Coups Creek

The sample site is a section of Coups Creek located in the Wahroonga Waterways Landcare Site, Wahroonga, and consists of Sydney Sandstone Gully Forest. The Coups Creek is part of the Lane Cove Catchment, draining to the South to directly join Lane Cove River in Lane Cove National Park.

The water quality in Coups Creek is generally good by the standards of urban creeks in Ku-ring-gai. Dissolved oxygen levels drop when low water levels or isolated pools with little to no flow are observed, especially following minimal recent rainfall. Water flow is crucial in oxygenating creek systems, and we see dissolved oxygen levels naturally increasing after rainfall. Creeks in urban settings are impacted by elevated phosphate levels primarily due to stormwater runoff from residential areas with fertilizer use, detergents and household products, pet waste, erosion, organic matter being washed into creeks, and wastewater discharges from sewage overflows.

Physical Condition

- Dissolved oxygen – whilst dissolved oxygen naturally fluctuates depending on time of day and flow conditions, unusually low levels of dissolved oxygen can be an indicator of a pollution event.
- pH – a measure of how acidic the water is. Our waterways naturally vary in acidity depending on the local geology, soils, amount of urban development and fluctuations in flow and rainfall. Sudden changes in acidity can indicate the potential for a contaminant in the water.
- Available Phosphate – a measurement of the phosphate compounds that are soluble in water. The concentrations of phosphorus in Australian soils and water are naturally low, and a high phosphate level can indicate potential pollution events or contaminants.
- Electrical Conductivity – provides an indication on the amount of salts in the water.
- Turbidity is a measure of how clear or cloudy a liquid is and can be an indicator of sediment being carried by the water. Turbidity can vary drastically in urban waterways, primarily in response to rainfall, but also in response to soil type and even biological factors.

Sample Date	Water Level	Time Since Last Rainfall	Rainfall Intensity	Rainfall Previous 72hrs (mm)	Comments	Air Temp (°C)	Cloud Cover (%)	Water Temp (°C)	D.O. (ppm)	Sulphuric Acid Drops	pH	Available Phosphate (ppm)	E.C. Probe Calibrated (Select)	E.C. (µS/cm)	Turbidity (NTU)	Turbidity - (FAU)	Sample Testing Comments
16 July 2022	Medium (Normal)	1-3 Days	Medium	Not Recorded		Not Recorded	Not Recorded	9	9.2	Not Recorded	7.5	0.01	Yes	560	10	9	Cloudy
25 August 2022	Medium (Normal)	Not Recorded	Not Recorded	Not Recorded		Not Recorded	Not Recorded	9.5	7.8	8*3	7	0	Yes	430	10	9	
27 September 2022	Medium (Normal)	Within 24hrs	Light	Not Recorded		Not Recorded	Not Recorded	13	8.6	8*4	7	0.01	Yes	560	10	6	Looks clear. Shower <1mm
26 October 2022	Medium (Normal)	1-3 Days	Not Recorded	43.2		Not Recorded	Not Recorded	16	8.6	8*3	7	0.03	Yes	620	10	11	
29 November 2022	Medium (Normal)	1-3 Days	Not Recorded	Not Recorded		Not Recorded	Not Recorded	15	6.1	8*3	7	0	Yes	340	10	7	Ran available phosphate test twice
15 February 2023	Not Recorded	Not Recorded	Not Recorded	Not Recorded		23.5	0	19.5	7.3	8*3	7	0.1	Yes	400	10	8	
23 March 2023	Medium (Normal)	1-3 Days	Light	1.4	Looks normal	24	100	19	5.5	8*1	6.5	0.1	Yes	580	10	5	
19 April 2023	Low	4-7 Days	Light	0.2	No change	22	20	16	7.5	8*	6.5	0.12	Yes	430	10	3	
17 May 2023	Medium (Normal)	1-3 Days	Medium	23.2	Black water. Side appears normal	17	95	11.5	10.4	8*3	6.5	0.1	Yes	230	10	7	flowing., no visual odour
21 June 2023	No Flow/Isolated Pool	>7 Days	None/Not Recorded	0	Water level below causeway	14	0	8	7.8	8*2	6.5	0.05	Yes	530	10	1	Looks very clear. Water level below causeway
19 July 2023	No Flow/Isolated Pool	1-3 Days	Light	0.4	Water level below causeway 1 pencil length	15	0	9	5.9	8*2	6.5	0.01	Yes	480	10	3	Slight scum on surface
16 August 2023	Medium (Normal)	1-3 Days	Medium	23.2		17	50	10.5	7.8	8*3	6	0.02	Yes	190	10	3	Looks Normal
20 September 2023	No Flow/Isolated Pool	>7 Days	None/Not Recorded	0	Scum on surface water	28	0	15.5	1.8	8*2	7	0.13	Yes	370	10	9	Mosquito larva present in sample collected
25 October 2023	No Flow/Isolated Pool	4-7 Days	Light	0		22	0	16	0.6	8*3	6.5	0.23	Yes	340	10	3	Slight odour
29 November 2023	Medium (Normal)	Within 24hrs	Light	15.4		23	70	19.5	7.1	Not Recorded	6.5	0.07	Yes	180	10	4	Leafy debris
19 December 2023	No Flow/Isolated Pool	4-7 Days	Light	0		27	70	23	4.5	8*2	7	0.12	Yes	550	10	3	Isolated pool

Sample Date	Water Level	Time Since Last Rainfall	Rainfall Intensity	Rainfall Previous 72hrs (mm)	Comments	Air Temp (°C)	Cloud Cover (%)	Water Temp (°C)	D.O. (ppm)	Sulphuric Acid Drops	pH	Available Phosphate (ppm)	E.C. Probe Calibrated (Select)	E.C. (µS/cm)	Turbidity (NTU)	Turbidity - (FAU)	Sample Testing Comments
24 January 2024	Medium (Normal)	4-7 Days	Light	0		27	5	19.5	7	8*2	7.5	0.05	Yes	740	10	2	
21 February 2024	High	Within 24hrs	Medium	31		26	100	19	8.9	8*2	6.5	0.17	Yes	400	50	69	Water turbid and flowing fast
20 March 2024	Medium (Normal)	Within 24hrs	Light	7.2		23	95	18	6.5	8*2	6.5	0.05	Yes	240	10	3	
17 April 2024	Medium (Normal)	>7 Days	None/Not Recorded	0		21	40	16.5	10	8*2	6.5	0.02	Yes	750	10	3	
17 May 2024	Medium (Normal)	4-7 Days	Light	Not Recorded		20	0	14	9.4	8*2	6.5	0.01	Yes	720	10	2	Looks good, calm, clear

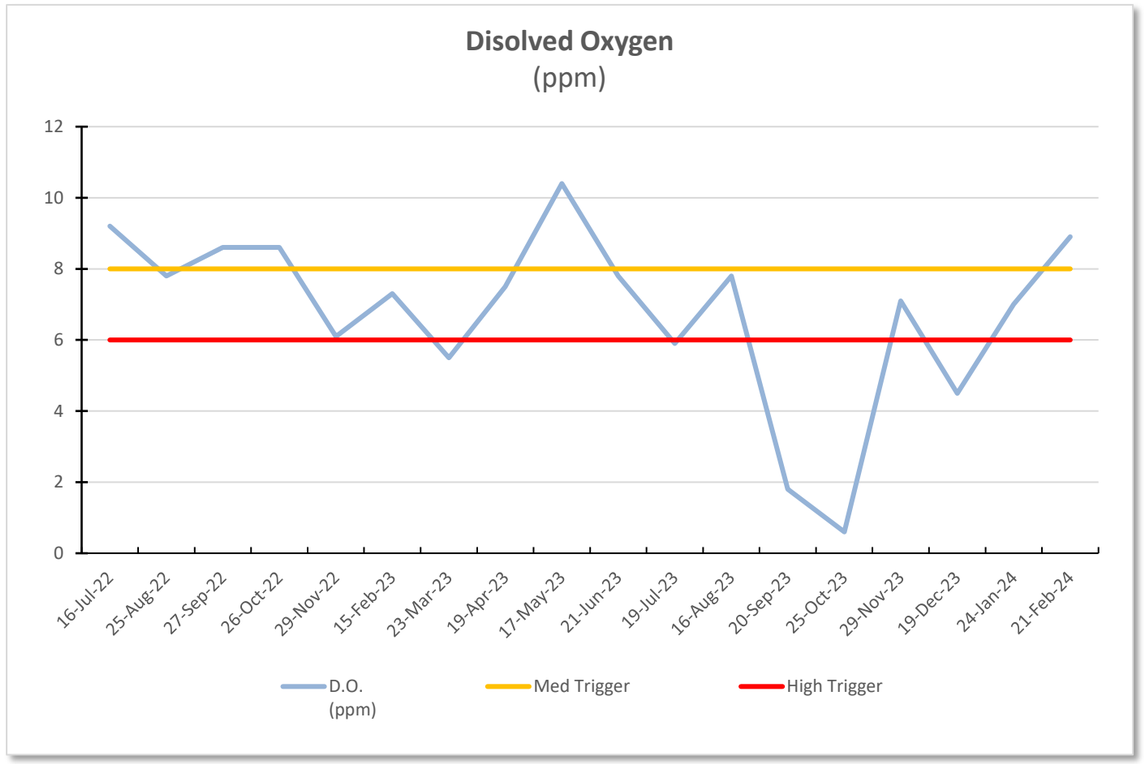
Traffic Lights Key

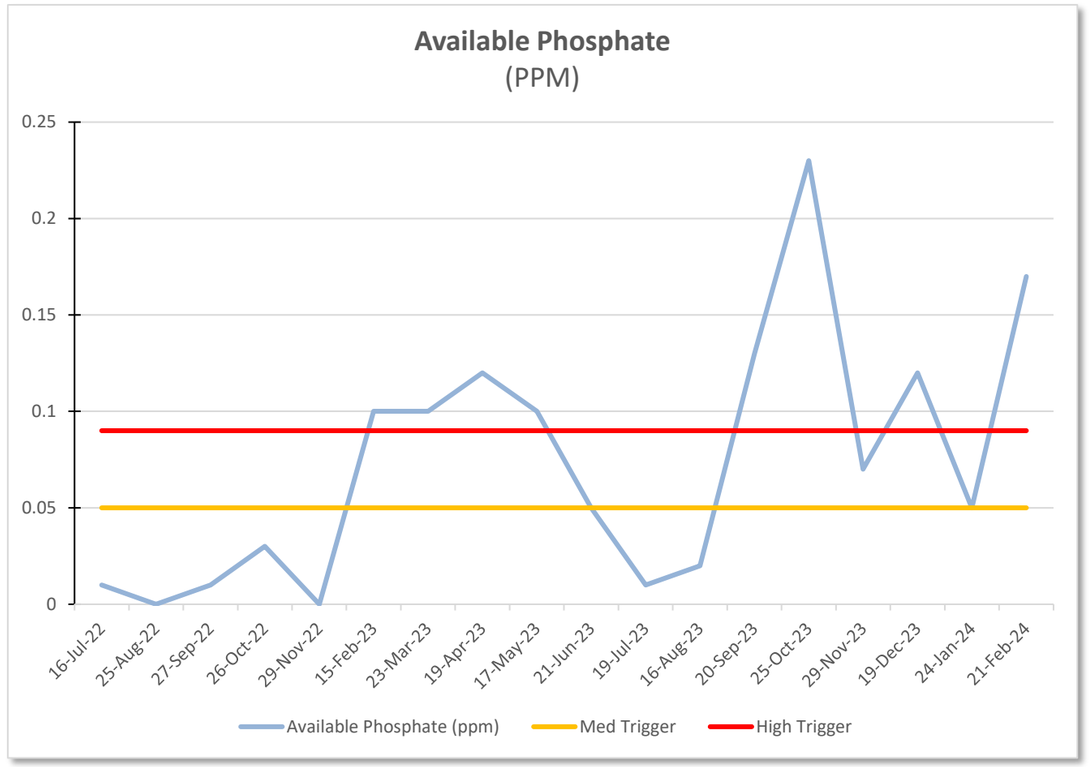
Condition:

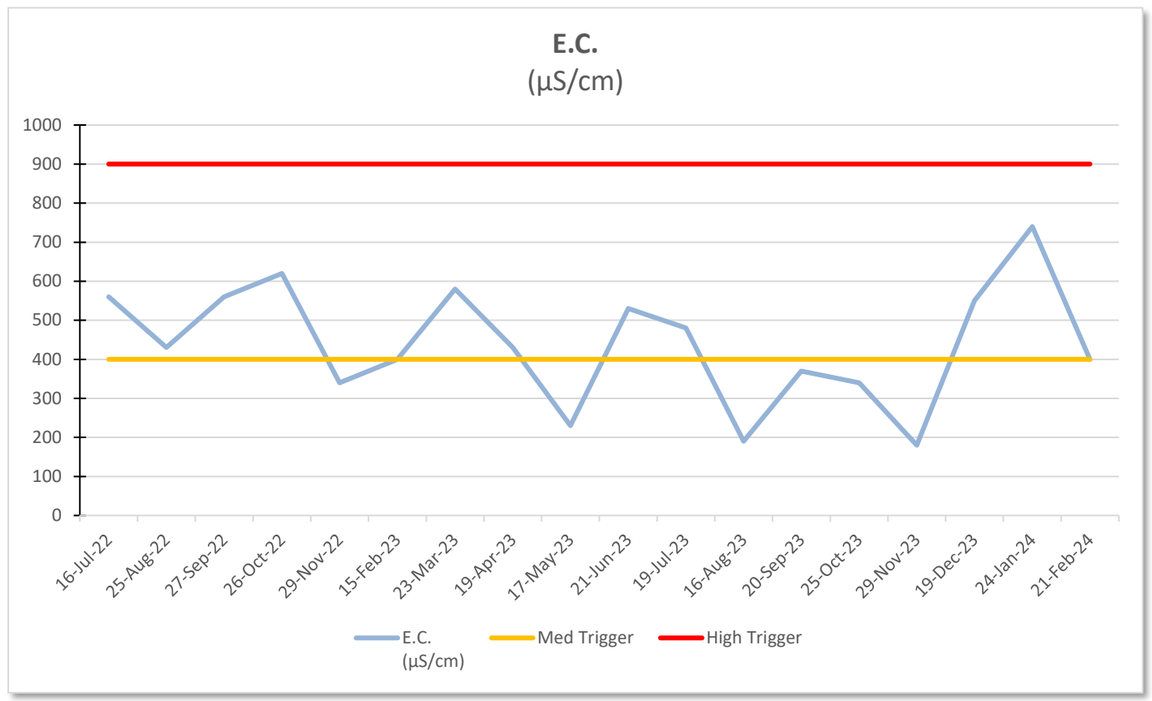
- **Green**: All Okay
- **Orange**: Watch and Observe
- **Red**: Investigate and Act

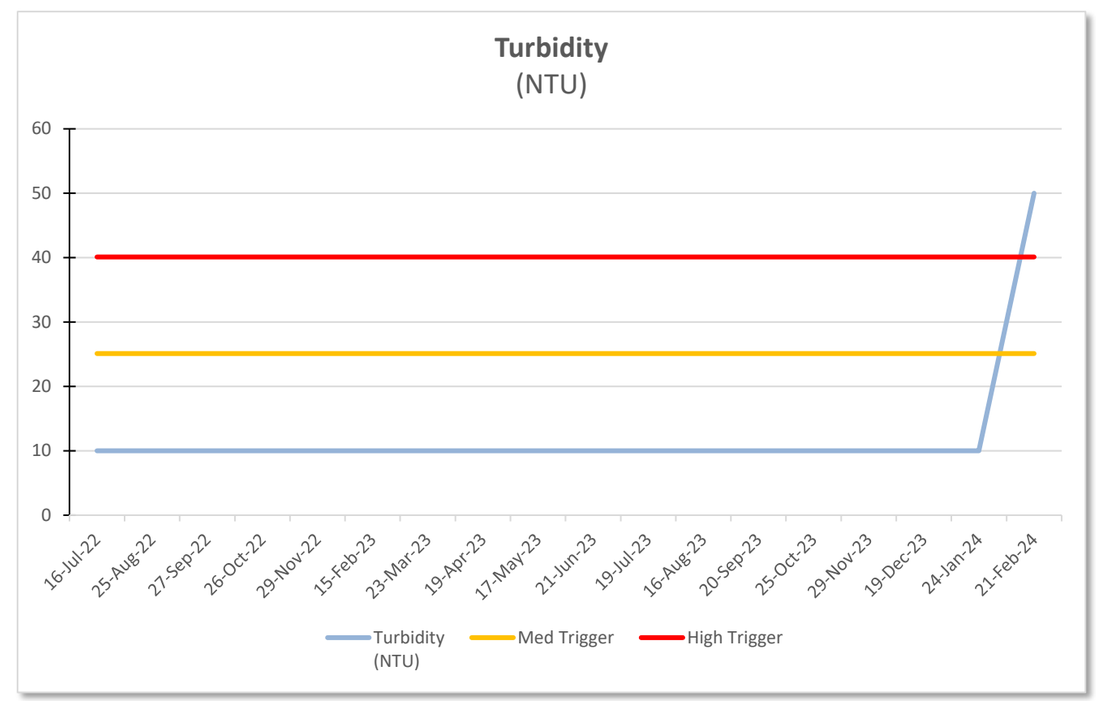
Dissolved oxygen (ppm)	<6	6 – 7.9	>8		
pH	<5.5	5.6 – 6.4	6.5 – 8.3	8.4 – 9	>9.1
Available Phosphate (ppm)	<0.05	0.051 – 0.09	>0.091		
Electrical Conductivity (µS/cm)	0 – 400	401 – 900	>901		
Turbidity (NTU)	0 – 25	25.1 – 40	>40.1		

Actions prompted by Streamwatch results may be either short-term or long-term. If there is evidence of a significant pollution or contamination event, Streamwatch volunteers report immediately to Council for investigation and resolution in a timely manner. Spikes in available phosphate and turbidity are often caused by high rainfall events, which wash debris and urban pollutants into creeks. Similarly, low dissolved oxygen levels can result from low water flow during dry periods. Creeks, especially in urban environments, will experience peaks and troughs in water quality which can resolve naturally. If unusually high levels are observed consistently and cannot be explained by rainfall events, further investigation to identify potential sources of pollution will be undertaken. Investigations may involve Streamwatch volunteers. If an isolated pollution source is not identified and an issue is ongoing, long-term management actions such as street sweeping, stormwater management controls and Water Sensitive Urban Design (WSUD) features can be considered.


Disolved Oxygen
(ppm)
12
10
8
6
4
2
0
16-Jul-22
25-Aug-22
27-Sep-22
26-Oct-22
29-Nov-22
15-Feb-23
23-Mar-23
19-Apr-23
17-May-23
21-Jun-23
19-Jul-23
16-Aug-23
20-Sep-23
25-Oct-23
29-Nov-23
19-Dec-23
24-Jan-24
21-Feb-24
D.O. (ppm)
Med Trigger
High Trigger


Available Phosphate
(PPM)
0.25
0.2
0.15
0.1
0.05
0
16-Jul-22
25-Aug-22
27-Sep-22
26-Oct-22
29-Nov-22
15-Feb-23
23-Mar-23
19-Apr-23
17-May-23
21-Jun-23
19-Jul-23
16-Aug-23
20-Sep-23
25-Oct-23
29-Nov-23
19-Dec-23
24-Jan-24
21-Feb-24
Available Phosphate (ppm)
Med Trigger
High Trigger


E.C.
(µS/cm)
1000
900
800
700
600
500
400
300
200
100
0
16-Jul-22
25-Aug-22
27-Sep-22
26-Oct-22
29-Nov-22
15-Feb-23
23-Mar-23
19-Apr-23
17-May-23
21-Jun-23
19-Jul-23
16-Aug-23
20-Sep-23
25-Oct-23
29-Nov-23
19-Dec-23
24-Jan-24
21-Feb-24
E.C. (µS/cm)
Med Trigger
High Trigger


Turbidity
(NTU)
60
50
40
30
20
10
0
16-Jul-22
25-Aug-22
27-Sep-22
26-Oct-22
29-Nov-22
15-Feb-23
23-Mar-23
19-Apr-23
17-May-23
21-Jun-23
19-Jul-23
16-Aug-23
20-Sep-23
25-Oct-23
29-Nov-23
19-Dec-23
24-Jan-24
21-Feb-24
Turbidity (NTU)
Med Trigger
High Trigger