 with 4 bug types. 'Suggests Pollution' I have found that the sandy river beds of many sites and the lack of macrophytes often drives down the waterbug diversity at the sites monitored in this catchment.



Gudgenby:

(Includes all creeks and streams flowing into the Gudgenby River. Most sites are in the Namadgi National Park).

Martin enjoyed pristine montane creeks again this season. The area survived last summer in a lot better condition than has been the case in recent years. It sounded like the blackberries have been enjoying the conditions as well in spite of Martin's regular attacks with his swiss army knife.



Average Signal 2 score= 6.0 with 3 bug types. Suggests toxic pollution or poor habitat. Ian and Candice had a hard time finding much at the site under the Naas Rd bridge. They found very sensitive bugs but little variety.

Naas:

(Includes all creeks and streams flowing into the Naas River).

This was the last of 3 autumns of Waterwatching for **Ian Long**. **Candice** (blurry image on the right-no it's not a yowie with a net) joined him and other teams to do the seasonal bug hunt. The photo was taken by Ian at the ford across the Naas River at Caloola Farm.

Ian Bell will head down to these for a change of monitoring pace. This is a huge benefit to our program as it means continuity of data. Others interested in varying their monitoring are also welcome to discuss this with me. It often helps recharge the batteries.



Average Signal 2 score= 6.1 with 6 bug types. Suggests toxic pollution or poor habitat, but only just. They must have missed one!

A huge thank you to all those groups and individuals involved in collecting data for this update. Waterwatch volunteers provide vital and immediate information on the state of our waterways which is being increasingly used by government and corporations locally and nationally. For more information contact the SACTCG Waterwatch Coordinator on 62966400 or at waterwatch@sactcg.org.au

Martin Lind.

