MERRI CREEK MANAGEMENT COMMITTEE
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Report compiled: 22/11/20

Waterbug Census sampling results on Merri Creek at Connolly Ave. Coburg

Waterwatch Site code and name:

ME_YMR141. Merri Creek, near footbridge 57 Connolly Ave, Coburg (opp De Chene Reserve)

http://www.vic.waterwatch.org.au/site/2310403
Date sampled: 19/11/20 at 9am
Surveyors: Trevor Hausler and Charlotte Wood (MCMC staff)

Description

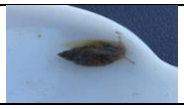
The weather was sunny and the water appeared clear with a low to medium flow. There had been little precipitation during the previous weeks. We carried out a habitat survey first to determine variety of habitats to sample. The site was dominated by an extensive riffle with a pool upstream that had good edge vegetation trailing into the water column. There were also a few sections of quiet eddies with some instream vegetation and a few pieces of woody debris.

The sampling revealed a good range of 17 taxa, though these tended to be dominated by pollution tolerant species and the weighted SIGNAL score was 3.7. This showed that the creek is badly impacted by stormwater pollution. This is to be expected in the lower, urban reaches of the Merri Creek. The SIGNAL score (and the number of taxa) was, however, on the high end of scores recorded for the lower Merri Creek in previous recent studies conducted. This result can probably be explained by the following.

1) There had been little rain during the previous few weeks resulting in good water quality, particularly the reduced impact of sediment flowing down from the upper parts of the creek. Sediment was a problem during much of 2020.
2) The good range of habitats at the site including an extensive riffle section that provided habitat for riffle loving species such as members of the families Hydropsychidae (Net-spinning Caddis) and Simulidae (Black Fly larvae). There was also a good section of edge vegetation that favoured species of the families Hydroptilidae (Micro Caddis) and Coenagrionidae (Damselflies), Corixidae (Waterboatmen) and Leptocerid caddisfly larvae.
3) This section of the creek would also benefit by having the Coburg Lake not far upstream of the site. This containment would trap much of the sediment and pollutants coming down from the upstream reaches particularly in periods of low to medium flow. The site is down stream of the confluence with Edgars Creek but the lower section of Edgars Creek is protected, in the similar way, but the containment at Edwardes Lake.
   Please refer to Table 1 for the full results.

Table 1. List of Taxa and SIGNAL scores for ME_YMR141 on 19/11/2020.

Name	Common Name	Quantity	SIGNAL Score	Photo

Class Turbellaria	Flat worms	6	1	
Phylum Mollusca				
Physa acuta	Pond Snail	3	1	
Class Insecta	**Insects**			
Order Coleoptera	**Beetles**			
Family Dytiscidae	Diving Beetles			
	Adult Little Diving Beetles	4	1	
	Two-tailed Tiger Larvae	5	2	
	Nosey Tiger Larvae	3	2	
Order Diptera	**True Flies**			
	Riverine Maggots	2	4	
Family Chironomidae	Bloodworms	10	1	
	Other Chironomids	>20	3	
Family Simuliidae	Blackfly Larvae	10	5	
Order Ephemeroptera	**Mayflies**			
Family Baetidae		1	5	
Order Hemiptera	**True Bugs**			
Family Corixidae	Waterboatmen			
Genus *Sigara*		1	3	
Order Odonata	**Dragonflies and Damselflies**			
Family Coenagrionidae		10	2	
Order Trichoptera	**Caddies Flies**			
Family Hydropsychidae	Net-spinning Caddis	>20	6	
Family Leptoceridae				

Genus *Triplectides*	Stick Caddis	1	4	
Genus *Notalina*	Headbanger Caddis	12	6	
			SIGNAL score	3.7*
			Meaning	Severe Pollution

***Explanatory notes on SIGNAL Score (from the Waterwatch Victoria website)**

Each aquatic macro invertebrate is given an ALT (Agreed Level Taxonomy) SIGNAL2 score depending on their sensitivity to pollutants. SIGNAL stands for Stream Invertebrate Grade Number - Average Level. In 1994, a new version of this method, known as SIGNAL2, was developed and is available on the Federal Government website. By knowing the SIGNAL2 grade for every family, the SIGNAL2 score of a site, and therefore its health, can be assessed. For example a site that has abundant diversity and many sensitive aquatic invertebrates will have a high ALT SIGNAL2 score.

To calculate an ALT SIGNAL2 score for a site:

Step 1. Collect, sort and identify the creatures found at the site

Step 2. Calculate the sum of the individual ALT SIGNAL2 grades

Step 3. Divide the sum of the individual ALT SIGNAL2 grades by the number of different invertebrates collected to calculate the ALT SIGNAL2 score.

A guide for interpreting water health according to the SIGNAL score of a site is given in this table

SIGNAL score ratings

Higher than 6	Healthy habitat
Between 5 and 6	Mild pollution
Between 4 and 5	Moderate pollution
Less than 4	Severe pollution

These ratings were originally developed for very “normal” freshwater streams and rivers, and do not work as well for wetlands or lakes.

This report has been added to the Waterwatch database and the National Waterbug blitz app.

Yours sincerely,

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