



Melbourne Water Macroinvertebrate Monitoring 2023-24

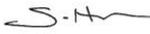
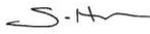
Summary Report

Melbourne Water Corporation

01 April 2025

→ The Power of Commitment



Project name		2023/2024 Macroinvertebrate monitoring					
Document title		Melbourne Water Macroinvertebrate Monitoring 2023-24 Summary Report					
Project number		12623749					
File name		Melbourne Water Macroinvertebrate Monitoring 2023-24 – Summary Report					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	Z. Billingham	S. Harrow		S. Harrow		01/04/2025
[Status code]							
[Status code]							
[Status code]							
[Status code]							

GHD Pty Ltd | ABN 39 008 488 373

Contact: Zac Billingham, Technical Specialist | GHD

180 Lonsdale Street, Level 9

Melbourne, Victoria 3000, Australia

T +61 3 8687 8000 | **F** +61 3 8732 7046 | **E** melmail@ghd.com | **ghd.com**

© GHD 2025

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Contents

1. Introduction	1
1.1 Purpose of this report	1
1.2 Scope and limitations	1
2. Sites visited	2
3. Site accessibility and safety	14
4. Notable macroinvertebrate results	15

Table index

Table 1	Sites visited and samples collected in Spring 2023 and Autumn 2024	2
---------	--	---

Figure index

Figure 1	Site locations and sampling frequency across the 2023-24 monitoring program	13
----------	---	----

1. Introduction

1.1 Purpose of this report

This report provides a summary of the of the field sampling activities and macroinvertebrate identifications undertaken by GHD through the delivery of the 2023-24 Macroinvertebrate monitoring program for Melbourne Water. In summary:

- **Section 2** details the sites visited and samples collected in each season (Spring/Autumn) across the 2023-24 monitoring period.
- **Section 0** notes site accessibility and safety concerns encountered through the course of the program.
- **Section 4** details notable Macroinvertebrate results.

1.2 Scope and limitations

This report has been prepared by GHD for Melbourne Water Corporation and may only be used and relied on by Melbourne Water Corporation for the purpose agreed between GHD and Melbourne Water Corporation as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Melbourne Water Corporation arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

2. Sites visited

GHD selected sites for sampling from a list of 135 sites as provided by Chris Walsh, University of Melbourne, in September 2021, following site prioritisation work completed by the University of Melbourne in line with the objectives of Melbourne Water’s Healthy Waterways Strategy (HWS) Monitoring, Evaluation, Reporting and Improvement (MERI) framework. These 135 sites are categorised into three groups based on their analysis and reporting requirements:

1. **Board reporting sites** are of special interest to Melbourne Water, typically in water supply catchments or National/State Parks with minimally modified habitats and are prioritised for reporting to Melbourne Water’s board for the end of each financial year.
2. **Little Stringybark Creek Study sites** are those of particular interest to University of Melbourne as they align with long-running research projects undertaken by the Waterway Ecosystem Research Group (WERG) and require additional taxonomic identification of Oligochaete worms in the samples.
3. **Broadscale Monitoring sites** are the remaining sites - widely distributed across Melbourne Water’s management area and not requiring prioritised reporting or further taxonomy.

GHD’s Aquatic Ecology team visited 104 sites in Spring 2023 and 111 sites in Autumn 2024. Two macroinvertebrate bulk samples were collected from each site during each season, with sampling effort across the entire monitoring program yielding 430 samples in total (208 in Spring 2023 and 222 in Autumn 2024). Where site conditions allowed, riffle and edge samples were taken at every site. Where riffle habitat was insufficient, two edge habitat samples were collected instead.

Table 1 details all of the 135 sites included in the monitoring program, the Site Category (as per above grouping) and the samples collected from the sites in each season. Figure 1 provides a map displaying the sites.

In-situ water quality readings and site photographs taken by GHD while conducting site visits are included in “2023-24 Melbourne Water Field Data.xlsx” and “2023-24 Melbourne Water Site Photos.zip”, provided as standalone attachments with submission of this report.

Table 1 Sites visited and samples collected in Spring 2023 and Autumn 2024

Waterway	Locality	Site Code	Site Category	Samples Collected
Alderman’s Creek	Off Rd 32, Upper Yarra closed catchment	ALD-2608-1	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Anderson’s Creek	Downstream of Everard Drv, Warrandyte	ANS-1611-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Armstrong Creek East	Off East Armstrong Rd, Upper Yarra closed catchment	ARE-1467-6	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Armstrong Creek	Off Armstrong Creek Rd, Upper Yarra closed catchment	ARM-3948-4	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Arthur’s Creek	Upstream of Arthurs Creek Rd, Arthurs Creek	ART-10382-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Barringo Creek	Downstream of Barringo Rd, Mt Macedon	BAR-1063-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Bass River	Upstream of Ferriers Rd, Loch	BAS-5554-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Balcombe Creek	At The Briars Wildlife Sanctuary, Mt Martha	BLC-10151-1	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: 2 x Edge
Bunyip River	Upstream of Bunyip River Rd, Gembrook	BNY-12470-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Bunyip River	Upstream of Bunyip River Syphon off Ellis Rd, Tonimbuk	BNY-24764-5	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Bunyip River	Off Blue Range Rd, Gembrook	BNY-2904-2	Board Reporting	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Bunyip River	Downstream of Little Rd, Iona	BNY-69016-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Bolinda Creek	Downstream of Kerrie Rd, Romsey	BOL-1267-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Bolinda Creek	Downstream of Melbourne Lancefield Rd, Clarkefield	BOL-9615-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Boyd Creek	Upstream of Romsey Rd, Darraweit Guim	BOY-13537-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Brella Creek	Upstream of 4WD track off Prison Boundary Track, French Island	BRL-729-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Brushy Creek	Upstream of Diane Cr, Mooroolbark	BRS-1472-0	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Cockatoo Creek	Downstream of Brisbanes Rd, Cockatoo	CCK-1538-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Cockatoo Creek	Upstream of Tschampions Rd, Nangana	CCK-4955-9	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Cardinia Creek	Off Pebblestone Crt, Officer South	CDC-10600-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Charlie's Creek	Above confluence with Main Creek, downstream of Kilmore Rd, Riddells Creek	CHA-1268-2	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Cement Creek	Off Road 18, Upper Yarra closed catchment	CMT-828-5	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Dobson's Creek	Upstream of Basin-Olinda Rd, The Basin	DBS-363-4	Board Reporting & Little Stringybark Creek Study	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Dobson's Creek	Downstream of Basin-Olinda Rd, The Basin	DBS-810-7	Little Stringybark Creek Study	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Diamond Creek	Off Marriot Lane, St. Andrews	DIY-5232-7	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Dandenong Creek	Off Doongala Forest Rd, Mount Dandenong	DNG-173-5	Board Reporting	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Dandenong Creek	Downstream of Brady Rd, Endeavour Hills	DNG-23690-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Dandenong Creek	Upstream of Perry Rd, Dandenong South	DNG-31881-3	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Dandenong Creek	Upstream of Boronia Rd, Wantirna	DNG-7957-4	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Deep Creek	Downstream of Kilmore-Lancefield Rd, Lancefield	DPW-21923-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Deep Creek	Downstream of Joyces Rd, Monegeetta	DPW-28678-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Deep Creek	Downstream of Bulla Rd, Bulla	DPW-86075-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Darebin Creek	Downstream of Bell St, Preston	DRB-11398-5	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
East Creek	Point Leo Estate off Point Leo Rd, Point Leo	EAT-1703-6	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Emu Creek	Downstream of Konagaderra Rd, Clarkefield	EMU-14206-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Emu Creek	Downstream of Heaths Lane, Clarkefield	EMU-1643-1	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Emu Creek	Downstream of Gellies Rd, Wildwood	EMU-16701-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Emu Creek	Above confluence with Deep Creek, Wildwood	EMU-18372-2	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Eumemmerring Creek	Upstream of Belgrave-Hallam Rd, Narre Warren North	EUM-1544-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Fehring Creek	Off Road 9, Upper Yarra closed catchment	FEH-4184-3	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Ferny Creek	Upstream of Morris Rd, Upwey	FER-647-5	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Goodman Creek	Off Seerey's Track, Coimadaí	GDM-4024-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Gisborne Creek	Upstream of Dixon Rd, Bullengarook	GIS-1105-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Wurundjeri Creek	Above confluence with Bolinda Creek, upstream of Sutherland's Rd, Riddells Creek	GYR-1085-2	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Hoddles Creek	Off Glenview Rd, Launching Place	HDL-2685-5	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Duckhole Creek	Off Duckholes Rd, Romsey	I8D-1486-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Five Mile Creek	Off Palmer St, Romsey	I8U-1467-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Jackson's Creek	Upstream of Kilmore Rd, Gisborne	JKN-11194-1	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Jackson's Creek	Downstream of Riddell Rd, Riddells Creek	JKN-15144-3	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Jackson's Creek	Upstream of Settlement Rd, Clarkefield	JKN-28603-3	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Jackson's Creek	Upstream of Sunbury Rd, Sunbury	JKN-34269-0	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Jackson's Creek	Off Tessellated Pavement Track, Organ Pipes, Bulla	JKN-40043-9	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Jack's Creek	Off Rd 10, Upper Plenty closed catchment	JKS-470-7	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Korjamnunnip Creek	Above confluence with Korweinguboora Creek, off Coles Lane, Ballan	KJP-2645-3	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
King Parrot Creek	Downstream of Gardner and Holman Rd, Drouin	KPR-2752-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Kororoit Creek	Off Beatties Rd, Bonnie Brook	KRT-13267-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Kororoit Creek	At Buckingham Reserve, Sunshine West	KRT-26894-4	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Kororoit Creek	Upstream of Holden Rd, Toolern Vale	KRT-7547-7	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Lerderderg River	Downstream of O'Briens Crossing, Lerderderg State Park, Lerderderg	LER-15145-4	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Lerderderg River	Above Links Rd outfall drain, Darley	LER-23492-2	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Little Stringybark Creek	Off Evans Grove, Wandin North	LIS-453-6	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Little Stringybark Creek	Upstream of Forge Rd, Mt Evelyn	LIS-69-1	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Little Yarra River	Downstream of Lowes Rd, Yarra Junction	LIY-14644-3	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Lang Lang River	Off Drouin-Korumburra Rd, Athlone	LNG-16294-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Lang Lang River	Downstream of South Gippsland Hwy, Lang Lang	LNG-36916-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Lollypop Creek	Downstream of 160 S Rd, Western Treatment Plant, Cocoroc	LOL-11922-8	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Wattle Valley Creek	Upstream of Birch Drive, Mt Evelyn	LSN-150-4	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Little Stringybark Creek South	Upstream of The Entrance, Mt Evelyn	LSS-96-6	Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Little River	Upstream of Kirk's Bridge Road, Little River	LTL-38495-3	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Little River	Off McLean's Rd, Little River	LTL-41406-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Lyrebird Gully Creek	Off Olinda Creek Rd, Olinda	LYR-722-3	Board Reporting & Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Main Creek	Upstream of Baldry Crossing, Main Ridge	MAI-1320-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Main Creek	Upstream of Kilmore Rd, Riddells Creek	MAM-1366-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge

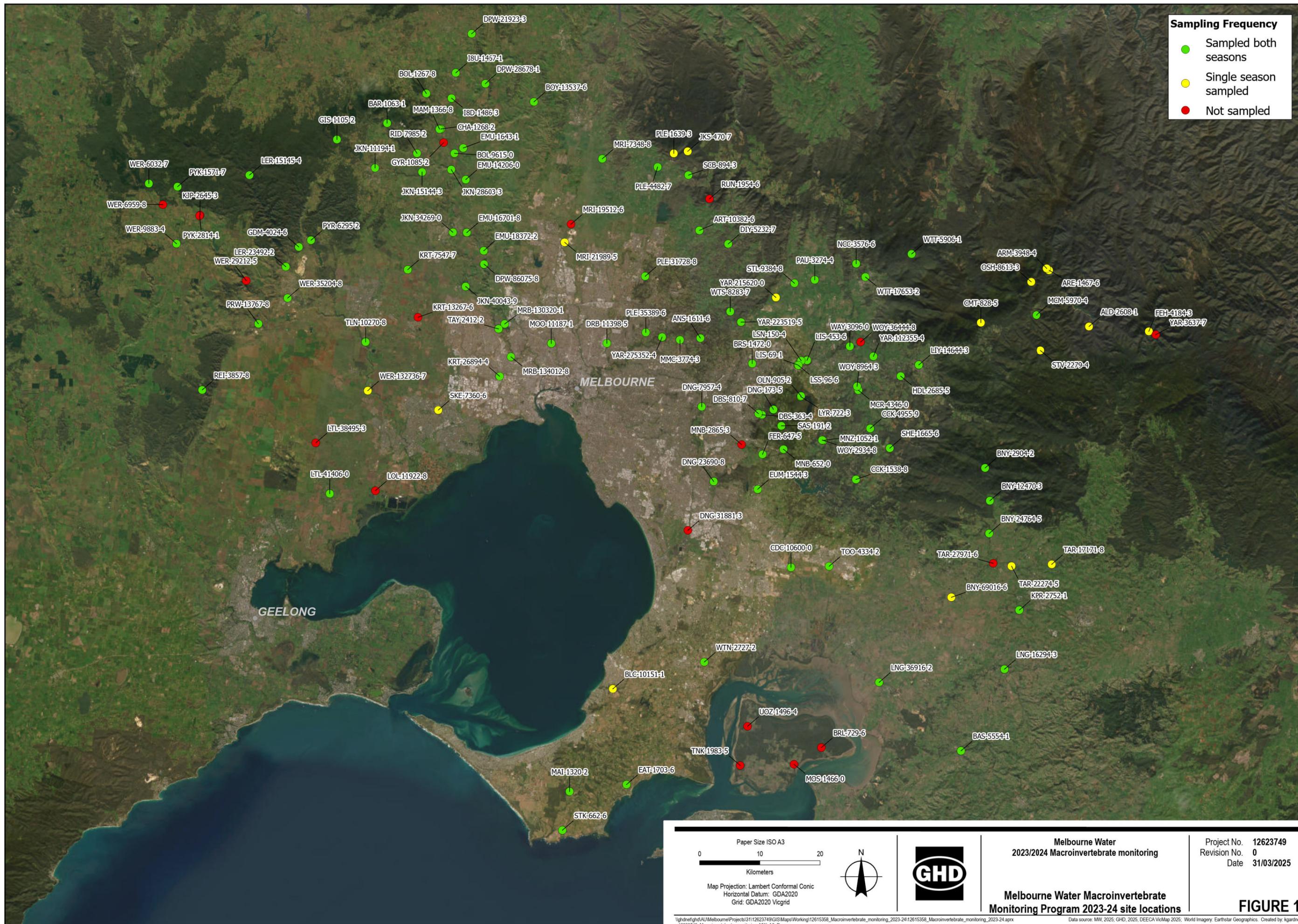
Waterway	Locality	Site Code	Site Category	Samples Collected
McMahon's Creek	Off McMahons Creek Rd, McMahons Creek	MCM-5970-4	Board Reporting	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
McCrae Creek	Downstream of Healesville-Koo Wee Rup Rd, Yellingbo	MCR-4346-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Mullum Mullum Creek	Downstream of The Parkway, Templestowe	MMC-3774-3	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Monbulk Creek	Downstream of Napoleon Rd, Ferntree Gully	MNB-2865-3	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Monbulk Creek	Off Belgrave-Gembrook Rd, Sherbrooke	MNB-652-0	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Menzie's Creek	Downstream of Emerald-Monbulk Rd, Monbulk	MNZ-1052-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Moonee Ponds Creek	Off Paradise Blvd, Essendon	MOO-11187-1	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Mosquito Creek	Off Overpass Rd, French Island	MOS-1466-0	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Maribyrnong River	Off Flora Street, Keilor East	MRB-130320-1	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Maribyrnong River	At Solomon's Ford off Canning Street, Avondale Heights	MRB-134012-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Merri Creek	Upstream of Summerhill Rd, Craigieburn	MRI-19512-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Merri Creek	Upstream of Craigieburn Rd East, Wollert	MRI-21989-5	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Not Sampled
Merri Creek	Upstream of Beveridge Rd, Beveridge	MRI-7348-8	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
New Chum Creek	Off Lowes Rd, Chum Creek	NCC-3576-6	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Olinda Creek	Above confluence with Lyrebird Gully Creek, off Olinda Creek Rd, Olinda	OLN-905-2	Board Reporting & Little Stringybark Creek Study	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
O'Shannassy River	Off Road 10, Upper Yarra closed catchment	OSH-8613-3	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Paul Creek	Downstream of Healesville-Yarra Glen Rd, Tarrawarra	PAU-3274-4	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Plenty River	Off Road 53, Upper Plenty closed catchment	PLE-1639-3	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Plenty River	Off Gorge Rd, Yarrambat	PLE-31728-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Plenty River	Off Martins Lane, Viewbank	PLE-35389-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Plenty River	Off Wildwood Rd, Whittlesea	PLE-4482-7	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Parwan Creek	Downstream of Dog Trap Gully Rd, Rowsley	PRW-13767-8	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Korweinguboora Creek	Upstream of Binks Rd, Blakeville	PYK-1571-7	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Korweinguboora Creek	Above confluence with Korjamnunnip Creek, off Coles Lane, Ballan	PYK-2814-1	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Pyrites Creek	Off Lebner Track, Coimadai	PYR-6295-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Reilly Creek	Off Burchell Trail by Little River Campground, Staughton Vale	REI-3857-8	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Riddell's Creek	Off Kilmore Rd, Riddells Creek	RID-7985-2	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Running Creek	Downstream of Running Creek Reservoir, Kinglake West	RUN-1954-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Sassafras Creek	Off The Crescent, Sassafras	SAS-191-2	Board Reporting & Little Stringybark Creek Study	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Scrubby Creek	Upstream of Humevale Rd, Humevale	SCB-894-3	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Shepherd Creek East	Off Beenak Rd, Gembrook	SHE-1665-6	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Skeleton Creek	Off Sussex Crt, Truganina	SKE-7360-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: 2 x Edge
Stockyard Creek	Downstream of Boneo Rd, Flinders	STK-662-6	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Steel's Creek	Downstream of Healesville-Yarra Glen Rd, Yarra Glen	STL-9384-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Starvation Creek	Upstream of Road 13, Upper Yarra closed catchment	STV-2279-4	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Riffle & Edge
Tarago River	Upstream of Main Neerim Rd, Drouin West	TAR-17171-8	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Not Sampled
Tarago River	Off Princes Way, Labertouche	TAR-22274-5	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Not Sampled
Tarago River	Off Morrison's Rd, Longwarry North	TAR-27971-6	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Taylor's Creek	Downstream of Green Gully Rd, Brimbank Park, Kealba	TAY-2412-2	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Toolern Creek	Upstream of Greigs Road, Weir Views	TLN-10270-8	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Tankerton Creek	Off Tankerton Rd, French Island	TNK-1983-5	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Toomuc Creek	Upstream of Henry Rd, Pakenham	TOO-4334-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Redbill Creek	Off Coast Rd, French Island	UOZ-1496-4	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Wandin Yallock Creek	Off Killara Rd, Gruyere	WAY-3096-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Werribee River	At Cobbeldicks Ford Rd, Wyndham Vale	WER-132736-7	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Not Sampled
Werribee River	Below Myrniong Creek confluence, Werribee Gorge, Ingliston	WER-29212-5	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Werribee River	Off Werribee Vale Rd, Bacchus Marsh	WER-35204-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Werribee River	At Werribee River Picnic Area, off Bunding-Blakeville Rd, Blakeville	WER-6032-7	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Werribee River	Off Rigney's Lane, Colbrook	WER-6959-8	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Werribee River	Downstream of Spencer Rd, Ballan	WER-9883-4	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Woori Yallock Creek	Above confluence with Menzies Creek, upstream of Old Emerald Rd, Monbulk	WOY-2934-8	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Woori Yallock Creek	Off Kylie Lane at Thousand Candles Estate, Gruyere	WOY-36444-8	Broadscale Monitoring	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled
Woori Yallock Creek	Downstream of Macclesfield Rd, Yellingbo	WOY-8964-3	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge

Waterway	Locality	Site Code	Site Category	Samples Collected
Watson Creek	Upstream of Westernport Hwy, Somerville	WTN-2727-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Watson's Creek	Downstream of Henley Rd, Kangaroo Ground	WTS-8283-7	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Watts River	Upstream of Walkers Lane, Healesville	WTT-17653-2	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: 2 x Edge
Watts River	At Fernshaw Picnic Ground off Maroondah Hwy, Fernshaw	WTT-5906-1	Board Reporting	Spring 2023: Riffle & Edge
				Autumn 2024: Riffle & Edge
Yarra River	Upstream of Healesville-Koo Wee Rup Rd, Launching Place	YAR-112355-4	Broadscale Monitoring	Spring 2023: Riffle & Edge
				Autumn 2024: 2 x Edge
Yarra River	At Spadonis Reserve, Yering	YAR-215620-0	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Not Sampled
Yarra River	At Wittons Reserve, Wonga Park	YAR-223519-5	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Yarra River	Upstream of Fitzsimons Lane, Templestowe	YAR-275352-4	Broadscale Monitoring	Spring 2023: 2 x Edge
				Autumn 2024: Riffle & Edge
Yarra River	Off Road 12, Upper Yarra closed catchment	YAR-3637-7	Board Reporting	Spring 2023: Not Sampled
				Autumn 2024: Not Sampled



3. Site accessibility and safety

GHD organised seasonal site access across the period of the monitoring program, maintaining relationships with landholders, site managers and other stakeholders and managing site access approvals as necessary. Where landholders or site managers advised that access would not be permitted to a site GHD did not attempt to sample that site during the 2023-24 monitoring program, as detailed below. However, GHD will maintain contact with stakeholders and will attempt to seek approval for accessing these sites during future macroinvertebrate monitoring programs.

- GYR-1085-2 – Landholder advised no access during spring 2023 or autumn 2024
- KRT-13267-6 – Active construction site for the surrounding Bonnie Brook and Woodlea residential developments, no access during spring 2023 or autumn 2024
- LTL-38495-3 – Landholder advised no access during spring 2023 or autumn 2024
- MRI-19512-6 – Landholder advised no access during spring 2023 or autumn 2024
- YAR-3637-7 – Catchment managers advised that roads were closed during spring 2023 and autumn 2024, preventing access

With safety as one of GHD's core values the safety of our team and the broader community is always paramount when undertaking field sampling activities. As such all sampling under the 2023-24 macroinvertebrate program was conducted in strict adherence to GHDs safety practices, including preparation of Job Safety & Environment Analyses (JSEAs) and pre-work assessments to manage risks associated with macroinvertebrate sampling. In line with these processes, sampling at several sites was not undertaken, or the site sampling reach was moved a short distance, as site conditions at the time of attempting access were deemed to present unacceptable or uncontrollable risk to the GHD field team, as detailed below:

- CMT-828-5 – The sampling reach was moved approximately 80 m downstream in Autumn 2024 after storms had caused numerous large-tree falls throughout the riparian zone, increasing slip and trip risks and limiting access further upstream.
- LIY-14644-3 – The sampling reach was moved approximately 50 m downstream in both Spring 2023 and Autumn 2024 to a shallower section of the waterway where access was safer. This downstream section provided additional benefits through increased habitat diversity, permitting riffle sampling which had not been available at the previous reach.
- TAR-27971-6 – This site is characterised by very steep and densely vegetated banks, making slip and trip hazards a high risk. This, combined with deep water levels, meant that the site was considered unsafe for access during Spring 2023 and Autumn 2024.
- WOY-36444-8 – This site is characterised by very steep and muddy banks with limited foot and hand holds, making slip and trip hazards a high risk. This, combined with deep water levels, meant that the site was considered unsafe for access during Spring 2023 and Autumn 2024.

4. Notable macroinvertebrate results

All macroinvertebrate samples collected were processed by GHD's in-house team of experienced taxonomists, whereby a minimum 10% fraction of a macroinvertebrate bulk sample was sorted under a dissecting microscope and all individuals therein were identified and enumerated. If the 10% fraction was insufficient to yield a minimum of 300 individual animals, then sorting of the sample was continued until this target was reached, and the final percentage of the sample sorted was recorded.

Macroinvertebrate identification data from each sample was entered into GHD's dedicated Melbourne Water database (MS Access format) and selected data was extracted for reporting in spreadsheet format (MS Excel). Macroinvertebrate data for the Board Reporting subset of sites from the 2023-24 monitoring program has previously been provided by email (June 2024), while data for the remaining sites are included in "2023-24 Melbourne Water Macroinvertebrate Data.xlsx", provided as a standalone attachment with submission of this report.

To complement the attached dataset, several notable macroinvertebrate findings are highlighted below:

- At the upper Dandenong creek site (DNG-173-5) in Autumn 2024 a larva of the Dipteran family Pelecorhynchidae was found. Larvae of this family are rarely encountered and this individual from Dandenong Creek is only the second specimen seen in the GHD laboratory in more than 15 years. Available research on the lifecycle and habits of Pelecorhynchid flies is limited, however there is suggestion that their rarity in aquatic samples may be due to the larvae not being truly aquatic.
- At the uppermost Bunyip River site (BNY-2904-2) in Spring 2023 a Limnephilid caddisfly, appearing to be *Archeophylax ochreus*, was collected. This family is rarely encountered within the greater Melbourne area and this particular species is generally only seen in small alpine streams. This finding marks the first record of the family from the Bunyip River catchment in GHD's Melbourne Water database. However, advice from caddisfly expert Ros St Clair (pers comm) suggests that true *A. ochreus* are only found in Tasmania and what occurs in Victoria, while similar, is most likely a complex of three yet to be described species. One of these three undescribed species was previously known from lower altitudes on Mt Baw Baw and Mt Buller but was only recently found in the upper Bunyip catchment as part of a research project in which Ros St Clair has been involved.
- At the downstream Little River site (LTL-41406-0) in Spring 2023 several specimens of the flatworm family Dalyelliidae were collected. Species of Dalyelliidae are known to inhabit marine, brackish and fresh waters around Australia. However, while the GHD team has found Dalyelliidae in samples from northern NSW and Queensland, the identification of specimens from Little River is the first occurrence of the family in macroinvertebrate samples from Victoria for the GHD laboratory, and as such marks the first record of the family in GHD's Melbourne Water database.
- At the Lyrebird creek site (LYR-722-3) in Autumn 2024 a Parabathynellid, a minute hyporheic crustacean, was found. Parabathynellidae are likely fairly abundant in the hyporheos, however they rarely extend into the water column and as a result are generally not encountered in surface water invertebrate samples. This specimen from Lyrebird Creek is only the fourth time the family has been recorded in GHD's Melbourne Water database.
- At the Emu Creek and Lerderderg River sites EMU-14206-0 and LER-23492-2 in Spring 2023 nymphs of the Dragonfly family Cordulephyidae were collected. Only a single species of Cordulephyid is known to occur in Victoria, *Cordulephya pygmaea* (Common Shutwing). While there are several recorded sightings of adults of the species across the greater Melbourne area, these records of Cordulephyid nymphs in Emu Creek and the Lerderderg River mark the first occurrence of the family in GHD's Melbourne Water database.



ghd.com

→ **The Power of Commitment**