



## Friends of Scotchmans Creek and Valley Reserve Inc



Inc No A0037872K

### Waterwatch Report 20 May 2018

#### Scope

- Aquatic invertebrate sampling at sites 2 and 3 (Regent St)
- Basic chemistry tests at all sites.
- Dissolved Oxygen and Phosphate tests at sites 2 and 3 (Regent St)
- Ammonium tests at all sites.
- Flow measurement and/or observations at all sites.

#### Weather Conditions

During testing: Overcast.

Previous 24 hours: Overcast, 1 mm rainfall.

Previous week: Cool, cloudy, 11 mm rainfall.

#### Water Quality Results

	<b>YSC010 Site 1A Fiander arm</b>	<b>YSC012 Site 1B Crosby arm</b>	<b>YSC020 Site 2 Regent St</b>	<b>YVA100 Site 3 Valley Creek</b>
Air Temp C	13	13	13	13
Water Temp C	14	14	14	13
pH	7.1 G	6.9 E	6.6 E	6.7 E
Oxygen Conc. mg/l			8.1 E	7.6 G
Conductivity E.C.	210 G	170 G	220 G	170 G
Turbidity F.T.U	14 E	6 E	22 P	35 D
Phosphorus, soluble ppm			0.046 F	0.029 F
Ammonium NH <sub>4</sub> <sup>+</sup> ppm	0.12 F	0.05 G	0.04 E	0.03 E
Stream Flow (volume) l/s	27.2	28.0	163.0	2.9

(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
Very Sensitive			
<i>Caddisfly larvae</i>	7	2	0
Sensitive			
<i>Damselfly larvae</i>	6	3	0
<i>Freshwater mussel</i>	5	1	1
Tolerant			
<i>True Bugs (Backswimmers, Water Scorpions, Water Boatmen, Lesser Water Striders, Water Striders/Treaders)</i>	4	0	7
<i>Leeches</i>	3	12	2
<i>Snails (freshwater)</i>	3	0	30
<i>Flatworms</i>	3	40	10
Very Tolerant			
<i>Midge larvae</i>	2	2	10
<i>Fly larvae</i>	2	40	15
<i>Freshwater segmented worms</i>	1	10	20
<i>Blood worms</i>	1	8	4
<b>Total number found</b>		<b>118</b>	<b>99</b>
<b>Total Bug Score</b>		<b>30</b>	<b>24</b>
<b>Stream Condition</b>		<b>Poor</b>	<b>Poor</b>

Note that this table has a revised format to more clearly show the SIGNAL method of waterbug sampling for stream health assessment. A column has been added to show the Bug Score assigned by the method – the Total Bug Score for each site is the total for each type of waterbug actually found, indicating variety and sensitivity. The Total Number Found is now shown, instead of the abundance category. The overall rating has 4 values, depending on the total number found (whether above or below 200) and on the variety (total bug score above or below 35).

### Comments:

- Wintry conditions are coming. The flows were higher than recently, and waterbug counts down.
- Upstream, the water was clear, but ammonium in the Fiander Arm (site 1a, Scotchmans Ck) was only Fair.

- Downstream, the water was muddy enough to prevent visibility deeper than about 10 cm, otherwise (apart from the usual Fair phosphorus levels) the downstream chemical quality was good.
- We appear again to over-estimate stream flows. Downstream in Scotchmans Ck, we estimated 163 Litre/Sec, but the adjacent gauge in the Waverley Rd retarding basin reported 60 Litre/Sec for the hour when we estimated it.
- The waterbug samples were dominated by the more tolerant creatures, resulting in Poor classifications for both downstream sites. (Note that the table above has been revised to show the scoring method more clearly).

FGB 21/May/2018