



Friends of Scotchmans Creek and Valley Reserve Inc



Inc No A0037872K

Waterwatch Report 18 Feb 2018

Scope

- Aquatic invertebrate sampling at sites 1a, 1b (the upstream sites).
- Basic chemistry tests at all sites.
- Dissolved Oxygen and Phosphate tests at sites 1a, 1b (the upstream sites).
- Ammonium tests at all sites.
- Flow measurement and/or observations at all sites.

Weather Conditions

During testing: Fine, sunny.

Previous 24 hours: Fine, sunny.

Previous week: Mild, no rain.

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 | 18 | 18 | 21.5 | 21.5 |
| Water Temp C | 17 | 17 | 19.5 | 19 |
| pH | 6.9 E | 6.6 E | 6.5 E | 6.6 E |
| Oxygen Conc. mg/l | 3.8 D | 7.4 G | | |
| Conductivity E.C. | 400 F | 110 G | 210 G | 200 G |
| Turbidity F.T.U | 14 E | 8 E | 12 E | 13 E |
| Phosphorus, soluble ppm | 0.042 F | 0.114 D | | |
| Ammonium NH ₄ ⁺ ppm | 0.20 P | 0.04 E | 0.00 E | 0.00 E |
| Stream Flow (volume) l/s | 0.6 | 9.8 | 6.9 | 0.1 |

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

Macro Invertebrates Results

| | YSC010 Site 1A Fiander arm | YSC012 Site 1B Crosby arm |
|-----------------------------------|---|--|
| Sensitive | | |
| <i>Damselfly larvae</i> | 16 | 50 |
| <i>Dragonfly larvae</i> | 1 | 50 |
| Tolerant | | |
| <i>Leeches</i> | 3 | 2 |
| <i>Snails (freshwater)</i> | 15 | 30 |
| <i>Flatworms</i> | 15 | 20 |
| Very Tolerant | | |
| <i>Mosquito larvae</i> | 3 | 0 |
| <i>Midge larvae</i> | 1 | 0 |
| <i>Freshwater segmented worms</i> | 20 | 0 |
| <i>Blood worms</i> | 20 | 50 |
| | | |
| Abundance Category | 2 | 4 |
| Total Bug Score | 27 | 22 |
| Stream Condition | Poor | Fair |

Comments:

- There has been no rain for over two weeks, resulting in a very low flow in the Fiander Arm (site 1a, Scotchmans Creek) and a trickle in Valley Creek. The Crosby Arm (site 1b, Glen Waverley Drain) has had a steady low flow for the previous 2 weeks.
- Not unexpectedly under these conditions, we measured
 - Degraded oxygen level, increased (Fair) conductivity and Poor ammonium level at site 1a
 - Degraded phosphorus level at site 1b.
- Otherwise the measurements indicated Fair to Excellent water quality
 - Surprisingly, the ammonium measurements at both downstream sites (Scotchmans Ck and Valley Ck) were 0.0 ppm. (The chemistry procedure was repeated to check this pair of measurements).
- The macroinvertebrate counts at the two upstream sites were quite different.
 - At site 1a (Scotchmans Ck) there was no in-stream vegetation, and the sample was small and dominated by the creatures tolerant of poor water quality, and rated Poor.
 - At site 1b there was more in-stream vegetation than usual and the sample was dominated by very large numbers of Damselfly and Dragonfly larvae, which are sensitive to water quality, and was rated Fair.

FGB, 19 Feb 2018.