



Friends of Scotchmans Creek and Valley Reserve Inc



Inc No A0037872K

Waterwatch Report 21 March 2021

Scope

- Aquatic invertebrate sampling at sites 2 and 3 (our downstream sites).
- Basic chemistry measurements at all sites.
- Dissolved Oxygen measurements at sites 2 and 3 (our downstream sites).
- Flow estimates and general observations at all sites.

Weather Conditions

Previous week: 23 mm rainfall 8 days prior, then a mild fine week and light rain at the time of our site visits.

Previous 24 hours: Overnight rain 0.5 mm

During testing: Light showers, rain later.

Water Quality Results

	YSC010 Site 1A Fiander arm	YSC012 Site 1B Crosby arm	YSC020 Site 2 Regent St	YVA100 Site 3 Valley Creek
Air Temp C	17	17	19	19
Water Temp C	17.5	17	17	17.5
pH	7.0 E	6.7 E	6.8 E	6.7 E
Oxygen Conc. mg/l			3.2 D	4.8 P
Conductivity E.C.	600 P	200 G	440 F	210 G
Turbidity F.T.U	18 F	10 E	15 G	22 P
Phosphorus, soluble ppm				
Ammonium NH ₄ ⁺ ppm				
Stream Flow estimate l/s	70.0	42.0	105.0	0.5

(E = Excellent, G = Good, F = Fair, P = Poor, D = Degraded)

Macro Invertebrates Results

		YSC020 Site 2 Regent St	YVA100 Site 3 Valley Creek
	Bug score	Number found	Number found
Sensitive			
	<i>Damselfly larvae</i>	6	30
	<i>Dragonfly larvae</i>	6	10
	<i>Freshwater mussel</i>	5	0
	<i>Freshwater Yabbies/Crayfish</i>	5	1
Tolerant			
	<i>True Bugs (Backswimmers, Water Scorpions, Water Boatmen, Lesser Water Striders, Water Striders/Treaders)</i>	4	1
	<i>Freshwater Sandhoppers (Amphiopods)</i>	4	0
	<i>Leeches</i>	3	50
	<i>Snails (freshwater)</i>	3	0
	<i>Flatworms</i>	3	30
Very Tolerant			
	<i>Mosquito larvae</i>	2	3
	<i>Midge larvae</i>	2	50
	<i>Fly larvae</i>	2	3
	<i>Freshwater segmented worms</i>	1	50
	<i>Blood worms</i>	1	50
	Total Number Found	278	203
	Total Bug Score	35	38
	Stream Condition	Fair	Very Good

Comments:

The weather was fairly dry for the month since our previous site visits, until 23 mm rainfall 8 days before this visit, and light showers during at the time.

Our waterbug survey ratings are usually highest in late summer, and this time were Fair for Scotchmans Ck and Very Good for Valley Ck.

- Oxygen concentrations were low (typical of summer), Degraded in Scotchmans Ck and Poor in Valley Ck.
- Conductivity was high in Scotchmans Ck, both upstream and downstream, as often happens in summer (rating Poor to Fair).
- Turbidity was high in Valley Ck, which was flowing very slowly.

- Phosphorus and ammonium measurements are not reported because of problems with the reagents.
- Otherwise the chemical measurements were Fair to Excellent.
- The waterbug samples at both downstream sites contained large numbers of Tolerant and Very Tolerant creatures, and a variety of Sensitive creatures, resulting in Fair and Very Good ratings.
- We note that our water flow estimates are just that, very approximate estimates made with floating twigs and tape measures (and sometimes just by looking), and intended as stream health descriptions, not runoff data. Our first estimate of flow at site 2, at a wide slow flowing channel, was 10 times the report from the automatic gauge just upstream. After remeasuring the width and depth more carefully (under similar flow conditions) we have reduced the discrepancy, but it is still large.

FGB 26/3/21