

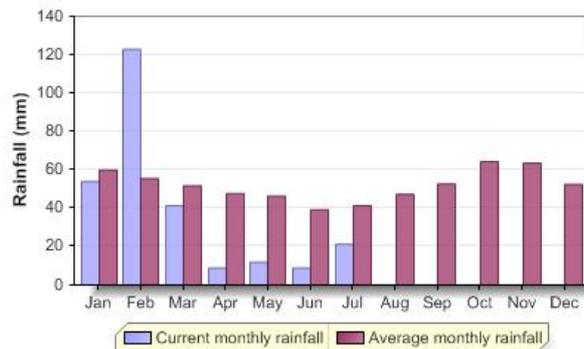


Catchment Update

Summer/Autumn 2011

In General:

There was so much rain over summer that Tidbinbilla nature reserve was not accessible in December due to flooding and the Smith's road concrete bridge over the Gudgenby, near Tharwa, was washed away in January. Below is the graph from Actew. February's stats are reflected in the comments received for that month. Unsurprisingly comments like 'the highest we've ever seen' typified the whole region. Unfortunately it didn't take very long for the water levels to drop right across the catchments once the dry autumn caught up with us.



Here's the summary for the past two seasons. Individual sub catchment comments are below.



Summer;

Water Temp: The high inflows kept water temperature steady across the region. We didn't see the usual hot spots around the urban water ways.

pH: The good flushing kept pH within acceptable levels in all sub-catchments.

E.C: The same for EC, although something hit the storm ways out of Wanniasa in January. Marg obtained a spike reading of nearly 850 μS , four times higher than anywhere else around the lake!

Turbidity: Many sites had high readings which indicated large inflows of sediment. The Murrumbidgee was back up to around 20NTU's and Tuggeranong Ck copped a whopping 400NTU's of muck after the storms in December.

Dissolved Oxygen: The lower swampy reaches of creeks in Namadgi gave low DO readings as usual, despite all the rain. Else where there were no issues.

Phosphates: There were spikes in phosphate readings in Paddy's river and lower Tuggeranong Creek. Erosion is a common source of phosphate and the increased sediment loads contribute to this. The sites along the Murrumbidgee all gave higher than usual reading for phosphates with Casuarina Sands continuing its reputation as a concentration point for these nutrient/pollutants.

Nitrates and Nitrites: No readings of concern were recorded for this period.

Algae: Most records indicated a washing away of much algal growth in the region.



Autumn;

Water Temp: Nothing unexpected to report.

pH: All pH readings were within acceptable levels this autumn.

E.C: All sites were within acceptable limits this period.

Turbidity: Turbidity levels continued to be high in March but as the season progressed and the rainfall and flows subsided, the turbidity readings across the region and along the Murrumbidgee in particular, dropped substantially.

Dissolved Oxygen: Good readings throughout autumn. Even the lower swamps of Namadgi had acceptable levels.

Phosphates: Phosphate levels took a month after the summer rain to drop to some of the lowest level we have seen for a while, by April. They started to creep back up by the end of May. The only readings outside acceptable levels in April were the ponds and rural dams in the region, where the nutrients are prone to sit and concentrate.

Nitrates and Nitrites: These followed a similar transition to phosphates. With definite dip in readings over April. There were no readings of concern across the region.

Algae: The patterns in the algae growth are tricky to pick from our records. There is evidence from sites that produced data for all 3 months of autumn that the algal growth followed the changing trends in nutrient levels. This would need proper statistical analysis to be verified. Lake Tuggeranong was closed to public use by ACT Dept Health in early March due to B/G algae levels.



Autumn macroinvertebrate monitoring.



Signal 2 (macroinvertebrate) scores were generated for **21** sites covering all sub-catchments. This is twice as many surveys than were conducted for the same season last year. I would again like to thank all volunteers who under took this valuable monitoring this year. 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 expected, there were reports of extremely high flow events over summer with vivid descriptions of things like “debris 2 meters up tree trunks”. In April the Sand’s group recorded the “Turbidity lowest since records in 2003” at Casuarina Sands.



Signal 2 score= 4.5 with bug 7 types. Suggests pollution. Measured at Casuarina Sands, the extreme flow events and continued high cumulative phosphate levels at this site may explain this reading.

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)

.There were notes of high flow effects along the length of the Murrumbidgee River. The bridge over the Gudgenby was washed away in January cutting access to sites near the Gigerline Gorge for 2 months. Turbidity went up along the river after the rain but then dropped to pristine levels at by the end of May. There were also reports of people kayaking and rafting on the Murrumbidgee R for the first time in a long while, including a team taking part in a Clean Up Australia Day rafting/kayaking trek including our Ian Bell of the 'Bidgee Blue' 2 team. 'Tim the Yowie Man' of the Canberra Times was also there and wrote an article for his page in the CT on 26th March.



Two intrepid boogie boarders about to ride the rapids at Point Hut Crossing after the heavy rains in December. Note the height of the debris on the flood indicator!



Average Signal 2 score= 4.9 with 6 bug types. Suggests pollution. The low(ish) score is possibly a result of significant habitat disturbance at many sites due to extreme flows a month or two before the surveys were conducted.

Tuggeranong:

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

The storms in December pushed a large amount of muck out of Lake Tuggeranong. Josh and Brad, our junior team, hold the record for the highest turbidity reading in the region on my books, 400NTUs! The amount of phosphates pushed over the dam wall was also alarming (0.6 mg/L). By the next month the phosphate and turbidity readings in the lake and creek had dropped significantly. Possibly gobbled up by the blue green algae plume that hit (and subsequently, closed) the lake in early March. Turbidity around the lake has since crept back up over April and May.



Lake Tuggeranong spillway. Note the colour of the water and the flows over the wall in the background.



Cyanobacteria scum at the mouth of Village Creek in March. Photo courtesy of Marg Peachey.



Average Signal 2 score= 3.8 with 7 bug types. Suggests pollution. Only ‘tough bugs’ (to quote the Pixar movie ‘A Bug’s Life’) can handle the conditions of this much maligned sub-catchment.

Cotter:

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

No sites were monitored in this sub-catchment for this period.

Daddy's:

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

The December storms closed Tidbinbilla to public access. Fleur and Maree noted an amazing amount of carnage at Murray's Corner. Even the resident blackberries had 'disappeared' from the rivers edge. (Only to return the next month!). The Friends of Tidbinbilla team noted large amounts of damage along Tidbinbilla River and its tributaries. The upland areas of Gibraltar Creek have also returned to large scale bog areas after the summer, and have remained that way this year. The water level along the Paddy's River then proceeded to drop over the coming months. The monitoring in the sub-catchment has shown almost pristine water quality throughout autumn.



Tidbinbilla River at Shanahan's crossing, taken in January. Note the severe scouring in the opposite bank due to December floods. Photo courtesy of 'Friends of Tidbinbilla'.



Murray's Corner this May. Check the clarity of the water in the crossing. Photo courtesy of Paddy's River group WW.



Average Signal 2 score= 6.6 with 6 bug types. Suggests toxic pollution or poor habitat. I suspect the high flow events associated with the flooding just prior to do the surveys may have reduced bug numbers.

Gudgenby:

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

The upland bogs and streams of Namadgi did not escape the flushing rains. Martin recorded the neutralising affect on the bogs pH and lowering of phosphate levels. All the creeks were 'in flood' by the time he tested again in February. Bogong Creek, usually a grey colour even when flowing, was clear by April. All pH readings in the region returned healthy readings.



Average Signal score= 5.5 with 2 bug types. Suggests pollution. However only one site was surveyed. This was at the bridge near Top Naas Homestead. This had suffered extensive damage due to summer flooding and this may account for the low invertebrate numbers.



Gudgenby River under the Naas Road crossing in January. Site heavily scoured by flooding.

Naas:

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

As from April, we now have 3 sites being regularly monitored in the Naas River sub-catchment for the first time in Waterwatch history. A very warm welcome to **Ian Long**, who has taken up the cause in addition to his studies in natural resource management. As well as taking on Diana's old site at the Naas Road bridge over the Gudgenby River, Ian is monitoring 3 very varied sites near and on the Naas River. One is Gudgenby Creek (not to be confused with Gudgenby River), a small creek winding its way through heavily cattle trodden farmland. The first day Ian tested this site he had a very interested audience of inquisitive cows assessing his skills while standing in the middle of the watercourse. The next site is on the river proper with the kind permission of Caloola Farm and one is on the boundary of the Namadgi NP, which will give us an immediate and useful comparison with the adjunct farmlands affects on the river.



Gudgenby Creek. The cows are standing right behind the photographer. Honestly!



Average Signal 2 score= 6.2 with 4 bug types. Suggests toxic pollution or poor habitat. 2 of the 3 site surveyed ran through grazing properties. One site had very little habitat to speak of and high nutrient level due to regular cattle access.

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

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