



Catchment Update Spring 2010



In General:

One word. Rain. Lots and lots of rain. In September, while Victoria experienced wide spread flooding due to the 'wettest September on record', our dams rose to over 75% from 66% at the start of the month. Our rainfall had doubled last year's figure, however this still only represented a return to our long term average rainfall. Canberra had apparently missed out on much of the soaking that the rest of the country experienced.

In October the Canberra Times reported that we had "... *been lashed by wild weather, with heavy rain, snow, winds and low temperatures across the region. Almost 50mm of rain fell in Tuggeranong in the 24 hours until 9am today, pushing the territory's waterways to capacity.*"

By the end of November our dam levels had reached over 90%. On the 30th we received over 2/3 of the average rainfall for the month in one day (41mm).

While I'm fascinating you with statistics, it was also noted that ACT Roads incurred a \$300,000 increase in their expenses to fix all the potholes as a result. You can never please everyone!

Here is how the flush out generally affected our waterways in Spring:

Water Temp: The higher reaches of the Namadgi creeks were 1/3 the temperature of those in the suburbs and along the Murrumbidgee. Quite a dramatic difference but also not unexpected.

pH: The highest (most caustic) reading was in the Lions Youth Haven dam on McQuoid's Ck. (10.2). Other high readings (>9.0) were found around Lake Tuggeranong at various times over Spring. The creeks in the upper reaches of the Gudgenby catchment continued to give acidic (<6.0) readings.

E.C: Salinity readings were all well below 1000uS (level of concern) around the whole region.

Turbidity: A lot of variation occurred as a result of the increased rain. Site recorded big differences between the months of spring. See below.

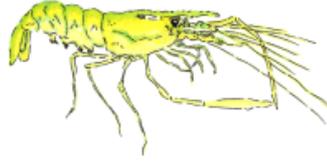
Dissolved Oxygen: No low (stagnant) readings were recorded, however a number of sites experienced super-saturation events, especially the urban creeks and wetlands.

Phosphates: There are known culprit sites that will often record high phosphate levels. These include farm dams and urban lakes and storm waterways. This season was no exception even with the high inflows. Casuarina Sands continued to record higher levels than anywhere else on the Murrumbidgee River. This is possibly a result of the site being downstream from the confluence of three rivers and a major construction site!

Nitrates and Nitrites: One high reading for nitrates this season. This occurred at the Conder Wetlands. No high readings for nitrites.

Algae: The flushing rain had a definite clearing affect on the algae this spring. In September many sites gave high readings indicating a lot of algae growth. By November there was a distinct drop right across the entire southern ACT catchment region.

Spring is macroinvertebrate monitoring time!



Signal 2 (macroinvertebrate) scores were generated for 22 sites covering most sub-catchments. This is fantastic effort and I would like to thank all volunteers who undertook this valuable monitoring this year. An average of signal 2 scores is included for each sub-catchment where conducted (next to the shrimp).

October is also **ACT Frogwatch Census** time. A number of SACTCG Waterwatch teams took part in the census for the first time this year as well as many regulars such as the Paddys River group. The 'Sands' group, Ian ('Bidgee Blue'), Deb (POSM) and the team from Cooleman Ridge Parkcare, were among those who headed out at dusk for the first time this year to record frog-song.

There are many others and the full round up can be visited at <http://www.ginninderralandcare.org.au/category.php?id=19>

Lower Molonglo: (Coppins Crossing)

The development of the suburbs in the Molonglo Valley continues to cause controversy this spring with sites in the area being the only ones in the ACT listed by the Australian Council of National Trusts. Undiscovered pioneer and Aboriginal artifacts are considered likely to be in the region. (*Information courtesy of the Canberra Times*).

Turbidity at Coppins Crossing doubled between October and November as the flow from rains increased over the months. Other readings were well within acceptable levels.

For more details on issues relating to the Molonglo River and surrounds see the Molonglo Catchment Group at www.molonglocatchment.com.au or phone 6299 2119.

Lower Murrumbidgee:

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

The site experienced high water levels and flow events right through the season. The Cotter camp ground was closed to campers from November due to the start of the 24hour phase of the construction on the dam. Regular sightings of platypus at Casuarina Sands was a pleasant feature this spring, as was a drop in turbidity by November although high phosphate levels continued at the site.



Figure 1 Wendy examining algae at Casuarina Sands. Photo courtesy of Anne I'Ons.



Signal 2 score= 4.9 with bug 7 types recorded at Casuarina Sands by children of the Home School Association. This suggests pollution is occurring. High phosphates may be the cause.

Upper Murrumbidgee:

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

As of September 3 new sites were started in this sub-catchment as the 'Parkcarers Of Southern Murrumbidgee' (POSM) and Cooleman Ridge Parkcare groups rejoined the Waterwatch ranks. In addition to a new site on the river and reviving a site at Barney Gully in Gordon, Deb Kellock from POSM, has also taken on 3 other sites on the Murrumbidgee south of Lanyon Homestead that form part of our data contribution to the Upper Murrumbidgee Demonstration Reach project, launched in November at the Tharwa Sandwash reserve. Welcome aboard Deb!

Also, a big welcome to Arminel and Erika from Cooleman Ridge Parkcare, who began monitoring two dams on the ridge this spring. One was monitored for a number of years as part of the CAMPFIRE project before ceasing a couple of years ago, the other is a small dam put in by ACT Parks and Conservation for use by horse riders close to the suburb of Chapman. These represent the most northerly sites for this sub-catchment.

Records for spring show that for the most part the flush has had a beneficial effect on the river. Turbidity records for October were all <10 again this season.

In the dams, the legacy of pasture improvement practices revealed them selves with extremely high phosphate readings. The wetlands in Conder also recorded high nitrate levels this spring. Rotting vegetation (lawn clippings and pruning waste?) may be adding to the high nutrient loads in this urban waterway.



Average Signal 2 score= 4.4 with 7 bug types. This suggests pollution is occurring in the sub-catchment. The worst recorded source for this is the urban wetlands at Conder and is probably linked to high nutrient loads from the urban region.

Tuggeranong:

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

This most variable sub-catchment continued to swing wildly in many records this season. Brad recorded a spike in turbidity in at the upper Tuggeranong Creek site in October, possibly a result from construction work near by. The Village Creek pipes had a big spike in nutrients and super-saturation of oxygen in September. Then, in November the water coming out of the pipes was extremely turbid (60NTU) while the adjacent Wanniasa Creek was crystal clear!

The lake itself had a phosphate spike near the college for two months which then dissipated.

Below the spillway Tuggeranong Creek had a massive build up of algae streamers, (*Cladophora sp.*) giving the highest (worst) algae score possible of 5.0. Josh also conducted a platypus survey in the lower reaches of the creek in October after reports that there had been sitings in the past in its deeper pools. Unfortunately there were none to be seen this time. Also, while frogs were recorded in the upper part of Tuggeranong Creek the lower section below the lake spillway was eerily quite.

He see, however, many rabbits each time he visited his site.



Average Signal 2 score= 3.3 with 7 bug types. This is a particularly poor reading with only the toughest bugs found. This suggests pollution and once again this coincides with high nutrient records around the many sites monitored near Lake Tuggeranong.



Village Creek turbidity

Cotter:

(Intermittent WW data collected. This catchment is also extensively monitored by ActewAGL.)

No data was submitted for spring.

Daddy's:

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

Spring gave the Paddy's River catchment a pounding this year. Terms like 'violent flash flooding' and 'evidence of flood' accompanied most data submissions. In Tidbinbilla, there was an anomalous turbidity spike in the upper creeks in September. No explanation is available other than the extreme water flows experienced. The Tidbinbilla River also had a spike in phosphates near the sanctuary, possibly due to contamination from the nearby weir. Other data reported no concerns.



Mike McGhie standing in Gibraltar Creek. Note: the creek used to flow to the right in this picture. A new path was carved out after heavy rain.



Average Signal 2 score= 7.2 with 5 bug types. This suggests "toxic pollution or poor habitat". Very few bug types were found at the Tidbinbilla sites. This brought the average for the sub-catchment down considerably. My thought is that the 'huge rain events' recorded in the reserve at the time of monitoring may have removed much of the in-stream debris removing a lot of habitat. The abundance of stonefly larvae indicates good water quality and they happily cling to the bottom of rocks, which don't get washed away! Elsewhere in the sub catchment the S2 records showed good river health.

Gudgenby:

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

Once again the pH levels were below what could be considered normal for healthy waterways. An investigation into why the up land streams of Namadgi are so acidic is being planned. Martin from the 'Gudgenby Bushies' has obtained geological maps of the region and we will be sitting down soon to see if this provides some clues. Another possible line of investigation is the nature of bog ecosystems.



Average Signal 2 score= 5.0 with 6 bug types. This suggests pollution in the sub-catchment. A low S2 score at the confluence with the Naas River could indicate a number of expected issues with water quality in a rural area. Nitrates were slightly high and are likely the result of excreta from stock. Also the extreme flood events at this time would present a significant challenge for the invertebrate population. Low S2 scores were also recorded for the lower sites in the upland creeks of Namadgi. The good number of bug types and correlating water data suggests that pH may be a contributing factor.



The Gudgenby River at the Naas bridge. Note pushed over vegetation. Photo courtesy of Diana Kirby

Naas:

No sites are currently being monitored in this sub-catchment.

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 Waterwatch@sactcg.org.au

Martin Lind.

