March 2013 in our Catchment

We have had another very dry season…Indian summer may be very pleasant, but there are plenty of signs of effects that can be put down to lack of flow.

Your Results

Parameter	Where it comes from	How it affects things	Local events
Electrical Conductivity	The ground water and soil determine the EC	Limey soils are naturally more conductive, more dissolved CO_2; waterlogging also increases mineral content.	Once again there are numerous rural sampling sites with elevated EC, but in the established range. We can now add Googong Ck to the list. The ongoing elevation of EC in urban areas like Telopea Ck in Barton and Sullivans Ck in the ANU is a sign of poor water in those areas.
Oxygen Saturation	Oxygen gets into water through flow, wave action and plants growing.	More than 120% saturation causes embolisms in animals, big or small; below 60% and it is hard for things to breathe.	The very bottom of Sullivans Creek had less than 40% saturation. Telopea Ck had 120%, thanks to the photosynthetic activity of the blanket weed.
Algal Growth	Most algae, planktonic and benthic, are seasonal; blanket weeds are perennial	Smothering and blooms interfere with biodiversity	Long dry periods often bring out the worst in some aquatic organisms. In Whiskers Ck, with little flow, the iron bacteria have formed a scum on the water. There is blanket weed at the causeway at Reschs Ck gate and near the Union at ANU (or is that one Waternet?) while Telopea Ck is now a ribbon of green from the back of Manuka Oval to the Lake! On the other hand, testing of the pipes at Burra has sent the benign *Spirogyra chenii* 'powder-puff' down to Googong Reservoir!

The sludge island that formed in January near Toad Hall (SUL735) now has plants colonising it. There are reports of tiny snails with jelly around them in Eddison Pond. They may be Sculptured snails, as these sometimes have a jelly halo.

What about the Elms?

Have you noticed the elms lately? Don't they look a mess!

The English elm, *Ulmus procera*, is one of the great favourites in public plantings in south-eastern Australia. They have been planted as stately avenues leading to public spaces; they line important roads; they stand proud among the grand garden landscapes in our public open spaces; they …

In their native north-western Europe they used to grow into tall stately forests that looked wonderful in the crisp flush of spring, gave deep, cool shade in summer and splendid golden vistas in autumn. In winter they evoked the gothic atmosphere of Brueghel or Rackham but it seemed appropriate for the landscape, gaunt black trunks against the hard white snow. They provided timber and firewood. The pews in the parish church and the cabinets in your house were elm. You could pollard them and they would return and return. They coppiced to give the wild wood that the Rat and the Mole trudged through to Badger's. Then Dutch Elm Disease struck … and they faded from the landscape.

In Australia they came with the colonists. Homesteads and parks from Toowoomba to Clare and south to Cygnet had stands, stately and elegant, just like home! They coppiced. They coppiced along the river banks, with their friends the Lombardy poplar, the aspen and the weeping willow. They met the silver birch, the cherry laurel and the cottonwood from North America and they coppiced with them too! They formed an extremely successful disclimax in the waterways around so many of our inland cities and towns. They expelled the manna gums and the sheoaks, the teatrees and the silver wattles. They drove out the local animals and provided a home for the blackberries, and the foxes and the rabbits. They coppiced into people's gardens from the churchyard next door. The coppiced under our roads and footpaths. They coppiced up our drains and around our gross pollution traps. They got heritage status in our landscape. Then the beetles came …

It is only a little beetle, with an enormous name *Xanthogaleruca* (*Pyrrhalta*) *luteola*. It is not as big as the gumleaf beetles that gang up on the red gums with the hatter caterpillars each year, and give them a good prune. It is about as big as a cockchafer, but skinnier. It lays its eggs, as does the gumleaf beetle, in two neat rows on the underside of the elm leaves. They germinate into tiny but typical Chrysomelid grubs...black with a yellow middle, like a tiny concertina. [Chrysomelid grubs mimic eucalyptus sawfly spitfires, or is it the other way about? They don't have many predators, anyway.] These grow rapidly, skeletonising the leaves around them. In the fullness of time they descend down the trunk and make their chrysalis down there. Out comes the yellow and black beetle, hungry and ready to put shot-holes in every leaf it can find. Quickly, every leaf on every elm in the coppice or avenue has browning, perforated leaves. This year's growth for the elms has been in vain!

What a shame! If this goes on for three or four years the elms will have trouble recovering. They won't be so good at coppicing. They won't be so thick along the waterways. They won't fill your house with papery seed in October. They won't crowd out the manna gums and the sheoaks the riverbank restoration teams planted this year. They won't be there for the rabbits…

Calendar

Sunday 7th April	Family Picnic Day , Friends of ANBG	ANBG
20th and 21st April	Waterwatch Monitoring	Your sites
Sunday 28th April	Jerrabomberra Wetlands Open Day	Jerrabomberra Wetlands
Sunday 28th April	QA/QC	Location to be announced

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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.