Waterwatch

2022 Waterwatch Water Quality Site Summary Report

ME_YDA485 Darebin Creek, downstream of Thornbury High School, off Theobald Street, Thornbury

Monitors: Sarah O'Connor & Daniel Reed

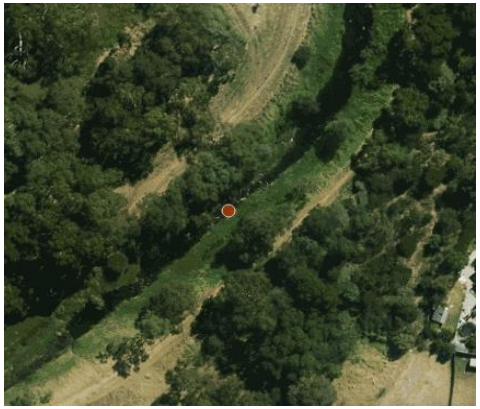
Objectives

- Track the levels of WQ parameters including turbidity and phosphate in Darebin Creek over time.
- Identify potential pollution source points.
- Involve and educate the community in water monitoring.

Monthly Parameters

- Air & Water Temperatures (°C)
- Dissolved Oxygen (%sat)
- pH
- EC or salinity (µS/cm)
- Turbidity or muddiness (NTU)
- Reactive Phosphate (mg/L)
- Ammonium (mg/L)

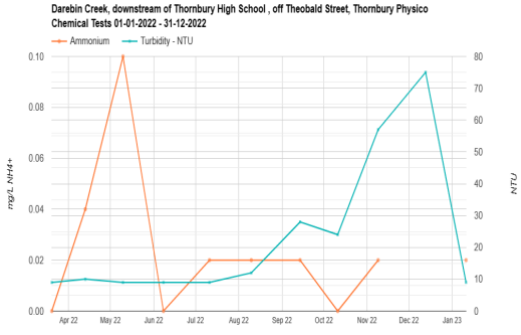
To look at further water quality data for this site (using site code: ME_YDA485) visit the Waterwatch Victoria online database

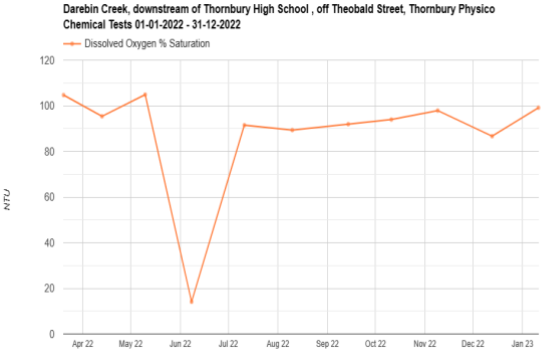


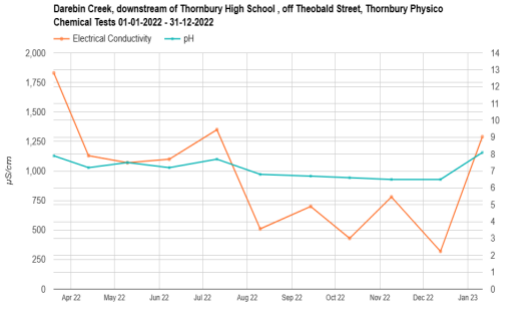
Site Introduction

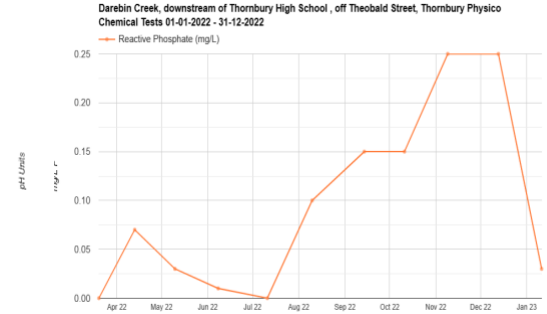
Darebin Creek flows along a 50 km course from its headwaters in farmland north of Woodstock, through a number of highly urbanised suburbs until it reaches the confluence with the Yarra River. It often sees polluted water coming through the stormwater system. Previous events have involved high turbidity (muddiness), surfactants (detergents) and pesticides. These events have sometimes caused fish kills.

Physical Chemical Tests 01/01/2022 to 31/12/2022









Summary

Ammonium ranged between 0 and 0.04mg/L for most of the recording period in 2022. An unexplained outlying result was recorded in April.

Turbidity was high between August and November with results ranging between 24 and 75 NTU possibly due to consistently high rainfall due to La Nina. The La Nina weather pattern affected Australia from late 2020 to mid 2022. La Nina in southern Australia over this time typically bring cooler than average day time temperatures, increased cloud cover, more rain and warmer nights. **Dissolved Oxygen (DO)** results recorded between 87 and 105% for 10 out of 11 tests (all taken during daylight hours) which indicates a healthy DO level for aquatic life. There is a small riffle section at the sample site which could explain this (refer to photo at left). The result in May was below 15% and was due to a testing error and should be disregarded.

Electrical Conductivity (salinity) on six occasion had results higher than 1000 µS/cm recorded. Ideally we want under 500 µS/cm for 75% of the time.

pH levels varied between 6.5 and 7.9 with the exception of December where the pH was recorded as 8.1. This is within acceptable levels.

Reactive Phosphate levels fluctuated throughout 2022 ranging from 0 to 0.25mg/L. The highest readings of 0.25mg/L were recorded in October and November. Possible reasons could be due to higher rainfall periods and resultant stormwater runoff. There is a correlation between high turbidity and high phosphate results. Phosphate particles can bind to soil, which is a major source of high turbidity.