Report compiled: 31/03/22

Incorporated Association
No A0018144A

2 Lee Street
East Brunswick Vic 3057
Ph: (03) 9380 8199
www.mcmc.org.au
admin@mcmc.org.au

ABN 13025599242

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_visit/2331281
Date sampled: 27/03/22 at 10.30am
Surveyors: Trevor Hausler and Julia Cirillo (MCMC staff) with 5 community volunteers

Description
The weather was sunny and warm and the water appeared clear with a low to medium flow. There had been little precipitation during the previous 8 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 some edge vegetation trailing into the water column. There were also a few sections of quiet eddies with some instream vegetation (including leaf packs) and a few pieces of woody debris. Upstream of the main riffle there was a large tree fallen in the water.
The sampling revealed a moderate range of 17 taxa, though these tended to be dominated by pollution tolerant species and the weighted ALT SIGNAL score was 1.34. 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 in the moderate range 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 better 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). There was also a good section of edge vegetation that favoured species of the families 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 27/03/2022.

Name	Common Name	Quantity	SIGNAL 2 Score	Photo
Class Hirudinea	Leeches	2	1	
Order Acarina	Water mites	2	5	
Phylum Mollusca				
Family Physidae, Species*: Physa acuta*	Pond Snail	4	1	
Family Hyriidae	Freshwater mussels	1	5	
Class: Gastropoda, Family Planorbidae various general	Planorbid snails	1	2	
Family Lymnaeidae	Lymnaeid snail	1	1	
Class Crustacea				
Family Atyidae	Glass Shrimps	20	4	
Class Insecta	**Insects**			
Order Coleoptera	**Beetles**			
Family Hydrophilidae	Water scavenger beetles	10	2	

Order Diptera	**True Flies**			
Family Chironomidae	Bloodworms	10	1	
	Other Chironomids	10	3	
Order Hemiptera	**True Bugs**			
Family Notonectidae, Genus *Anisops*	Slender backswimmers	1	1	
Family Corixidae	Waterboatmen			
Genus *Micronecta*	Little brindle boatman	1	3	
Genus *Agraptocorixa*	Static boatmen	1	6	
Order Odonata	**Dragonflies and Damselflies**			
Family Coenagrionidae & Lestidae	Damselflies	10	2	
Order Trichoptera	**Caddies Flies**			
Family Hydropsychidae	Net-spinning Caddis	30	6	
Family Leptoceridae				
Genus *Notalina*	Headbanger Caddis	12	6	
	TOTALS	116	49	
			Weighted ALT SIGNAL score	1.34*
			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,

Julia Cirillo
Coordinator | Waterwatch Program & Rapid Response to Litter Project
Merri Creek Management Committee
juliacirillo@mcmc.org.au