



JANUARY 2025

MONTHLY CONSTRUCTION WATER QUALITY MONITORING REPORT

January 2025

Project No.: 3200-0645

Project: Transgrid Maragle 500/330 kV Substation

Private & Confidential

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APPENDICES

APPENDIX A: FIELD SHEET (UGL, 2025)

APPENDIX B: COA (ALS, 2025A), QA/QC ASSESSMENT (ALS, 2025B) AND QCR (ALS, 2025C)

APPENDIX C: JANUARY 2025 SWQ MONITORING RESULTS

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ABBREVIATIONS

Acronym	Full Form
°C	degrees Celsius
µS/cm	micro Siemens per centimetre
%	percent
4WD	Four wheel drive
Ag	Silver
Al	Aluminium
ALS	ALS Limited
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
As	Arsenic
Baseline Report	'Baseline Water Quality Report' (NGH, 2024)
CaCO ₃	Total Hardness
Cd	Cadmium
COA	'Certificate of Analysis' (ALS, 2025a)
COC	Chain of Custody
Cr	Chromium
Cu	Copper
DGV	Default Guideline Values
DO	Dissolved Oxygen
EC	Electrical Conductivity
EIS	Environmental Impact Statement
EPL	Environmental Protection Licence
Fe	Iron
Field Sheet	'Water Quality Monitoring Field Data Sheet' (UGL, 2025)
Hg	Mercury
km	kilometres
KNP	Kosciuszko National Park
kV	kilovolt
LOR	limit of reporting
mg/L	milligram per litre
mm	millimetre
Mn	Manganese
mV	millivolt
NATA	National Association of Testing Authorities, Australia

ABBREVIATIONS

Acronym	Full Form
NEM	National Energy Market
NGH	NGH Pty Ltd
Ni	Nickel
NSW	New South Wales
NTU	Nephelometric Turbidity Unit
Pb	Lead
ppm	parts per million
Pty Ltd	Proprietary Limited
QA/QC Assessment	'QA/QC Compliance Assessment to assist with Quality Review' (ALS, 2025b)
QCR	'Quality Control Report' (ALS, 2025c)
RP	reactive phosphorus
RS	Reference Site
Snowy 2.0	Snowy Scheme expansion project (EPBC 2018/8322)
Snowy Hydro	Snowy Hydro Limited
Snowy Scheme	Snowy Mountains Hydro-electric Scheme
SPC	specific conductance
SSGV	Site Specific Guideline Values
SW	surface water
SWQ	surface water quality
TDS	Total Dissolved Solids
The Methodology	'Pre-construction Water Quality Monitoring Program and Methodology' (NGH, 2022)
The Project	Construction of a 330 kV substation and overhead transmission lines between Nurenmerenmong, NSW and Cabramurra, NSW
TKN	Total Kjeldahl Nitrogen
TN	Total Nitrogen
TP	Total Phosphorus
Transgrid	The Trustee for the NSW Electricity Operations Trust
TSS	Total Suspended Solids
UGL	UGL Limited
WQO	water quality objectives
Zn	Zinc

1 BACKGROUND

In 2020 Snowy Hydro Limited (Snowy Hydro) obtained approval (EPBC 2018/8322) to expand the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme), by linking the existing Tantangara and Talbingo reservoirs through a series of underground tunnels and constructing a new underground hydro-electric power station (Snowy 2.0).

To connect Snowy 2.0 to the National Energy Market (NEM), a new transmission connection was required. The Trustee for the New South Wales (NSW) Electricity Operations Trust (TransGrid) is constructing a 330 kilovolt (kV) substation and overhead transmission lines (the Project) to facilitate the connection of Snowy 2.0 to the existing electrical transmission network. The Project is located within Kosciuszko National Park (KNP) between Nurenmerenmong and Cabramurra, NSW, approximately 27 kilometres (km) east of Tumbarumba, NSW (Figure 1). UGL Limited (UGL) has been engaged on behalf of Transgrid to undertake the Project.

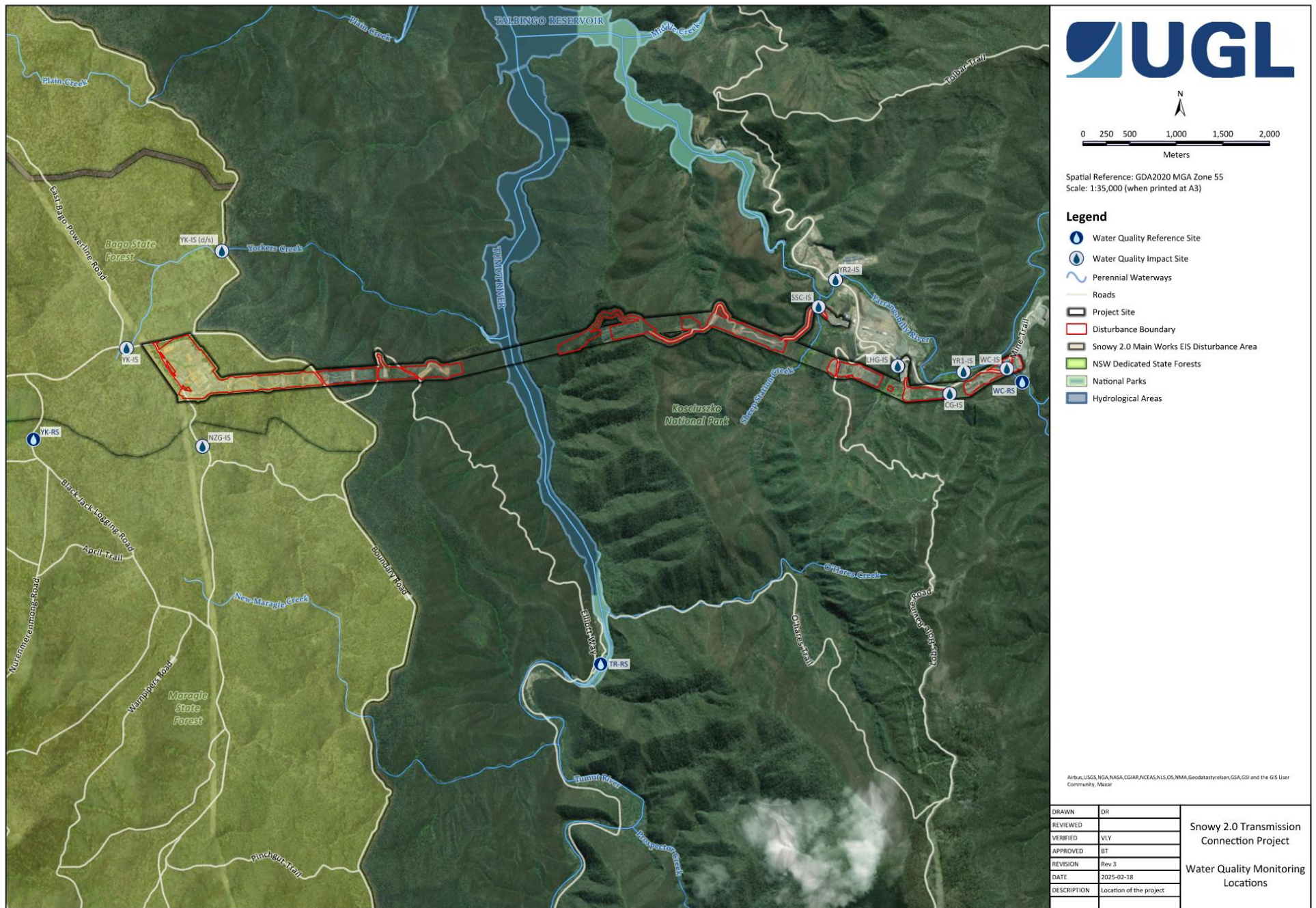


FIGURE 1 LOCALITY OF THE PROJECT AND SWQ MONITORING LOCATIONS

2 INTRODUCTION

The Project is adjacent to, and forms part of, the Snowy 2.0 project area and is located within KNP, an area of high conservation value. A total of 22 mapped waterways, tributaries of Yarrangobilly River and Tumut River, transect the Project Boundary (Figure 1).

One of the conditions of approval to meet the requirements outlined in the 'Environmental Impact Statement' (EIS) (Jacobs, 2020) and the Project's Environmental Protection Licence (EPL 21753) is to undertake regular surface water quality (SWQ) monitoring to mitigate environmental impacts on SWQ.

Pre-construction SWQ monitoring was undertaken by NGH Pty Ltd (NGH) between March 2022 and February 2024 to determine site specific baseline values for SWQ parameters prior to Project construction works. The pre-construction SWQ monitoring was undertaken using the 'Pre-construction Water Quality Monitoring Program and Methodology' (the Methodology) developed by NGH in 2022 (refer Section 3). Two years of pre-construction SWQ monitoring was analysed and summarised in the 'Baseline Water Quality Report' (Baseline Report) (NGH, 2024). The results were used to determine seasonal Site Specific Guideline Values (SSGV) for ongoing SWQ monitoring during the construction phase.

Construction for the Project commenced in March 2024. Construction SWQ monitoring will be undertaken by UGL on a monthly basis as per the revised methodology outlined in Section 3 to identify potential changes to SWQ that may be associated with the Project. SW samples from the construction SWQ monitoring would be analysed and presented in monthly Construction Water Quality Monitoring Reports.

3 METHODOLOGY

The Methodology was prepared by NGH in 2022 to support the pre-construction SWQ monitoring for the Project. The Methodology detailed the water quality objectives (WQO) for the Project, identified the monitoring locations and outlined the methodology for surface water (SW) sampling during the pre-construction phase. The Methodology (NGH, 2022) took into account the Project location within an area of high conservation value where the WQO for physical and chemical stressors, as outlined in the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality' (ANZG) (ANZG, 2018), includes no change in biodiversity beyond natural variability and where possible, there should also be no change in water/sediment chemical and physical properties, including toxicants.

Monitoring locations are outlined in Table 1. Figure 2 and Figure 3 show the water quality monitoring locations in relation to the Project and Snowy 2.0.

The Methodology (NGH, 2022) has been revised for construction SWQ monitoring by taking into account the seasonal SSGV set out in the Baseline Report (NGH, 2024) (refer to Section 4.2).

Construction SWQ monitoring would be analysed against the seasonal SSGV where available and appropriate. The Default Guideline Values (DGV) for Upland Rivers (ANZG, 2018) would be applied to water quality parameters that were not assessed in the Baseline Report (NGH, 2024) or where a guideline range is more appropriate. Table 2 outlines the seasonal SSGV and DGV used to compare construction SWQ to pre-construction SWQ.

Table 1 SWQ monitoring locations outlined in the Methodology (NGH, 2022)

WATER QUALITY MONITORING LOCATIONS					
ID	Waterway	Site Type	Catchment	Latitude	Longitude
WC-RS	Wallace Creek	Reference	Yarrangobilly River	-35.794258	148.415253
WC-IS	Wallace Creek	Impact		-35.792982	148.413404
CG-IS	Cave Gully	Impact		-35.795495	148.406665
YR1-IS	Yarrangobilly River	Impact		-35.793358	148.408277
LHG-IS	Lick Hole Gully	Impact		-35.792890	148.400445
YR2-IS	Yarrangobilly River	Impact		-35.784656	148.392921
SSC-IS	Sheep Station Creek	Impact		-35.793243	148.391046
TR-RS	Talbingo Reservoir	Reference	Talbingo Reservoir	-35.822094	148.365690
YK-RS	Yorkers Creek	Reference	Yorkers Creek	-35.801126	148.297979
YK-IS (D/S)	Yorkers Creek	Impact		-35.782684	148.320040
NZG-IS	New Zealand Gully	Impact		-35.801575	148.318051
YK-IS	Yorkers Creek	Impact		-35.792209	148.308878

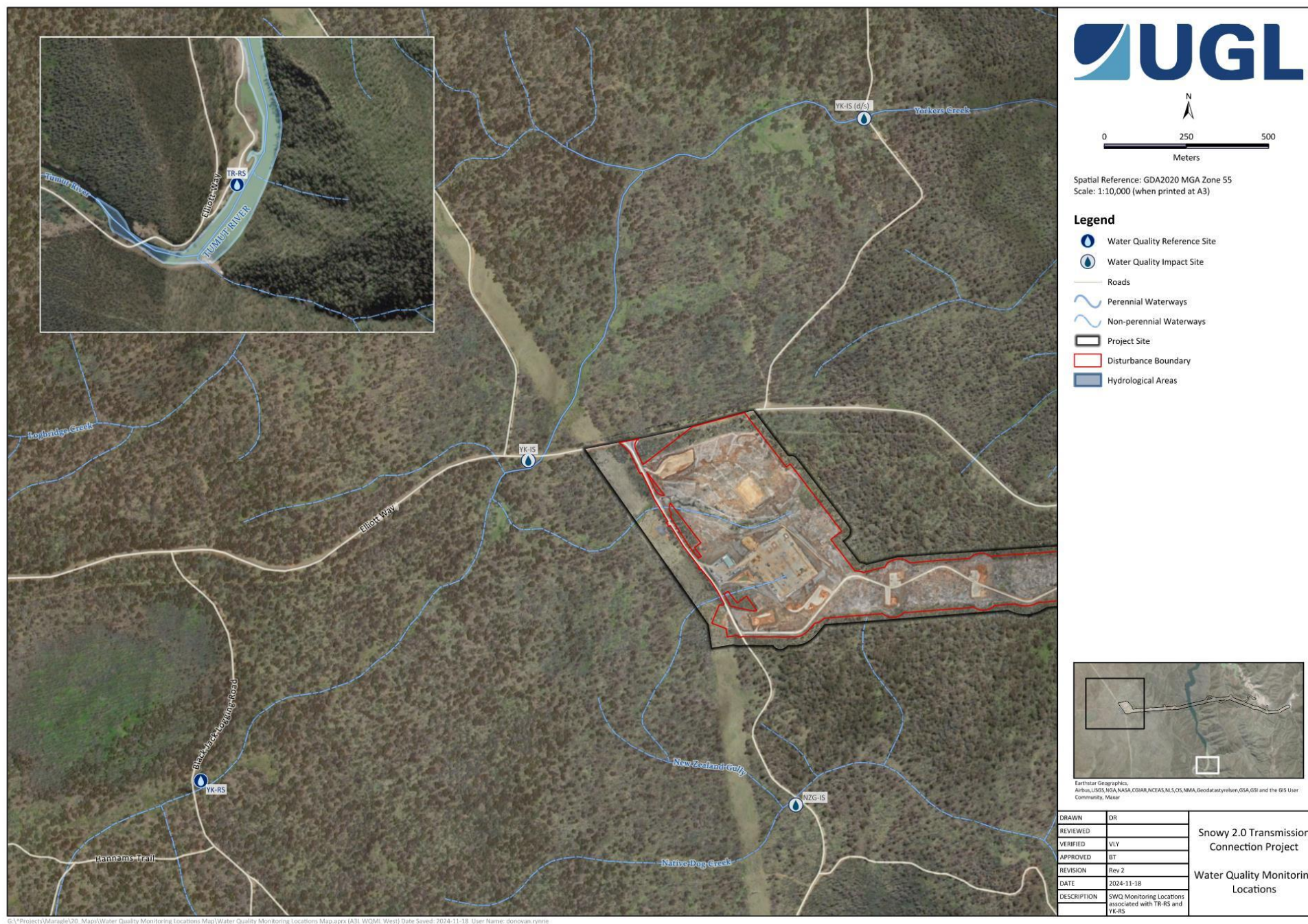


FIGURE 2 WATER QUALITY MONITORING LOCATIONS ASSOCIATED WITH REFERENCE SITE YR-RS AND TR-RS IN RELATION TO THE PROJECT

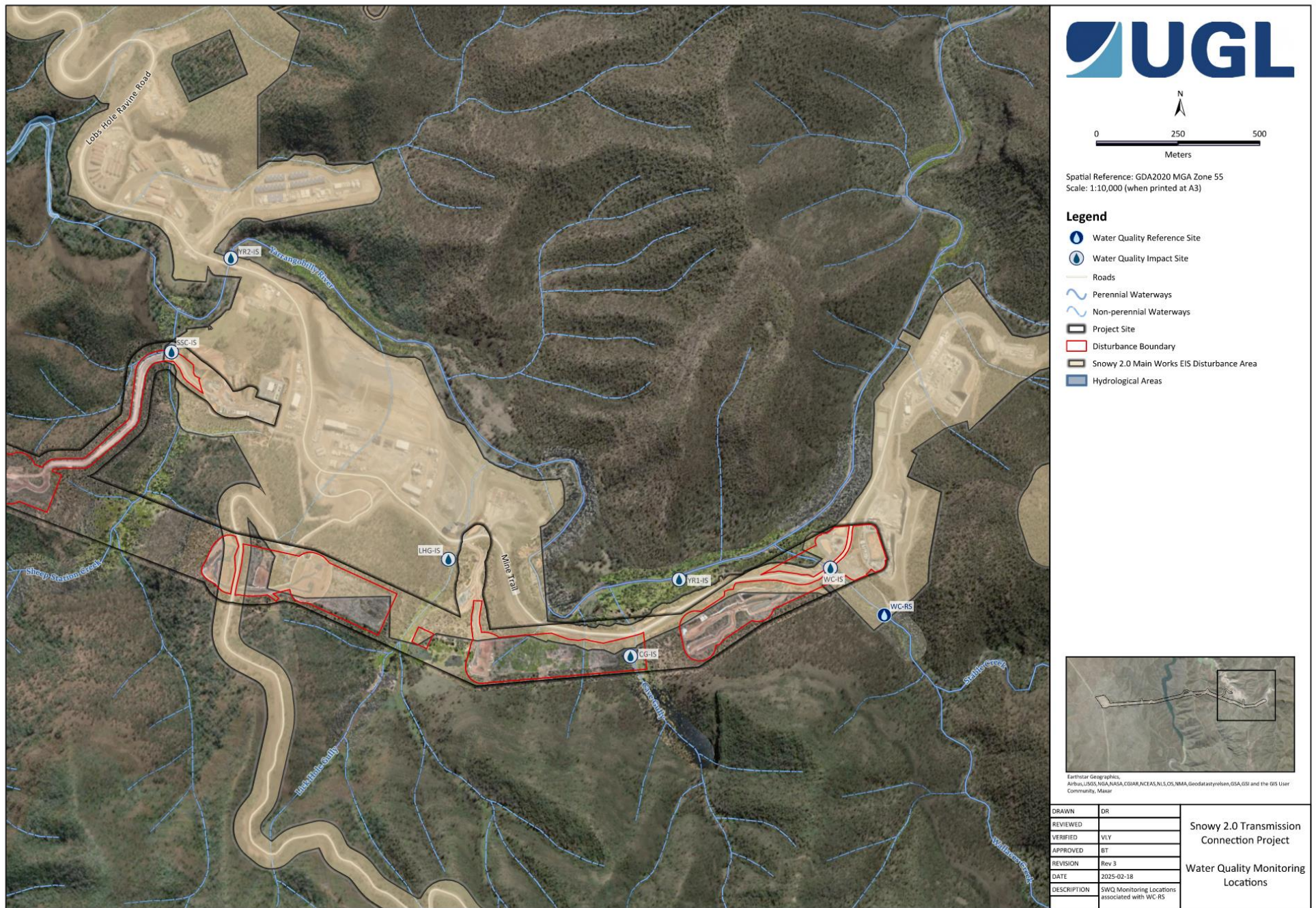


FIGURE 3 WATER QUALITY MONITORING LOCATIONS ASSOCIATED WITH REFERENCE SITE WC-RS IN RELATION TO THE PROJECT

Table 2 Seasonal SSGV (NGH, 2024) and DGV (ANZG, 2018) for water quality parameters

SURFACE WATER QUALITY GUIDELINE VALUES								
Parameter	Unit	WC-RS		TR-RS		YK-RS		DGV
		SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	
Temperature	°C*	-	-	-	-	-	-	-
Dissolved Oxygen (DO) ***	%#	96.2	89.7	91.3	95.5	89.6	88.7	90-110
DO	ppm ⁺	9.08	10.28	8.79	11.53	8.35	10.2	-
Specific Electrical Conductivity (EC)***	SPC [^] μS/cm ^{^^}	115	88	24	38.7	31	27.9	30-350
EC***	μS/cm	93.2	60.85	20.3	26.2	24	20.5	30-350
pH***	-	7.85	7.62	7.59	7.59	6.79	6.61	6.5-8
Redox	mV ^{##}	79.1	98.4	91.2	95.4	94.6	106.1	-
Turbidity***	NTU ^{**}	0.37	5.12	0.09	1.56	9	7.87	2-25
Dissolved Aluminium (Al)	mg/L ⁺⁺	0.03	0.04	0.03	0.015	0.36	0.32	0.027
Dissolved Arsenic (As)	mg/L	0.003	0.0003	0.003	0.0003	0.003	0.0003	0.0008
Dissolved Cadmium (Cd)	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.0006
Dissolved Chromium (Cr)	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
Dissolved Copper (Cu)	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.001
Cyanide	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.004
Dissolved Iron (Fe)	mg/L	0.03	0.02	0.04	0.02	0.41	0.23	0.3
Dissolved Lead (Pb)	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Dissolved Manganese (Mn)	mg/L	0.002	0.002	0.003	0.002	0.005	0.003	1.2
Dissolved Mercury (Hg)	mg/L	0.00003	0.00003	0.00003	0.00003	0.00003	0.00003	0.00006

SURFACE WATER QUALITY GUIDELINE VALUES

Parameter	Unit	WC-RS		TR-RS		YK-RS		DGV
		SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	
Dissolved Nickel (Ni)	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.008
Total Nitrogen (TN)	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.25
Total Phosphorus (TP)	mg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Dissolved Silver (Ag)	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
Dissolved Zinc (Zn)	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.0024
Ammonia	mg/L	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Nitrogen Oxides	mg/L	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Reactive Phosphorus (RP)	mg/L	0.02	0.015	0.02	0.015	0.02	0.02	0.015
Total Hardness (CaCO ₃)	mg/L	47	30	7.5	8	1	7	-
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	0.2	0.1	0.2	0.1	0.2	-
Total Dissolved Solids (TDS)	mg/L	52	39	12.5	15	30	10	-
Total Suspended Solids (TSS)	mg/L	0.2	1	0.2	0.2	3	0.2	0.2
Total Al [@]	mg/L	-	-	-	-	-	-	0.027
Total As [@]	mg/L	-	-	-	-	-	-	0.0008
Total Cd [@]	mg/L	-	-	-	-	-	-	0.0006
Total Cr [@]	mg/L	-	-	-	-	-	-	0.00001
Total Cu [@]	mg/L	-	-	-	-	-	-	0.001
Total Pb [@]	mg/L	-	-	-	-	-	-	0.001
Total Mn [@]	mg/L	-	-	-	-	-	-	1.2
Total Ni [@]	mg/L	-	-	-	-	-	-	0.008

SURFACE WATER QUALITY GUIDELINE VALUES

Parameter	Unit	WC-RS		TR-RS		YK-RS		DGV
		SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	SSGV (Summer/Autumn)	SSGV (Winter/Spring)	
Total Ag [@]	mg/L	-	-	-	-	-	-	0.00002
Total Zn [@]	mg/L	-	-	-	-	-	-	0.0024
Total Fe [@]	mg/L	-	-	-	-	-	-	0.3
Total Hg [@]	mg/L	-	-	-	-	-	-	0.00006

* °C = degrees Celsius

% = percent

mV = millivolt

+ ppm = parts per million

^ SPC = specific conductance

** mg/L = milligram per litre

** NTU = Nephelometric Turbidity Unit

^^ µS/cm = micro Siemens per centimetre

@ parameter not analysed by NGH

*** assessed against DGV where guideline range is more appropriate for the parameter

4 BASELINE WATER QUALITY

4.1 Water Quality Objectives

Water quality objectives are outlined in Section 2.1 of the Baseline Report (NGH, 2024).

4.2 Site Specific Guideline Values

In accordance with the ANZG (ANZG, 2018), SSGV for the three Reference Sites (RS) (WC-RS, TR-RS and YK-RS) were derived from the results collected during the 24 month pre-construction SWQ monitoring period. The SSGV reflect the seasonality observed in the baseline data and are characterised by the drier months of Summer/Autumn (December to May) and wetter months of Winter/Spring (June to November) in accordance with the 'Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000) methodology and derivatives developed to 2018 of the ANZG (ANZG, 2018).

Table 2 outlines the seasonal SSGV provided in the Baseline Report (NGH, 2024).

5 JANUARY 2025 MONITORING

SW sampling was undertaken at 10 monitoring locations from 15 January 2025 to 16 January 2025. Two monitoring locations, SSC-IS and CG-IS, were dry at the time of monitoring.

In accordance with the methodology outlined in Section 3, SW samples were either measured in situ using a calibrated YSI ProDSS Sonde Multiparameter Digital Water Quality Meter (refer to Appendix D) or analysed by National Association of Testing Authorities, Australia (NATA) accredited ALS Limited (ALS) laboratory. However, due to a delay in the receipt of the Chain of Custody (COC) to ALS resulting from an error with the 'ALS Compass' application, the following parameters were analysed past the recommended holding time:

- TSS (mg/L)
- Redox (mV)
- RP (mg/L)
- DO (ppm)




Further, laboratory analysis for WC-RS samples were not conducted. Therefore, only parameters analysed in-situ have been included for the WC-RS monitoring location.

The 'Water Quality Monitoring Field Data Sheet' (Field Sheet) (UGL, 2025) is provided in Appendix A. The 'Certificate of Analysis' (COA) (ALS, 2025a), 'QA/QC Compliance Assessment to assist with Quality Review' (QA/QC Assessment) (ALS, 2025b) and 'Quality Control Report' (QCR) (ALS, 2025c) are attached in Appendix B.




5.1 Observations

Field observations during sampling are summarised in Table 3.



Table 3 Field observations during sampling

FIELD OBSERVATIONS		
Date	15 January 25 to 16 January 25	
Weather	<p>The weather forecast for 15 January was 14 degrees Celsius (°C) to 30 °C with 6 to 25 millimetres (mm) of rain while the forecast for 16 January was 9 °C to 23 °C with less than 1 mm of rain. The previous 24 hours before 15 January experienced no rainfall and hot and sunny weather. At the time of sampling, during the morning of 15 January, the weather was sunny, hot and partly cloudy. However, a storm passed through the site in the afternoon, bringing rain, hail and high winds. Sampling was halted and continued on 16 January which was sunny and cloudy.</p>	
ID	Observations	Photo
WC-RS	<ul style="list-style-type: none"> • High flow rate • Lower volume than December 2024 • Rocky and eroded banks • Presence of algae and vegetative detritus • Clear water • Riparian vegetation consisted of groundcover, shrubs and trees • Moderate weed density including Blackberry (<i>Rubus fruticosus</i>) 	
WC-IS	<ul style="list-style-type: none"> • High flow rate • Presence of vegetative detritus washed up against rocks after rainfall • Clear water • Riparian vegetation predominantly weed species including Blackberry (<i>Rubus fruticosus</i>) • Rocky banks • Monitoring location is adjacent to bridge and Mine Trail Road which is frequently used by Snowy 2.0 vehicles, plant and machinery 	
CG-IS	<ul style="list-style-type: none"> • No flow, dry 	



FIELD OBSERVATIONS

Date	15 January 25 to 16 January 25	
Weather	<p>The weather forecast for 15 January was 14 degrees Celsius (°C) to 30 °C with 6 to 25 millimetres (mm) of rain while the forecast for 16 January was 9 °C to 23 °C with less than 1 mm of rain. The previous 24 hours before 15 January experienced no rainfall and hot and sunny weather. At the time of sampling, during the morning of 15 January, the weather was sunny, hot and partly cloudy. However, a storm passed through the site in the afternoon, bringing rain, hail and high winds. Sampling was halted and continued on 16 January which was sunny and cloudy.</p>	
ID	Observations	Photo
YR1-IS	<ul style="list-style-type: none"> • Murky water with brown tinge and low visibility to bed • High flow rate • Presence of vegetative detritus • High weed density including Thistle and Blackberry (<i>Rubus fruticosus</i>) • Riparian vegetation consisted of groundcover, shrubs and trees • Rocky banks with sections of exposed soil higher up the bank 	
LHG-IS	<ul style="list-style-type: none"> • Monitoring location is adjacent to Mine Trail Road which is frequently used by Snowy 2.0 vehicles, plant and machinery • Rocky bed • Clear water with yellow tinge • Overgrown vegetation, predominantly groundcover • Moderate flow • Low volume • No banks • Presence of silt and grass seed husks on bed • Sheen from organic decomposition on surface of water 	
YR2-IS	<ul style="list-style-type: none"> • Presence of tadpoles, insect larvae and algae • Clear water • Moderate flow rate but slower than December 2024 • Rocky banks • Riparian vegetation predominantly groundcover • High weed density including Blackberry (<i>Rubus fruticosus</i>) and St John's Wort (<i>Hypericum perforatum</i>) • Monitoring location is adjacent to bridge and electrical transmission tower 	



FIELD OBSERVATIONS

Date	15 January 25 to 16 January 25	
Weather	<p>The weather forecast for 15 January was 14 degrees Celsius (°C) to 30 °C with 6 to 25 millimetres (mm) of rain while the forecast for 16 January was 9 °C to 23 °C with less than 1 mm of rain. The previous 24 hours before 15 January experienced no rainfall and hot and sunny weather. At the time of sampling, during the morning of 15 January, the weather was sunny, hot and partly cloudy. However, a storm passed through the site in the afternoon, bringing rain, hail and high winds. Sampling was halted and continued on 16 January which was sunny and cloudy.</p>	
ID	Observations	Photo
SSC-IS	<ul style="list-style-type: none"> No flow, dry 	
TR-RS	<ul style="list-style-type: none"> Rocky banks Monitoring location is adjacent to publicly accessible O'Hares Campground and Talbingo Reservoir ancillary infrastructure Presence of ducks, algae and aquatic vegetation Clear water Moderate flow rate Riparian vegetation consisted of groundcover and trees Low vegetative detritus 	

FIELD OBSERVATIONS

Date	15 January 25 to 16 January 25	
Weather	<p>The weather forecast for 15 January was 14 degrees Celsius (°C) to 30 °C with 6 to 25 millimetres (mm) of rain while the forecast for 16 January was 9 °C to 23 °C with less than 1 mm of rain. The previous 24 hours before 15 January experienced no rainfall and hot and sunny weather. At the time of sampling, during the morning of 15 January, the weather was sunny, hot and partly cloudy. However, a storm passed through the site in the afternoon, bringing rain, hail and high winds. Sampling was halted and continued on 16 January which was sunny and cloudy.</p>	
ID	Observations	Photo
YK-RS	<ul style="list-style-type: none"> • Presence of mica and insect larvae • Low weed density including Blackberry (<i>Rubus fruticosus</i>) • Eroded banks • Riparian vegetation consisted of groundcover and trees • Murky water with brown tinge • Monitoring location is adjacent to publicly accessible four wheel drive (4WD) track • Presence of kangaroo scats • Vegetative detritus in water • Low flow rate • Low volume • Overhanging groundcover 	
YK-IS (D/S)	<ul style="list-style-type: none"> • Presence of mica, algae, water beetles, aquatic vegetation and fish • Clear water with slight yellow tinge • Vegetative detritus in water • Overhanging riparian vegetation • Riparian vegetation consisted of groundcover and trees • Low weed density including Blackberry (<i>Rubus fruticosus</i>) • Moderate flow • Undercut banks • Monitoring location is adjacent to publicly accessible 4WD track 	

FIELD OBSERVATIONS

Date	15 January 25 to 16 January 25	
Weather	The weather forecast for 15 January was 14 degrees Celsius (°C) to 30 °C with 6 to 25 millimetres (mm) of rain while the forecast for 16 January was 9 °C to 23 °C with less than 1 mm of rain. The previous 24 hours before 15 January experienced no rainfall and hot and sunny weather. At the time of sampling, during the morning of 15 January, the weather was sunny, hot and partly cloudy. However, a storm passed through the site in the afternoon, bringing rain, hail and high winds. Sampling was halted and continued on 16 January which was sunny and cloudy.	
ID	Observations	Photo
NZG-IS	<ul style="list-style-type: none"> • Presence of water beetles, mica, algae, tadpoles and fish • Vegetative detritus in water • Overhanging vegetation • Clear water • Hoof tracks on banks • Weeds present including Blackberry (<i>Rubus fruticosus</i>) • Monitoring location is adjacent to publicly accessible 4WD track • Lower volume than December 2024 • Moderate flow rate • Eroded banks • Riparian vegetation consisted of groundcover and trees 	
YK-IS	<ul style="list-style-type: none"> • Clear water with slight yellow tinge • Presence of mica, algae, fish, water beetles and aquatic vegetation • Hoof tracks on banks • Low flow rate • Low volume • Eroded banks • Overhanging vegetation • Vegetative detritus in water • Riparian vegetation consisted of groundcover, shrubs and trees • Low weed density including St John's Wort (<i>Hypericum perforatum</i>) • Monitoring location is adjacent to Elliott Way 	

5.2 Results

The results from the construction SWQ monitoring program have been reported for each respective catchment: Yarrangobilly River, Talbingo Reservoir, and Yorkers Creek.

- **Yarrangobilly River catchment** monitoring includes the reference site at Wallace Creek and impact sites at Yarrangobilly River, Wallace Creek, Cave Gully, Lick Hole Gully, and Sheep Station Creek.
- **Yorkers Creek catchment** monitoring includes the reference site at Yorkers Creek and impact sites at Yorkers Creek and New Zealand Gully.
- **Talbingo Reservoir** features a reference site located upstream within the reservoir, serving as an overall reference for monitoring sites in the Yarrangobilly River and Yorkers Creek catchments.

This reference site provides a baseline for the SWQ monitoring program.

The SWQ monitoring results for key physical and chemical parameters, along with site-specific trigger values, are detailed in Section 5.2.1. Results for dissolved and total metals, including site-specific trigger values, are covered in Sections 5.2.2 and 5.2.3. Upon review of the data, observations were noted between the reference and impact sites.

The complete table of results is attached in Appendix C.

5.2.1 Key Physical and Chemical Parameters

See below for results of key physical and chemical parameters.

5.2.1.1 Temperature

In January 2025, all temperatures (°C) in the Yarrangobilly River catchment rose compared to the previous month, ranging from 17.8 °C to 28.9 °C, refer to Figure 4. Similarly, temperatures in the Talbingo Reservoir increased from 22.8 °C in December 2024 to 25.7 °C in January 2025, refer to Figure 5. On the contrary, temperatures in the Yorkers Creek catchment fell in January 2025 from December 2024, ranging from 13.6 °C to 17.4 °C, as illustrated in Figure 6.

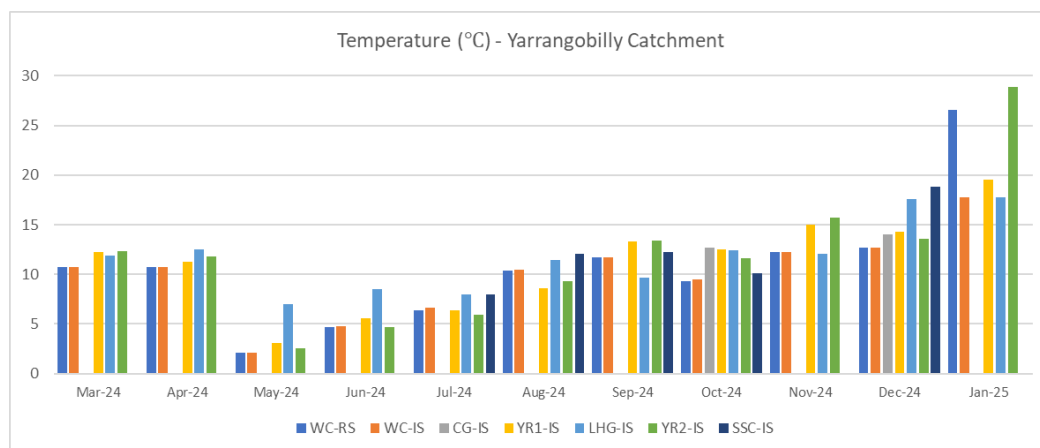


FIGURE 4 : TEMPERATURE FOR YARRANGOBILLY RIVER CATCHMENT

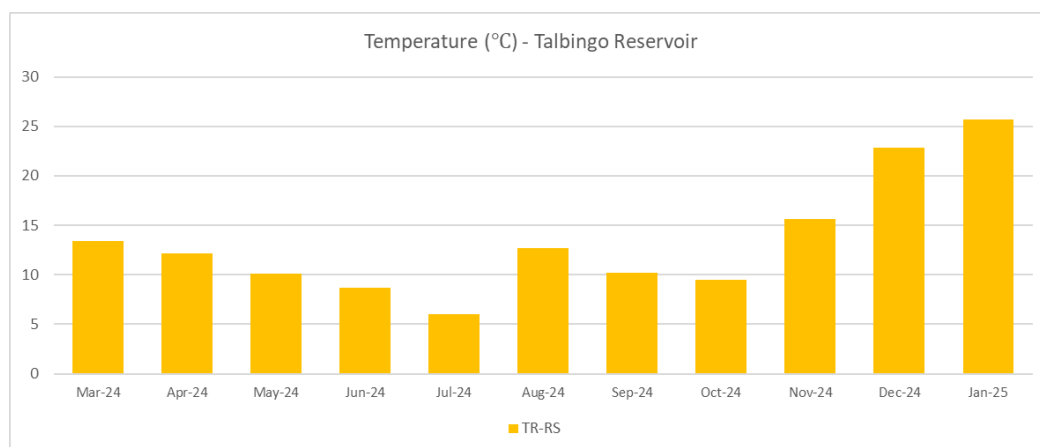


FIGURE 5: TEMPERATURE FOR TALBINGO RESERVOIR

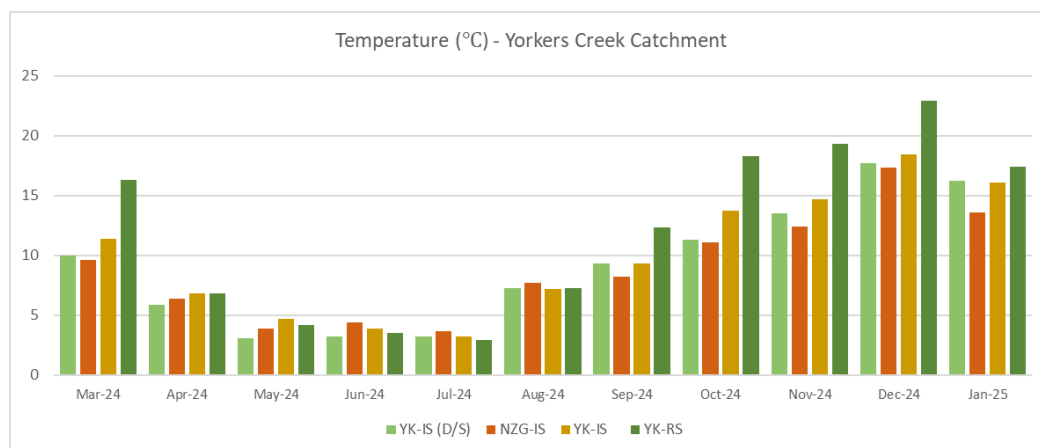


FIGURE 6: TEMPERATURE FOR YORKERS CREEK CATCHMENT

5.2.1.2 pH

pH values all exceeded the December to May SSGV (7.85) in January 2025 for all Yarrangobilly River catchment sites except for WC-IS, refer Figure 7. No exceedances were seen in Talbingo Reservoir, refer to Figure 8, but all Yorkers Creek catchment monitoring locations exceeded the respective December to May SSGV of 6.79, refer to Figure 9.

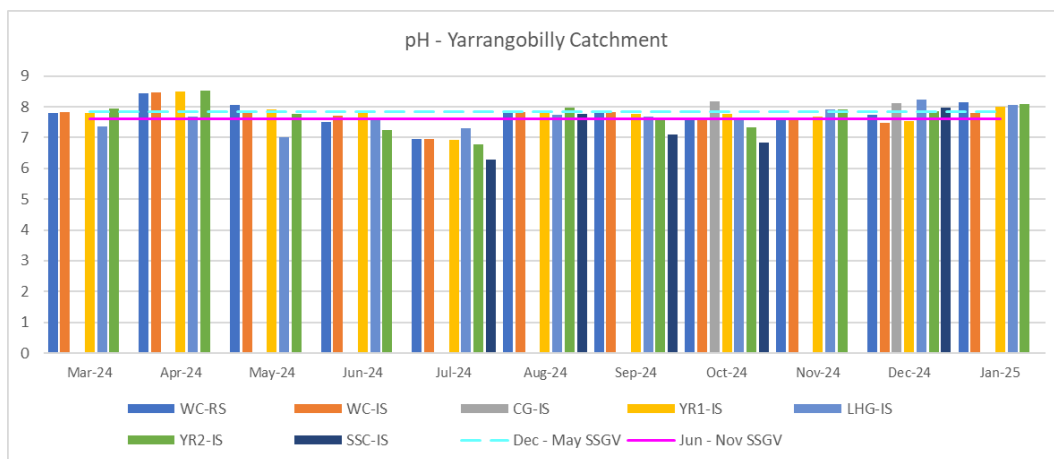


FIGURE 7: PH FOR YARRANGOBILLY RIVER CATCHMENT

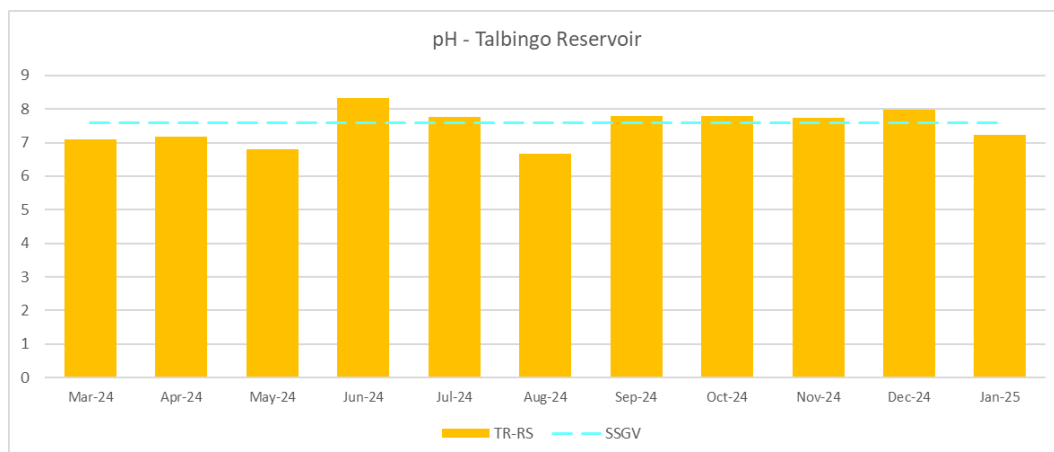


FIGURE 8: PH FOR TALBINGO RESERVOIR

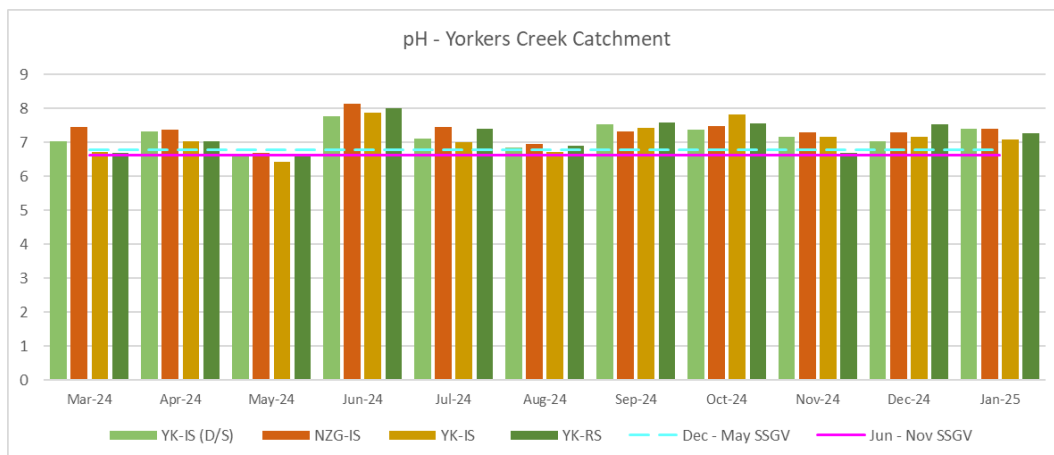


FIGURE 9: PH FOR YORKERS CREEK CATCHMENT

5.2.1.3 Dissolved Oxygen

January 2025 DO (%) levels across the Yarrangobilly River and Yorkers Creek catchments were below their respective December to May SSGV and decreased from the December 2024 DO levels, refer to Figure 10 and Figure 12. Talbingo Reservoir was the only site that had DO above its December to May SSGV of 91.3%, refer to Figure 11.

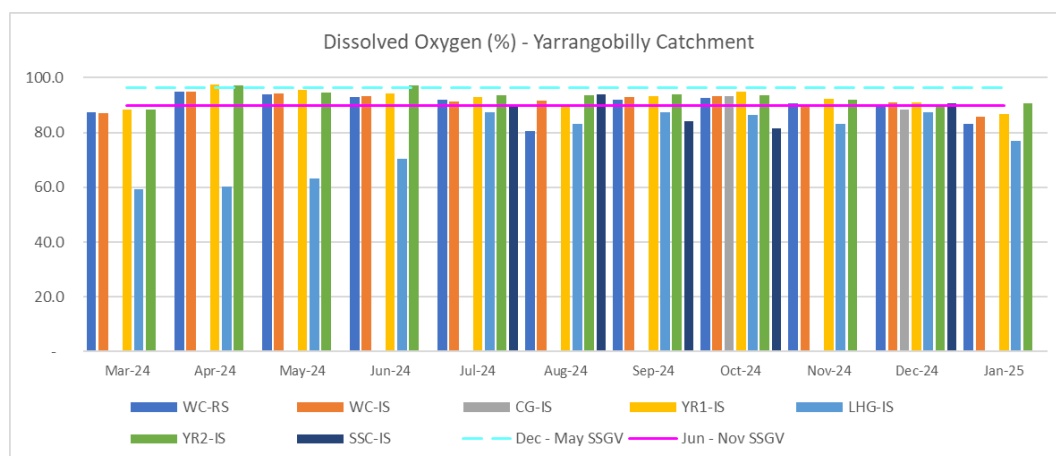


FIGURE 10: DO FOR YARRANGOBILLY RIVER CATCHMENT

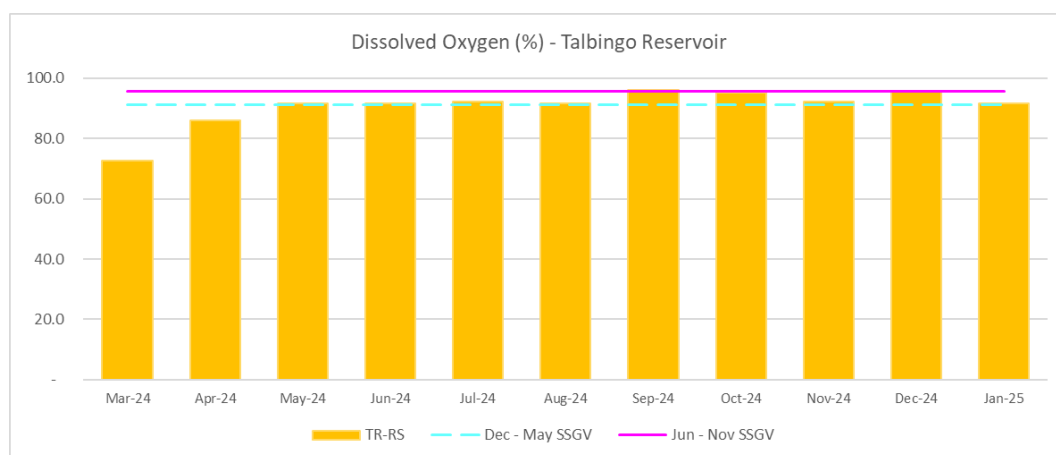


FIGURE 11: DO FOR TALBINGO RESERVOIR

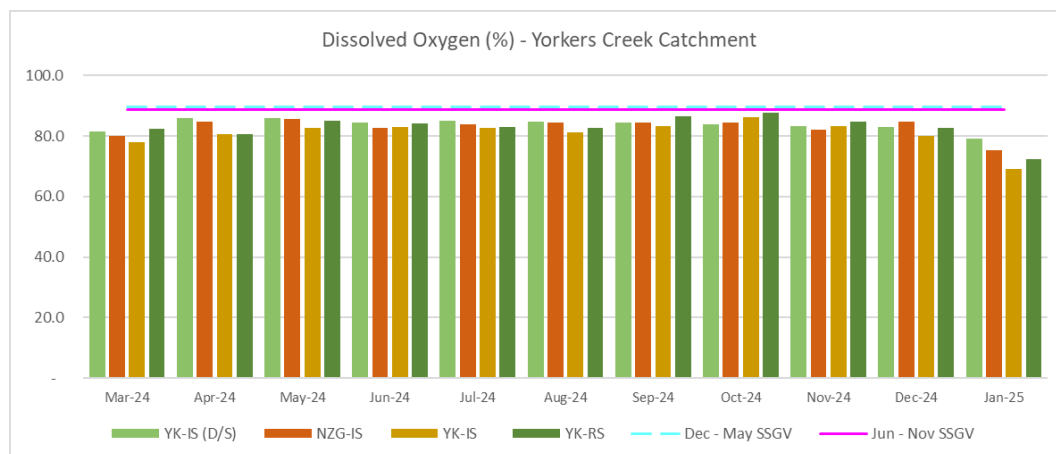


FIGURE 12: DO FOR YORKERS CREEK CATCHMENT

5.2.1.4 Specific Conductance

SPC ($\mu\text{S}/\text{cm}$) levels in the Yarrangobilly River catchment were predominantly lower than its December to May SSGV (115 $\mu\text{S}/\text{cm}$), except for LHG-IS which has historically exceeded the SSGV, refer Figure 13. TR-RS exceeded its December to May SSGV by 3.8 $\mu\text{S}/\text{cm}$, refer Figure 14. In the Yorkers Creek catchment, SPC levels were below its December to May SSGV at most sites, except for NZG-IS, which has historically exceeded the SSGV, refer to Figure 15.

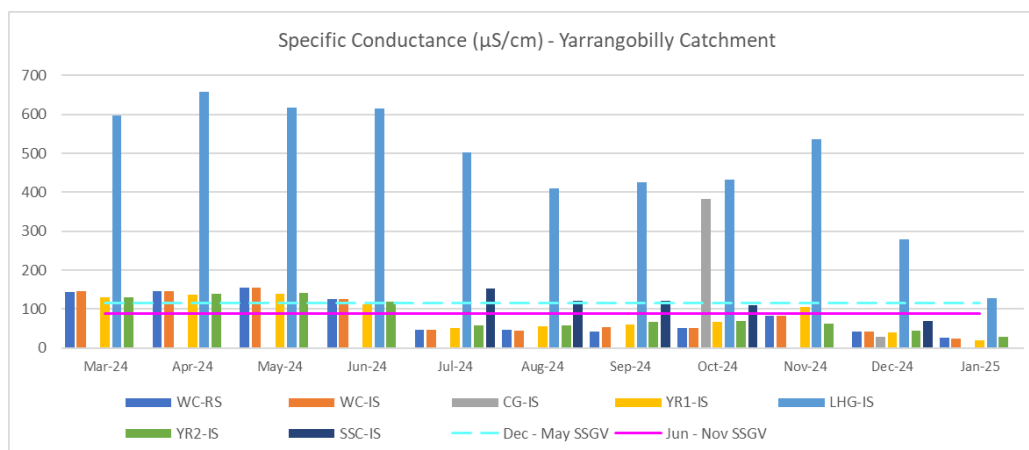


FIGURE 13: SPC FOR YARRANGOBILLY RIVER CATCHMENT

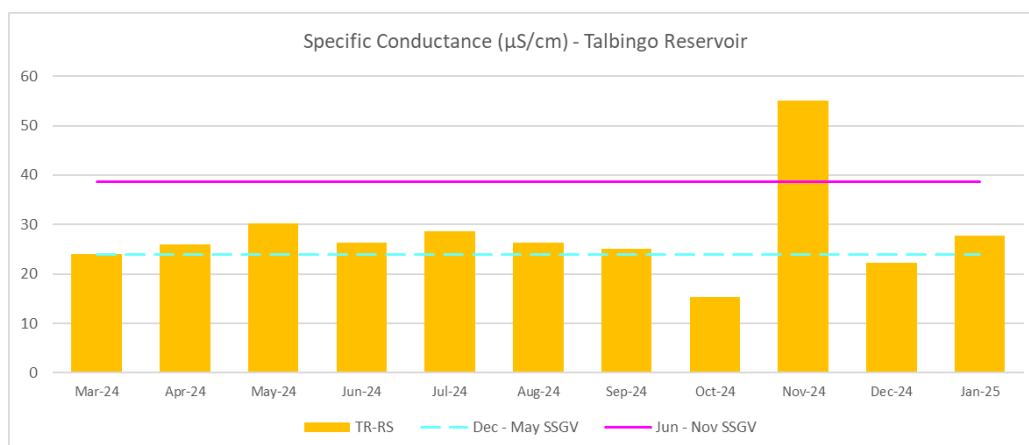


FIGURE 14: SPC FOR TALBINGO RESERVOIR

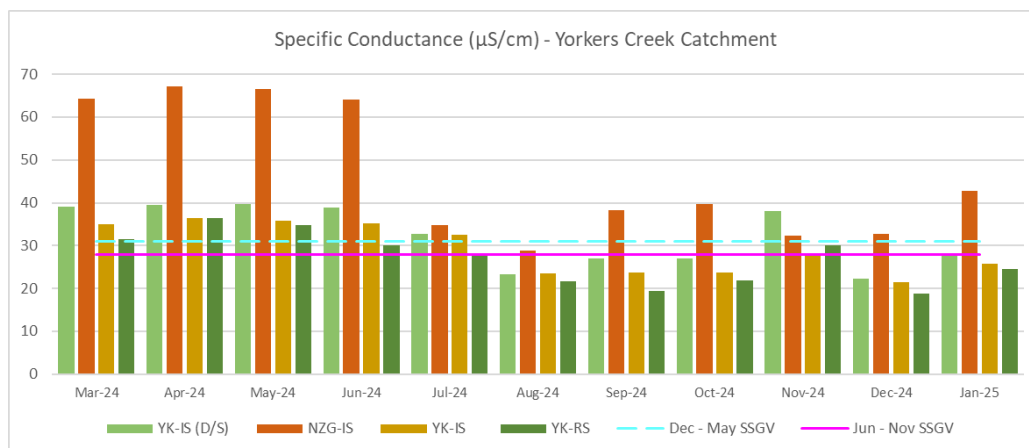


FIGURE 15: SPC FOR YORKERS CREEK CATCHMENT

5.2.1.5 Electrical Conductivity

EC ($\mu\text{S}/\text{cm}$) values exceeded the respective December to May SSGV at all monitoring locations across all catchments in January 2025, refer to Figure 16 to Figure 18.

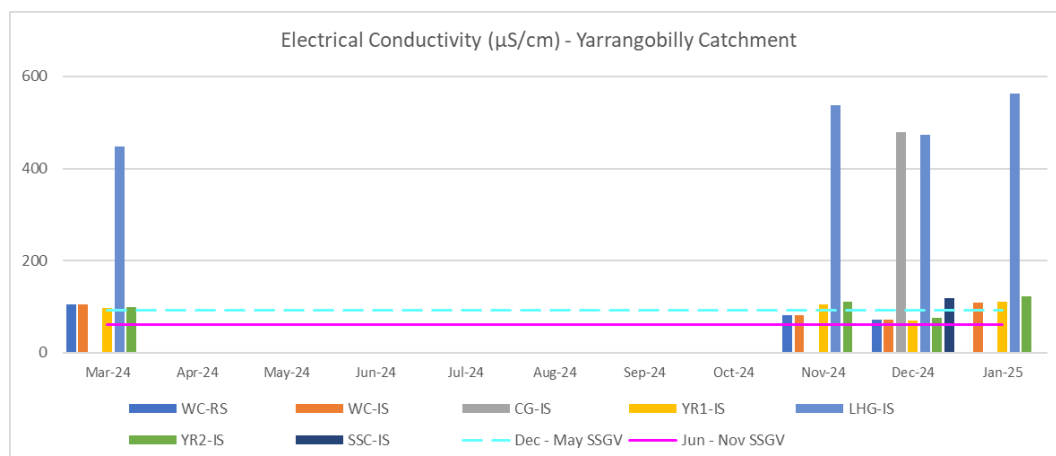


FIGURE 16: EC FOR YARRANGOBILLY RIVER CATCHMENT

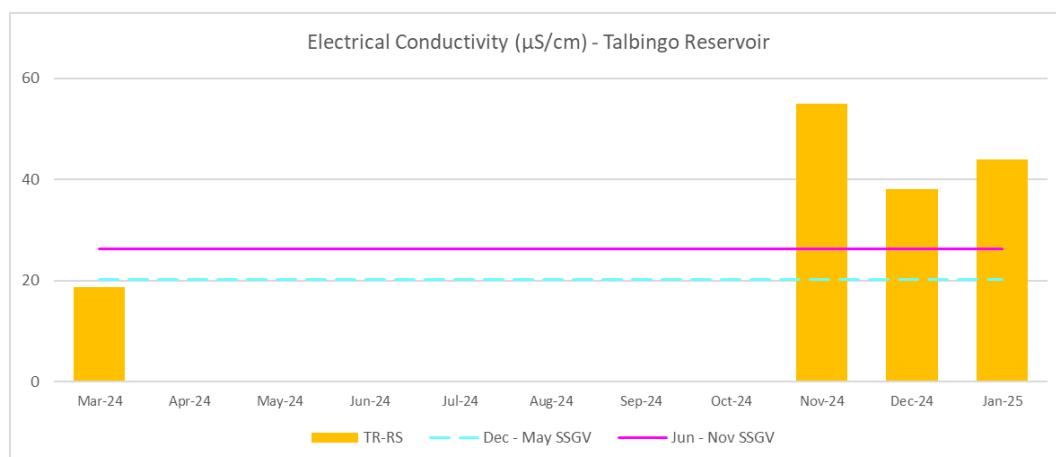


FIGURE 17: EC FOR TALBINGO RESERVOIR

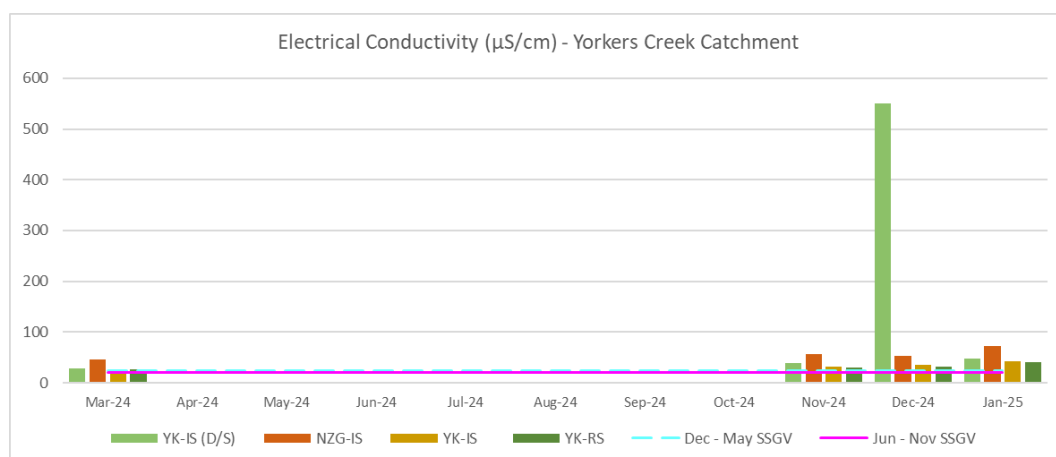


FIGURE 18: EC FOR YORKERS CREEK CATCHMENT

5.2.1.6 Turbidity

Turbidity (NTU) levels at all reference sites exceeded their respective December to May SSGV, refer Figure 19 to Figure 21. Yarrangobilly River catchment impact sites all exceeded the December to May SSGV of 0.37 NTU, in particular YR1-IS and LHG-IS which measured 14.18 NTU and 14.89 NTU respectively. On the other hand, Yorkers Creek catchment impact sites were all below their December to May SSGV of 9 NTU.

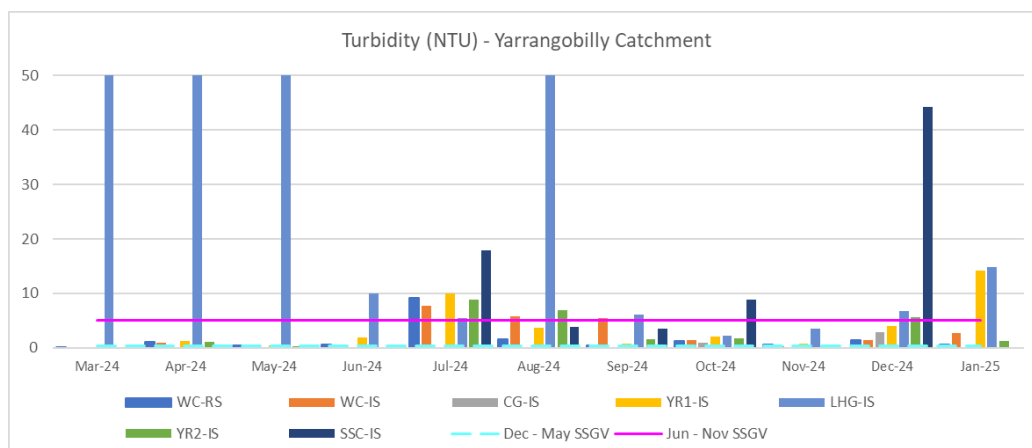


FIGURE 19: TURBIDITY FOR YARRANGOBILLY RIVER CATCHMENT

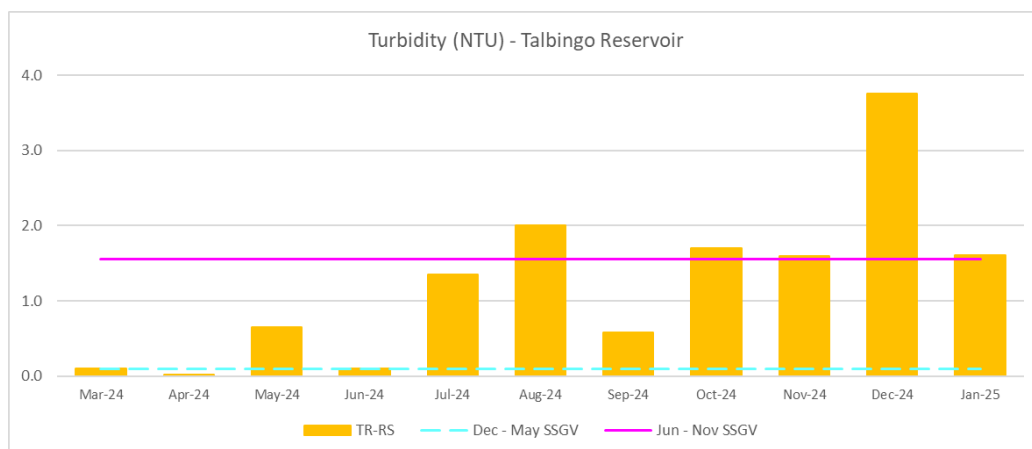


FIGURE 20: TURBIDITY FOR TALBINGO RESERVOIR

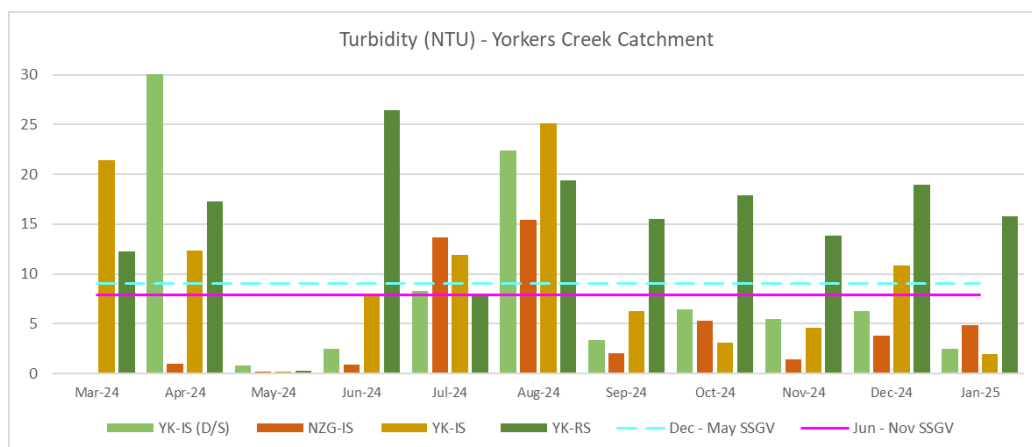


FIGURE 21: TURBIDITY FOR YORKERS CREEK CATCHMENT

5.2.1.7 Total Suspended Solids

In the Yarrangobilly River catchment, YR1-IS recorded the highest TSS (mg/L) levels, 47 mg/L, in January 2025 since March 2024, 40 mg/L greater than the previous high record. LHG-IS also exceeded the December to May SSGV (0.2 mg/L) whereas WC-IS and YR2-IS were below the limit of reporting (LOR), refer to Figure 22. Both reference sites, TR-RS and YK-RS, also exceeded the December to May SSGV, refer to Figure 23 to Figure 24. NZG-IS was the only impact site of the Yorkers Creek catchment to exceed the December to May SSGV.

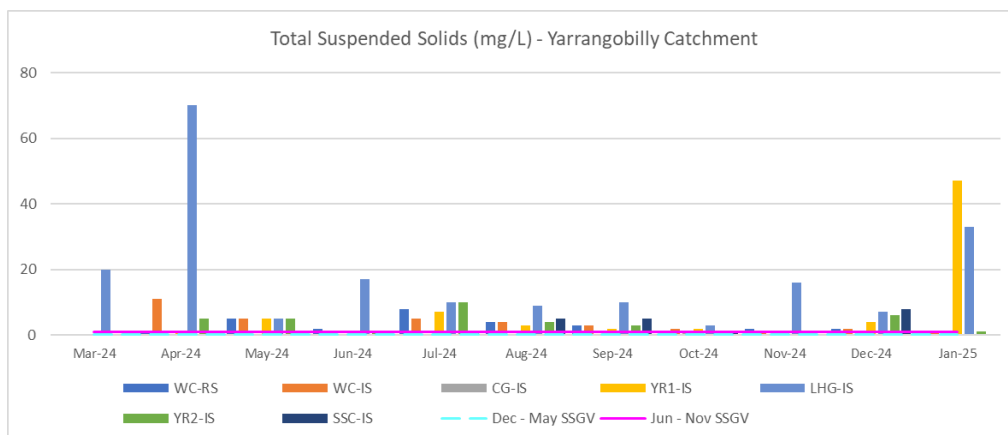


FIGURE 22: TSS FOR YARRANGOBILLY RIVER CATCHMENT

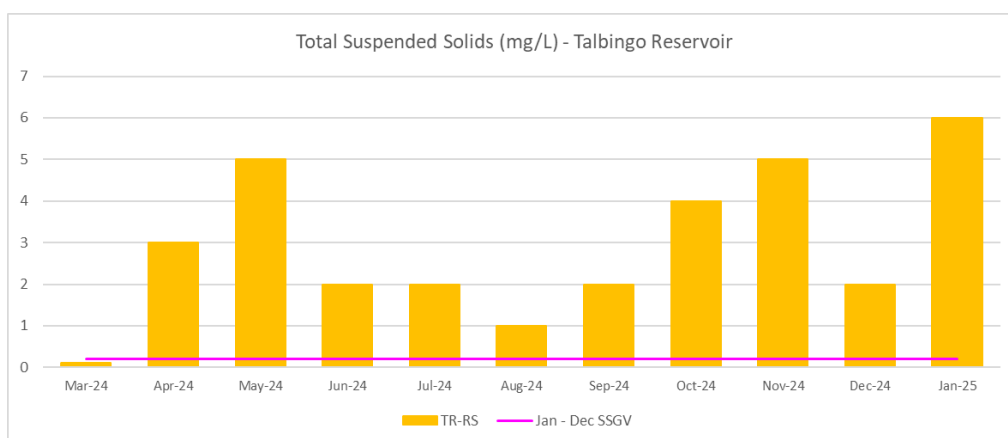


FIGURE 23: TSS FOR TALBINGO RESERVOIR

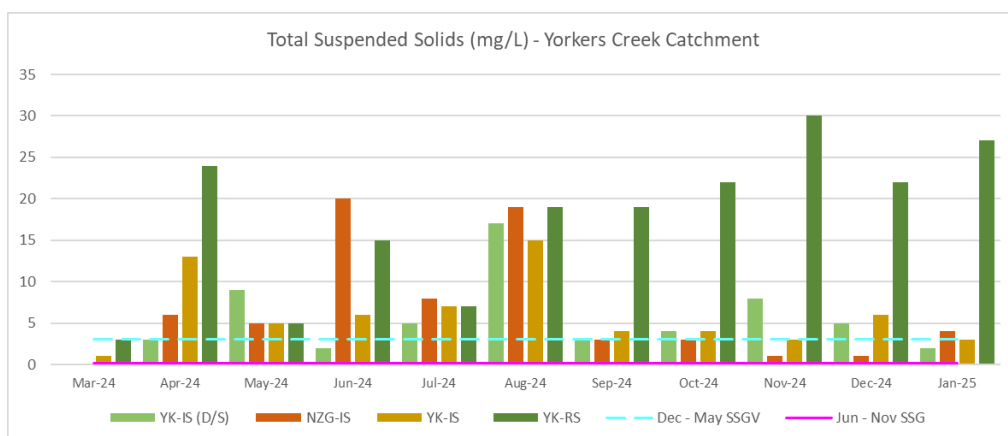


FIGURE 24: TSS FOR YORKERS CREEK CATCHMENT

5.2.1.8 Redox

Redox (mV) for all sites were above the December to May SSGV for each catchment. January 2025 redox values decreased from December 2024 values in the Yarrangobilly River catchment, except for YR2-IS, refer to Figure 25 and the Yorkers Creek catchment, refer to Figure 27. Similarly, On the other hand, redox increased in January compared to December for Talbingo Reservoir, refer to Figure 26.

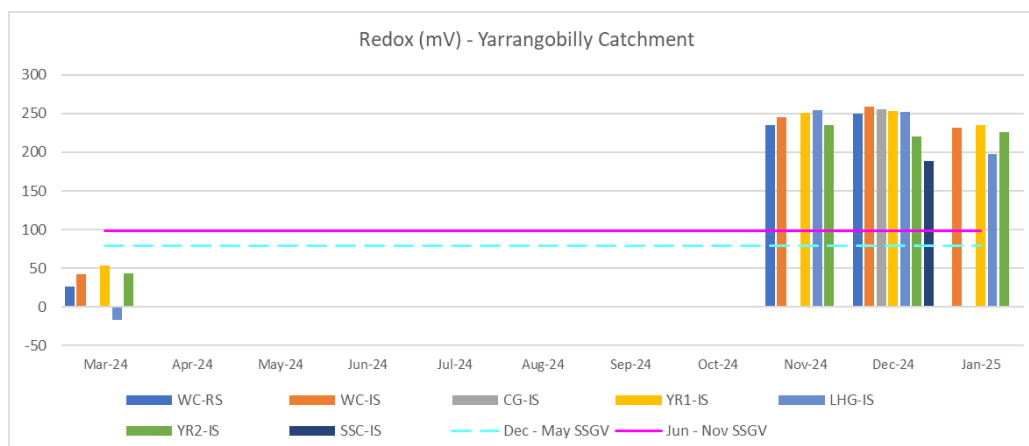


FIGURE 25: REDOX FOR YARRANGOBILLY RIVER CATCHMENT

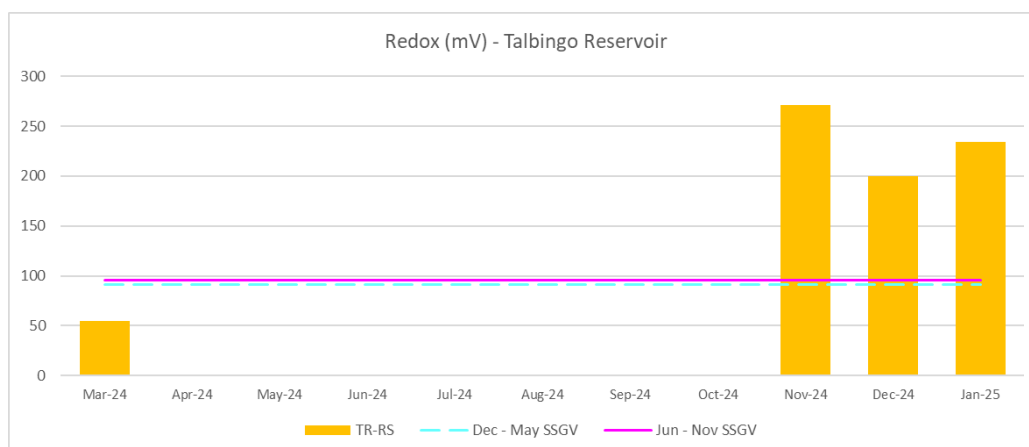


FIGURE 26: REDOX FOR TALBINGO RESERVOIR

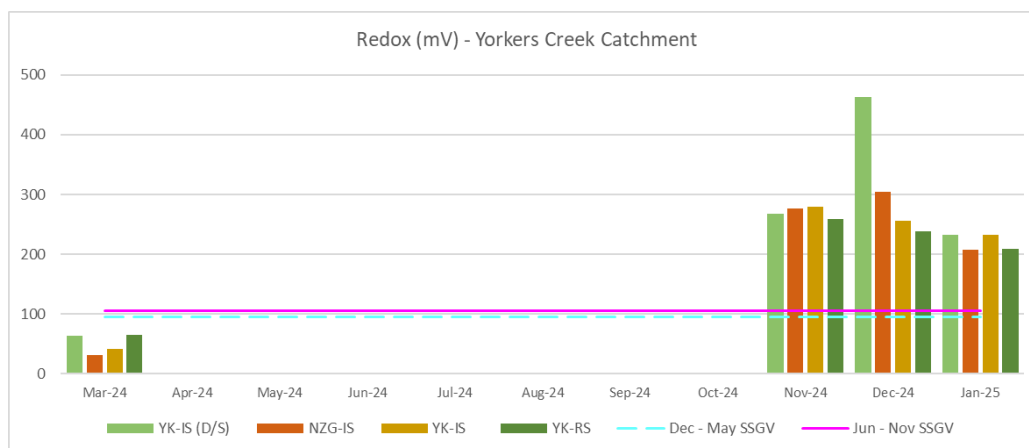


FIGURE 27: REDOX FOR YORKERS CREEK CATCHMENT

5.2.1.9 Nitrogen Oxides

Nitrogen oxides (mg/L) levels exceeded the December to May SSGV (0.015 mg/L) at YR1-IS in the Yarrangobilly River catchment, refer to Figure 28. All other sites of the Yarrangobilly River catchment were below the LOR. Similarly, Talbingo Reservoir was also below the LOR, refer to Figure 29. Exceedances were recorded at all Yorkers Creek catchment sites except for YK-IS which recorded below the LOR, refer to Figure 30.

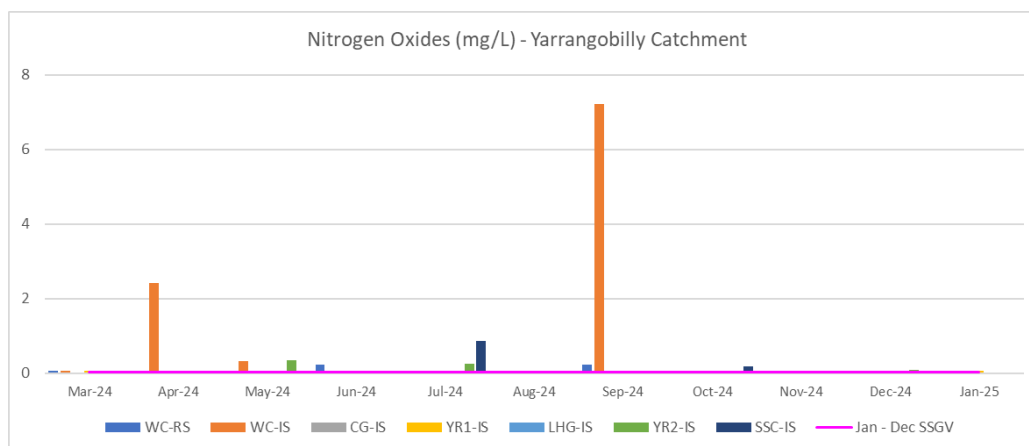


FIGURE 28: NITROGEN OXIDES FOR YARRANGOBILLY RIVER CATCHMENT

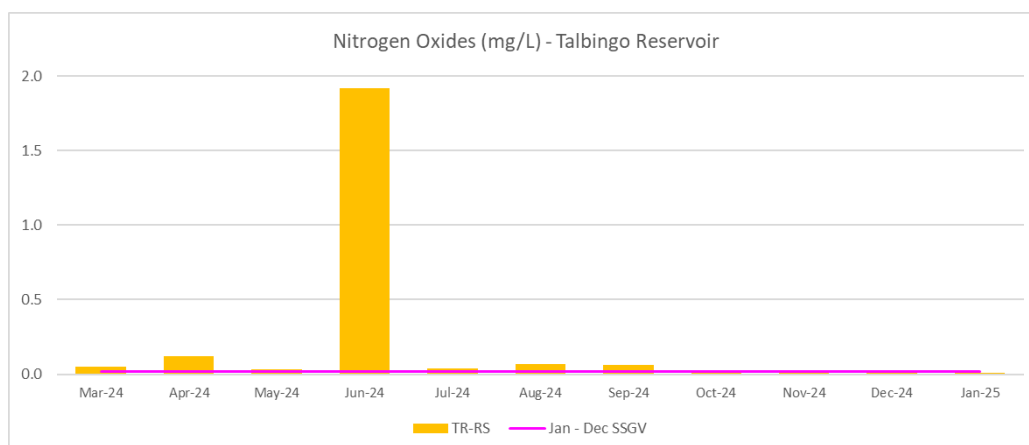


FIGURE 29: NITROGEN OXIDES FOR TALBINGO RESERVOIR

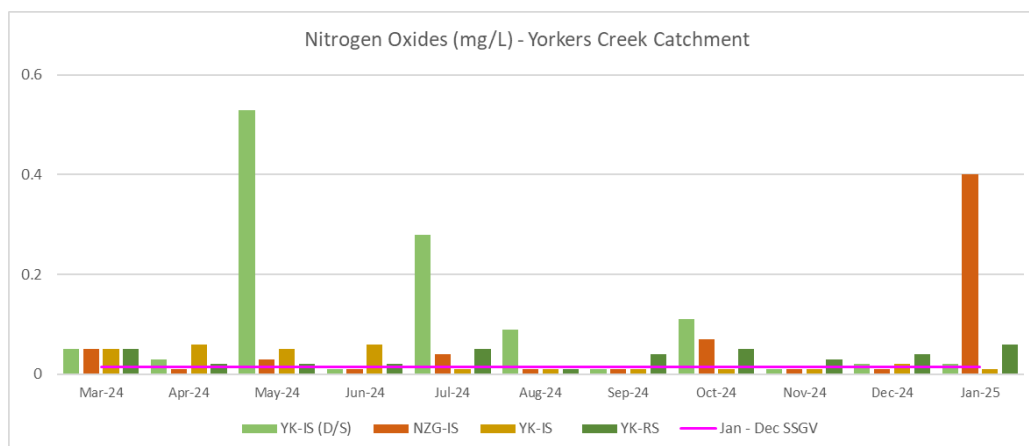


FIGURE 30: NITROGEN OXIDES FOR YORKERS CREEK CATCHMENT

5.2.1.10 Ammonia

Ammonia (mg/L) levels exceeded the December to May SSGV (0.013 mg/L) at all sites across the three catchments except for YR2-IS and WC-IS of the Yarrangobilly River catchment which were below the LOR, refer Figure 31 to Figure 32. The Yorkers Creek catchment in particular had much higher ammonia levels than previous sampling months, refer to Figure 33.

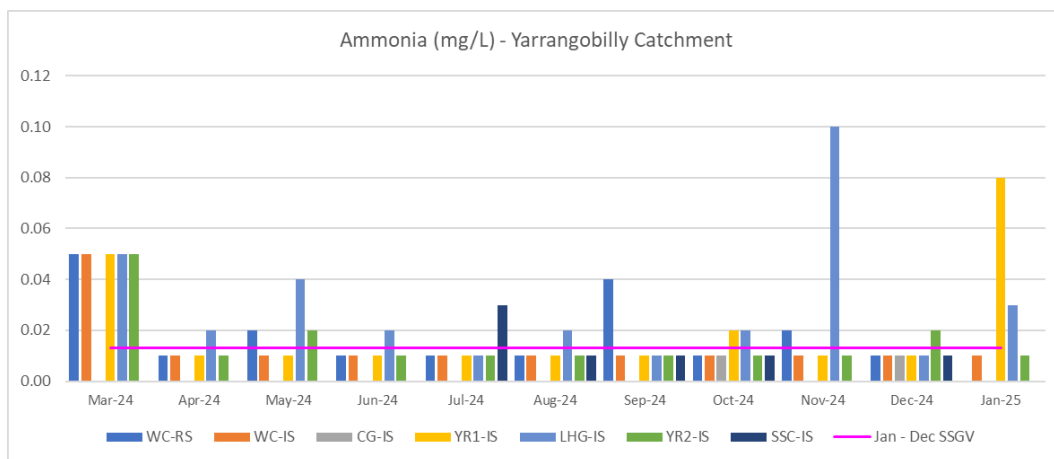


FIGURE 31: AMMONIA FOR YARRANGOBILLY RIVER CATCHMENT

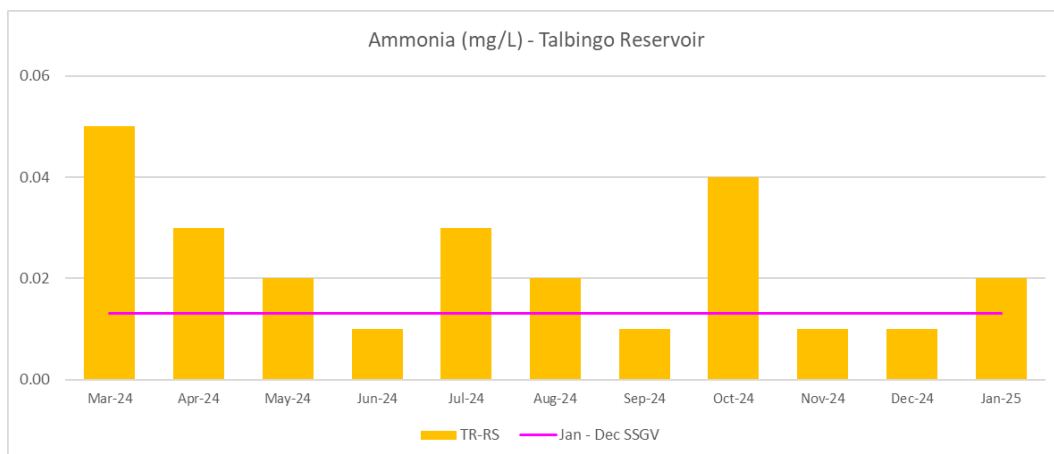


FIGURE 32: AMMONIA FOR TALBINGO RESERVOIR

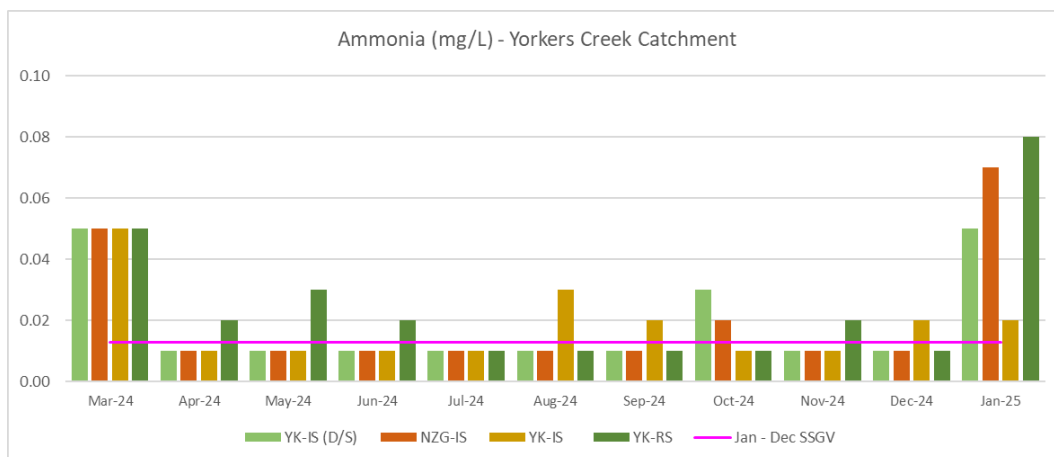


FIGURE 33: AMMONIA FOR YORKERS CREEK CATCHMENT

5.2.1.11 Cyanide

Cyanide (mg/L) was below the LOR at all sites except for NZG-IS within the Yorkers Creek catchment, refer Figure 34 to Figure 36. NZG-IS measured 0.005 mg/L, exceeding the SSGV of 0.002 mg/L.

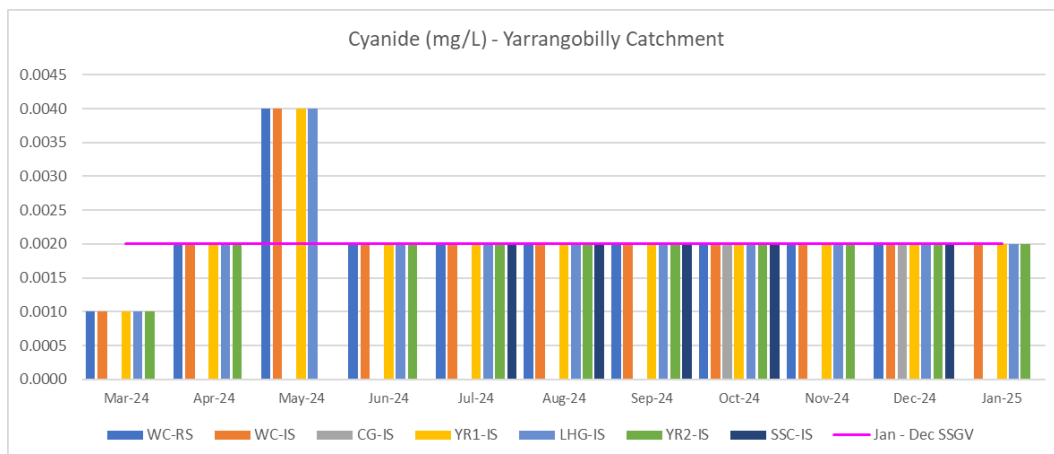


FIGURE 34: CYANIDE FOR YARRANGOBILLY RIVER CATCHMENT

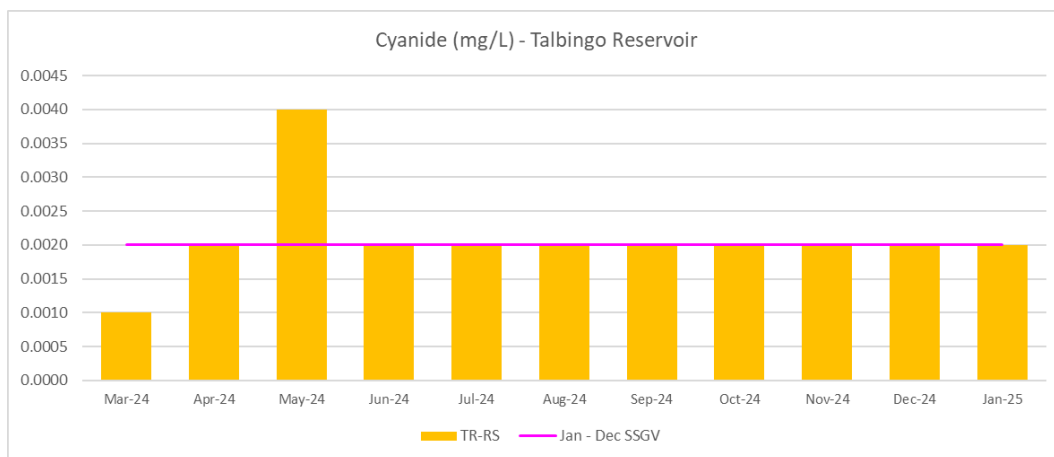


FIGURE 35: CYANIDE FOR TALBINGO RESERVOIR

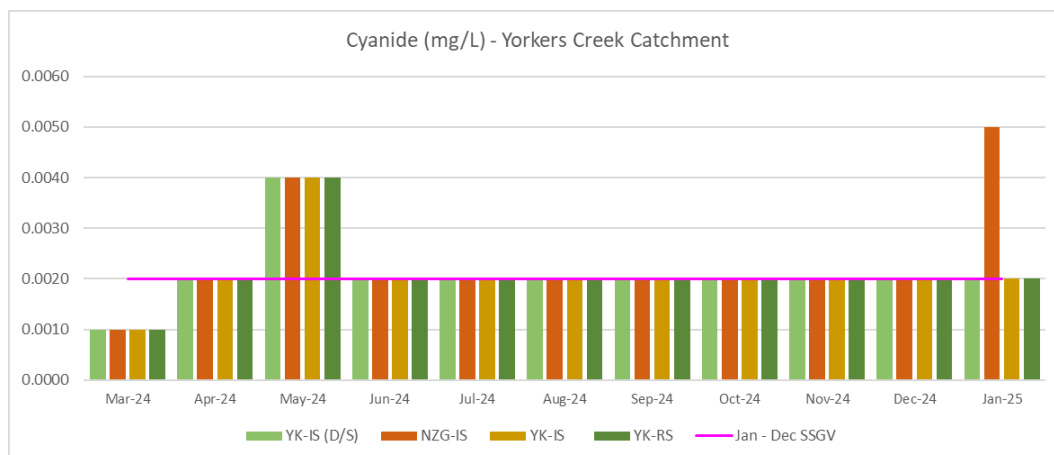


FIGURE 36: CYANIDE FOR YORKERS CREEK CATCHMENT

5.2.1.12 Total Hardness

Within the Yarrangobilly River catchment, CaCO_3 (mg/L) levels exceeded the December to May SSGV (47 mg/L) at all locations, refer to Figure 37. Following previous trend, LHG-IS recorded a significantly elevated value of 333 mg/L. Similarly, Talbingo Reservoir exceeded the December to May SSGV (7.5 mg/L), refer to Figure 38. In the Yorkers Creek catchment, CaCO_3 values ranged from 12 to 26 mg/L, significantly above the December to May SSGV of 1 mg/L, refer to Figure 39.

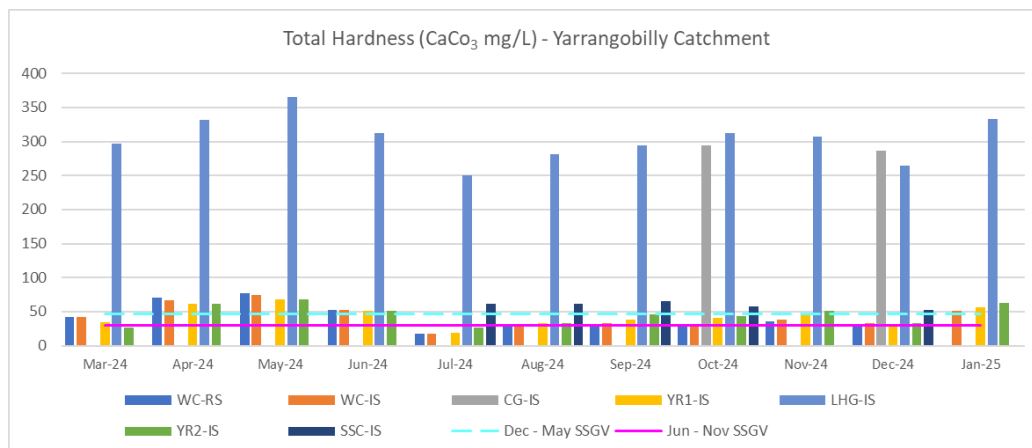


FIGURE 37: CaCO_3 FOR YARRANGOBILLY RIVER CATCHMENT

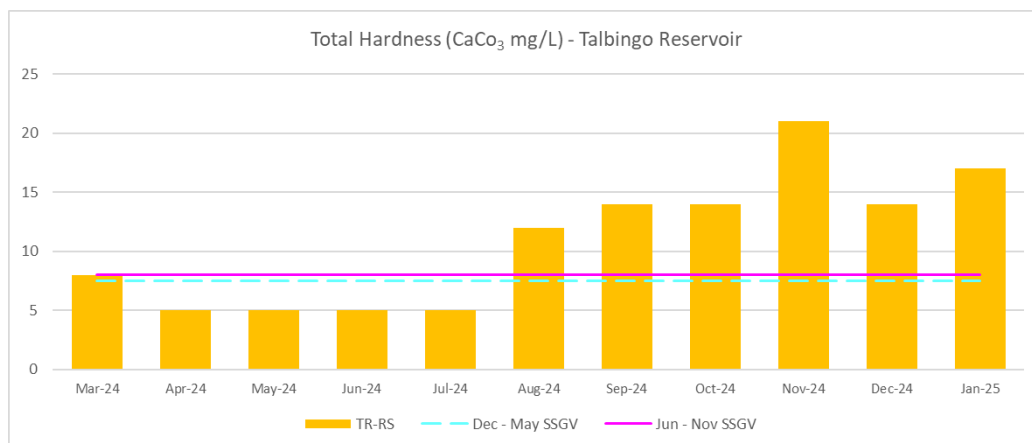


FIGURE 38: CaCO_3 FOR TALBINGO RESERVOIR

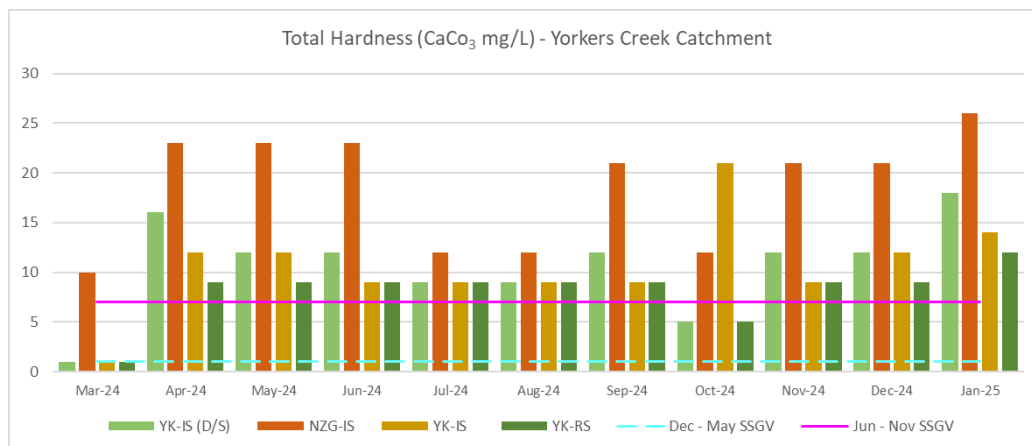


FIGURE 39: CaCO_3 FOR YORKERS CREEK CATCHMENT

5.2.1.13 Total Kjeldahl Nitrogen

TKN (mg/L) exceeded the SSGV (0.2 mg/L) at YR1-IS at Yarrangobilly River catchment, refer to Figure 40. Similarly, Talbingo Reservoir also exceeded its December to May SSGV (0.1 mg/L), refer to Figure 41. All Yorkers Creek catchment sites exceeded the December to May SSGV (0.1 mg/L) with the greatest exceedance recorded at YK-RS, refer to Figure 42.

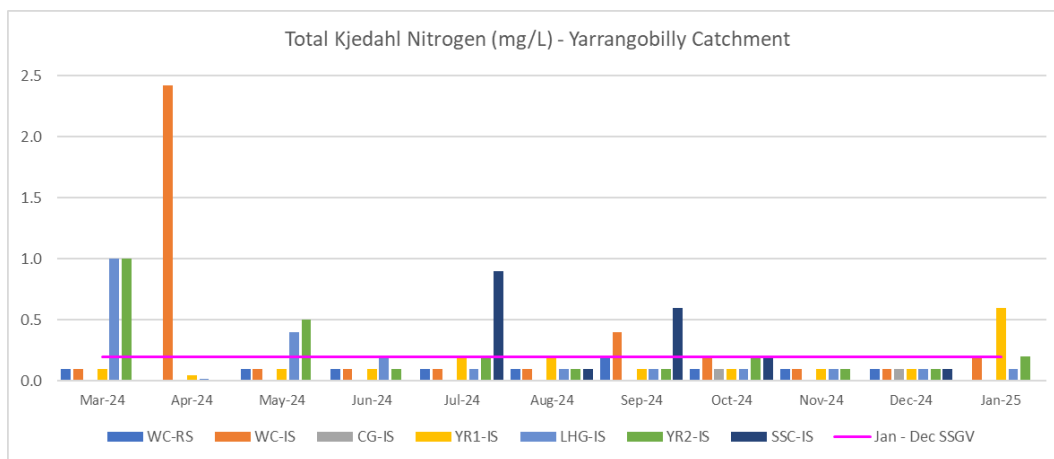


FIGURE 40: TKN FOR YARRANGOBILLY RIVER CATCHMENT

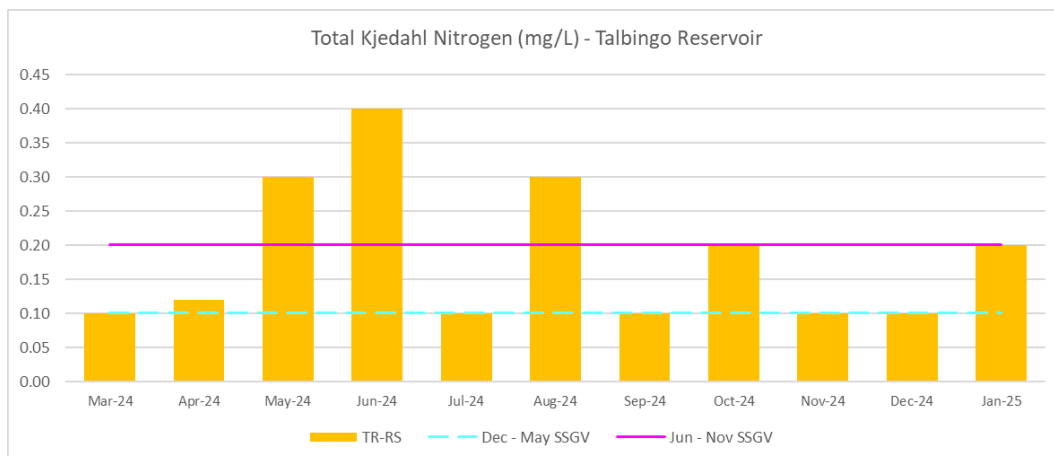


FIGURE 41: TKN FOR TALBINGO RESERVOIR

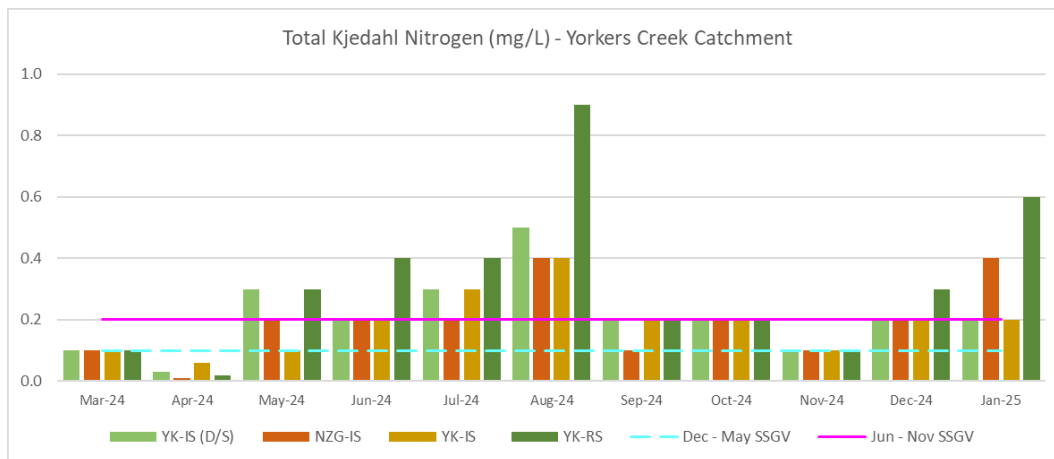


FIGURE 42: TKN FOR YORKERS CREEK CATCHMENT

5.2.1.14 Total Nitrogen

TN (mg/L) exceeded the SSGV (0.2 mg/L) at YR1-IS within the Yarrangobilly River catchment site refer to Figure 43. This was the first time TN has been exceeded at YR1-IS since March 2024. No exceedance was recorded at Talbingo Reservoir, refer to Figure 44. At the Yorkers Creek catchment, reference site YK-RS and NZG-IS exceeded the SSGV (0.2 mg/L), measuring 0.7 mg/L and 0.4 mg/L respectively, refer to Figure 45.

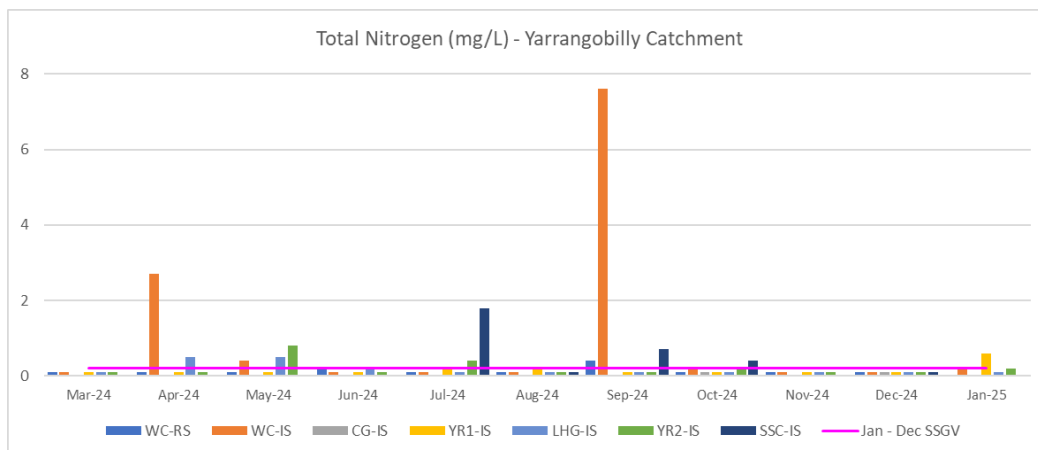


FIGURE 43: TN FOR YARRANGOBILLY RIVER CATCHMENT

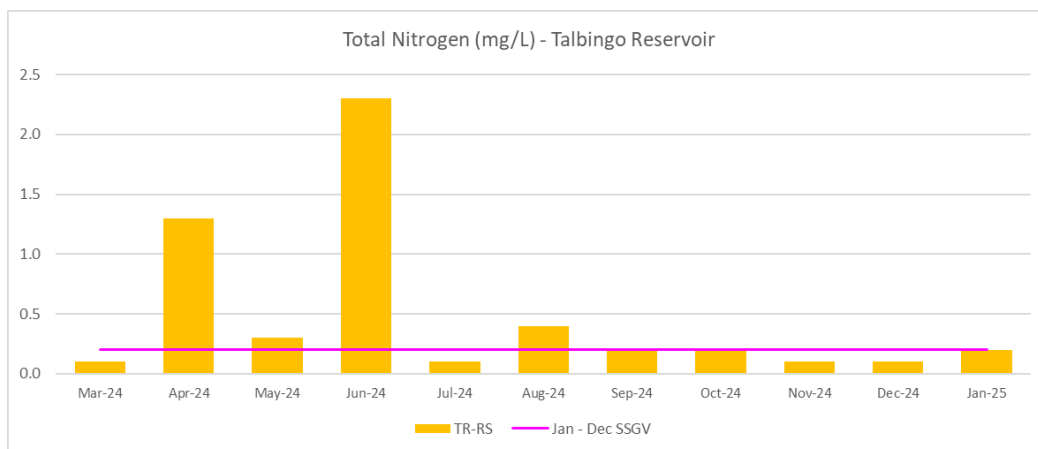


FIGURE 44: TN FOR TALBINGO RESERVOIR

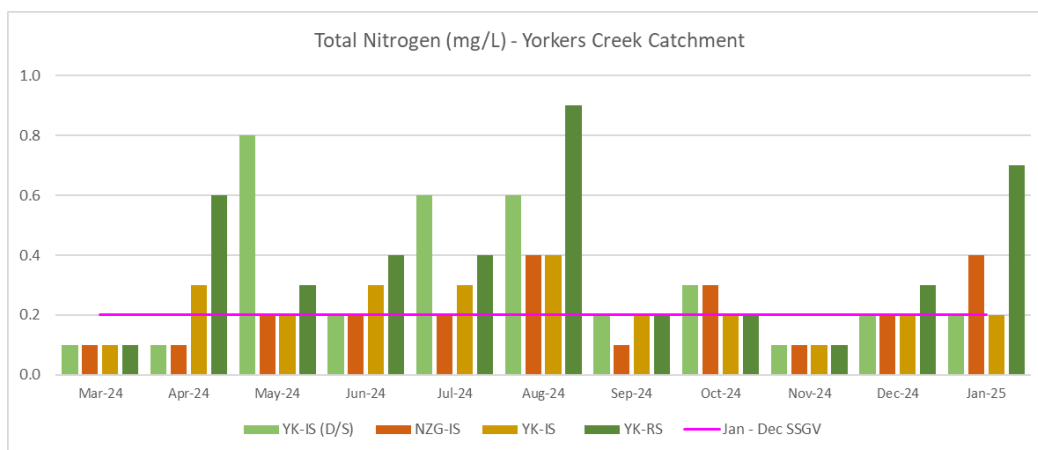


FIGURE 45: TN FOR YORKERS CREEK CATCHMENT

5.2.1.15 Total Phosphorus

TP (mg/L) exceeded the January to December SSGV (0.02 mg/L) at YR1-IS and LHG-IS within the Yarrangobilly River catchment while all other locations were under the LOR, refer to Figure 46. Talbingo Reservoir met the SSGV (0.2 mg/L), refer to Figure 47. YK-RS and YK-IS (D/S) within the Yorkers Creek catchment exceeded the SSGV (0.2 mg/L), refer to Figure 48.

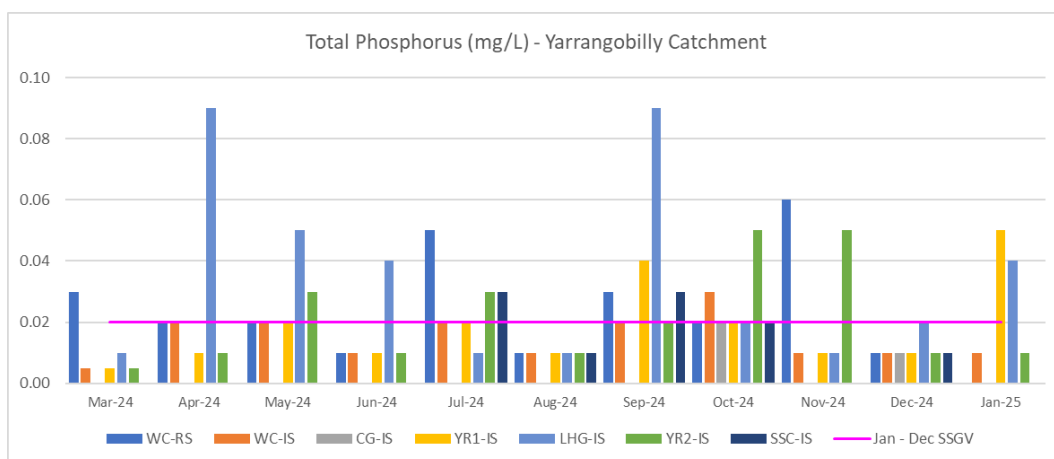


FIGURE 46: TP FOR YARRANGOBILLY RIVER CATCHMENT

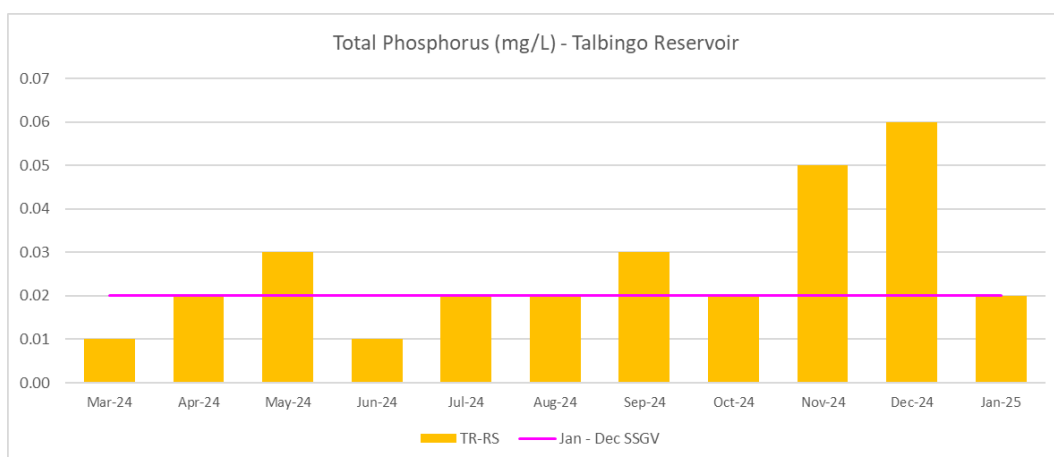


FIGURE 47: TP FOR TALBINGO RESERVOIR

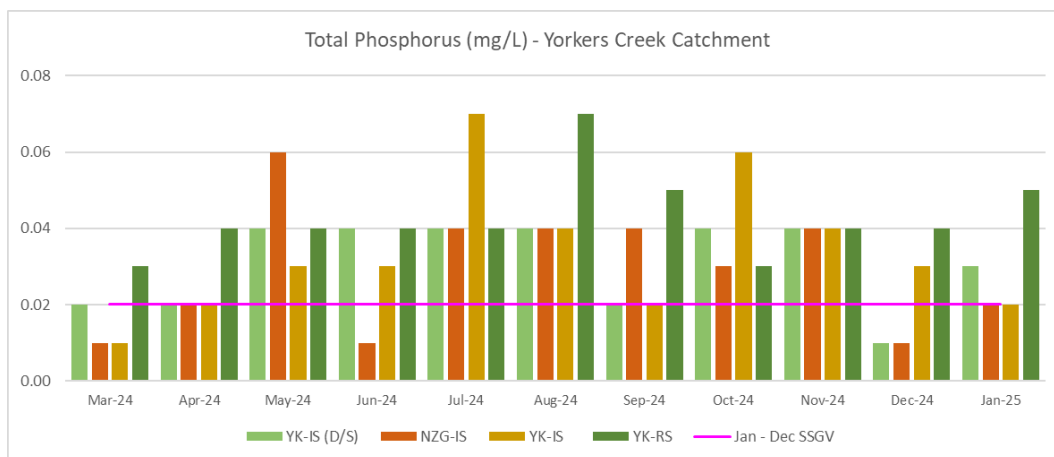


FIGURE 48: TP FOR YORKERS CREEK CATCHMENT

5.2.1.16 Reactive Phosphorus

All sites measured below the LOR for RP (mg/L) except for YK-IS within the Yorkers Creek catchment which measured 0.2 mg/L, refer to Figure 49 to Figure 51.

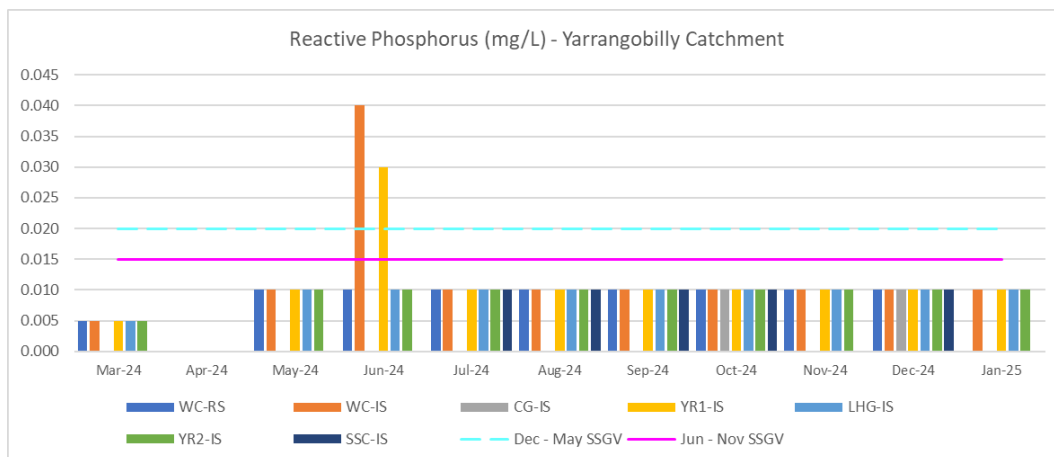


FIGURE 49: RP FOR YARRANGOBILLY RIVER CATCHMENT

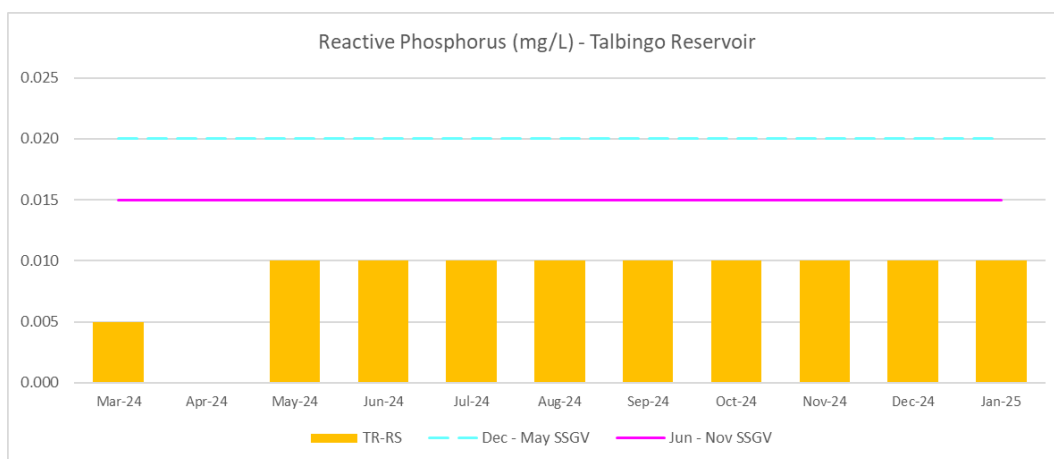


FIGURE 50: RP FOR TALBINGO RESERVOIR

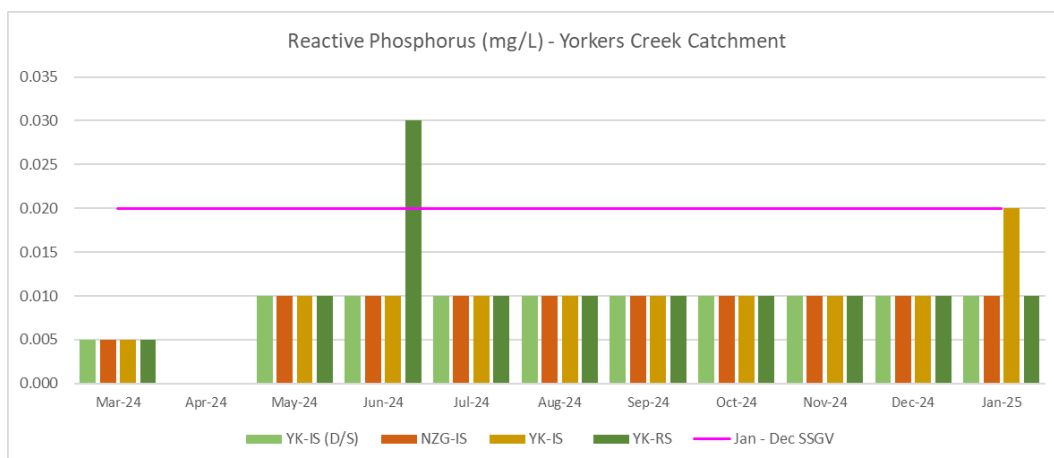


FIGURE 51: RP FOR YORKERS CREEK CATCHMENT

5.2.2 Dissolved Metals

Dissolved metals exceeding the relevant SSGV are listed in Table 4.

Table 4: Results for Dissolved Metals

DISSOLVED METALS RESULTS				
Analyte	Site	Result (mg/L)	SSGV (mg/L)	Comment
Zn	YK-IS	0.008	0.002	Only YK-IS within the Yorkers Creek catchment exceeded the December to May SSGV for ZN (mg/L). All other monitoring locations were below the LOR.
Fe	LHG-IS	0.07	0.03	Fe (mg/L) levels were only exceeded at LHG-IS within the Yarrangobilly River catchment. All other locations within the catchment and Talbingo Reservoir were below the LOR. Yorkers Creek catchment sites were all below the SSGV except for NZG-IS which was below the LOR.
Mn	WC-IS	0.007	0.002	All Yarrangobilly River catchment sites exceeded the SSGV for Mn (mg/L). Talbingo Reservoir was below the LOR. For Yorkers Creek catchment, only NZG-IS was within the SSGV.
	YR1-IS	0.003		
	YR2-IS	0.004		
	LHG-IS	0.041		
	YK-RS	0.015	0.005	
	YK-IS (D/S)	0.013		
	YK-IS	0.051		

5.2.3 Total Metals

Total metals exceeding the DGV are listed in Table 5.

Table 5: Results for Total Metals

TOTAL METALS RESULTS				
Analyte	Site	Result (mg/L)	DGV (mg/L)	Comment
Al	WC-IS	0.04	0.027	All catchment sites exceeded the DGV for Al (mg/L).
	YR1-IS	0.27		
	LHG-IS	0.26		
	YR2-IS	0.2		
	TR-RS	0.03		
	YK-RS	0.43		
	YK-IS (D/S)	0.04		
	NZG-IS	0.06		
	YK-IS	0.07		
As	LHG-IS	0.002	0.0008	LHG-IS within the Yarrangobilly River catchment was the only As (mg/L) exceedance, all other sites were below the LOR.
Fe	YR1-IS	0.33	0.3	Within the Yarrangobilly River catchment, Fe (mg/L) was within the DGV for WC-IS while YR2-IS was below the LOR. Talbingo Reservoir was also below the LOR. All other Yorkers Creek catchment sites were within the DGV.
	LHG-IS	1.13		
	YK-RS	0.96		
	YK-IS	0.61		

6 DISCUSSION

Below is a summary of key observations and discussion points from the December monitoring results:

- Potential impacts to SWQ:
 - » Transmission line clearing and bulk earthworks activities were ongoing within the Yarrangobilly and Yorkers Creek catchment areas
 - » Impact sites within the Yarrangobilly River catchment are influenced by other activities associated with the Snowy 2.0
 - » TR-RS is located in O'Hares Campground, a popular public recreational area for water based activities including boating. It is also located adjacent to ancillary infrastructure associated with Talbingo Reservoir
 - » Hoof marks, fauna scats and aquatic fauna indicate presence of fauna in and around waterways increasing potential for erosion of banks and sedimentation into waterways
 - » Vegetative detritus and materials in the water have potential to leach nutrients into waterways
 - » Existing eroded banks increase potential for sedimentation into waterways
 - » Waterways with shallow water depth are more prone to SWQ impacts due to lack of volume
 - » Overhanging vegetation have potential to fall into waterways and influence water parameters
 - » Vegetation cover along the riparian zone can influence the stability of the banks and groundwater which in turn may influence the waterways
 - » The storm and hail experienced on 15 January may impact SWQ measured on 16 January
 - » Sheen from organic decomposition observed on the surface of the water at LHG-IS may be due to vegetative detritus
- Sampling and analysis:
 - » Many of the results were recorded as below (<) the LOR
 - » Analysis of some parameters were inconclusive as the SSGV for a number of parameters was lower than the LOR from the laboratory
 - » Shallow water depth at sampling sites increased difficulty of sampling without disturbing bed
 - » WC-RS laboratory samples were not analysed due to error with 'ALS Compass' application
 - » TSS (mg/L), redox (mV), RP (mg/L) and DO (ppm) were analysed outside their respective holding times which may have decreased reliability of results
 - » CG-IS and SSC-IS were dry at the time of monitoring, therefore no samples were collected
- SWQ parameters:
 - » Since March 2024, sites at the Yarrangobilly River catchment, including the reference site WC-RS, have consistently exceeded the relevant SSGV for the following parameters: CaCO₃, TDS and TSS

- » LHG-IS has consistently recorded exceedances across multiple parameters. This could be influenced by the shallow depth of the water and the high silt deposits observed in the bed
- » January 2025 was the first monitoring period that YR1-IS exceeded the TN (mg/L) and TKN (mg/L) SSGV (0.2 mg/L)
- » Since March 2024, CG-IS has only flowed twice during sampling, therefore, there is insufficient data to compare the results
- » TSS (mg/L) at YR1-IS in January 2025 was significantly higher than all results since March 2024. At 47 mg/L, TSS levels were 235 times the December to May SSGV (0.2 mg/L) and was 40 mg/L greater than the previous highest exceedance
- » Since March 2024, Talbingo Reservoir has consistently exceeded the relevant SSGV for the following parameters: SPC, dissolved Mn, ammonia, nitrogen oxides, CaCO₃, TDS, TSS and total Al
- » Since March 2024, sites at the Yorkers Creek catchment, including the reference site YK-RS, have consistently exceeded the relevant SSGV for the following parameters: DO, dissolved Mn, TP, nitrogen oxides, CaCO₃, TDS, TSS, Total Al and Total Fe
- » Presence of aquatic fauna and invertebrates at TR-RS, YK-RS, YK-IS (D/S), NZG-IS and YK-IS indicate the SWQ at these waterways is sufficient to support aquatic ecosystems
- » Presence of algae (not overgrown) and aquatic vegetation in waterways indicate the SWQ is sufficient to support aquatic ecosystems
- » Ammonia (mg/L) levels in January 2025 increased across all catchments when compared to December 2024 results. In particular, the Yorkers Creek catchment recorded the highest ammonia levels since March 2024
- » January 2025 is the first sampling month since April 2024 that YK-IS was within the December to May SSGV for TSS (mg/L)
- » Temperature (°C) increased across the Yarrangobilly River catchment and Talbingo Reservoir in January 2025
- » NZG-IS was the only recorded exceedance in cyanide (mg/L) across all catchments since May 2024
- » In general, more exceedances occurred in January 2025 than December 2024
- » January 2025 SPC levels were approximately half of that recorded in December 2024. However, results from the Yarrangobilly River catchment were higher than those from December 2024.

7 CONCLUSION

Monthly construction SWQ monitoring was undertaken on 15 to 16 January 2025 in accordance with EPL 21753. Monitoring was completed using the revised methodology outlined in Section 3 at the 12 locations listed in Table 1.

The results from the construction SWQ monitoring program were reported for three key catchments: Yarrangobilly River, Talbingo Reservoir, and Yorkers Creek. Each catchment had a reference site, with impact sites also monitored for comparison. Key parameters such as temperature, pH, DO, SPC, EC, turbidity, TSS, redox, ammonia, nitrogen oxides, cyanide, TKN, CaCO_3 , TN, TP, RP and metals (both dissolved and total) were analysed.

In January 2025, temperatures increased at the Yarrangobilly River catchment, ranging from 17.8 °C to 28.9 °C, and Talbingo Reservoir reaching 25.7 °C, reflecting the seasonal characteristics of summer. However, temperatures in the Yorkers Creek catchment ranged from 13.6 °C to 17.4 °C, a decrease from December 2024.

Unlike December 2024 results, the majority of the Yarrangobilly River catchment pH levels exceeded the December to May SSGV, with the exception of WC-IS. January 2025 pH levels at Talbingo Reservoir were within the December to May SSGV of 7.59 for the first time since September 2024. Yorkers Creek catchment exceedances were consistent with previous monitoring results.

January 2025 saw a decrease in DO % across all three catchments in comparison to December 2024, despite Talbingo Reservoir being above its December to May SSGV of 91.3%. Yorkers Creek in particular saw a noticeable drop in DO%, having the lowest readings since March 2024.

Except for LHG-IS, all other Yarrangobilly River catchment sites were below its December to May SSGV for SPC. Despite exceeding the SSGV, LHG-IS recorded the lowest SPC values since March 2024. TR-RS and NZG-IS both exceeded their respective December to May SSGV, with NZG-IS following previous trends. All other Yorkers Creek impact sites were below the SSGV, despite increasing since December 2024. On the other hand, all sites across all catchments exceeded their respective December to May SSGV for EC. The disparity between the SPC and EC values may be due to the fact that SPC does not take into account temperature while EC does.

YR1-IS recorded the highest NTU since March 2024. All sites within the Yarrangobilly River catchment exceeded the December to May SSGV with impact sites reading much higher NTU than the reference site. However, exceedance of the SSGV at YK-RS was not reflected within the impacts sites of the Yorkers Creek catchment, indicating that turbidity was not affected by Project related works or otherwise.

Exceedances of the December to May SSGV for TSS (mg/L) were measured within all catchments with outlier results for both YR1-IS and YK-IS. Turbidity and TSS may have been impacted by the storm and hail event on 15 January 2025 as rainfall events have the capacity to increase flow rate and mobilise sediments.

Redox was greater than the December to May SSGV across all catchments following the trend seen in the November and December 2024 results.

Majority of the sites in the Yarrangobilly River catchment and Talbingo Reservoir were below the LOR for nitrogen oxide while the Yorkers Creek catchment recorded exceedances. Majority of sites were also below the LOR for cyanide and RP.

Unlike the December 2024 monitoring period where ammonia (mg/L) levels were below LOR for the majority of the monitoring locations, ammonia levels were above the December to May SSGV (0.013 mg/L) at most sites across the three catchments.

CaCO₃ exceeded the respective December to May SSGV across all catchments. In particular, LHG-IS recorded significantly elevated values of 333 mg/L. Exceedances of the respective SSGV for TKN were also seen across the majority of the monitoring locations.

In the Yarrangobilly River catchment, TN (mg/L) and TP (mg/L) values were mostly within the SSGV. YR1-IS exceeded the TN SSGV (0.2 mg/L) for the first time since March 2024. Reference sites at Talbingo Reservoir and Yorkers Creek catchment also exceeded the SSGV for TN and TP, indicating potential influence on exceedances at associated impact sites.

Only three dissolved metal analytes had exceedances in January 2025 with majority of the exceedances resulting from the Yarrangobilly River catchment. The Yarrangobilly River catchment also made up the majority of exceedances out of the three exceeded total metal analytes. Although, Al was exceeded at all locations across all catchments.

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Appendix A: Field Sheet (UGL, 2025)



Appendix B: COA (ALS, 2025a), QA/QC Assessment (ALS, 2025b) and QCR (ALS, 2025c)

Appendix C: January 2025 SWQ Monitoring Results

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
YARRANGOBILLY CATCHMENT																					
Default Guideline Value (DGV)		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
Limit of Reporting (LOR)		-	-	-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May Site Specific Guideline Value (SSGV)				90-110	9.08	115	93.2	6.5-8	79.1	0.37	0.03	0.0003	0.00002	0.00001	0.0002	0.002	0.03	0.001	0.002	0.00003	0.001
June - Nov SSGV				90-110	10.28	88	60.85	6.5-8	98.4	5.12	0.04	0.0003	0.00002	0.00001	0.0002	0.002	0.02	0.001	0.002	0.00003	0.001
WC-RS	Mar-24	No	10.7	87.5	9.72	143.6	104.3	7.80	25.9	0.1	0.02	0.00015	0.00001	0.00001	0.0002	0.001	0.03	0.002	0.003	0.00002	0.001
	Apr-24	No	10.7	94.8	-	145.6	-	8.44	-	1.05	0.01	0.001	0.0001	0.001	0.001	0.002	0.11	0.001	0.007	0.0001	0.001
	May-24	No	2.1	93.8	-	155	-	8.05	-	0.39	0.01	0.001	0.0001	0.001	0.001	0.004	0.05	0.001	0.009	0.0001	0.001
	Jun-24	No	4.7	92.9	-	126.8	-	7.51	-	0.56	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.005	0.0001	0.001
	Jul-24	No	6.4	91.9	-	46.6	-	6.96	-	9.24	0.07	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Aug-24	No	10.4	80.6	-	47.1	-	7.80	-	1.6	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Sep-24	No	11.7	92.0	-	43	-	7.86	-	0.5	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Oct-24	No	9.3	92.7	-	52	-	7.55	-	1.3	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Nov-24	No	12.2	90.6	9.7	82	82	7.63	235	0.6	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.004	0.0001	0.001
	Dec-24	Yes	12.7	90.0	10.0	41.8	71.0	7.75	250	1.4	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	*sample not an	Jan-25	No	26.6	83.2	-	27.3	-	8.13	-	0.65	-	-	-	-	-	-	-	-	-	-
WC-IS	Mar-24	No	10.7	87.1	9.68	145.9	105.9	7.83	41.9	0.1	0.03	0.00015	0.00001	0.00001	0.0002	0.001	0.03	0.002	0.003	0.00002	0.0005
	Apr-24	No	10.7	95.0	-	145.2	-	8.45	-	0.9	0.01	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.006	0.0001	0.001
	May-24	No	2.1	94.1	-	154.9	-	7.86	-	0.3	0.01	0.001	0.0001	0.001	0.001	0.004	0.05	0.001	0.007	0.0001	0.001
	Jun-24	No	4.8	93.3	-	126.7	-	7.72	-	0.35	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.004	0.0001	0.001
	Jul-24	No	6.6	91.2	-	46.6	-	6.96	-	7.65	0.07	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Aug-24	No	10.5	91.5	-	45.6	-	7.83	-	5.85	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Sep-24	No	11.7	92.9	-	54.4	-	7.83	-	5.5	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.005	0.0001	0.001
	Oct-24	No	9.5	93.3	-	52.1	-	7.66	-	1.4	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Nov-24	No	12.2	90.4	9.9	82	82	7.63	245	0.3	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Dec-24	No	12.7	91.1	10.1	41.3	72	7.48	259	1.4	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Jan-25	No	17.8	85.7	9.1	24.5	108	7.80	232	2.75	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.007	0.0001	0.001
CG-IS	Mar-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jun-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jul-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aug-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sep-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oct-24	No	12.7	93.2	-	382.6	-	8.17	-	1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Nov-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dec-24	No	14	88.5	9.7	29	480	8.12	255	2.84	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Jan-25	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Reference Site exceeds SSGV

Impact Site Result exceeds SSGV or DGV

italics

Result exceeds the Limit of Reporting

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorous (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjeldahl Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)
YARRANGOBILLY CATCHMENT																								
Default Guideline Value (DGV)		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006
Limit of Reporting (LOR)		0.1	0.01	0.001	0.005	0.010	0.010	0.010	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
Dec - May Site Specific Guideline Value		0.2	0.02	0.00002	0.002	0.013	0.015	0.020	47	0.2	52	0.2												
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.015	30	0.2	39	1.0												
WC-RS	Mar-24	0.1	0.03	0.00001	0.001	0.050	0.05	0.005	42	0.1	70	0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	0.1	0.02	0.001	0.005	0.010	0.01	-	70	0.01	-	1	0.02	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.001	0.005	0.05	0.0001
	May-24	0.1	0.02	0.001	0.005	0.020	0.01	0.01	77	0.1	102	5	0.01	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.005	0.05	0.0001
	Jun-24	0.2	0.01	0.001	0.005	0.010	0.23	0.01	53	0.1	81	2	0.01	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.005	0.05	0.0001
	Jul-24	0.1	0.05	0.001	0.005	0.010	0.01	0.01	17	0.1	38	8	0.09	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.001	0.005	0.09	0.0001
	Aug-24	0.1	0.01	0.001	0.032	0.010	0.01	0.01	28	0.1	51	4	0.06	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.005	0.07	0.0001
	Sep-24	0.4	0.03	0.001	0.005	0.040	0.22	0.01	31	0.2	65	3	0.04	0.001	0.0001	0.001	0.001	0.001	0.005	0.001	0.001	0.005	0.05	0.0001
	Oct-24	0.1	0.02	0.001	0.005	0.010	0.02	0.01	31	0.1	46	1	0.07	0.001	0.0001	0.001	0.001	0.001	0.004	0.001	0.001	0.005	0.1	0.0001
	Nov-24	0.1	0.06	0.001	0.005	0.020	0.02	0.01	36	0.1	60	2	0.01	0.001	0.0001	0.001	0.001	0.001	0.003	0.001	0.001	0.005	0.05	0.0001
	Dec-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	31	0.1	51	2	0.09	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.08	0.0001
	*sample not analysed	Jan-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WC-IS	Mar-24	0.1	0.005	0.00001	0.001	0.050	0.05	0.005	42	0.1	88	0.1	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	2.7	0.02	0.001	0.005	0.010	2.42	-	67	2.42	-	11	0.15	0.001	0.0001	0.001	0.001	0.001	0.022	0.004	0.001	0.005	0.22	0.0001
	May-24	0.4	0.02	0.001	0.005	0.010	0.31	0.01	75	0.1	106	5	0.01	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.05	0.0001
	Jun-24	0.1	0.01	0.001	0.005	0.010	0.02	0.04	53	0.1	81	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.005	0.001	0.001	0.005	0.05	0.0001
	Jul-24	0.1	0.02	0.001	0.005	0.010	0.01	0.01	17	0.1	42	5	0.11	0.001	0.0001	0.001	0.001	0.001	0.011	0.001	0.001	0.005	0.1	0.0001
	Aug-24	0.1	0.01	0.001	0.006	0.010	0.03	0.01	28	0.1	45	4	0.06	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.06	0.0001
	Sep-24	7.6	0.02	0.001	0.017	0.010	7.21	0.01	33	0.4	113	3	0.02	0.001	0.0001	0.001	0.001	0.001	0.002	0.001	0.001	0.005	0.05	0.0001
	Oct-24	0.2	0.03	0.001	0.005	0.010	0.02	0.01	31	0.2	39	2	0.08	0.001	0.0001	0.001	0.001	0.001	0.004	0.005	0.001	0.005	0.12	0.0001
	Nov-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	38	0.1	58	1	0.02	0.001	0.0001	0.001	0.001	0.001	0.003	0.001	0.001	0.005	0.05	0.0001
	Dec-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	33	0.1	51	2	0.08	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.09	0.0001
	Jan-25	0.2	0.01	0.001	0.005	0.010	0.01	0.01	51	0.2	82	1	0.04	0.001	0.0001	0.001	0.001	0.001	0.015	0.001	0.001	0.005	0.07	0.0001
CG-IS	Mar-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jun-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jul-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aug-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sep-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oct-24	0.1	0.02	0.001	0.005	0.010	0.01	0.01	294	0.1	298	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
	Nov-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dec-24	0.1	0.01	0.001	0.005	0.010	0.02	0.01	287	0.1	336	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
	Jan-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
YARRANGOBILLY CATCHMENT																					
Default Guideline Value (DGV)		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
Limit of Reporting (LOR)		-	-	-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May Site Specific Guideline Value (SSGV)				90-110	9.08	115	93.2	6.5-8	79.1	0.37	0.03	0.0003	0.00002	0.00001	0.0002	0.002	0.03	0.001	0.002	0.00003	0.001
June - Nov SSGV				90-110	10.28	88	60.85	6.5-8	98.4	5.12	0.04	0.0003	0.00002	0.00001	0.0002	0.002	0.02	0.001	0.002	0.00003	0.001
YR1-IS	Mar-24	No	12.2	88.2	9.47	129.4	97.7	7.81	53.8	0.1	0.05	0.00015	0.00001	0.000005	0.0002	0.001	0.03	0.0005	0.002	0.000015	0.001
	Apr-24	No	11.3	97.4	-	136.1	-	8.49	-	1.23	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	May-24	No	3.1	95.6	-	138.8	-	7.91	-	0.42	0.01	0.001	0.0001	0.001	0.001	0.004	0.05	0.001	0.002	0.0001	0.001
	Jun-24	No	5.6	94.3	-	112.4	-	7.80	-	1.94	0.02	0.001	0.0001	0.001	0.001	0.002	0.14	0.001	0.003	0.0001	0.001
	Jul-24	No	6.4	93.0	-	51.5	-	6.93	-	10.05	0.18	0.001	0.0001	0.001	0.001	0.002	0.11	0.001	0.002	0.0001	0.001
	Aug-24	No	8.6	89.8	-	55.8	-	7.87	-	3.62	0.07	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Sep-24	No	13.3	93.1	-	61.4	-	7.77	-	0.79	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Oct-24	No	12.5	94.9	-	66.8	-	7.77	-	2	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Nov-24	No	15	92.2	9.7	105	105	7.69	251	0.8	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.020	0.0001	0.001
	Dec-24	No	14.3	91.1	9.9	40.4	69	7.52	253	3.94	0.1	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.001	0.0001	0.001
	Jan-25	No	19.5	86.6	9	19.2	110	8.01	235	14.18	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.003	0.0001	0.001
LHG-IS	Mar-24	Yes	11.9	59.2	6.38	596	447.2	7.35	-17.2	408.5	0.2	0.00015	0.00001	0.001	0.003	0.001	0.18	0.005	0.040	0.000015	0.003
	Apr-24	No	12.5	60.1	-	658	-	7.69	-	69.72	0.01	0.001	0.0001	0.001	0.001	0.002	0.34	0.001	0.184	0.0001	0.001
	May-24	No	7	63.3	-	618	-	7.00	-	1003.7	0.01	0.001	0.0001	0.001	0.001	0.004	0.71	0.001	0.184	0.0001	0.001
	Jun-24	No	8.5	70.4	-	616	-	7.65	-	10.05	0.01	0.001	0.0001	0.001	0.001	0.002	0.48	0.001	0.158	0.0001	0.001
	Jul-24	No	8	87.5	-	503	-	7.30	-	5.44	0.01	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.025	0.0001	0.001
	Aug-24	No	11.4	83.0	-	408.8	-	7.74	-	78.59	0.01	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.020	0.0001	0.001
	Sep-24	No	9.7	87.3	-	424.6	-	7.68	-	6.13	0.01	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.045	0.0001	0.001
	Oct-24	No	12.4	86.5	-	432.4	-	7.59	-	2.2	0.01	0.001	0.0001	0.001	0.001	0.002	0.10	0.001	0.036	0.0001	0.001
	Nov-24	No	12.1	83.1	9.9	537	537	7.91	254	3.6	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Dec-24	No	17.6	87.4	9.4	278.1	473	8.24	252	6.7	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.005	0.0001	0.001
	Jan-25	Yes	17.8	76.9	9.1	128.7	563	8.05	198	14.89	0.01	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.041	0.0001	0.001
YR2-IS	Mar-24	No	12.3	88.5	9.47	130.8	99.1	7.93	43.2	0.1	0.03	0.00015	0.00001	0.000005	0.001	0.001	0.02	0.005	0.001	0.000015	0.001
	Apr-24	No	11.8	97.1	-	139.7	-	8.52	-	1.16	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.003	0.0001	0.001
	May-24	No	2.5	94.7	-	142.1	-	7.77	-	0.343	0.01	0.001	0.0001	0.001	0.001	0.024	0.05	0.001	0.004	0.0001	0.001
	Jun-24	No	4.7	97.1	-	118.6	-	7.24	-	0	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.003	0.0001	0.001
	Jul-24	No	5.9	93.5	-	58.4	-	6.78	-	8.87	0.17	0.001	0.0001	0.001	0.001	0.002	0.12	0.001	0.002	0.0001	0.001
	Aug-24	No	9.3	93.5	-	58.5	-	7.98	-	6.97	0.06	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Sep-24	No	13.4	93.8	-	66.7	-	7.62	-	1.56	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.005	0.0001	0.001
	Oct-24	No	11.6	93.7	-	69.9	-	7.34	-	1.8	0.03	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Nov-24	No	15.7	92.1	10	62	111	7.92	235	0.6	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Dec-24	No	13.6	90.3	9.8	44.1	75	7.84	220	5.64	0.09	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.001	0.0001	0.001
	Jan-25	No	28.9	90.5	8.8	28.5	123	8.09	226	1.32	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.004	0.0001	0.001

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorous (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjeldahl Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)
YARRANGOBILLY CATCHMENT																								
Default Guideline Value (DGV)		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006
Limit of Reporting (LOR)		0.1	0.01	0.001	0.005	0.010	0.010	0.010	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
Dec - May Site Specific Guideline Value		0.2	0.02	0.00002	0.002	0.013	0.015	0.020	47	0.2	52	0.2												
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.015	30	0.2	39	1.0												
YR1-IS	Mar-24	0.1	0.005	0.00001	0.001	0.050	0.05	0.005	34	0.1	66	0.1												
	Apr-24	0.1	0.01	0.001	0.005	0.010	0.05	-	61	0.05	-	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.002	0.001	0.001	0.005	0.05	0.0001
	May-24	0.1	0.02	0.001	0.005	0.010	0.01	0.01	68	0.1	95	5	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
	Jun-24	0.1	0.01	0.001	0.005	0.010	0.01	0.03	51	0.1	68	1	0.03	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
	Jul-24	0.2	0.02	0.001	0.005	0.010	0.01	0.01	19	0.2	48	7	0.17	0.001	0.0001	0.001	0.001	0.001	0.009	0.001	0.001	0.005	0.15	0.0001
	Aug-24	0.2	0.01	0.001	0.005	0.010	0.01	0.01	33	0.2	55	3	0.12	0.001	0.0001	0.001	0.001	0.001	0.004	0.001	0.001	0.005	0.09	0.0001
	Sep-24	0.1	0.04	0.001	0.005	0.010	0.02	0.01	38	0.1	68	2	0.06	0.001	0.0001	0.001	0.001	0.001	0.003	0.001	0.001	0.005	0.05	0.0001
	Oct-24	0.1	0.02	0.001	0.006	0.020	0.01	0.01	41	0.1	60	2	0.08	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.09	0.0001
	Nov-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	48	0.1	74	1	0.04	0.001	0.0001	0.001	0.001	0.001	0.003	0.001	0.001	0.005	0.05	0.0001
	Dec-24	0.1	0.01	0.001	0.005	0.010	0.02	0.01	31	0.1	52	4	0.17	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.039	0.15	0.0001
	Jan-25	0.6	0.05	0.001	0.005	0.080	0.05	0.01	56	0.6	81	47	0.27	0.001	0.0001	0.001	0.001	0.001	0.051	0.001	0.001	0.009	0.33	0.0001
LHG-IS	Mar-24	0.1	0.01	0.00001	0.006	0.050	0.05	0.005	297	1	330	20												
	Apr-24	0.5	0.09	0.001	0.005	0.020	0.02	-	332	0.02	-	70	0.25	0.003	0.0001	0.001	0.001	0.001	0.51	0.006	0.001	0.009	2.22	0.0001
	May-24	0.5	0.05	0.001	0.005	0.040	0.06	0.01	365	0.4	402	5	0.07	0.001	0.0001	0.001	0.001	0.001	0.177	0.001	0.001	0.005	1.09	0.0001
	Jun-24	0.2	0.04	0.001	0.005	0.020	0.02	0.01	313	0.2	339	17	0.38	0.002	0.0001	0.001	0.001	0.001	0.282	0.001	0.001	0.005	1.54	0.0001
	Jul-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	250	0.1	324	10	0.53	0.001	0.0001	0.001	0.001	0.001	0.033	0.001	0.001	0.005	0.16	0.0001
	Aug-24	0.1	0.01	0.001	0.006	0.020	0.01	0.01	282	0.1	360	9	0.09	0.001	0.0001	0.001	0.001	0.001	0.026	0.001	0.001	0.005	0.17	0.0001
	Sep-24	0.1	0.09	0.001	0.006	0.010	0.01	0.01	294	0.1	394	10	0.06	0.001	0.0001	0.001	0.001	0.001	0.051	0.001	0.001	0.005	0.19	0.0001
	Oct-24	0.1	0.02	0.001	0.005	0.020	0.01	0.01	312	0.1	362	3	0.04	0.001	0.0001	0.001	0.001	0.001	0.034	0.001	0.001	0.005	0.26	0.0001
	Nov-24	0.1	0.01	0.001	0.005	0.100	0.01	0.01	307	0.1	363	16	0.15	0.001	0.0001	0.001	0.001	0.001	0.023	0.001	0.001	0.005	0.21	0.0001
	Dec-24	0.1	0.02	0.001	0.005	0.010	0.01	0.01	264	0.1	298	7	0.13	0.001	0.0001	0.001	0.001	0.001	0.014	0.001	0.001	0.005	0.12	0.0001
	Jan-25	0.1	0.04	0.001	0.005	0.030	0.01	0.01	333	0.1	362	33	0.26	0.002	0.0001	0.001	0.001	0.001	0.219	0.001	0.001	0.005	1.13	0.0001
YR2-IS	Mar-24	0.1	0.005	0.00001	0.001	0.050	0.05	0.005	27	1	58	0.1												
	Apr-24	0.1	0.01	0.001	0.005	0.010	0.01	-	61	0.01	-	5	0.02	0.001	0.0001	0.001	0.001	0.001	0.004	0.001	0.001	0.005	0.05	0.0001
	May-24	0.8	0.03	0.001	0.007	0.020	0.34	0.01	68	0.5	98	5	0.01	0.001	0.0001	0.001	0.001	0.001	0.002	0.001	0.001	0.007	0.05	0.0001
	Jun-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	51	0.1	76	1	0.03	0.001	0.0001	0.001	0.001	0.001	0.002	0.001	0.001	0.005	0.05	0.0001
	Jul-24	0.4	0.03	0.001	0.005	0.010	0.24	0.01	26	0.2	46	10	0.17	0.001	0.0001	0.001	0.001	0.001	0.012	0.001	0.001	0.007	0.16	0.0001
	Aug-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	33	0.1	59	4	0.11	0.001	0.0001	0.001	0.001	0.001	0.005	0.001	0.001	0.005	0.09	0.0001
	Sep-24	0.1	0.02	0.001	0.005	0.010	0.01	0.01	46	0.1	68	3	0.07	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.07	0.0001
	Oct-24	0.2	0.05	0.001	0.005	0.010	0.01	0.01	43	0.2	71	1	0.07	0.001	0.0001	0.001	0.001	0.001	0.002	0.001	0.001	0.005	0.08	0.0001
	Nov-24	0.1	0.05	0.001	0.005	0.010	0.02	0.01	51	0.1	77	1	0.04	0.001	0.0001	0.001	0.001	0.001	0.005	0.001	0.001	0.005	0.05	0.0001
	Dec-24	0.1	0.01	0.001	0.005	0.020	0.08	0.01	33	0.1	55	6	0.21	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.005	0.18	0.0001
	Jan-25	0.2	0.01	0.001	0.005	0.010	0.01	0.01	63	0.2	87	1	0.2	0.001	0.0001	0.001	0.001	0.001	0.004	0.001	0.001	0.005	0.05	0.0001

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
YARRANGOBILLY CATCHMENT																					
Default Guideline Value (DGV)		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
Limit of Reporting (LOR)		-	-	-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May Site Specific Guideline Value (SSGV)		-	-	90-110	9.08	115	93.2	6.5-8	79.1	0.37	0.03	0.0003	0.00002	0.00001	0.0002	0.002	0.03	0.001	0.002	0.00003	0.001
June - Nov SSGV		-	-	90-110	10.28	88	60.85	6.5-8	98.4	5.12	0.04	0.0003	0.00002	0.00001	0.0002	0.002	0.02	0.001	0.002	0.00003	0.001
SSC-IS	Mar-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jun-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jul-24	No	8	90.1	-	152.6	-	6.29	-	17.88	0.1	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.002	0.0001	0.001
	Aug-24	No	12.1	94.0	-	120.9	-	7.78	-	3.9	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Sep-24	No	12.2	84.1	-	122.2	-	7.10	-	3.53	0.05	0.001	0.0001	0.001	0.003	0.002	0.05	0.001	0.002	0.0001	0.001
	Oct-24	No	10.1	81.5	-	110.3	-	6.83	-	8.9	0.08	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Nov-24	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dec-24	No	18.8	90.7	9.4	68.5	118	7.97	188	44.29	0.08	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Jan-25	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorou s (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjedaht Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)
YARRANGOBILLY CATCHMENT																								
Default Guideline Value (DGV)		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006
Limit of Reporting (LOR)		0.1	0.01	0.001	0.005	0.010	0.010	0.010	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
Dec - May Site Specific Guideline Value (SSGV)		0.2	0.02	0.00002	0.002	0.013	0.015	0.020	47	0.2	52	0.2	-	-	-	-	-	-	-	-	-	-	-	-
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.015	30	0.2	39	1.0	-	-	-	-	-	-	-	-	-	-	-	-
SSC-IS	Mar-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Apr-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	May-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jun-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jul-24	1.8	0.03	0.001	0.024	0.030	0.85	0.01	62	0.9	110	1	0.09	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.025	0.4	0.0001
	Aug-24	0.1	0.01	0.001	0.005	0.010	0.01	0.01	62	0.1	110	5	0.21	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.09	0.0001
	Sep-24	0.7	0.03	0.001	0.036	0.010	0.07	0.01	65	0.6	108	5	0.10	0.001	0.0001	0.001	0.003	0.001	0.004	0.001	0.001	0.028	0.08	0.0001
	Oct-24	0.4	0.02	0.001	0.005	0.010	0.18	0.01	58	0.2	100	1	0.13	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.1	0.0001
	Nov-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dec-24	0.1	0.01	0.001	0.005	0.01	0.01	0.01	53	0.1	85	8	0.57	0.001	0.0001	0.001	0.001	0.001	0.013	0.001	0.001	0.005	0.41	0.0001
	Jan-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
TALBINGO RESERVOIR																					
DGV		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
LOR		-	-	-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May SSGV		-	-	90-100	8.79	24.0	20.3	6.5-8	91.2	0.09	0.03	0.003	0.00002	0.00001	0.0002	0.002	0.04	0.001	0.003	0.00003	0.001
June - Nov SSGV		-	-	90-100	11.53	38.7	26.2	6.5-8	95.4	1.56	0.015	0.0003	0.00002	0.00001	0.0002	0.002	0.02	0.001	0.002	0.00003	0.001
TR-RS	Mar-24	No	13.4	72.5	7.57	24	18.7	7.10	55	0.10	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.005	0.005	0.000015	0.0005
	Apr-24	No	12.2	85.9	-	25.9	-	7.17	-	0.02	0.01	0.001	0.0001	0.001	0.005	0.002	0.05	0.001	0.026	0.0001	0.001
	May-24	No	10.1	91.5	-	30.2	-	6.80	-	0.65	0.01	0.001	0.0001	0.001	0.001	0.004	0.05	0.001	0.002	0.0001	0.001
	Jun-24	No	8.7	91.6	-	26.4	-	8.32	-	0.10	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.010	0.0001	0.001
	Jul-24	No	6	92.1	-	28.7	-	7.76	-	1.35	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.003	0.0001	0.001
	Aug-24	No	12.7	91.5	-	26.3	-	6.67	-	2.0	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Sep-24	No	10.2	96.2	-	25	-	7.78	-	0.58	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.002	0.0001	0.001
	Oct-24	No	9.5	95.2	-	15.3	-	7.78	-	1.7	0.04	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.008	0.0001	0.001
	Nov-24	No	15.6	92.1	9.7	55	55	7.73	271	1.6	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.05	0.0001	0.001
	Dec-24	No	22.8	95.5	9.1	22.2	38	7.97	200	3.76	0.02	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
	Jan-25	No	25.7	91.6	9.1	27.8	44	7.23	234	1.61	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorous (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjeda hl Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)
TALBINGO RESERVOIR																								
DGV		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006
LOR		0.1	0.01	0.001	0.005	0.010	0.010	0.01	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
Dec - May SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.02	7.5	0.1	12.5	0.2												
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.015	8	0.2	15	0.2												
TR-RS	Mar-24	0.1	0.01	0.00001	0.001	0.050	0.05	0.005	8	0.1	44	0.1												
	Apr-24	1.3	0.02	0.001	0.066	0.030	0.12	-	5	0.12	-	3	0.02	0.001	0.0001	0.001	0.006	0.001	0.039	0.002	0.001	0.067	0.07	0.0001
	May-24	0.3	0.03	0.001	0.023	0.020	0.03	0.01	5	0.3	35	5	0.03	0.001	0.0001	0.001	0.001	0.001	0.033	0.001	0.001	0.012	0.06	0.0001
	Jun-24	2.3	0.01	0.001	0.005	0.010	1.92	0.01	5	0.4	17	2	0.03	0.001	0.0001	0.001	0.001	0.001	0.056	0.001	0.001	0.005	0.07	0.0001
	Jul-24	0.1	0.02	0.001	0.005	0.030	0.04	0.01	5	0.1	17	2	0.05	0.001	0.0001	0.001	0.001	0.001	0.014	0.001	0.001	0.005	0.06	0.0001
	Aug-24	0.4	0.02	0.001	0.011	0.020	0.07	0.01	12	0.3	30	1	0.04	0.001	0.0001	0.001	0.001	0.001	0.004	0.001	0.001	0.008	0.05	0.0001
	Sep-24	0.2	0.03	0.001	0.005	0.010	0.06	0.01	14	0.1	27	2	0.06	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.07	0.0001
	Oct-24	0.2	0.02	0.001	0.013	0.040	0.02	0.01	14	0.2	38	4	0.07	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.001	0.005	0.11	0.0001
	Nov-24	0.1	0.05	0.001	0.005	0.010	0.02	0.01	21	0.1	45	5	0.14	0.001	0.0001	0.001	0.001	0.001	0.07	0.001	0.001	0.005	0.23	0.0001
	Dec-24	0.1	0.06	0.001	0.005	0.010	0.01	0.01	14	0.1	25	2	0.04	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.007	0.06	0.0001
	Jan-25	0.2	0.02	0.001	0.005	0.020	0.01	0.01	17	0.2	46	6	0.03	0.001	0.0001	0.001	0.001	0.001	0.018	0.001	0.001	0.005	0.05	0.0001

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
YORKERS CREEK CATCHMENT																					
DGV		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
LOR				-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May SSGV				90-110	8.35	31	24	6.5-8	94.6	9	0.36	0.003	0.00002	0.00001	0.002	0.002	0.41	0.001	0.005	0.00003	0.001
June - Nov SSGV				90-110	10.2	27.9	20.5	6.5-8	106.1	7.87	0.32	0.0003	0.00002	0.00001	0.0002	0.002	0.23	0.001	0.003	0.00003	0.001
YK-RS	Mar-24	Yes	16.3	82.5	8.09	31.5	26.2	6.69	64.5	12.24	0.6	0.00015	0.00001	0.000005	0.001	0.001	0.66	0.002	0.013	0.000015	0.0005
	Apr-24	No	6.8	80.7	-	36.5	-	7.04	-	17.27	0.10		0.0001	0.001	0.001	0.002	0.12	0.001	0.014	0.0001	0.001
	May-24	No	4.2	85.1	-	34.7	-	6.62	-	0.3	0.10	0.001	0.0001	0.001	0.001	0.004	0.17	0.001	0.026	0.0001	0.001
	Jun-24	No	3.5	84.2	-	30.1	-	7.99	-	26.48	0.09	0.001	0.0001	0.001	0.001	0.002	0.18	0.001	0.021	0.0001	0.001
	Jul-24	No	2.9	83.1	-	27.8	-	7.40	-	7.97	0.19	0.001	0.0001	0.001	0.001	0.002	0.21	0.001	0.010	0.0001	0.001
	Aug-24	No	7.3	82.7	-	21.6	-	6.89	-	19.36	0.33	0.001	0.0001	0.001	0.001	0.002	0.29	0.001	0.017	0.0001	0.001
	Sep-24	No	12.3	86.5	-	19.5	-	7.58	-	15.51	0.09	0.001	0.0001	0.001	0.001	0.002	0.16	0.001	0.013	0.0001	0.001
	Oct-24	No	18.3	87.8	-	21.8	-	7.55	-	17.9	0.14	0.001	0.0001	0.001	0.001	0.002	0.15	0.001	0.013	0.0001	0.001
	Nov-24	No	19.3	84.8	9	30	30	6.68	259	13.8	0.06	0.001	0.0001	0.001	0.001	0.002	0.12	0.001	0.014	0.0001	0.001
	Dec-24	No	22.9	82.6	8.3	18.7	31	7.52	238	19	0.13	0.001	0.0001	0.001	0.001	0.002	0.16	0.001	0.024	0.0001	0.001
	Jan-25	No	17.4	72.5	8.8	24.5	40	7.26	209	15.77	0.08	0.001	0.0001	0.001	0.001	0.002	0.15	0.001	0.015	0.0001	0.001
YK-IS (D/S)	Mar-24	No	10	81.6	9.21	39.1	27.9	7.02	63.2	0.1	0.0065	0.00015	0.00001	0.000005	0.0001	0.001	0.26	0.0005	0.006	0.000015	0.0005
	Apr-24	No	5.9	86.0	-	39.4	-	7.33	-	221.78	0.05	0.001	0.0001	0.001	0.001	0.002	0.11	0.001	0.014	0.0001	0.001
	May-24	No	3.1	85.9	-	39.6	-	6.59	-	0.8	0.09	0.001	0.0001	0.001	0.001	0.004	0.15	0.001	0.021	0.0001	0.001
	Jun-24	No	3.2	84.6	-	38.9	-	7.76	-	2.46	0.06	0.001	0.0001	0.001	0.001	0.002	0.1	0.001	0.009	0.0001	0.001
	Jul-24	No	3.2	85.0	-	32.8	-	7.11	-	8.29	0.28	0.001	0.0001	0.001	0.001	0.002	0.22	0.001	0.005	0.0001	0.001
	Aug-24	No	7.3	84.7	-	23.2	-	6.85	-	22.38	0.51	0.001	0.0001	0.001	0.001	0.002	0.34	0.001	0.011	0.0001	0.001
	Sep-24	No	9.3	84.5	-	26.9	-	7.52	-	3.34	0.07	0.001	0.0001	0.001	0.001	0.002	0.1	0.001	0.008	0.0001	0.001
	Oct-24	No	11.3	84.0	-	27	-	7.36	-	6.4	0.1	0.001	0.0001	0.001	0.001	0.002	0.12	0.001	0.010	0.0001	0.001
	Nov-24	No	13.5	83.3	9.4	38	38	7.17	268	5.5	0.05	0.001	0.0001	0.001	0.001	0.002	0.1	0.001	0.011	0.0001	0.001
	Dec-24	No	17.7	82.9	9.2	22.2	550	7.03	463	6.27	0.07	0.001	0.0001	0.001	0.001	0.002	0.1	0.001	0.004	0.0001	0.001
	Jan-25	No	16.2	79.2	9.2	28.2	48	7.40	233	2.44	0.04	0.001	0.0001	0.001	0.001	0.002	0.14	0.001	0.013	0.0001	0.001
NZG-IS	Mar-24	No	9.6	80.2	9.13	64.2	45.3	7.45	31.1	0.1	0.14	0.00015	0.00001	0.000005	0.0001	0.001	0.18	0.0005	0.004	0.000015	0.0005
	Apr-24	No	6.4	84.9	-	67.1	-	7.38	-	0.96	0.03		0.0001	0.001	0.001	0.002	0.08	0.001	0.006	0.0001	0.001
	May-24	No	3.9	85.8	-	66.6	-	6.68	-	0.2	0.04	0.001	0.0001	0.001	0.001	0.004	0.07	0.001	0.007	0.0001	0.001
	Jun-24	No	4.4	82.7	-	64.1	-	8.14	-	0.89	0.04	0.001	0.0001	0.001	0.001	0.002	0.07	0.001	0.005	0.0001	0.001
	Jul-24	No	3.7	83.9	-	34.8	-	7.44	-	13.66	0.2	0.001	0.0001	0.001	0.001	0.002	0.18	0.001	0.004	0.0001	0.001
	Aug-24	No	7.7	84.4	-	28.9	-	6.95	-	15.47	0.44	0.001	0.0001	0.001	0.001	0.002	0.31	0.001	0.008	0.0001	0.001
	Sep-24	No	8.2	84.6	-	38.2	-	7.32	-	2.02	0.06	0.001	0.0001	0.001	0.001	0.002	0.08	0.001	0.004	0.0001	0.001
	Oct-24	No	11.1	84.5	-	39.6	-	7.47	-	5.3	0.08	0.001	0.0001	0.001	0.001	0.002	0.11	0.001	0.008	0.0001	0.001
	Nov-24	No	12.4	82.2	9.6	32.4	57	7.29	276	1.4	0.04	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.005	0.0001	0.001
	Dec-24	No	17.3	84.8	9.2	32.8	52	7.30	304	3.79	0.04	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.001	0.0001	0.001
	Jan-25	No	13.6	75.2	9.3	42.7	72	7.40	208	4.83	0.02	0.001	0.0001	0.001	0.001	0.005	0.05	0.001	0.004	0.0001	0.001

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorous (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjeldahl Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)
YORKERS CREEK CATCHMENT																								
DGV		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006
LOR		0.1	0.01	0.001	0.005	0.010	0.010	0.01	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001
Dec - May SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.02	1	0.1	30	3												
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.02	7	0.2	10	0.2												
YK-RS	Mar-24	0.1	0.03	0.00001	0.003	0.050	0.05	0.005	1	0.1	30	3					0.007	0.001	0.021	0.006	0.001	0.016	0.46	0.0001
	Apr-24	0.6	0.04	0.001	0.013	0.020	0.02	-	9	0.02	-	24	0.15	0.001	0.0001	0.001	0.001	0.001	0.027	0.001	0.001	0.005	0.34	0.0001
	May-24	0.3	0.04	0.001	0.005	0.030	0.02	0.01	9	0.3	37	5	0.10	0.001	0.0001	0.001	0.001	0.001	0.027	0.001	0.001	0.005	0.34	0.0001
	Jun-24	0.4	0.04	0.001	0.005	0.020	0.02	0.03	9	0.4	21	15	0.23	0.001	0.0001	0.001	0.001	0.001	0.032	0.001	0.001	0.005	0.50	0.0001
	Jul-24	0.4	0.04	0.001	0.007	0.010	0.05	0.01	9	0.4	41	7	0.59	0.001	0.0001	0.001	0.001	0.001	0.017	0.001	0.001	0.005	0.53	0.0001
	Aug-24	0.9	0.07	0.001	0.012	0.010	0.01	0.01	9	0.9	34	19	1.82	0.001	0.0001	0.001	0.001	0.001	0.076	0.001	0.001	0.005	1.77	0.0001
	Sep-24	0.2	0.05	0.001	0.010	0.010	0.04	0.01	9	0.2	28	19	0.28	0.001	0.0001	0.001	0.001	0.001	0.023	0.001	0.001	0.005	0.52	0.0001
	Oct-24	0.2	0.03	0.001	0.005	0.010	0.05	0.01	5	0.2	21	22	0.24	0.001	0.0001	0.001	0.001	0.001	0.02	0.001	0.001	0.005	0.45	0.0001
	Nov-24	0.1	0.04	0.001	0.008	0.020	0.03	0.01	9	0.1	46	30	1.29	0.001	0.0001	0.001	0.001	0.001	0.032	0.001	0.001	0.005	1.05	0.0001
	Dec-24	0.3	0.04	0.001	0.005	0.010	0.04	0.01	9	0.3	40	22	0.22	0.001	0.0001	0.001	0.001	0.001	0.031	0.001	0.001	0.005	0.51	0.0001
	Jan-25	0.7	0.05	0.001	0.005	0.080	0.06	0.01	12	0.6	62	27	0.43	0.001	0.0001	0.001	0.001	0.001	0.038	0.001	0.001	0.005	0.96	0.0001
	Mar-24	0.1	0.02	0.00001	0.002	0.050	0.05	0.005	1	0.1	15	0.1												
YK-IS (D/S)	Apr-24	0.1	0.02	0.001	0.005	0.010	0.03	-	16	0.03	-	3	0.1	0.001	0.0001	0.001	0.001	0.001	0.016	0.003	0.001	0.006	0.26	0.0001
	May-24	0.6	0.04	0.001	0.005	0.010	0.53	0.01	12	0.3	39	9	0.12	0.001	0.0001	0.001	0.001	0.001	0.035	0.002	0.001	0.005	0.61	0.0001
	Jun-24	0.2	0.04	0.001	0.005	0.010	0.01	0.01	12	0.2	25	2	0.48	0.001	0.0001	0.001	0.001	0.001	0.027	0.001	0.001	0.005	0.66	0.0001
	Jul-24	0.6	0.04	0.001	0.007	0.010	0.28	0.01	9	0.3	52	5	0.3	0.001	0.0001	0.001	0.001	0.001	0.011	0.001	0.001	0.005	0.32	0.0001
	Aug-24	0.6	0.04	0.001	0.005	0.010	0.09	0.01	9	0.5	70	17	1.02	0.001	0.0001	0.001	0.001	0.001	0.026	0.001	0.001	0.005	0.89	0.0001
	Sep-24	0.2	0.02	0.001	0.011	0.010	0.01	0.01	12	0.2	29	3	0.16	0.001	0.0001	0.001	0.001	0.001	0.012	0.001	0.001	0.005	0.26	0.0001
	Oct-24	0.3	0.04	0.001	0.009	0.030	0.11	0.01	5	0.2	24	4	0.22	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.001	0.005	0.28	0.0001
	Nov-24	0.1	0.04	0.001	0.005	0.010	0.01	0.01	12	0.1	48	8	0.26	0.001	0.0001	0.001	0.001	0.001	0.07	0.001	0.001	0.005	0.41	0.0001
	Dec-24	0.2	0.01	0.001	0.005	0.010	0.02	0.01	12	0.2	124	5	0.13	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.001	0.011	0.27	0.0001
	Jan-25	0.2	0.03	0.001	0.005	0.050	0.02	0.01	18	0.2	62	2	0.04	0.001	0.0001	0.001	0.001	0.001	0.013	0.001	0.001	0.005	0.14	0.0001
	Mar-24	0.1	0.01	0.00001	0.002	0.050	0.05	0.005	10	0.1	22	0.1												
	Apr-24	0.1	0.02	0.001	0.005	0.010	0.01	-	23	0.01	-	6	0.04	0.001	0.0001	0.001	0.001	0.001	0.012	0.001	0.001	0.005	0.24	0.0001
NZG-IS	May-24	0.2	0.06	0.001	0.007	0.010	0.03	0.01	23	0.2	60	5	0.06	0.001	0.0001	0.001	0.001	0.001	0.021	0.001	0.001	0.005	0.35	0.0001
	Jun-24	0.2	0.01	0.001	0.005	0.010	0.01	0.01	23	0.2	38	20	0.12	0.001	0.0001	0.001	0.001	0.001	0.037	0.001	0.001	0.005	0.67	0.0001
	Jul-24	0.2	0.04	0.001	0.005	0.010	0.04	0.01	12	0.2	52	8	0.22	0.001	0.0001	0.001	0.001	0.001	0.009	0.001	0.001	0.005	0.26	0.0001
	Aug-24	0.4	0.04	0.001	0.005	0.010	0.01	0.01	12	0.4	44	19	0.92	0.001	0.0001	0.001	0.001	0.001	0.023	0.001	0.001	0.005	0.65	0.0001
	Sep-24	0.1	0.04	0.001	0.005	0.010	0.01	0.01	21	0.1	41	3	0.07	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.15	0.0001
	Oct-24	0.3	0.03	0.001	0.005	0.020	0.07	0.01	12	0.2	26	3	0.17	0.001	0.0001	0.001	0.001	0.001	0.01	0.002	0.001	0.005	0.27	0.0001
	Nov-24	0.1	0.04	0.001	0.005	0.010	0.01	0.01	21	0.1	60	1	0.11	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.14	0.0001
	Dec-24	0.2	0.01	0.001	0.005	0.010	0.01	0.01	21	0.2	50	1	0.09	0.001	0.0001	0.001	0.001	0.001	0.007	0.001	0.001	0.005	0.16	0.0001
	Jan-25	0.4	0.02	0.001	0.005	0.070	0.4	0.01	26	0.4	74	4	0.06	0.001	0.0001	0.001	0.001	0.001	0.008	0.001	0.001	0.005	0.16	0.0001

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting

Parameter		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Cd (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)	Cyanide (mg/L)	Dissolved Fe (mg/L)	Dissolved Pb (mg/L)	Dissolved Mn (mg/L)	Dissolved Hg (mg/L)	Dissolved Ni (mg/L)
YORKERS CREEK CATCHMENT																					
DGV		No	-	90-110	-	30-350	30-350	6.5-8	-	2-25	0.027	0.0008	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008
LOR				-	-	-	-	-	-	0.1	0.01	0.001	0.0001	0.001	0.001	0.002	0.05	0.001	0.001	0.0001	0.001
Dec - May SSGV				90-110	8.35	31	24	6.5-8	94.6	9	0.36	0.003	0.00002	0.00001	0.002	0.002	0.41	0.001	0.005	0.00003	0.001
June - Nov SSGV				90-110	10.2	27.9	20.5	6.5-8	106.1	7.87	0.32	0.0003	0.00002	0.00001	0.0002	0.002	0.23	0.001	0.003	0.00003	0.001
YK-IS	Mar-24	No	11.4	78.0	8.53	35	25.9	6.70	41.1	21.44	0.45	0.00015	0.00001	0.000005	0.001	0.001	0.4	0.0005	0.018	0.000015	0.0005
	Apr-24	No	6.8	80.7	-	36.5	-	7.04	-	12.37	0.09	0.001	0.0001	0.001	0.001	0.002	0.15	0.001	0.016	0.0001	0.001
	May-24	No	4.7	82.7	-	35.8	-	6.43	-	0.2	0.06	0.001	0.0001	0.001	0.001	0.004	0.1	0.001	0.015	0.0001	0.001
	Jun-24	No	3.9	83.1	-	35.1	-	7.88	-	7.99	0.08	0.001	0.0001	0.001	0.001	0.002	0.15	0.001	0.010	0.0001	0.001
	Jul-24	No	3.2	82.8	-	32.5	-	7.00	-	11.9	0.31	0.001	0.0001	0.001	0.001	0.002	0.25	0.001	0.008	0.0001	0.001
	Aug-24	No	7.2	81.3	-	23.5	-	6.70	-	25.12	0.67	0.001	0.0001	0.001	0.001	0.002	0.46	0.001	0.015	0.0001	0.002
	Sep-24	No	9.3	83.4	-	23.8	-	7.41	-	6.24	0.09	0.001	0.0001	0.001	0.001	0.002	0.13	0.001	0.009	0.0001	0.001
	Oct-24	No	13.7	86.3	-	23.7	-	7.83	-	3.1	0.07	0.001	0.0001	0.001	0.001	0.002	0.06	0.001	0.004	0.0001	0.001
	Nov-24	No	14.7	83.3	9.3	27.7	32	7.17	279	4.6	0.06	0.001	0.0001	0.001	0.001	0.002	0.12	0.001	0.016	0.0001	0.001
	Dec-24	No	18.4	80.2	8.7	21.4	35	7.15	256	10.86	0.08	0.001	0.0001	0.001	0.001	0.002	0.16	0.001	0.017	0.0001	0.001
	Jan-25	No	16.1	69.0	8.7	25.7	43	7.09	232	1.98	0.01	0.001	0.0001	0.001	0.001	0.002	0.12	0.001	0.051	0.0001	0.001

Parameter		TN (mg/L)	TP (mg/L)	Dissolved Ag (mg/L)	Dissolved Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides (mg/L)	Reactive Phosphorous (mg/L)	Total Hardness (mg/L) (CaCO3)	Total Kjeda hl Nitrogen (mg/L) (TKN)	TDS (mg/L)	TSS (mg/L)	Total Al (mg/L)	Total As (mg/L)	Total Cd (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Pb (mg/L)	Total Mn (mg/L)	Total Ni (mg/L)	Total Ag (mg/L)	Total Zn (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)	
YORKERS CREEK CATCHMENT																									
DGV		0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2	0.027	0.0008	0.0006	0.00001	0.001	0.001	1.2	0.008	0.00002	0.0024	0.3	0.00006	
LOR		0.1	0.01	0.001	0.005	0.010	0.010	0.01	1	0.1	10	1	0.01	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.05	0.0001	
Dec - May SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.02	1	0.1	30	3													
June - Nov SSGV		0.2	0.02	0.00002	0.002	0.013	0.015	0.02	7	0.2	10	0.2													
YK-IS	Mar-24	0.1	0.01	0.00001	0.004	0.050	0.05	0.005	1	0.1	21	1													
	Apr-24	0.3	0.02	0.001	0.005	0.010	0.06	-	12	0.06	-	13	0.15	0.001	0.0001	0.001	0.001	0.001	0.024	0.001	0.001	0.005	0.52	0.0001	
	May-24	0.2	0.03	0.001	0.005	0.010	0.05	0.01	12	0.1	48	5	0.04	0.001	0.0001	0.001	0.001	0.001	0.014	0.001	0.001	0.005	0.16	0.0001	
	Jun-24	0.3	0.03	0.001	0.005	0.010	0.06	0.01	9	0.2	19	6	0.32	0.001	0.0001	0.001	0.001	0.001	0.014	0.001	0.001	0.005	0.42	0.0001	
	Jul-24	0.3	0.07	0.001	0.009	0.010	0.01	0.01	9	0.3	52	7	0.8	0.001	0.0001	0.001	0.001	0.001	0.015	0.001	0.001	0.005	0.62	0.0001	
	Aug-24	0.4	0.04	0.001	0.005	0.030	0.01	0.01	9	0.4	62	15	1.22	0.001	0.0001	0.003	0.001	0.001	0.026	0.001	0.001	0.005	0.99	0.0001	
	Sep-24	0.2	0.02	0.001	0.005	0.020	0.01	0.01	9	0.2	26	4	0.16	0.001	0.0001	0.001	0.001	0.001	0.012	0.001	0.001	0.005	0.26	0.0001	
	Oct-24	0.2	0.06	0.001	0.005	0.010	0.01	0.01	21	0.2	40	4	0.14	0.001	0.0001	0.001	0.001	0.001	0.006	0.001	0.001	0.005	0.23	0.0001	
	Nov-24	0.1	0.04	0.001	0.01	0.010	0.01	0.01	9	0.1	42	3	0.31	0.001	0.0001	0.001	0.001	0.001	0.022	0.001	0.001	0.005	0.39	0.0001	
	Dec-24	0.2	0.03	0.001	0.005	0.020	0.02	0.01	12	0.2	40	6	0.59	0.001	0.0001	0.001	0.001	0.001	0.026	0.001	0.001	0.005	0.55	0.0001	
	Jan-25	0.2	0.02	0.001	0.008	0.020	0.01	0.02	14	0.2	59	3	0.07	0.001	0.0001	0.001	0.001	0.001	0.055	0.001	0.001	0.005	0.61	0.0001	

	Reference Site exceeds SSGV
	Impact Site Result exceeds SSGV or DGV
<i>italics</i>	Result exceeds the Limit of Reporting



Appendix D: Calibration Certificate