



## Friends of Scotchmans Creek and Valley Reserve



Waterwatch Report 19 Jan 2014

### Scope

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

### Weather Conditions

During testing: Mild, overcast.

Previous 24 hours: Mild, sunny.

Previous week: Very hot and dry.

### 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>	<b>YSC099 Site 4 Wetland upper</b>	<b>YSC100 Site 5 Wetland lower</b>
Air Temp C	20	20	19	18	20	20
Water Temp C	18	18.5	18	17.5	20	20.5
pH	7.2 G	7.2 G	7.0 E	7.0 E	6.7 E	7.4 G
Oxygen Conc. mg/l			2.7 D	1.2 D		
Conductivity E.C.	650 P	610 P	710 P	1490 D	650 P	210 G
Turbidity F.T.U	14 E	21 P	17 G	40 D	28 P	54 D
Phosphorus, soluble ppm			0.088 P	0.000 E		
Ammonium NH <sub>4</sub> <sup>+</sup> ppm	0.03 E	0.02 E	0.10 F	7.50 D	0.00 E	0.00 E
Stream Flow (volume) l/s	0.5	2.5	7.1	0.0		

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

## Macro Invertebrates Results

	<b>YSC020 Site 2 Regent St</b>	<b>YVA100 Site 3 Valley Creek</b>
Sensitive		
<i>Damselfly larvae</i>	6	8
Tolerant		
<i>Beetle larvae</i>	2	2
<i>True Bugs (Backswimmers, Water Scorpions, Water Boatmen, Lesser Water Striders, Water Striders/Treaders)</i>	10	15
<i>Leeches</i>	6	3
<i>Snails (freshwater)</i>	25	20
<i>Flatworms</i>	40	2
Very Tolerant		
<i>Mosquito larvae</i>	0	2
<i>Freshwater segmented worms</i>	15	4
<i>Blood worms</i>	10	20
<b>Abundance Category</b>	<b>3</b>	<b>2</b>
<b>Total Bug Score</b>	<b>25</b>	<b>27</b>
<b>Stream Condition</b>	<b>Poor</b>	<b>Poor</b>

### Comments:

- The last two weeks have been dry, with 4 days heatwave in the week before this site visit.
- Scotchmans Creek was flowing very slowly in the upper branches, and a little more at Regent St (possibly the wetlands ponds seep into the overflow pipe).
- Valley Creek was not flowing. Samples were obtained from two stagnant pools just east of Regent St.
- There was no flow through the wetlands ponds, and most are below normal level.
- Many chemical indicators were degraded or worse, as expected under these flow conditions. The stagnant pool in Valley Creek had an extraordinarily high ammonium level, 7.5 ppm (measured by diluting the sample 50:1). Results were Fair at Scotchmans Ck at Regent St, and Excellent at all other sites including the stagnant wetlands ponds. Similar results previously occurred in January 2013.
- The invertebrates samples were better than we had expected, including several damselfly larvae and tadpoles. However the summary scores were Poor.