

Date report compiled: 22/12/20

Waterbug Census sampling results on Merri Creek at Galada Tamboore



MERRI CREEK



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Waterwatch Site code and name:

ME_YMR178. Merri Creek at Galada Tamboore (Hatty Crt) Campbellfield

Date Sampled: 9/12/20 at 9.30am

Surveyors: Trevor Hausler and Julia Cirillo.

Description

The weather was sunny and the water appeared clear with a low to medium flow. There had been little precipitation during the previous week, however there was over 30 mm of rainfall in one day in late November, with a monthly mean for the Melbourne Airport area of 25 mm (www.bom.gov.au). We carried out a habitat survey initially to determine variety of habitats to sample. The site was dominated by a large area of basalt bedrock over which the creek flowed. At the upstream end of the site was an area of loose boulders which allowed some riffle sampling. At the downstream end of the site there was deep pool with some edge vegetation, which was also sampled. There was a few pieces of woody debris in the stream. The sampling revealed a good range of 15 taxa, though these tended to be dominated by pollution tolerant species and the weighted SIGNAL score was 2.6. The most common taxa seen were *Potamopyrgus antipodarum* (N.Z. Mud Snail), which is an invasive import, and native Amphipods (Side-swimmers). The Mud Snails were present in huge numbers which is common when they infest a waterway. They consume large amounts of algae which is a primary food source for many species of native invertebrates. The SIGNAL score shows that the creek is badly impacted by stormwater pollution which is to be expected with the Barry Rd main drain just upstream of the site. The site would also be affected by high nutrient discharges from the Craigieburn Sewage Treatment plant.

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	10	1	
Class Hirudinea	Leeches	2	1	
Class Oligochaeta	Worms	2	2	
Phylum Mollusca				

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City of Hume










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<i>Physa acuta</i>	Pond Snail	3	1	
<i>Potamopyrgus antipodarum</i>	N.Z. Mud Snail	>100	3	
Family Corbiculidae	Pea Shells	1	5	
Class Crustacea				
Family Atyidae	Glass Shrimps	12	3	
Order Amphipoda	Side-swimmers	>100	3	
Class Insecta	Insects			
Order Coleoptera	Beetles			
Family Dytiscidae	Diving Beetles			
	Two-tailed Tiger Larvae	5	2	
Order Diptera	True Flies			
Family Chironomidae	Non-biting Midges	2	3	
Order Ephemeroptera	Mayflies			
Family Caenidae		1	4	
Order Hemiptera	True Bugs			
Family Nepidae Genus <i>Ranatra</i>	Needle Bugs	1	2	
Order Odonata	Dragonflies and Damselflies			
Family Coenagrionidae		10	2	
Order Trichoptera	Caddis Flies			
Family Hydropsychidae	Net-spinning Caddis	>20	6	
Family Leptoceridae				

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Genus <i>Notalina</i>	Headbanger Caddis	12	6	
			SIGNAL score	2.6*
			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

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