

February – March 2015 in our Catchment.

In February, sites with low or no flow generally had lower dissolved oxygen (DO), which is expected. The exception is generally waterways with higher levels of nutrients (N & P) which may have a high abundance of algae photosynthesising and increasing the DO. The nutrients are generally taken up rapidly by the algae, assuming water temperature is not limiting, so you may not actually detect these higher levels of nutrients in your readings.

The only site with unexplained readings was the lower site on Yandyguinula Creek, which had very low DO in both February and March, and in February DO was also fairly low at Burbong Bridge on the Molonglo. There were other problems apparent at the lower end of the Yandyguinula sub-catchment, reported by our Waterwatcher and by landholders in the area, and this appears to be the result of a pollution event, but we are waiting to hear from the NSW Environment Protection Authority (EPA) about their investigations. There is more on this possible pollution event below.

In March, all sites recorded low or no flow, except Burra Creek and the lower Queanbeyan and Molonglo River sites. What a difference a couple of weeks makes! The only unexpected readings were at lower Yandyguinula Creek as mentioned, and in Tinderry Creek and the nearby site on the Queanbeyan River. Both these sites are quite high in the Queanbeyan River catchment and seeing very elevated P readings is unusual. The cause may be superphosphate or similar, which may have been applied to paddocks above the Tinderry Creek site. Stock (cows) also have access to the creek, and there is very little riparian vegetation there, so manure (or even sewage) is also a possible cause. If turbidity was high (it was only slightly high at 15 NTU), soil erosion would also be a potential cause, although it would generally not cause such a high reading.

Please email me directly if you have any readings outside your usual readings, or that exceed the limits stated in the [Upper Murrumbidgee Volunteer Waterwatch Manual](#). Sometimes it takes me a while to get through all the submitted records and there are always issues to chase up that distract me. If you let me know directly that would really help me get onto issues more quickly.

We recently came across a European Wasp nest at a Waterwatch site, and they have been appearing all over the ACT and NSW including in places they've never been seen before. Twenty-four European Wasp nests have been found at Jerrabomberra Wetlands and nearby in the last 3 months. Please be aware of the danger they pose and watch where you're walking and working. I have included more information on European Wasps below.

Please save the date

The next **Waterwatch QA/QC** (Quality Assurance/Quality Control) event is on **Sunday 24 May from 10am – 1pm with lunch to follow**

We would like you all to come if you can, along with your water testing kits and calibration solutions. Please stay for lunch and have a catch up after the QA/QC. It will be held somewhere in the Southern ACT catchment. Details TBA.

Does an unusual appearance or water quality reading in your waterway mean pollution?

It depends... it is sometimes quite complex getting to the bottom of what has caused the unusual appearance or water quality reading. Combinations of factors may result in unusual algal blooms or bacteria, resulting in colours included red, pink, yellow, and of course green, and everything in between. Any suspended material can affect water quality readings and the colour of water, including soil and clay, dissolved organic matter, such as humus or decaying plant material, and even pollen can affect the colour and appearance of water.

We had several unexplained events in February. Yandyguinula Creek¹, a tributary of the Molonglo River, saw reported fish kills and an unusual milky appearance, as well as the very low dissolved oxygen reported by our long-term Waterwatcher there at the lower site in February. The low DO continued up to the March sampling weekend.

The following week residents on the Molonglo River above Molonglo Gorge reported a strange black look and terrible smell in the river. One report came to us, and the other to the NSW EPA. A week or 2 had passed since the pollution was first noticed. When I visited the site on the Molonglo River, there was a white, fatty substance amongst the water milfoil which had a terrible smell, an unusual, fragile, deep black substance on the bottom of the river, as well as some pollen and algae on the surface that looked normal to me. A week later, there was a black filamentous substance on the river bottom despite its usual good flow.

Whilst most areas were missing the rain in February, there were apparently some very isolated heavy rainfall events. It's not known whether heavy rainfall is implicated in the Yandyguinula Creek "pollution", but it's likely. Sampling for a variety of possible causes requires very specific techniques and sampling equipment, which only the EPA can provide. It's not known whether these 2 events are related, despite having quite different symptoms, but it's possible. The section of the Molonglo River between the two areas appeared to be unaffected. The NSW

¹ *Yandyguinula Creek must be one of the least known sub-catchments in the Molonglo catchment. The creek is around 18 km long and joins the Molonglo River about 4 km north (closer to Queanbeyan) of the Hoskinstown Rd river crossing.*

EPA are investigating both cases, but so far have turned up nothing significant and the time between the possible cause and reporting or investigation makes finding a likely cause difficult. Thank you to John for reporting the Yandyquinula problem so promptly, speaking with locals, and providing great detail.

CHIP well received

The [Catchment Health Indicator Program \(CHIP\) report](#), the one that synthesises all the great data you collect on our catchment, was received with great interest and enthusiasm (and even gratitude). Thanks again for contributing your time, skills and interest to make this report possible. We will be doing it all again in a couple of months' time with the data being collected right now! But between now and then, the Rapid Assessments of Riparian Condition (RARCs) are being done, as well as Waterbug surveys at many sites.

Bug Blitz and RARCs

Waterbugs and RARCs provide more details on water and catchment health. **Please let me know if you are interested in being involved in waterbug surveys.** They must be completed by the end of May, and quite a few sites in Molonglo Catchment will be done by Damon from Ginninderra Catchment so please let me know ASAP if you want to be involved in a Bug Blitz day (or less than a day...).

I am continuing to do Rapid Assessments of Riparian Condition (RARCs) at as many sites as possible before the end of June. As I mentioned previously, if you would like to join me please let me know and we'll organise a date.

Watch Out For Wasps

The European wasp (*Vespa germanica*) is also known as the German wasp, or German yellowjacket.

European wasps move through the landscape wiping out most other insects, which they prey upon and take back to the nest to feed young, so they are a pest to be concerned about on the environmental front, and it is important that we identify and control European Wasp nests as quickly as possible. I know of several new suburban nests that have appeared in the last few weeks. But they seem to be appearing everywhere, including in the depths of the bush beyond Burra, where they haven't been sighted before.

You can read more about risks and control of European Wasps on the [Canberra Connect website](#). Read more details about the wasps, their impacts and their lifecycle, in a detailed article by Canberra's European wasp expert Dr Philip Spradbery on the [Beekeepers Association of the ACT website](#).

This is an excerpt: "Because of the benign weather which results in a much longer 'wasp season' and an abundance of food including native insects and human food sources, and possibly because the wasp was introduced with none of its natural enemies, this species has thrived in Australia. Their nests are typically twice the size and can produce more than 8,000 new queens per colony compared with less than 2,000 queens from a European colony.

Significantly, this species can over-winter in Australia, resulting in nests of prodigious size in following years... Thus, their potential for population increase and geographical dispersion are far greater than in their original homeland.

This aggressive colonizer now threatens rural industries such as berry and grape growing and beekeeping and has the potential to impact adversely on tourism when they are very abundant at outdoor venues.

Because of high densities and their insect-foraging activities, European wasps can destroy virtually all insect species in an area with up to 100kg of insect and spider prey per year captured by foragers for a single over-wintering nest.

This heavy insect predation pressure results in a decrease in biodiversity through loss of birds and other predators which feed on insects. There is also a potential for a decrease in plant pollinating insects with potentially disastrous consequences for native plants." (from '*European Wasps in Canberra*' by Dr Philip Spradbery at www.actbeekeepers.asn.au/information/european_wasp/european_wasp.htm)

Finally, what is believed to be the world's largest European Wasp nest was recently discovered in Tasmania. You can read about it on the [ABC Rural website](#).

Jellyfish in Lake Burley Griffin

Really! I know some of you won't be surprised by this but I certainly was when I saw them whilst out kayaking in early February. I contacted my Waterwatch buddies, and a jellyfish expert from the CSIRO, and gleaned various bits of information: the species in Lake Burley Griffin is likely to be *Craspedacusta sowerbii*, a species (probably invasive) found in every continent except Antarctica, originating in China and easily spread by waterbirds. It

feeds on zooplankton including daphnia and copepods. There are 2 other *Craspedacusta* species found in Australia, both of which are probably native.

Freshwater jellyfish were the first animals reported when Lake Burley Griffin initially filled! They have since appeared sporadically, often not making an appearance for years. They have also been reported in Lake Ginninderra, Googong Dam, Lake Tuggeranong, Burrinjuck Dam and Lake Hume to name a few (see a fuller list of sightings on the [Freshwater Jellyfish website](#)).

The jellyfish we see are the "medusa" form of a hydrozoan, also known as a hydromedusan jellyfish, and it has 2 other main forms, in what is an incredible life cycle. From Wikipedia: "*C. sowerbii* begins life as a tiny polyp, which lives in colonies attached to underwater vegetation, rocks, or tree stumps, feeding and asexually reproducing during spring and summer. Some of these offspring are the sexually reproducing medusae. Fertilized eggs develop into small ciliated larvae called planula. The planula then settle to the bottom, and develop into polyps. However, the majority of *C. sowerbii* populations existing in the United States are either all male or all female, so there is no sexual reproduction in those populations.

During the cold winter months, polyps contract and enter dormancy as resting bodies called podocysts. It is believed that podocysts are transported by aquatic plants or animals to other bodies of water. Once conditions become favourable, they develop into polyps again." (from http://en.wikipedia.org/wiki/Craspedacusta_sowerbii)

Other News & Events

ACT Heritage Festival event

Jerrabomberra Wetlands has some surprising history! The floodplain and the people have shaped each other across 20,000 years, from Aboriginal settlement through colonial times, establishment of Canberra, wartime, soldier settlers, dairying and the growing modern city. Join us for a presentation and walk on the history of the Jerrabomberra Wetlands to be held on Sunday 19 April 2015.

The presentation will begin at 10am for an hour then, weather permitting, a guided walk for about an hour. We are expecting to be finished by 12:30pm. No fee will be charged but a gold donation would be appreciated to cover our costs. Meet at the Jerrabomberra Wetlands Offices, 2 Dairy Rd, Fyshwick at 10am (keep going past the two Wetlands Foreshore vertical signs).

Bookings are required so please call 0428 224 904 to book or get more information.

Brought to you by the Woodlands and Wetland Conservation Trust.

'Artists In Residence' Program Jerrabomberra Wetlands

We are seeking expressions of interest from people who live close to Jerrabomberra Wetlands who might be prepared to provide accommodation for a visiting artist for a short time (4-6 weeks) this year. Please send me an email if interested to FriendsOfJerraWetlands@gmail.com

Thanks for getting out there and doing it.

Deb Kellock, [Molonglo Waterwatch Coordinator](#)

The operation of the Molonglo Catchment Group is assisted by the Australian Government's Caring for our Country and the ACT Government

The Molonglo Waterwatch program is part of Upper Murrumbidgee Waterwatch and supported by the ACT Government.