NOVEMBER 2023

WEST CULBURRA MIXED USE DEVELOPMENT

SECOND SIX MONTHLY CONCEPT APPROVAL BASELINE
AQUATIC ECOLOGY DATA REPORT

Frontis. Sampling the intertidal saltmarsh zone at site SWB2-I

REPORT PREPARED FOR SEALARK PTY LTD

MARINE POLLUTION RESEARCH PTY LTD

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1. INTRODUCTION

State Significant Development Application SSD3846 is a concept proposal for a staged, residential and commercial development located on the northern side of Culburra Road between the Crookhaven River Estuary and Lake Wollumboola. The concept proposal was approved with conditions, including the undertaking of an 18 month water quality and aquatic ecology baseline monitoring program to be submitted to the Department of Planning and Environment.

Marine Pollution Research Pty Ltd (MPR) was commissioned by the proponent Sealark Pty Ltd to prepare the baseline aquatic ecology monitoring methodology report for the Approved Conditions of Consent (CoCs) C17 and C18 in 2022, noting that the Aquatic Ecology monitoring program would not include the Condition C18d oyster lease water quality sampling which was to be undertaken by Martens & Associates Pty Ltd, who were commissioned to undertake all relevant water quality monitoring as described in the companion Water Quality Methodology Report (Martens & Associates 2022). Final Aquatic Ecology (MPR 2022) and Water Quality Methodology reports were reviewed and endorsed by the Environmental Representative (ER) on 16 November 2022 and the 18 month monitoring program commenced on 1st December 2022.

The Conditions of Consent include a requirement for two progress reports at six monthly intervals, each required within two months after each six months data acquisition. This present report summarises the second six-month Aquatic ecology data acquisition, and encompasses approved methodology changes arising from the first six month period data assessment that were set out in an approved Aquatic Ecology Monitoring Addendum Report prepared in August 2023.

As per the Approved Methodology Reports, the sampling program has four main components; Estuarine Intertidal Habitat Monitoring, Subtidal Seagrass Monitoring, Crookhaven Estuary Aquaculture Oyster Monitoring and Lake Wollumboola Freshwater Biota Monitoring. Estuarine monitoring is undertaken bi-monthly and Freshwater monitoring is seasonal. Over the course of the 18 month monitoring period estuarine sampling is to take into account at least three wet weather events and freshwater sampling is to encompass at least two wet weather events.

Table 1 below shows the completed monitoring to date and projected monitoring through to the end of the18 month period.

Year	2022							2023																																																									2024																				
Season	Spring			Summer													Autumn													Winter													Spring													Summer													Autumn												
Project month	Sep	Oct	Nov	Dec				Jan					Feb				Mar				Apr				May					Jun				Jul				Aug					Sep				Oct					Nov				Dec				Jan					Feb				Mar				Apr				May				
Annual week	36 to 39	40 to 43	44 to 48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Project Week	Pre-start Pilot Studies			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
Seasonal FW sampling																																																																																		
Season	Pilot Studies Spring			Summer (S1)													Autumn (S2)													Winter (S3)													Spring (S4)													Summer (S5)													Autumn (S6)												
Pilot studies																																																																																			
FW ASUs (7-8 weeks)						in		S1			ut						in			S2				ut						in			S3									ut	in			S3									ut	in			S3									ut	in			S3									ut
FW Electro Fish																				S1														S2								S3													S3									S5												S6						
2 Wet Weather ASUs																																																																																		
& 2 Wet Electro Fish																																																																																		
Bi-monthly Estuarine Intertidal sampling																																																																																		
Bi-Monthly Periods (Terms)	Sep to Nov Pilot			Dec & Jan (T1)									Feb & Mar (T2)								Apr & May (T3)									Jun & Jul (T4)								Aug & Sep (T5)									Oct & Nov (T6)									Dec & Jan (T7)									Feb & Mar (T8)								Apr & May (T9)								
Pilot studies	Wild Oyster Pilot																																																																																		
Start I/T Transect Hts																		1																								2																												3												
Post Wet I/T transect Hts (3)																																																																																	
Transect Pictures																																																																																	
I/T Point intercept measures																																																																																	
I/T Zone quadrat measures														T1						T2						T3									T4					T5							T6											T7								T8								T9						
Bi-monthly Seagrass and Oyster sampling																																																																																		
Oysters In and Out												in		T1			ut			in			T2		ut			in			T3		ut/ in				T4		ut/ in			T5		ut				in			T6			ut			in			T7			ut			in			T8		ut		in			T9		ut			
Seagrass ASUs (6 wks)					in		T1			ut							in			T2		ut/ in			T3		ut/ in			T4				ut/ in			T5			ut										in		T6				ut/in		T7				ut			in		T8			ut			in		T9			ut			
Monitoring Program & Six-Monthly Reporting																																																																																	
Draft Monitoring Program																																																																																	
Final Monitoring Program																																																																																	
First 6 Month Progress																																																																																	
Second 6 Month Progress																																																																																	
Third 6 Months Progress																																																																																	

Table 1 Aquatic Ecology monitoring schedule. Green highlight shows completed field sampling. Note that for oyster chemical analysis the laboratory results do not come available for up to 4 weeks post sample delivery.

2. AQUATIC ECOLOGY - SECOND SIX MONTHS SAMPLING RESULTS

Section 2.1 provides available climate and hydrology data preceding and during the first and second six month sampling periods and **Sections 2.2 to 2.4** provide summaries of aquatic ecology sampling data for the seconds six months of sampling. Each of these sections also provide summaries of methodology changes and/or additional methodology detail not provided in the approved methodology reports.

2.1 Available Climate Information

Appendix Tables A1 and A2 provide daily rainfall data for the Culburra STP gauge for 2022 through to November 2023, and daily rainfall is shown graphically on **Figures 1 and 2** below. **Figure 3** shows monthly total rainfall compared to long term monthly averages.

Rainfall at the beginning of 2023 was generally above average with several large one-day storm events contributing to the higher monthly totals. February endured 337mm in total with 253mm falling across one day (9th Feb 23). Drought conditions commenced at the beginning of May 2023 and below average rainfall has been recorded for each month to date. There has not been a rain event greater than 20mm since May 23. The most significant event was 19mm falling on the 28th of October. Over the period from May to November there have only been 46 days of rain recorded with 85% of these below 5 mm.

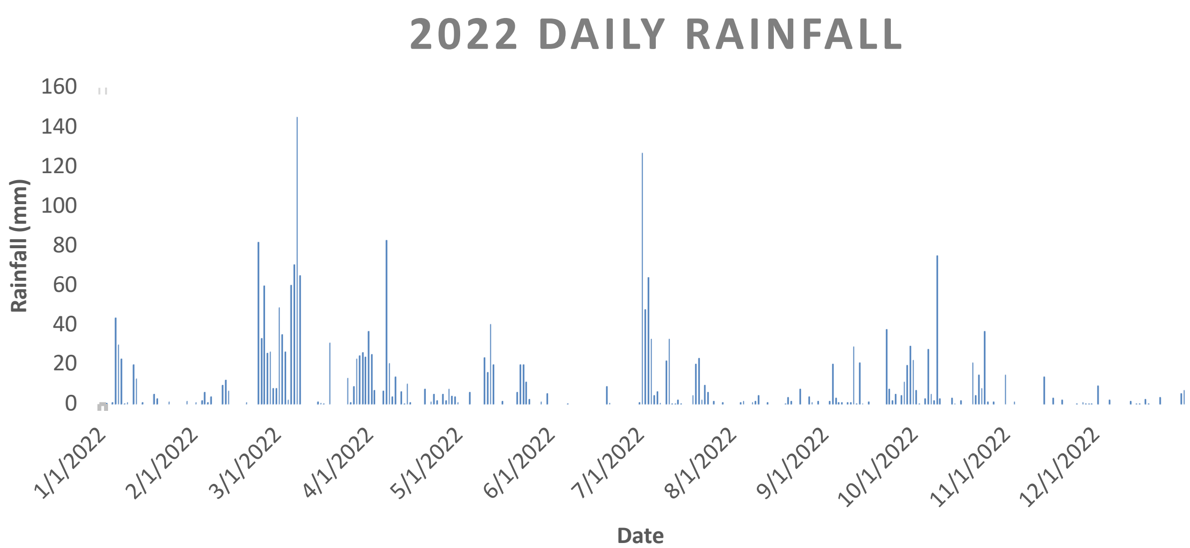


Figure 1 2022 Daily Rainfall - Culburra STP Gauge

In terms of water levels for Crookhaven River estuary and Lake Wollumboola there are three available automatic level gauges operated by the Water Division of the NSW Department of Planning and Environment (DPE); a river water level gauge at Greenwell Point (Gauge 215417), a lake water level gauge at the north end of Lake Wollumboola

(Gauge 215454) and a tide level gauge at Crookhaven Heads that provides both measured tide levels plus residual levels (i.e., the height difference of the actual tide from predicted lunar tide).

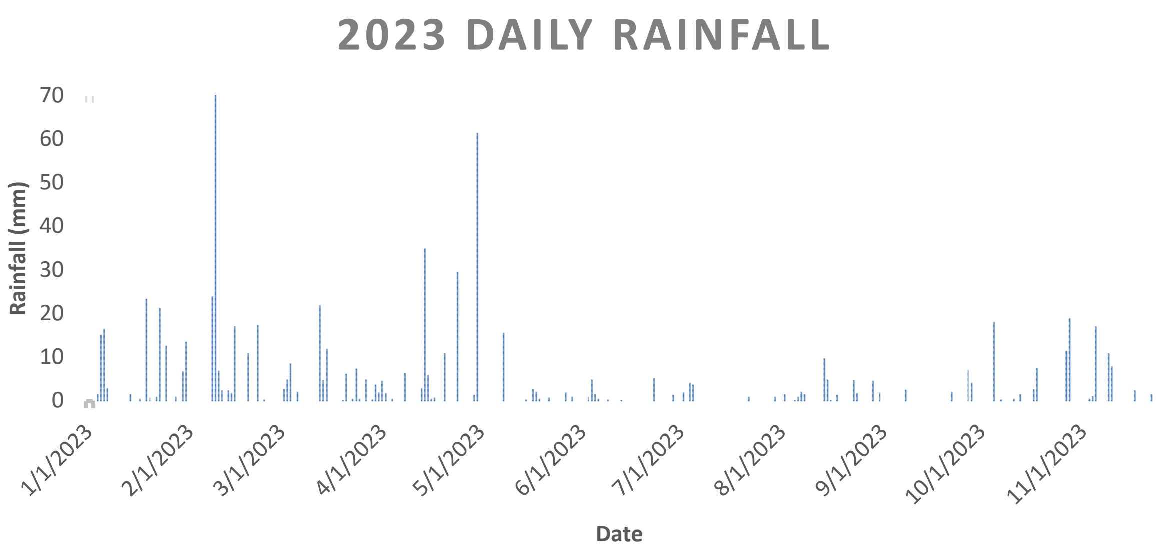


Figure 2 2023 Daily Rainfall - Culburra STP Gauge. Note 9 Feb total is 253mm

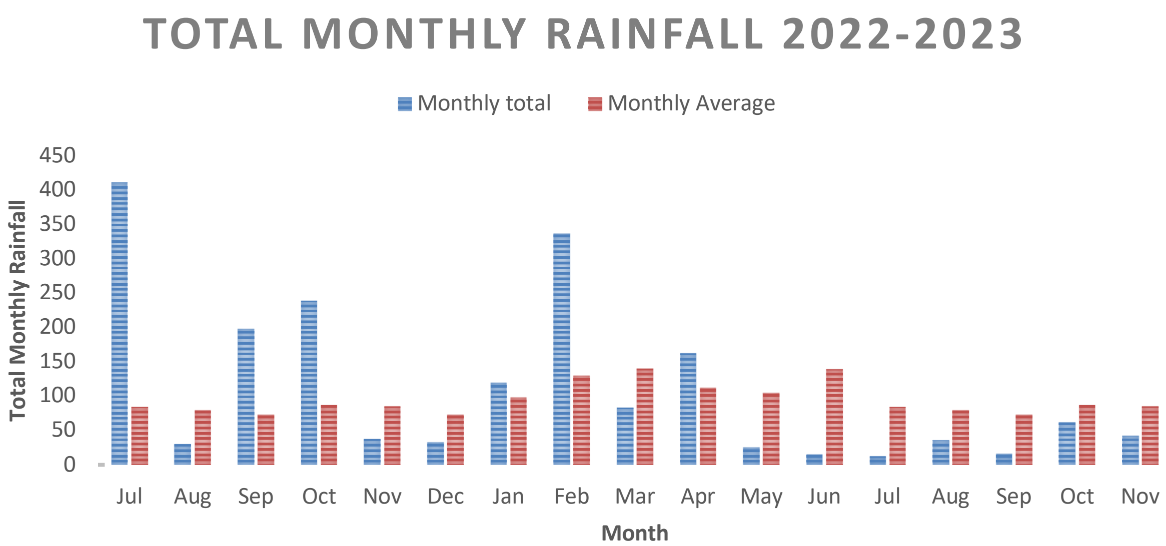


Figure 3 Monthly Total and Monthly Average Rainfall - Culburra STP 2022 to 2023

Appendix B provides the present accumulated water level data from the Crookhaven Heads , Greenwell Point and Lake Wollumboola Gauges to date as collected from the on-line gauge data.

2.2 Estuarine Intertidal Habitat Monitoring

2.2.1 Monitoring Methodology

Section 2.1 of the August 2023 Aquatic Ecology Methodology Addendum Report provides a description of the approved and adopted intertidal habitat monitoring program. **Figure 4** below shows the adopted sub-site locations:

- The Intertidal Point Intercept Habitat Transect and Plot Quadrat Sampling requirements are undertaken bi-monthly, meaning that all transects and quadrats will be sampled nine times (*9 by 2 monthly sample periods*) over the 18-month period, with each sampling occurring within each designated two-monthly term (see **Table 2** for sampling dates to date).
- The Intertidal Transect Height Profile, Plot Shade/Drip Line measurements and Landscape Mosaic assessments are scheduled to be undertaken three times (*i.e., once every 6 month sampling periods*) over the 18 month period (see **Table 3** for sampling dates to date).

The methodology for *line point intercept measurements* is as follows:

- For each line transect the start to stop points of vegetation assemblages are recorded based on main species present and then all plants noted within this assemblage are listed.
- For this process a master species list has been constructed with two letter plant codes to facilitate monitoring and data presentation. The present working Species and Code Key is provided as **Table C1** in **Appendix C** and this table will continue to expand and be refined as new species are encountered and others are confirmed.
- Refinement of the species list will also include specific distinction between local indigenous plants and weed species.

The methodology for *landscape mosaic descriptions* is as follows:

- For each of the 6m wide landscape plots initial definition of the main plant assemblages within the plot are determined by dominant zone species and/or dominant abiotic factors such as bare sediment.

Figure 4 Final Adopted Intertidal Habitat Site Locations

Table 2 Intertidal Point Intercept Transect & Quadrat Sampling									
Bimonthly Sample	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Site	Dec-Jan	Feb-Mar	Apr-May	Jun-Jul	Aug-Sep	Oct-Nov	Dec-Jan	Feb-Mar	Apr-May
CUP1-I	15/2/2023	5/4/2023	16/5/2023	14/7/2023	24/8/2023	3/10/2023			
CUP1-R	16/2/2023	5/4/2023	4/5/2023	13/7/2023	22/8/2023	3/10/2023			
CUP2-I	15/2/2023	5/4/2023	4/5/2023	18/7/2023	23/8/2023	4/10/2023			
CUP2-R	7/2/2023	3/4/2023	4/5/2023	18/7/2023	23/8/2023	4/10/2023			
BB1-I	15/2/2023	3/4/2023	5/5/2023	12/7/2023	22/8/2023	28/9/2023			
BB1-R	15/2/2023	3/4/2023	5/5/2023	12/7/2023	22/8/2023	28/9/2023			
BB2-I	15/2/2023	3/4/2023	3/5/2023	12/7/2023	21/8/2023	28/9/2023			
BB2-R	15/2/2023	29/3/2023	3/5/2023	12/7/2023	21/8/2023	28/9/2023			
SWB1-I	14/2/2023	21/3/2023	3/5/2023	12/7/2023	3/8/2023	26/9/2023			
SWB1-R	14/2/2023	21/3/2023	2/5/2023	11/7/2023	3/8/2023	26/9/2023			
SWB2-I	8/2/2023	6/3/2023	2/5/2023	11/7/2023	2/8/2023	26/9/2023			
SWB2-R	8/2/2023	20/3/2023	2/5/2023	11/7/2023	2/8/2023	25/9/2023			
SEB1-I	2/2/2023	1/3/2023	12/4/2023	10/7/2023	1/8/2023	27/9/2023			
SEB1-R	6/2/2023	2/3/2023	12/4/2023	10/7/2023	31/7/2023	27/9/2023			
SEB2-I	7/2/2023	2/3/2023	1/5/2023	11/7/2023	1/8/2023	27/9/2023			
SEB2-R	6/2/2023	2/3/2023	1/5/2023	10/7/2023	1/8/2023	27/9/2023			
CDN1-I	28/2/2023	14/4/2023	24/5/2023	19/7/2023	25/8/2023	5/10/2023			
CDN1-R	28/2/2023	14/2/2023	24/5/2023	19/7/2023	25/8/2023	5/10/2023			
CDN2-I	27/2/2023	11/4/2023	17/5/2023	20/7/2023	24/8/2023	4/10/2023			
CDN2-R	27/2/2023	11/4/2023	17/5/2023	20/7/2023	25/8/2023	4/10/2023			

Table 3 Sampling Dates for Intertidal Transect Height Profiles, Mosaic and Shade/Drip Line Surveys						
Intertidal Sub-Site	**Transect Height Profiles**			**Mosaic/Landscape and Shade/Drip Line Surveys**		
	Start Dec-May	**Middle** Jun-Nov	**Finish** Dec-May	**Start** Dec-May	**Middle** Jun-Nov	**Finish** Dec-May
CUP1-I	18/1/2023	24/8/2023		15/2/2023	24/8/2023	
CUP1-R	18/1/2023	22/8/2023		16/2/2023	22/8/2023	
CUP2-I	18/1/2023	23/8/2023		15/2/2023	23/8/2023	
CUP2-R	18/1/2023	23/8/2023		7/2/2023	23/8/2023	
BB1-I	11/4/2023	22/8/2023		15/2/2023	22/8/2023	
BB1-R	11/4/2023	22/8/2023		15/2/2023	22/8/2023	
BB2-I	11/4/2023	21/8/2023		15/2/2023	21/8/2023	
BB2-R	29/3/2023	21/8/2023		15/2/2023	21/8/2023	
SWB1-I	21/3/2023	26/9/2023		14/2/2023	3/8/2023	
SWB1-R	21/3/2023	26/9/2023		14/2/2023	3/8/2023	
SWB2-I	6/3/2023	26/9/2023		8/2/2023	2/8/2023	
SWB2-R	20/3/2023	25/9/2023		8/2/2023	2/8/2023	
SEB1-I	1/3/2023	10/8/2023		2/2/2023	1/8/2023	
SEB1-R	2/3/2023	10/8/2023		6/2/2023	31/7/2023	
SEB2-I	2/3/2023	10/8/2023		7/2/2023	1/8/2023	
SEB2-R	2/3/2023	10/8/2023		6/2/2023	1/8/2023	
CDN1-I	28/2/2023	25/8/2023		28/2/2023	25/8/2023	
CDN1-R	28/2/2023	25/8/2023		28/2/2023	25/8/2023	
CDN2-I	28/2/2023	24/8/2023		27/2/2023	24/8/2023	
CDN2-R	27/2/2023	25/9/2023		27/2/2023	25/9/2023	

- Once the assemblages are determined and described, the cross-over points for each of the four fixed transects for each of the assemblages are plotted directly onto squared graph paper and a six-meter survey staff is then deployed across the four shore-normal transects (i.e., laid shore parallel) to enable measurements to 'join the dots" on the graph paper for the assemblage limits between the fixed transect measurements.
- The sketches are later digitised to produce the landscape mosaics for each sub-site plot. Each landscape plot is accompanied by a drone photo of each sub-site plot plus site photographs looking up and down the plot areas.

Methodology for *intertidal plot quadrat density* is as follows:

- Whilst the transect point-intercept analysis monitors progression or receding vegetation or assemblages over time, density change within these riparian, saltmarsh and inshore mangrove assemblages and zones is assessed via three haphazardly placed quadrats within each zoned area within the plot mosaic (i.e, riparian edge, saltmarsh, saltmarsh-to upper mangrove and upper mangrove zoned habitats):

- The quadrat is 1m x 1m square with a 5x5 grid (i.e., 25 squares). Density is recorded via the following density scale:
    - In quadrats with only one individual, a density value of 0.1 is recorded.
    - Quadrats with species < 30% coverage (< 8 squares) is density value One.
    - Cover between 30 and 60% (9 to 16 squares) is density value Two.
    - Density value Three for coverage greater than 60% (17 or more squares).
    - Crab holes, mangroves seedlings, saplings and adults are individually counted within each quadrat.
    - Mangrove pneumatophore cover is determined by a count of occupied grid squares with values recorded as 0 to 25.

With regard to post wet weather sampling of intertidal habitats the overall trigger for addition sampling is clarified as follows:

- Following any days or continuous days where there is more than 20mm rainfall recorded, a representative number of intertidal site riparian slopes are inspected against the previous site mosaic and height profile data for evidence of erosion or deposition.
- If there is erosion/deposition noted this will trigger a full check of all sites for erosion/deposition which will be documented/described as field notes for the next scheduled transect height and mosaic study.

Assessment for possible erosion/deposition will also be facilitated by up and down slope transect photography undertaken for each bimonthly intertidal sampling event. Note that this refinement was made in March 2023 so that there are missing photographs for some transects ior the first and second bi-monthly sampling.

2.2.2 Estuary Intertidal Height Profiles

The first six monthly intertidal height profile diagrams are provided in **Appendix C-2**. The present profiles are shown as heights relative to the start peg heights as the peg AHD heights are yet to be determined. This will be done during the final six month monitoring period. Further analysis will include providing key plant and assemblage zonation limits for each of the profiles.

2.2.3 Estuary Intertidal Landscape (Mosaic) Diagrams & Site Photographs

The first six monthly and second six monthly (Dec 22 to May 23 & June 23 to Nov 23) mosaic (landscape) diagrams are provided in **Appendix C-3**. **Appendix C-3** also provides the available up and down slope seasonal transect photographs. The tables below each plot provide the plant/abiotic descriptions utilised for distinguishing between mosaic-plot assemblages. Note that whilst there is some *zonation consistency* from upslope to down slope for the mosaic plots, there is presently *no assemblage consistency* for colour schemes between plots as for each of the mosaic plots colours have been allocated to provide definitive contrasts.

Appendix C4 provides before and after transect riparian edge photographs for the SEB Ridge and In-line sites that were utilised as a check of potential riparian edge erosion following the combined high rainfall events in February/March 2023. These photographs combined with the wider check visits to other sites confirmed that there were no observable erosion or sedimentation events to trigger additional transect height surveys - as per the approved methodology.

2.2.4 Bimonthly Intertidal Habitat Vegetation & Abiotic Variation

On the basis that there were no observed weather-related variations for each of the intertidal sub-sites over the first six bi-monthly monitoring periods, it is postulated that there should either be little or minor variation in overall intertidal transect species cover or density over this period, there could be some consistent season-related variation for particular species over time or there may be consistent variation associated with wrack accumulation.

In order to test this preliminary assumption, initial assessment of the intertidal transect bimonthly point intercept data has included summing of transect lengths occupied by keystone plant and abiotic factors along each of the replicate transect lines and summing plus averaging replicate quadrat density results. These data were then averaged across the replicates, and the results are shown in the following bar graph plots (**Figure 5 to 24 f**or sub-site vegetation mean zone length data results and **Figures 25 to 44** for sub-site mean zone vegetation density data results). Note that individual sub-site graphs show replicate averages and do not include error bars at this stage. Note also that "Term' in these figures refers to the bimonthly monitoring periods.

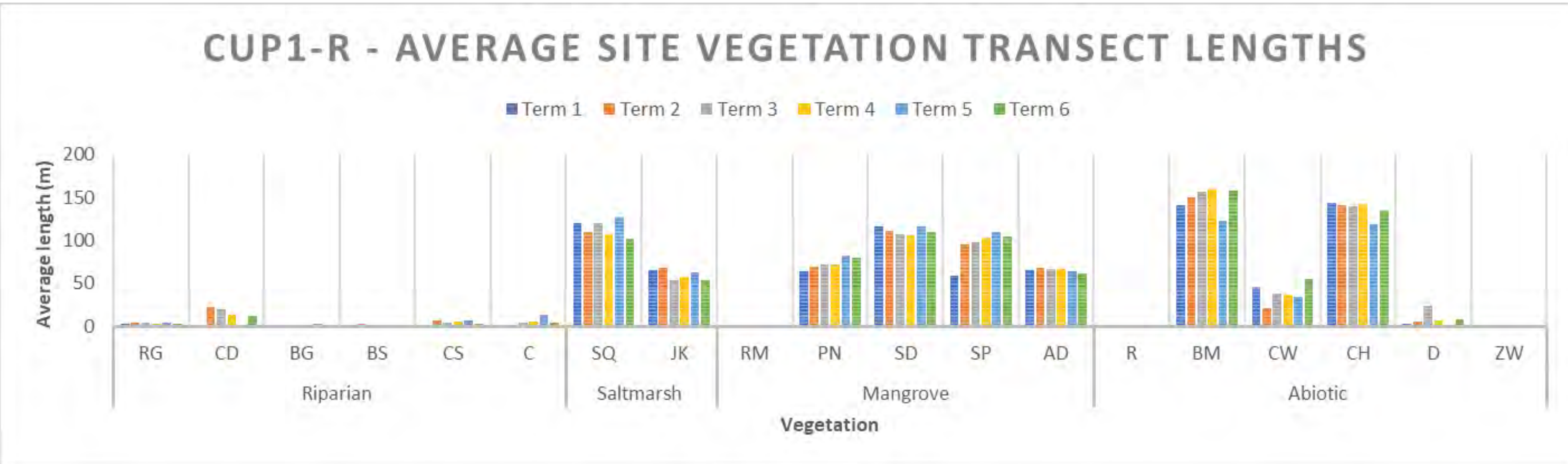


Figure 5 Mean vegetation zone length at CUP1-R

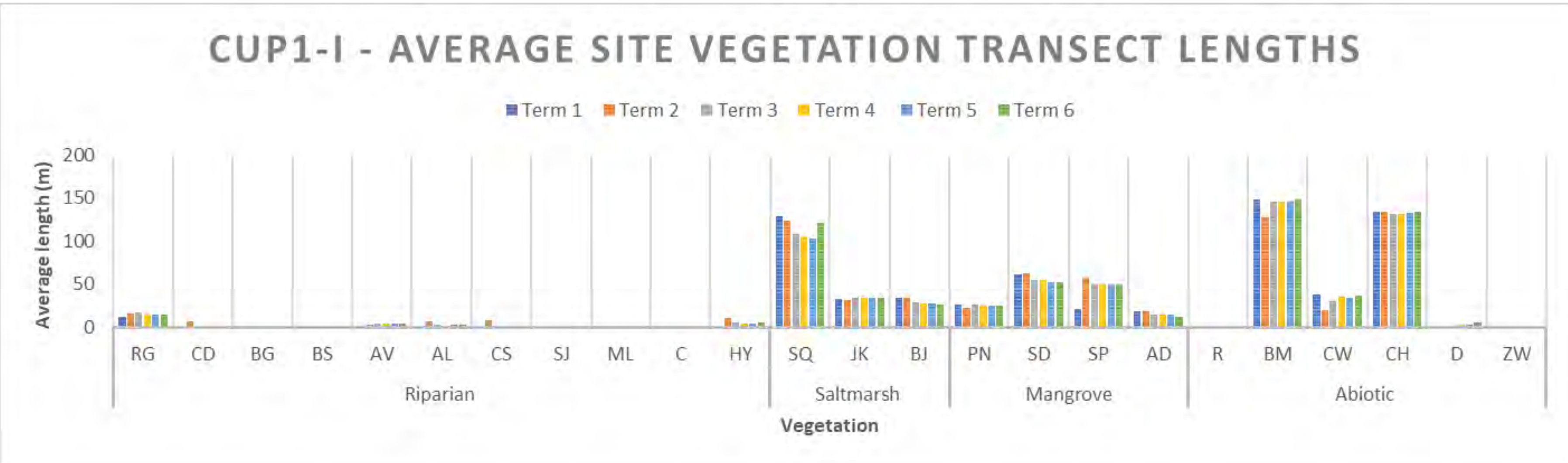


Figure 6 Mean vegetation zone length at Cup1-I

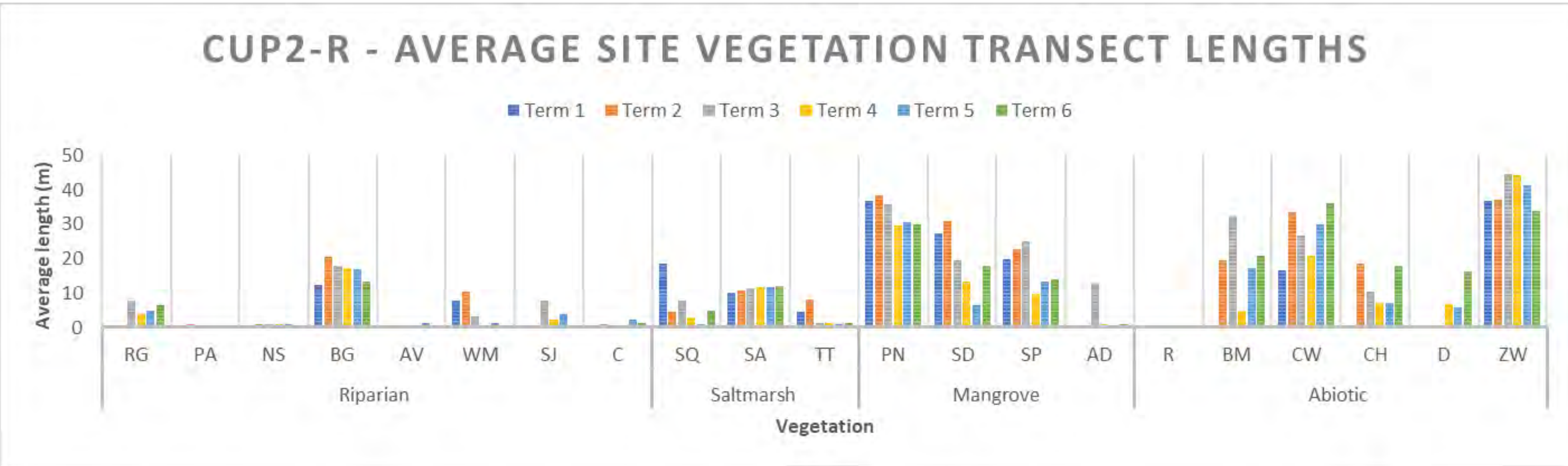


Figure 7 Mean vegetation zone length at CUP2-R

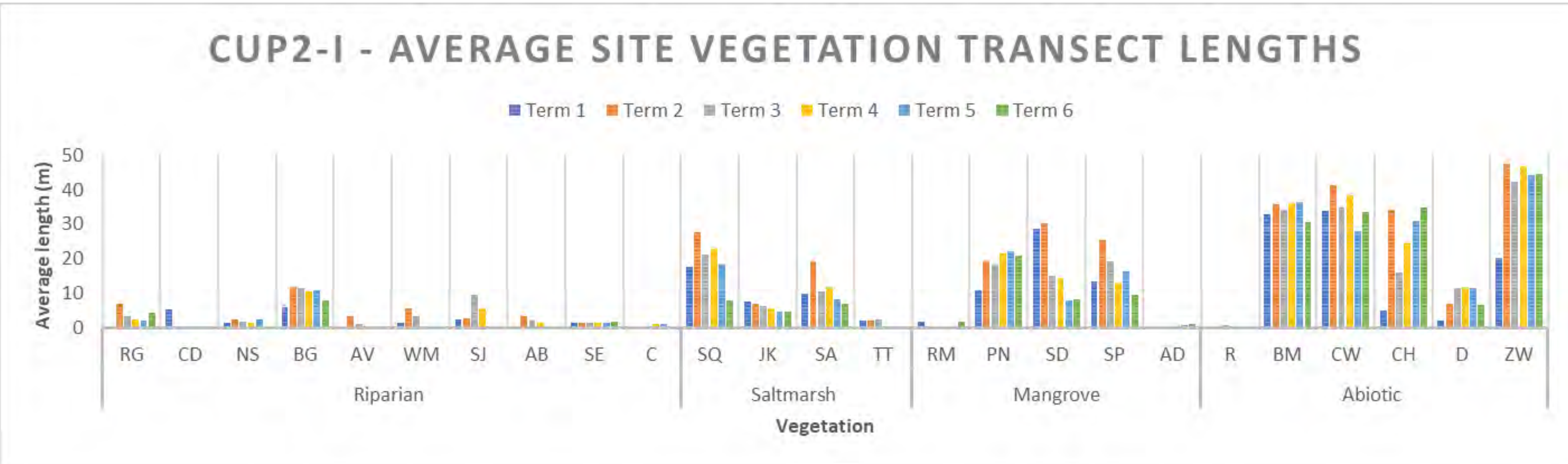


Figure 8 Mean vegetation zone length at CUP2-I

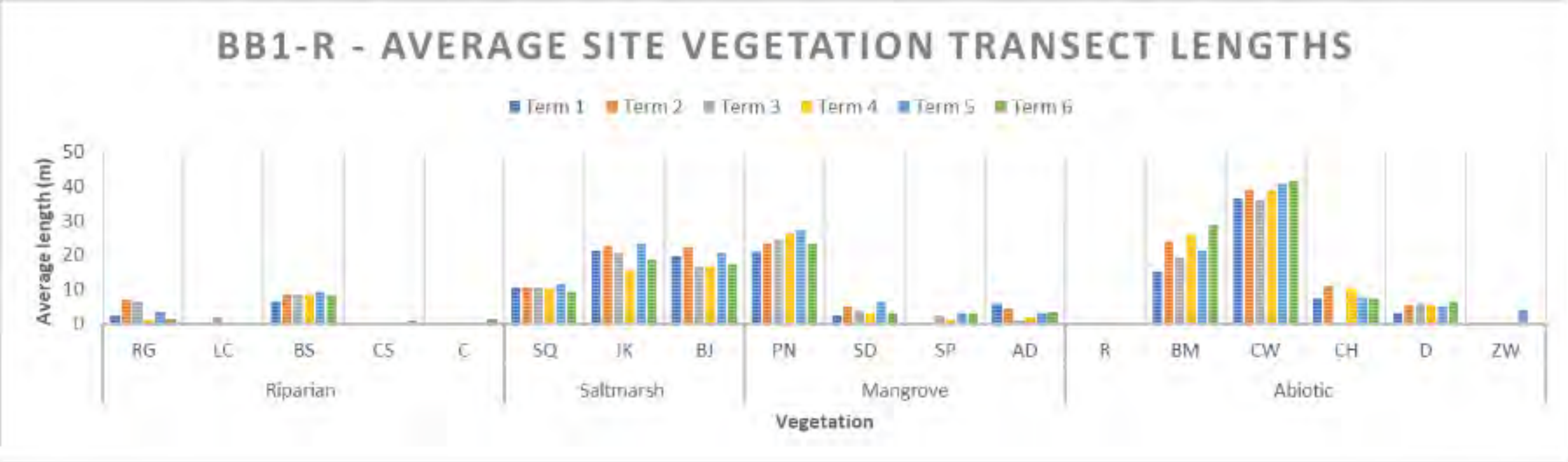


Figure 9 Mean vegetation zone length at BB1-R

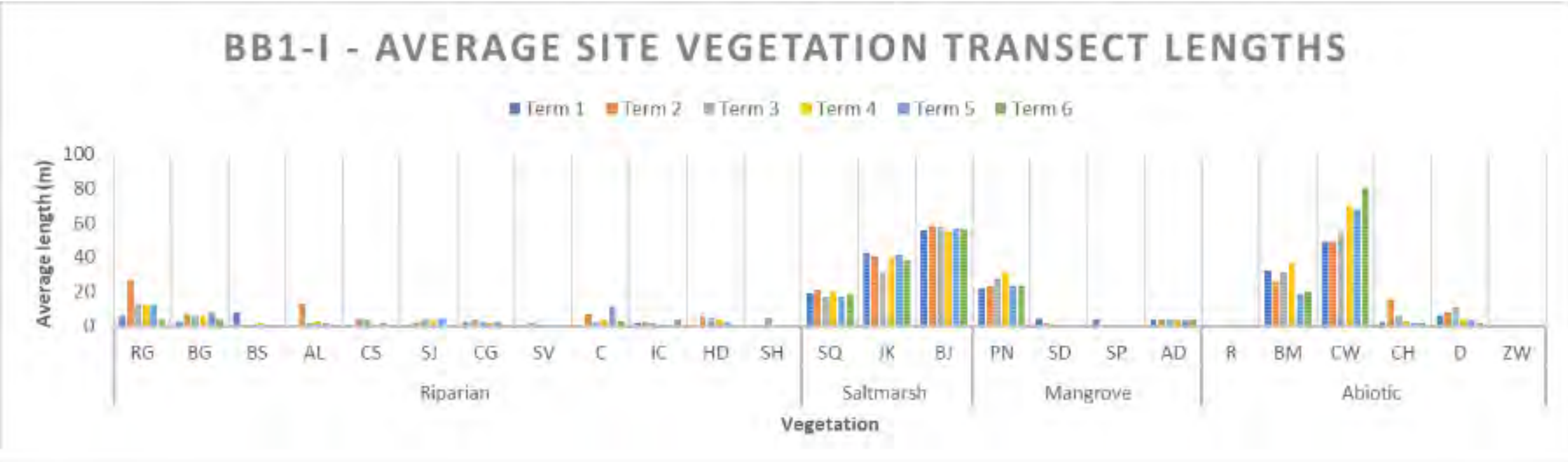


Figure 10 Mean vegetation zone length at BB1-I

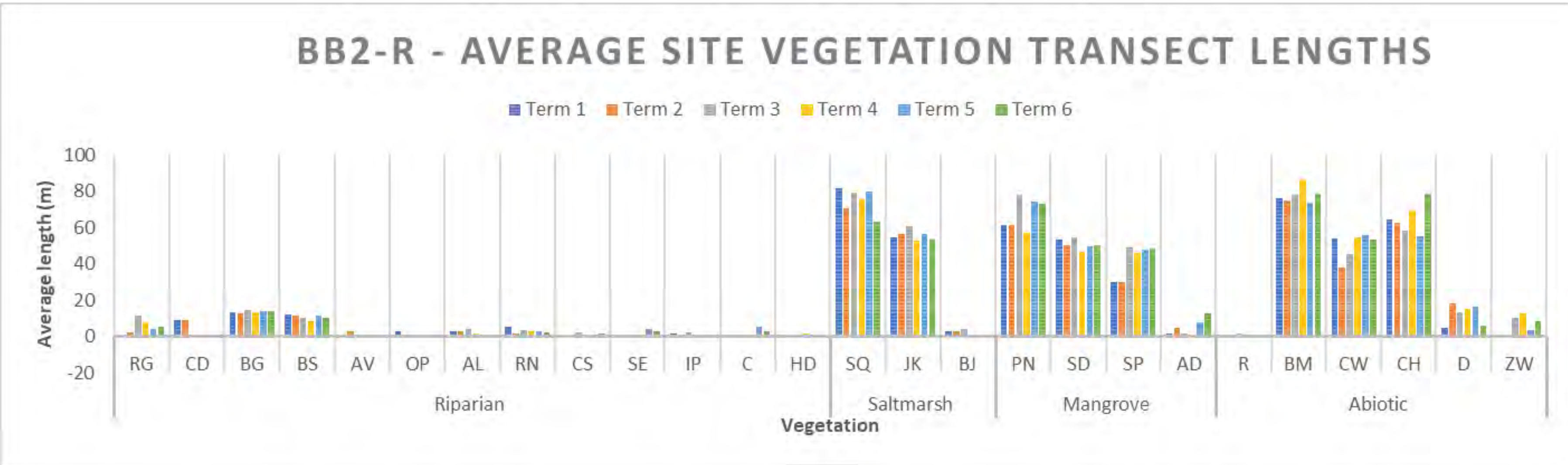


Figure 11 Mean vegetation zone length at BB2-R

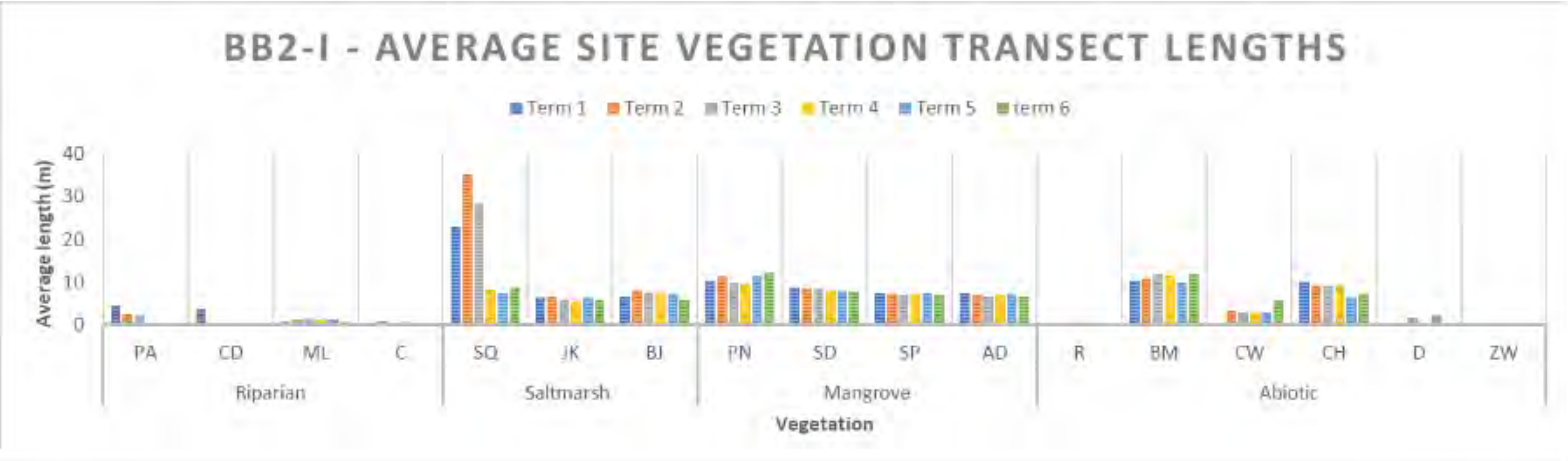


Figure 12 Mean vegetation zone length at BB2-I

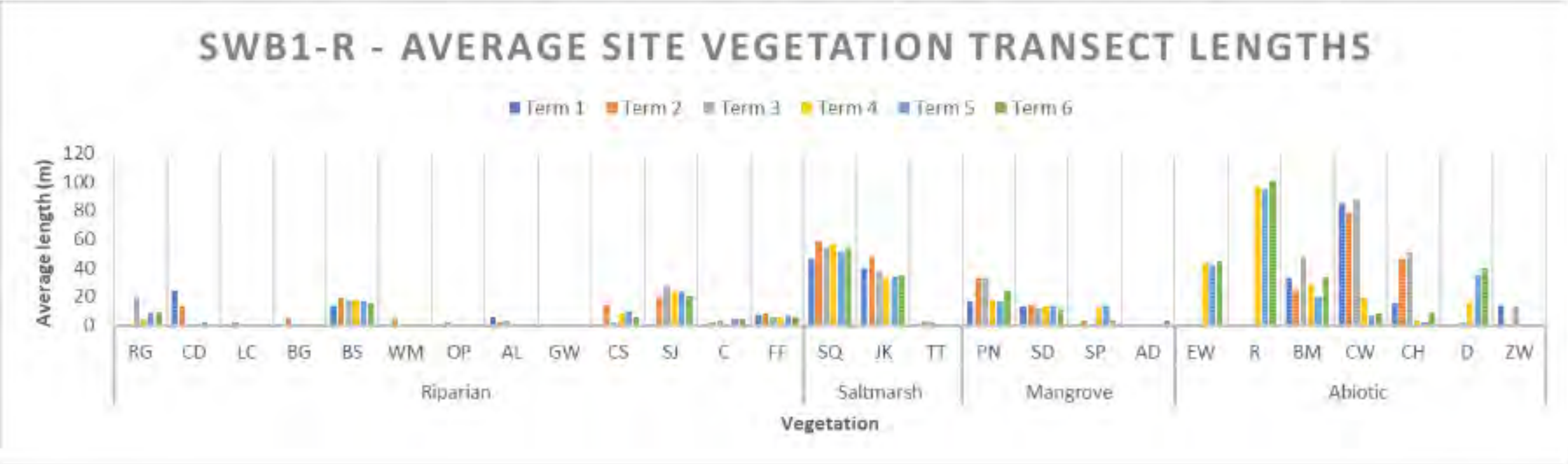


Figure 13 Mean vegetation zone length at SWB1-R

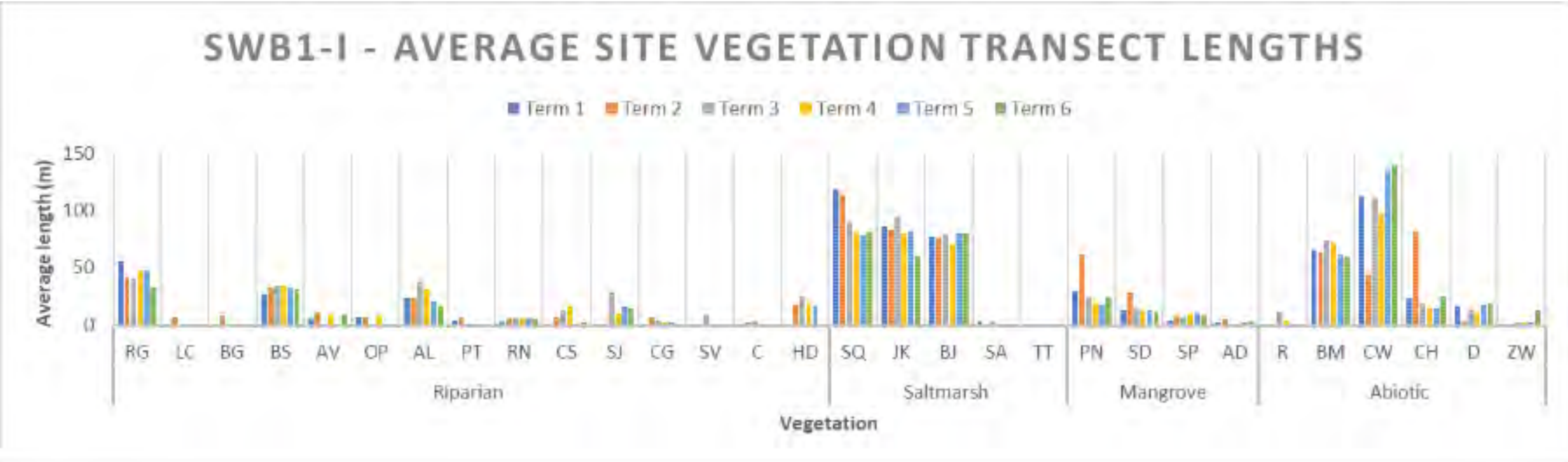


Figure 14 Mean vegetation zone length at SWB1-I

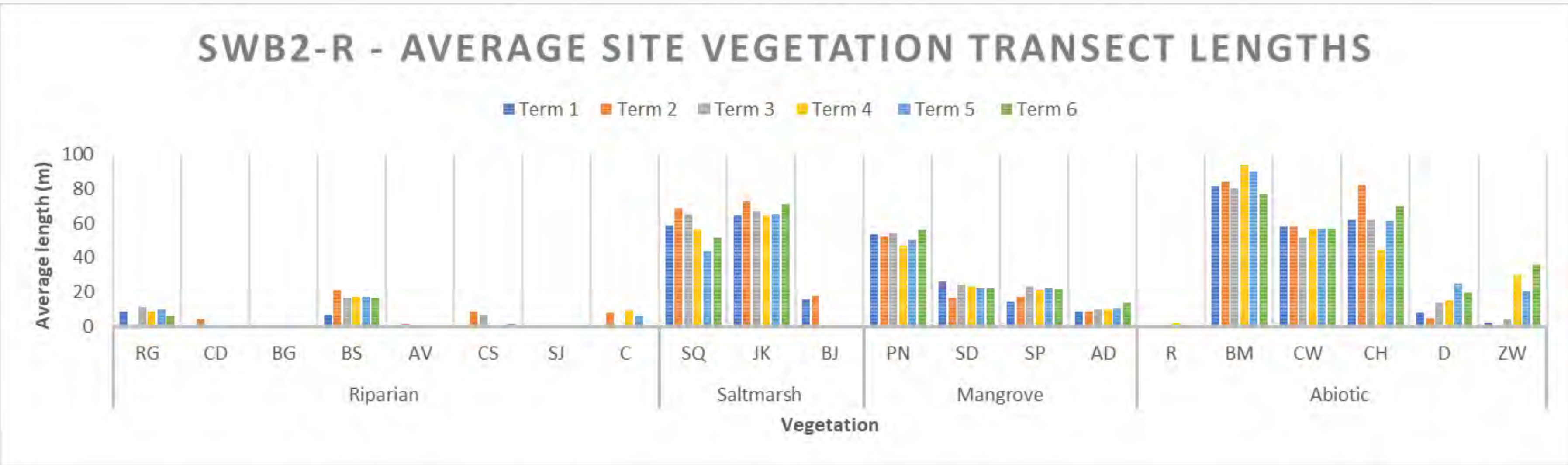


Figure 15 Mean vegetation zone length at SWB2-R

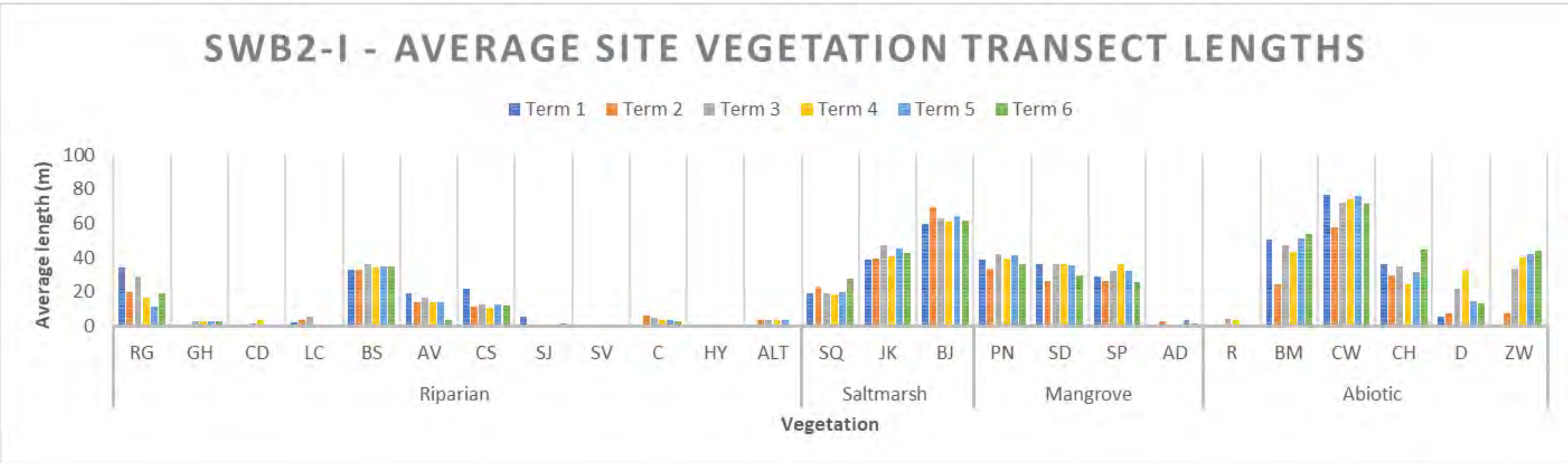


Figure 16 Mean vegetation zone length at SWB2-I

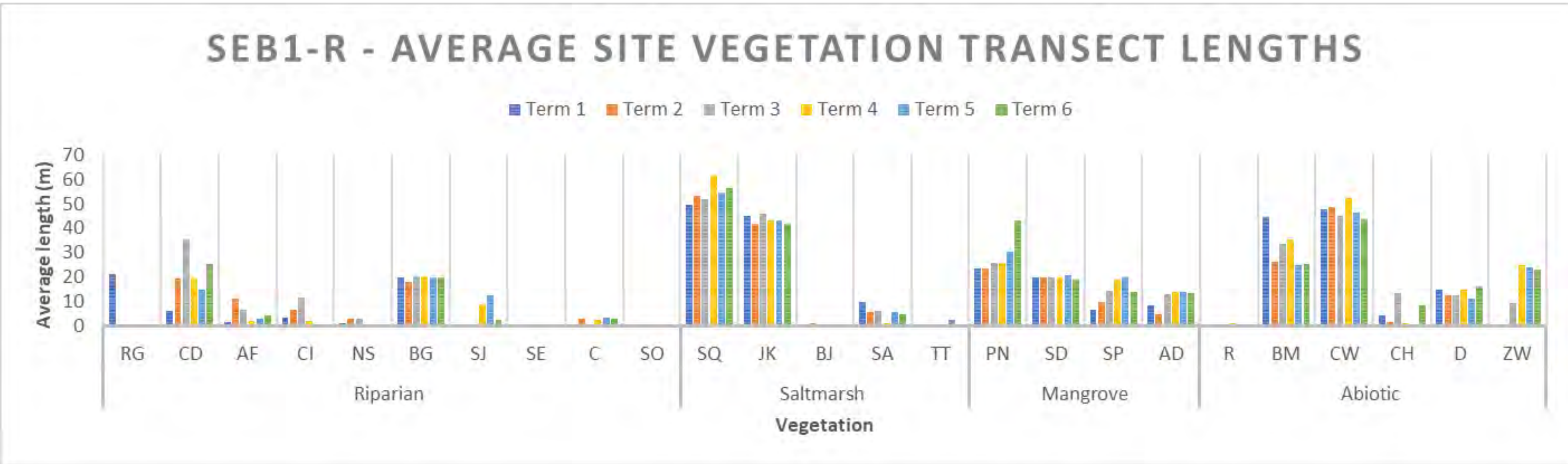


Figure 17 Mean vegetation zone length at SEB1-R

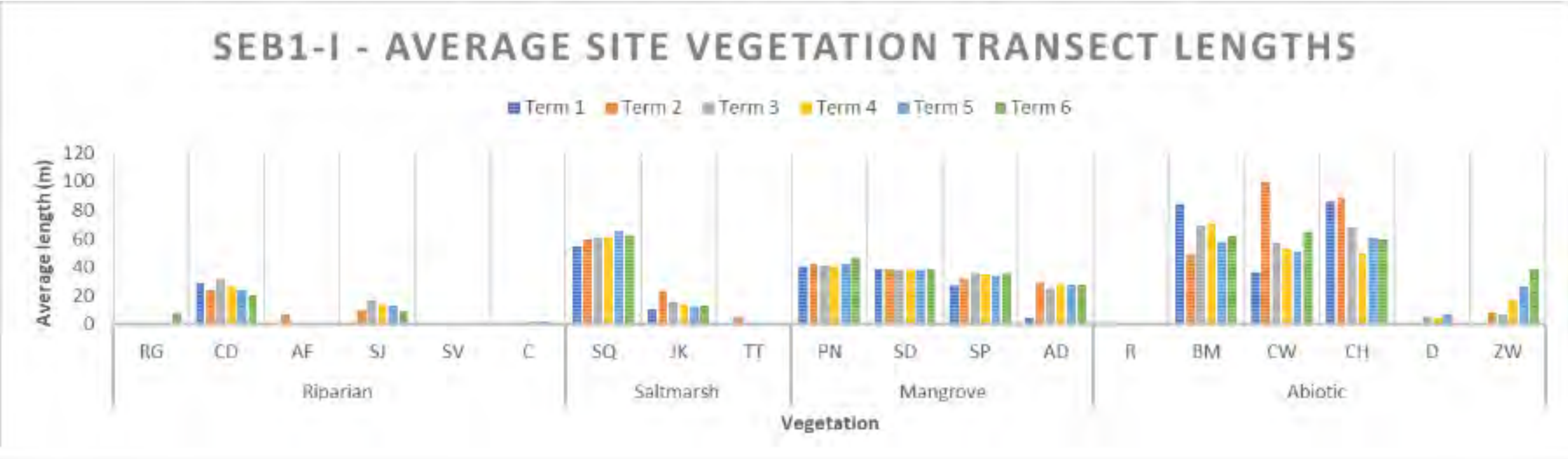


Figure 18 Mean vegetation zone length at SEB1-I

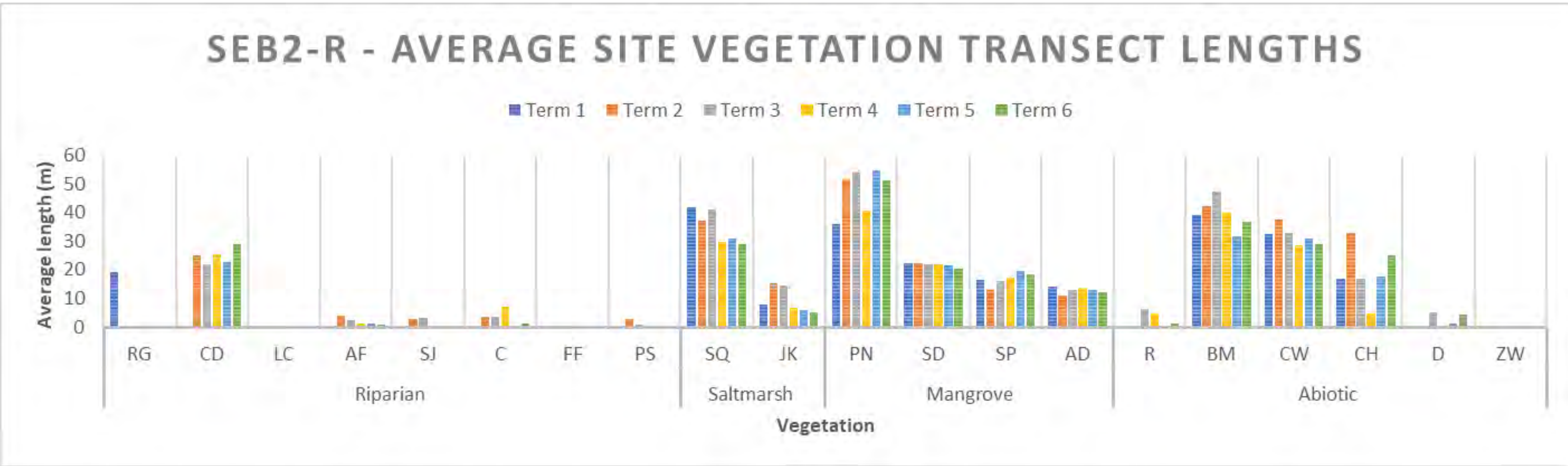


Figure 19 Mean vegetation zone length at SEB2-R

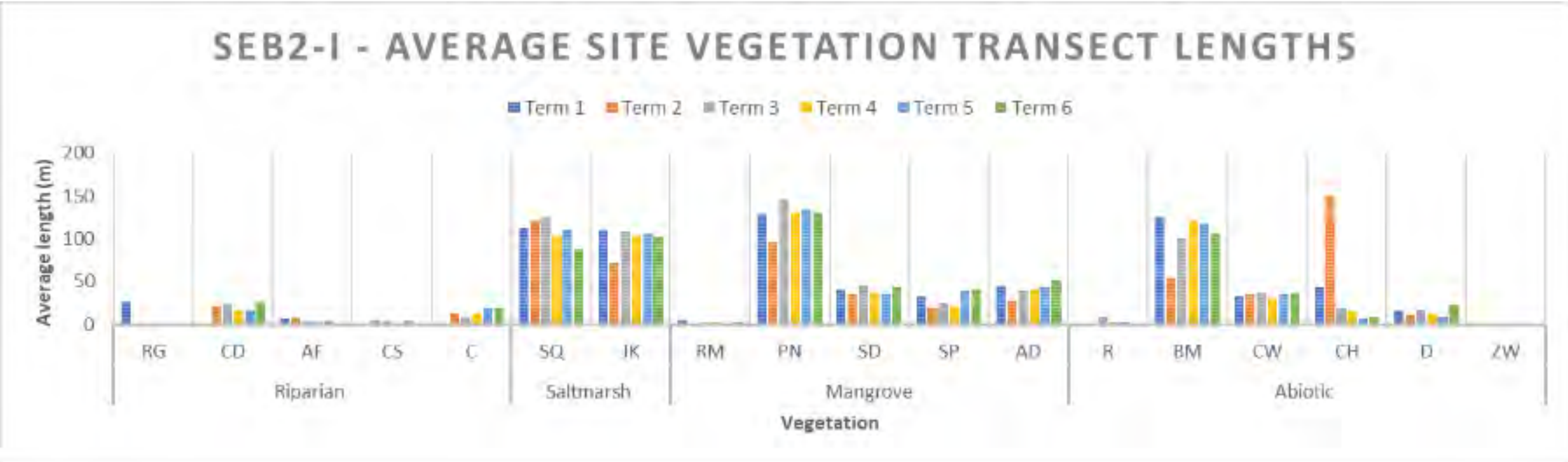


Figure 20 Mean vegetation zone length at SEB2-I

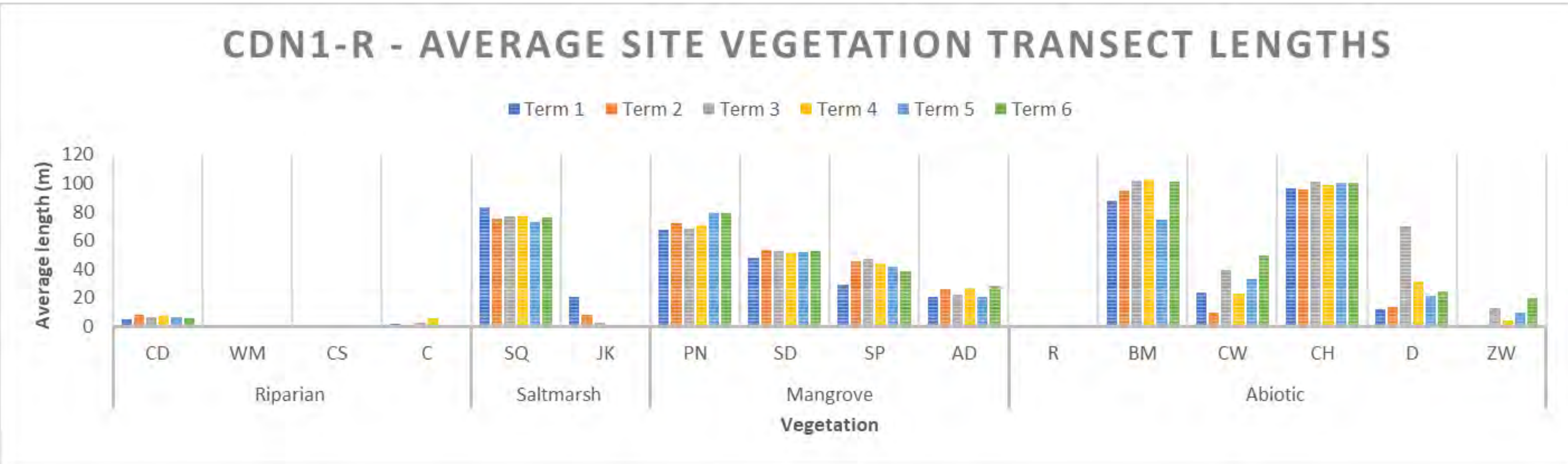


Figure 21 Mean vegetation zone length at CDN1-R

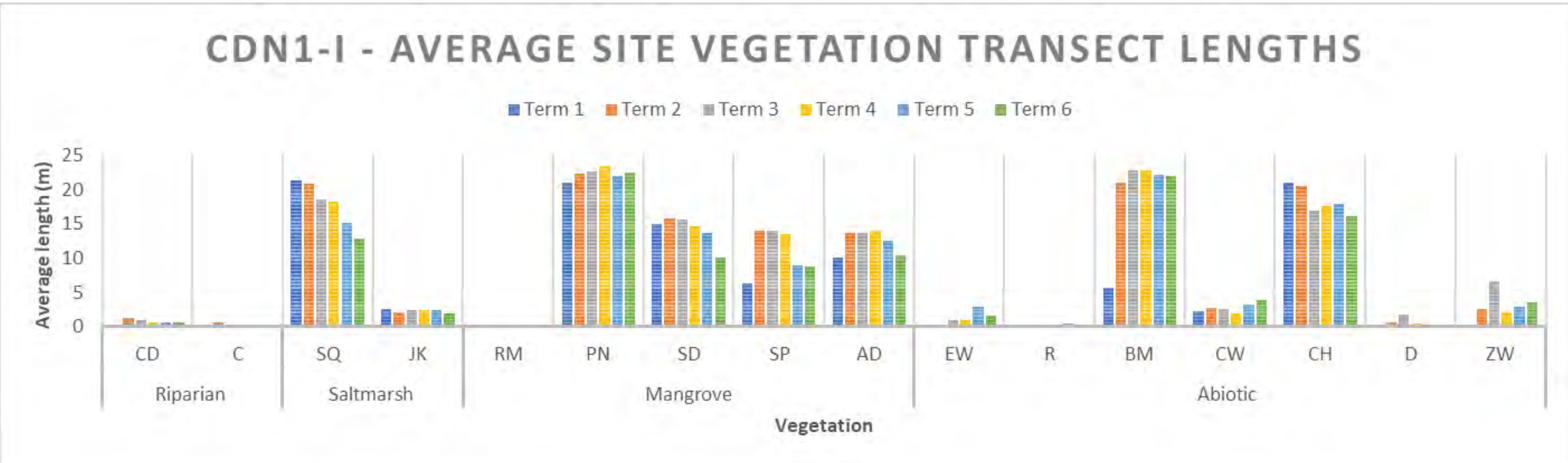


Figure 22 Mean vegetation zone length at CDN1-I

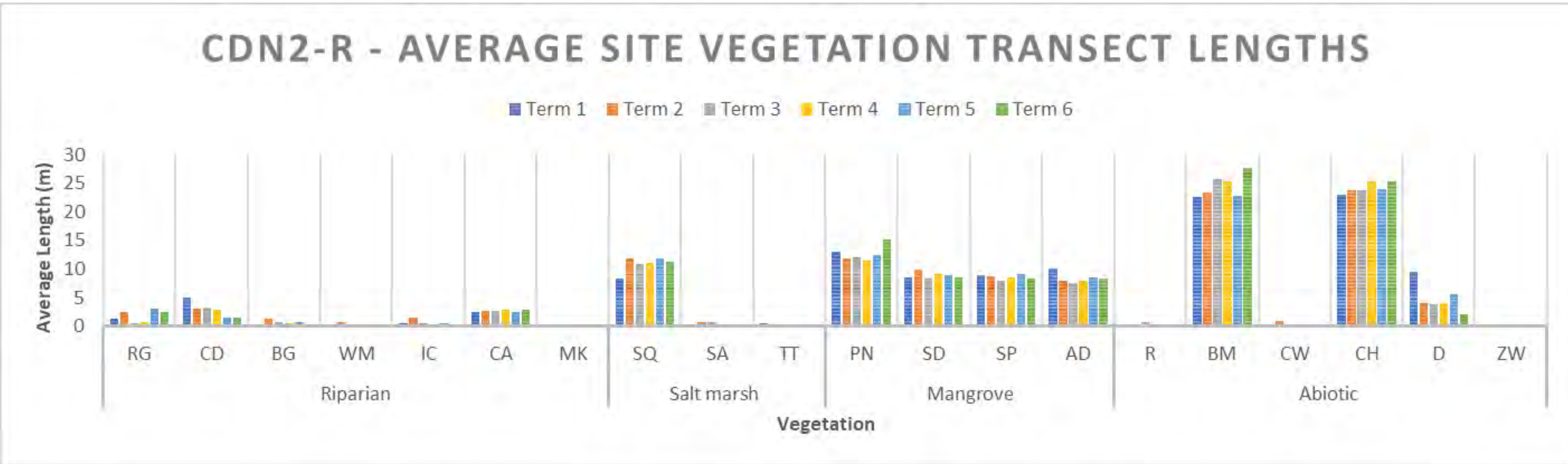


Figure 23 Mean vegetation zone length at CDN2-R

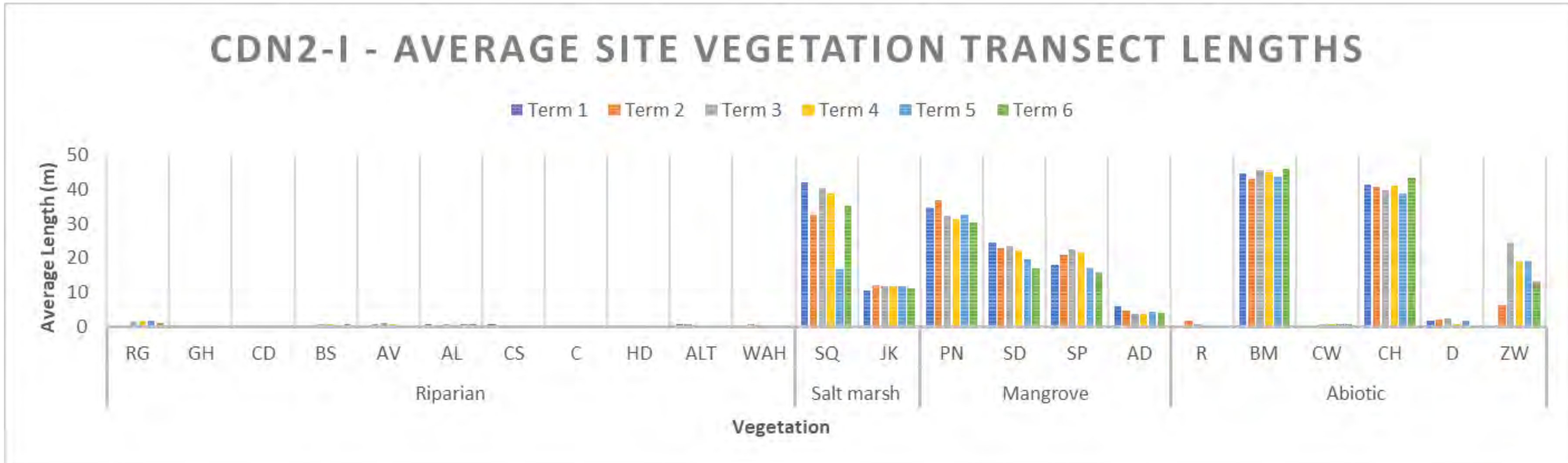


Figure 24 Mean vegetation zone length at CDN2-I

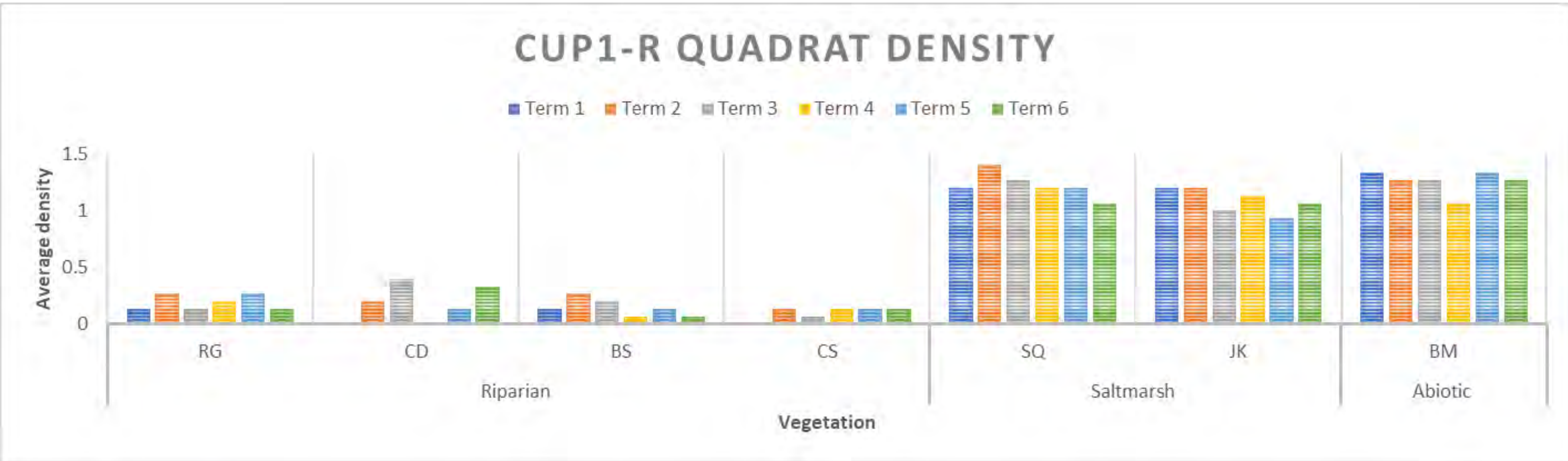


Figure 25 Mean vegetation zone density at CUP1-R

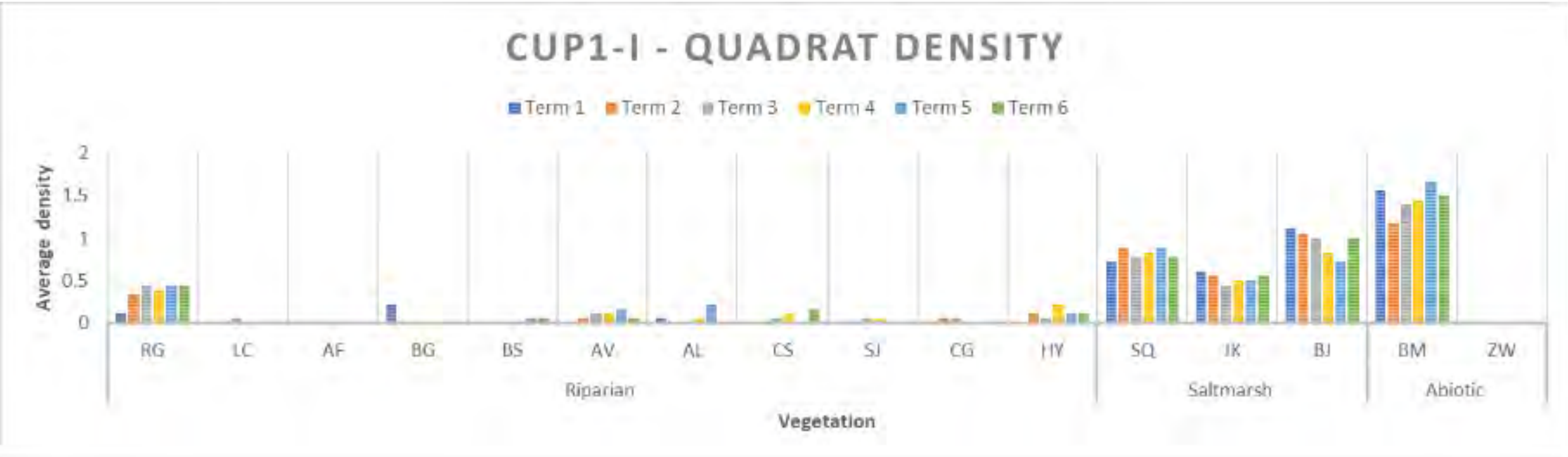


Figure 26 Mean vegetation zone density at CUP1-I

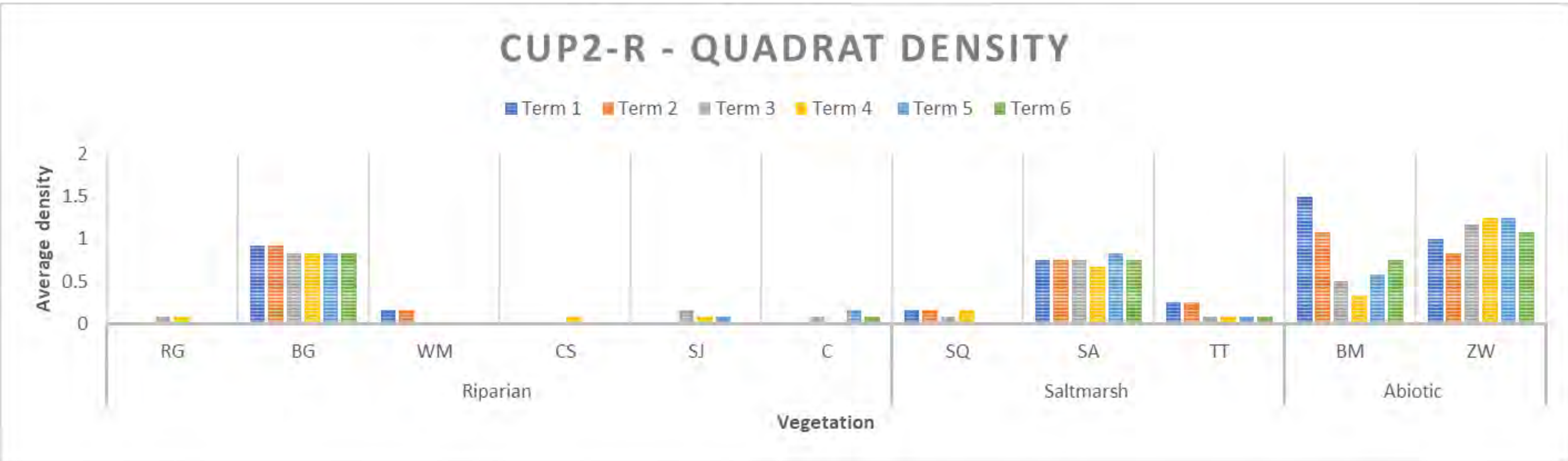


Figure 27 Mean vegetation zone density at CUP2-R

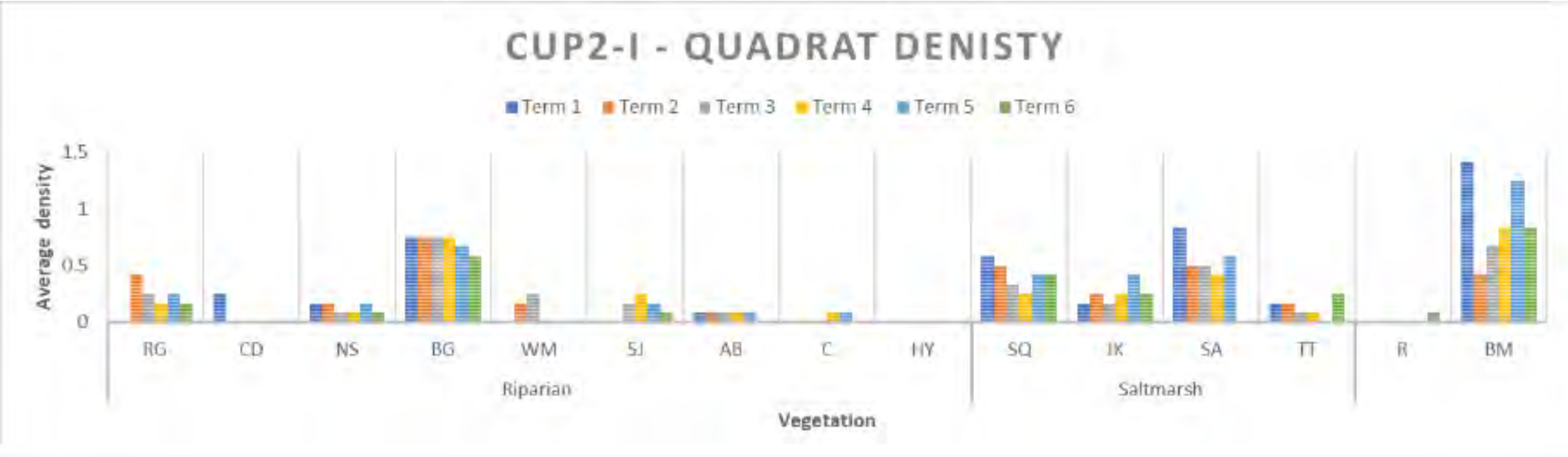


Figure 28 Mean vegetation zone density at CUP2-I

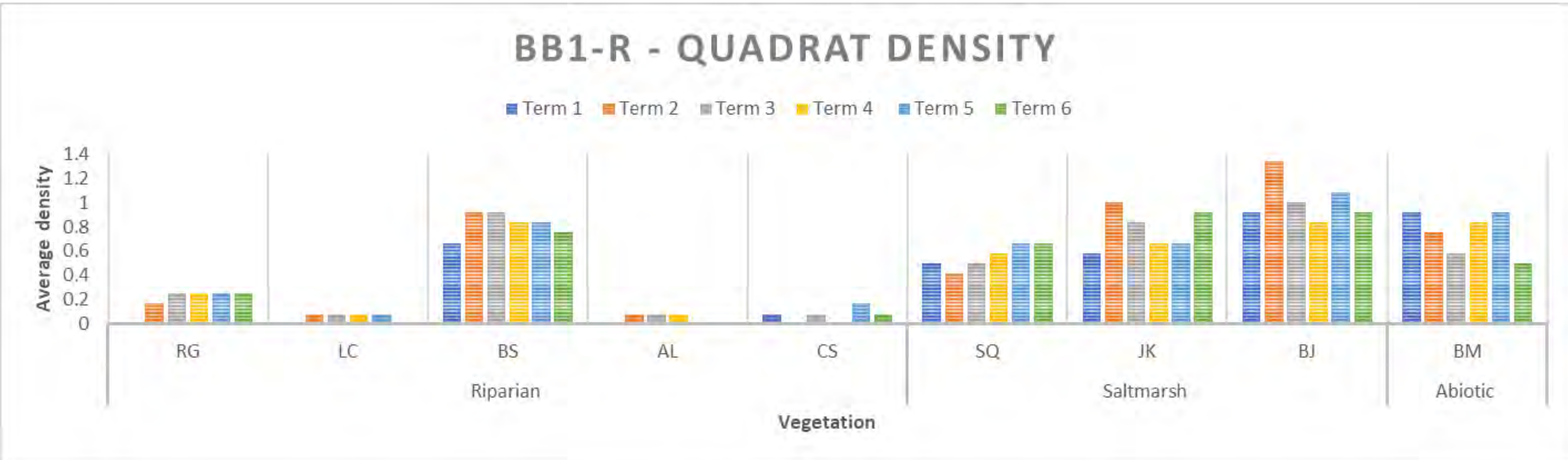


Figure 29 Mean vegetation zone density at BB1-R

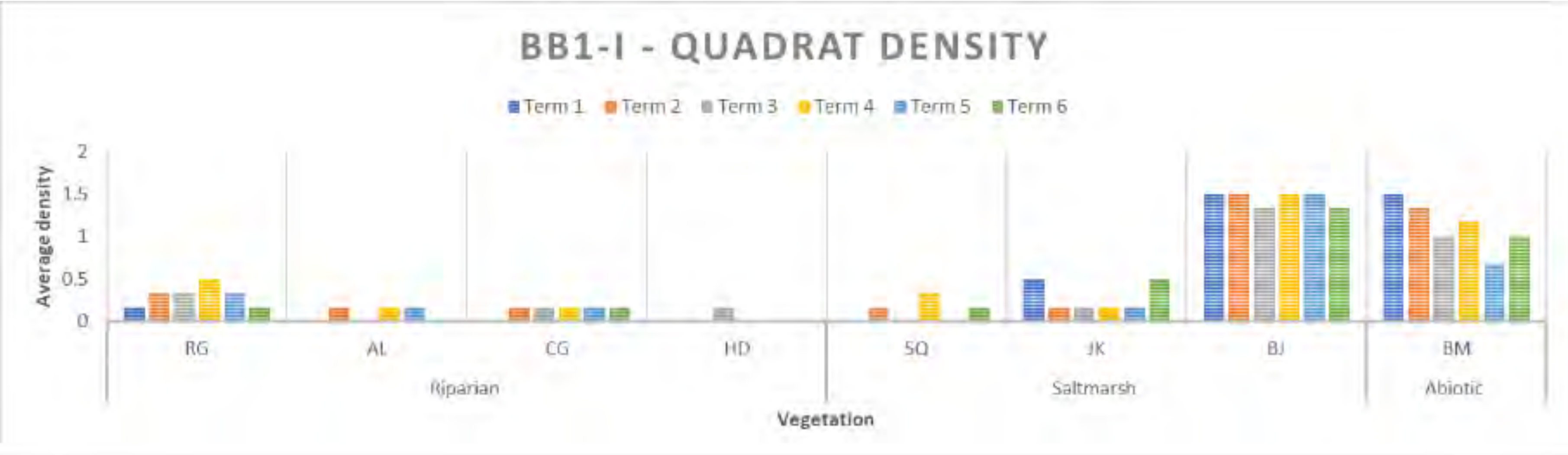


Figure 30 Mean vegetation zone density at BB1-I

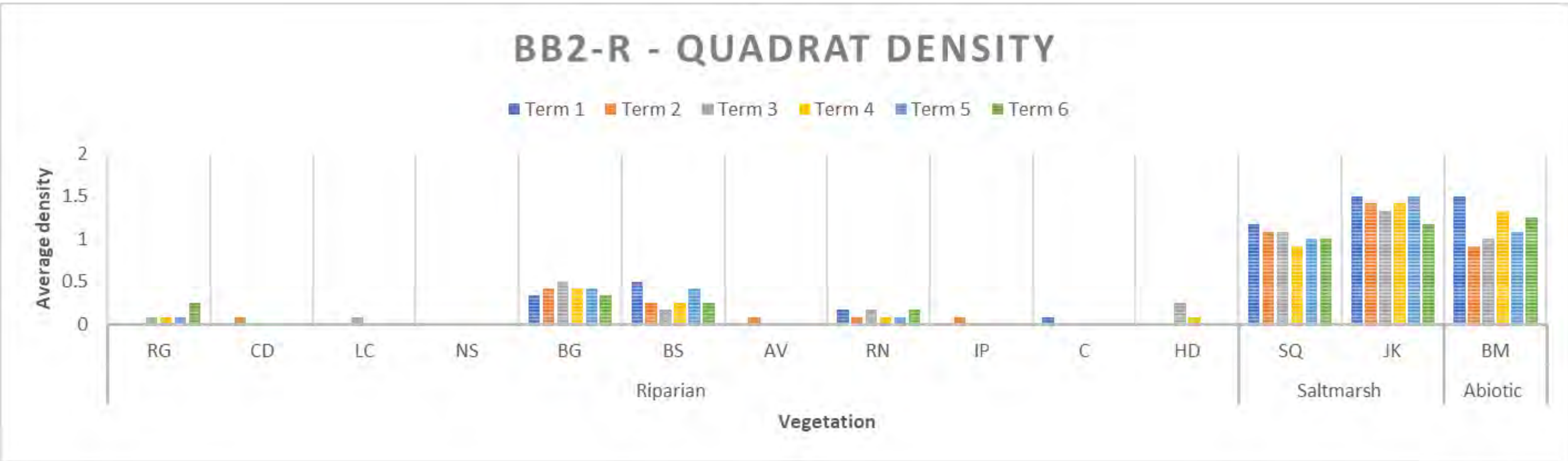


Figure 31 Mean vegetation zone density at BB2-R

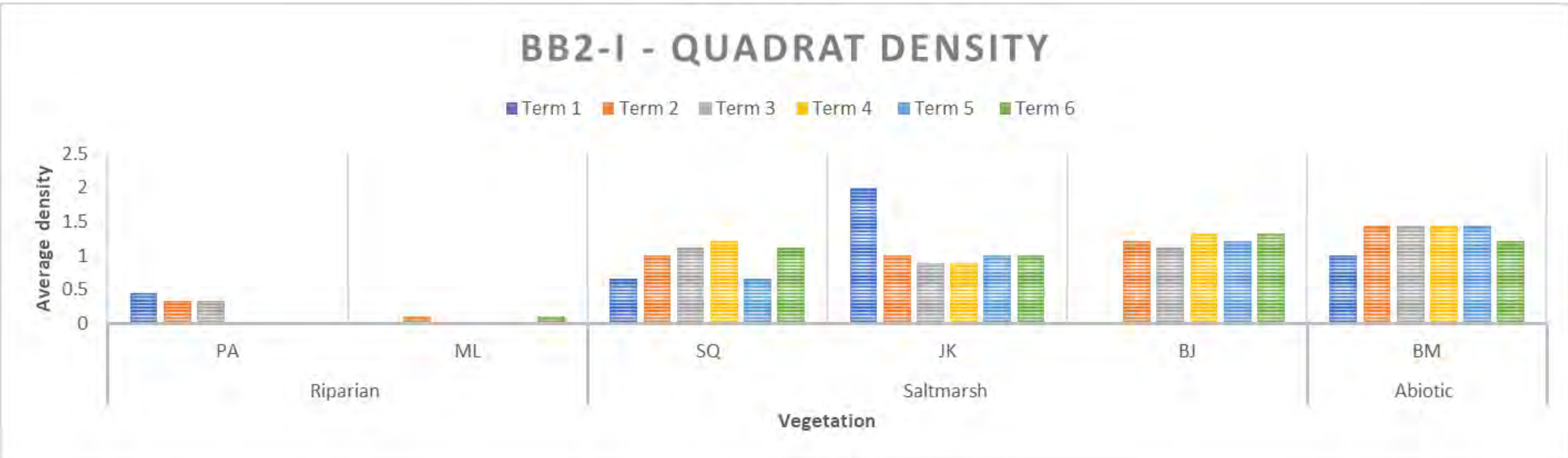


Figure 32 Mean vegetation zone density at BB2-I

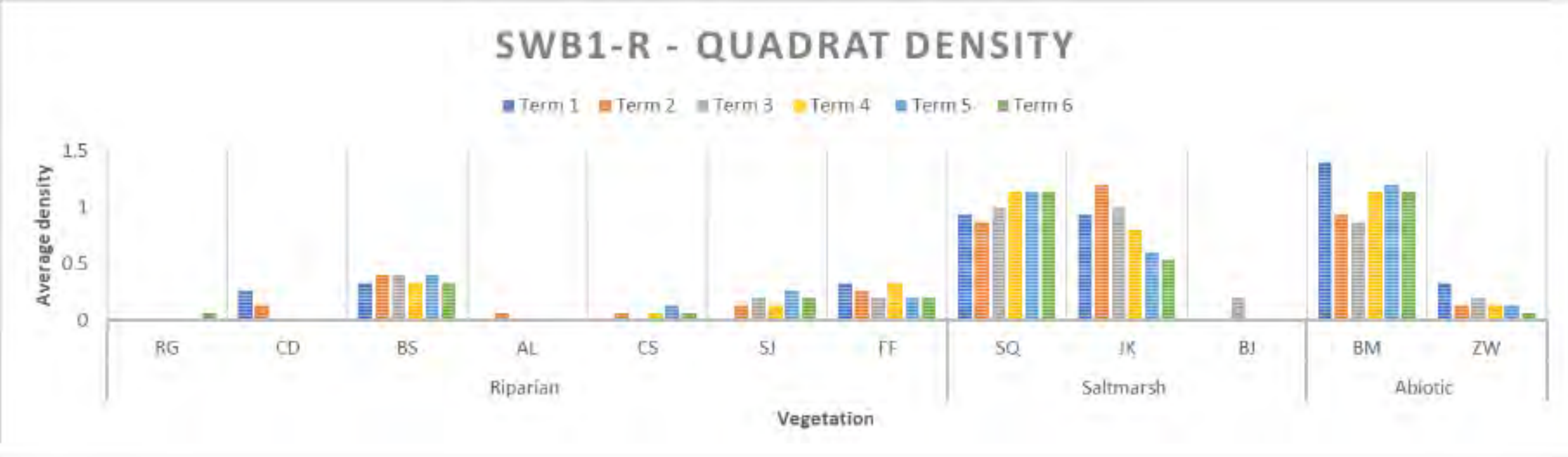


Figure 33 Mean vegetation zone density at SWB1-R

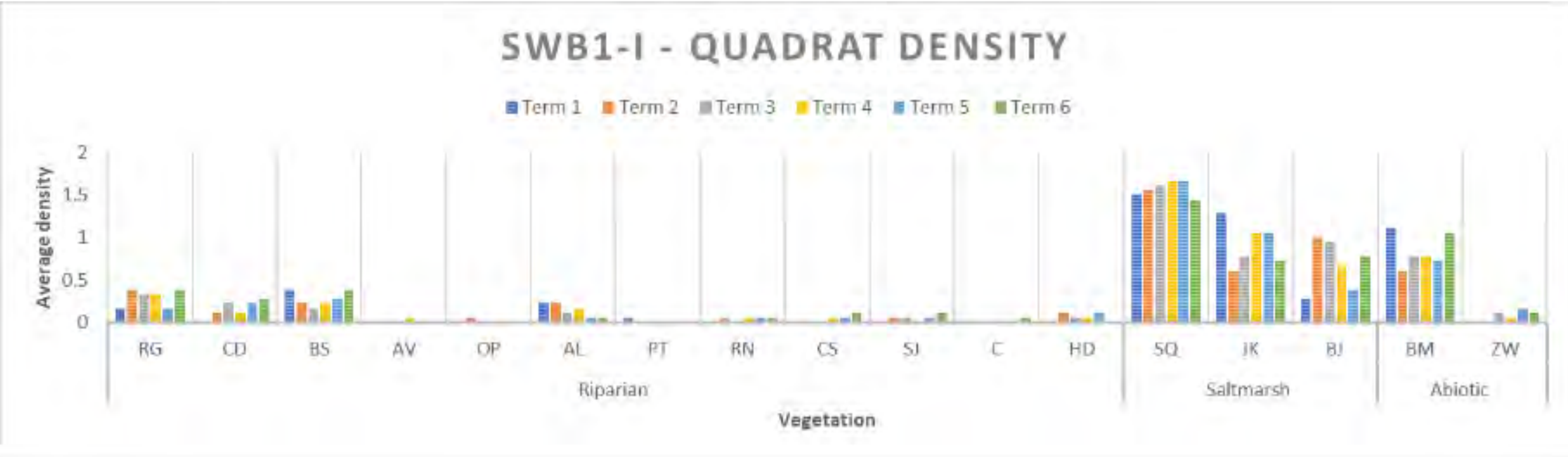


Figure 34 Mean vegetation zone density at SWB1-I

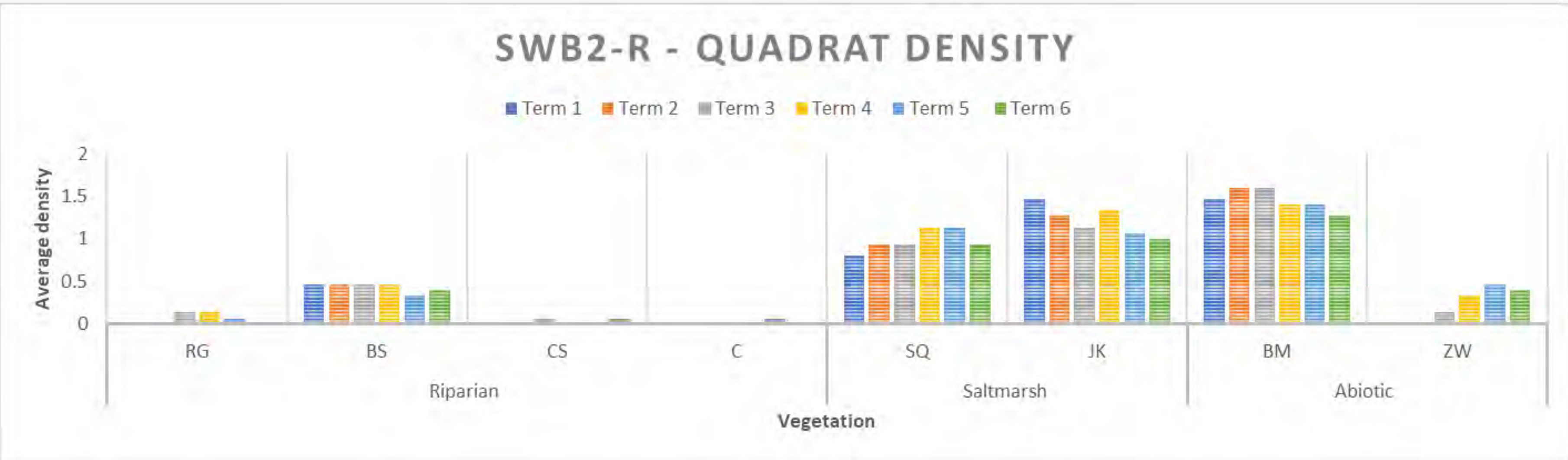


Figure 35 Mean vegetation zone density at SWB2-R

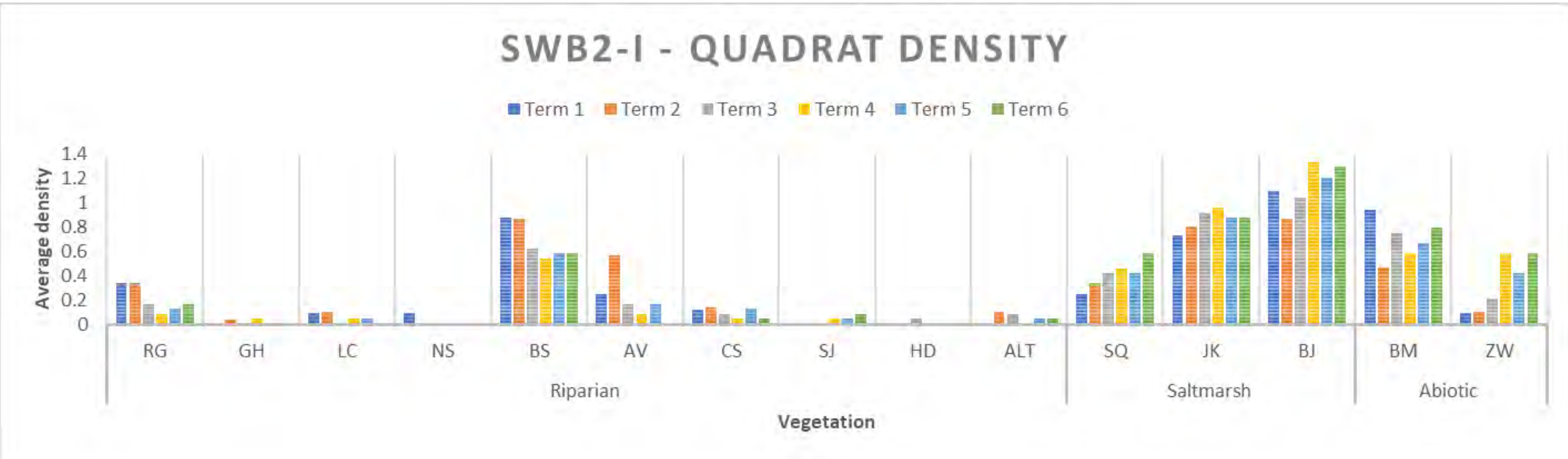


Figure 36 Mean vegetation zone density at SWB2-I

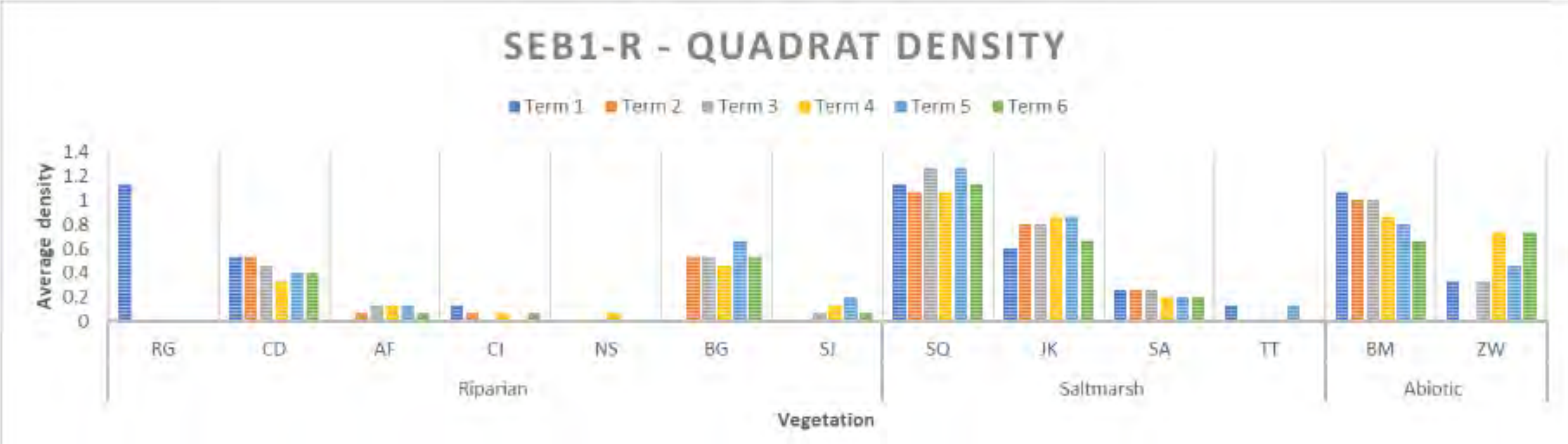


Figure 37 Mean vegetation zone density at SEB1-R

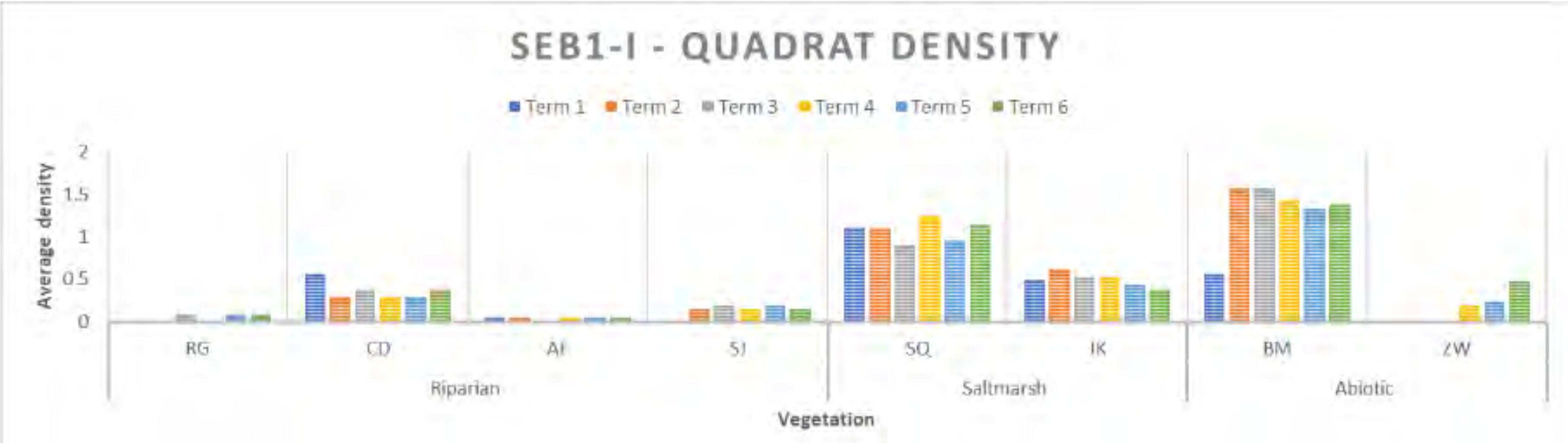


Figure 38 Mean vegetation zone density at SEB1-I

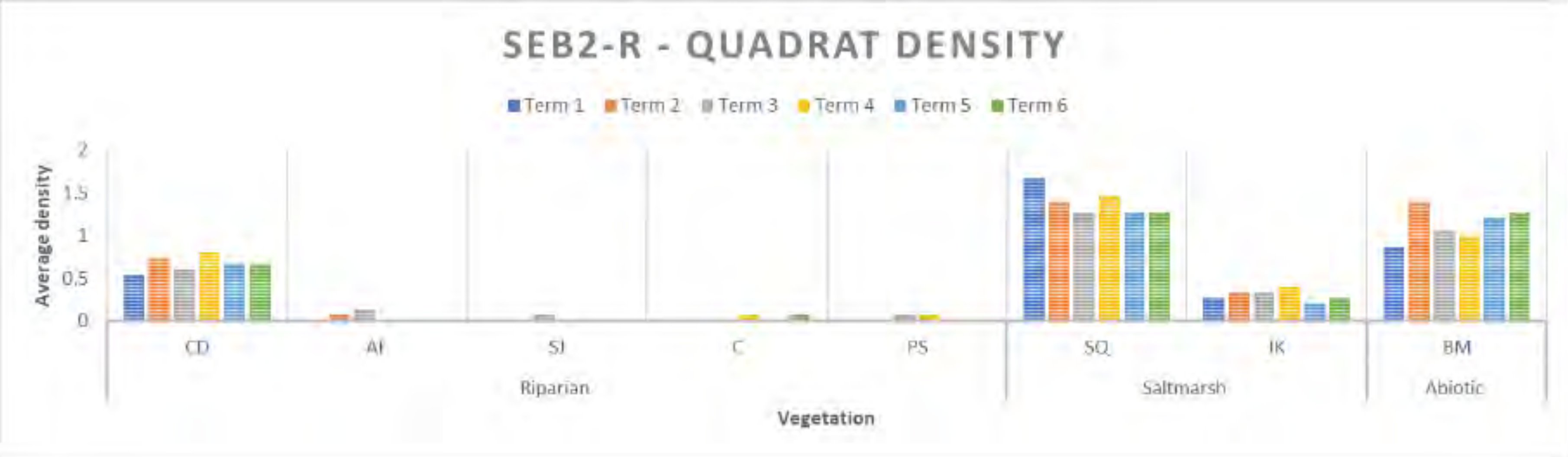


Figure 39 Mean vegetation zone density at SEB2-R

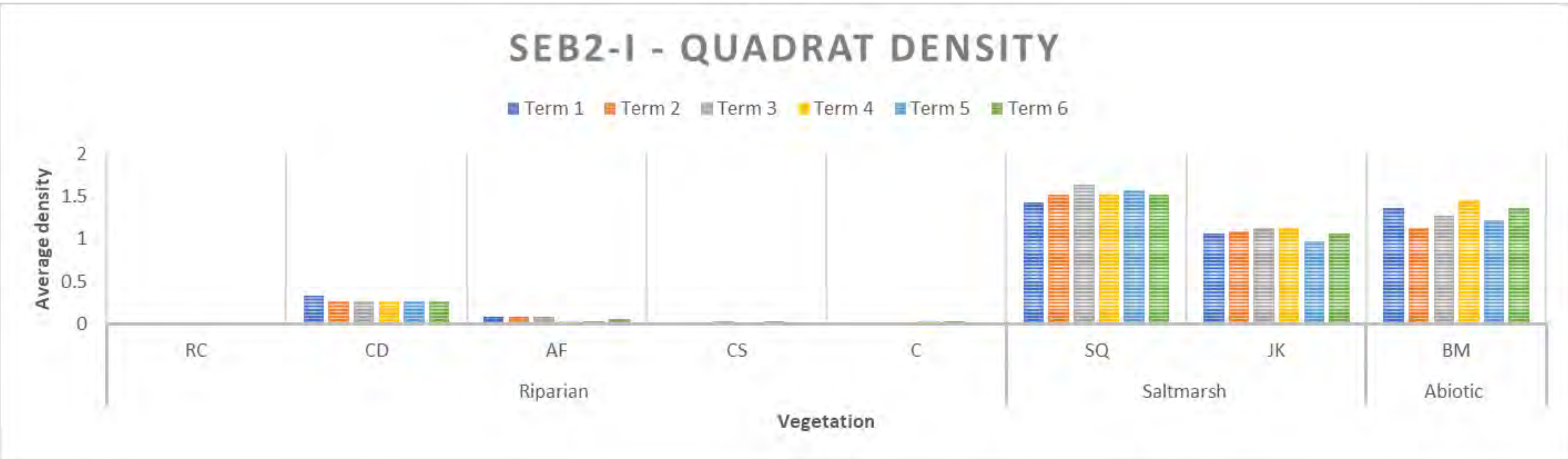


Figure 40 Mean vegetation zone density at SEB2-I

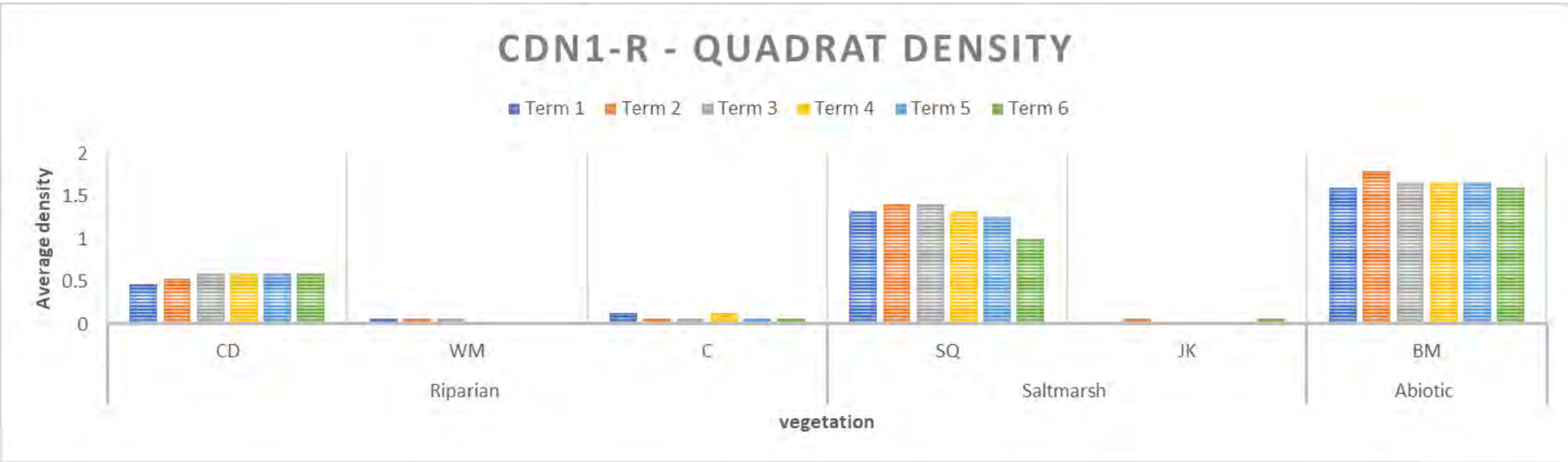


Figure 41 Mean vegetation zone density at CDN1-R

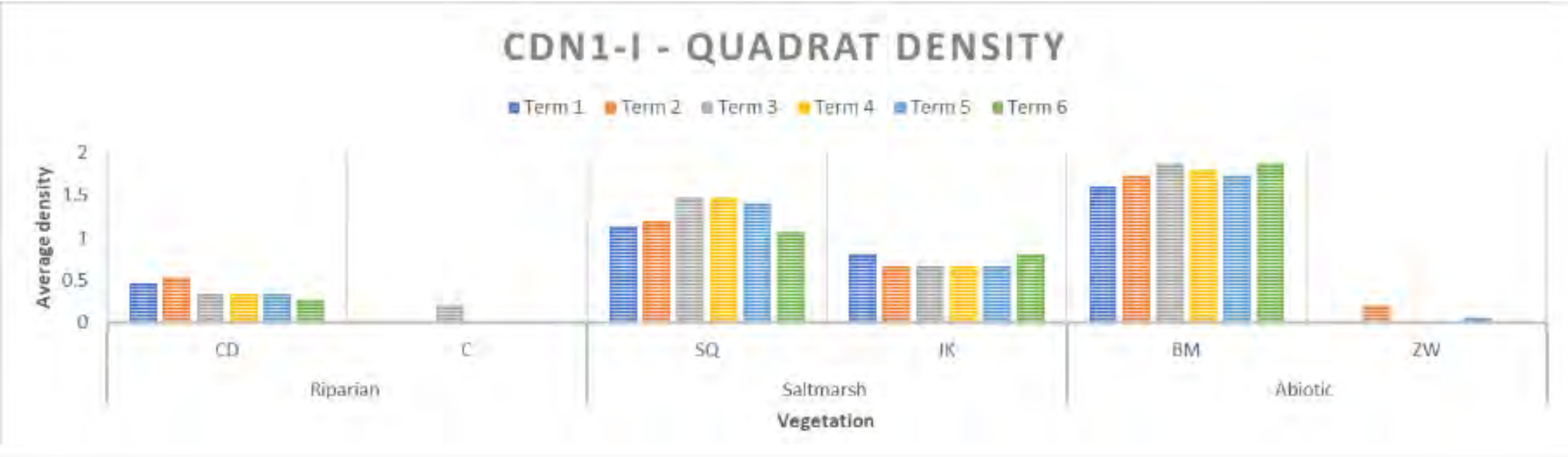


Figure 42 Mean vegetation zone density at CDN1-I

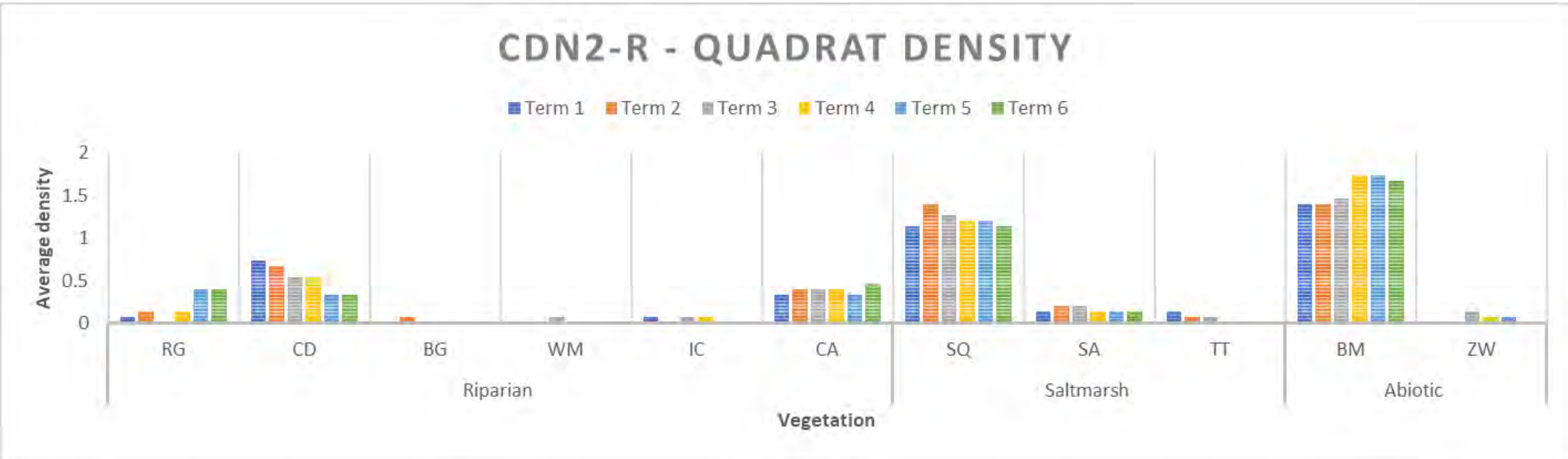


Figure 43 Mean vegetation zone density at CDN2-R

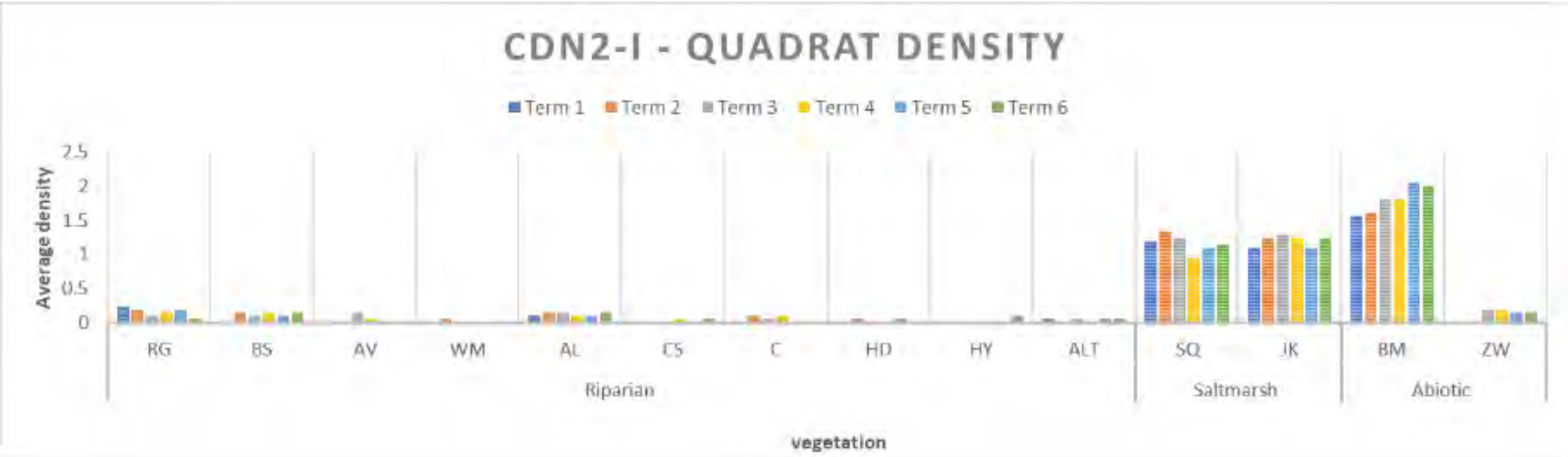


Figure 44 Mean vegetation zone density at CDN2-I

For this preliminary analysis it is noted that for the most part there is minor variation for most saltmarsh plant species and abiotic factors analysed that at least indicates sampling consistency over time. More detailed pattern analysis will be required to determine how or whether the variation in intertidal plant cover relates to seasonal and/or wrack smothering factors.

Further, once the riparian species taxonomy has been confirmed, the riparian plant data will be able to be analysed for weed species presence and cover over time.

2.3 Estuarine Seagrass Monitoring

Section 2.1 of the Aquatic Ecology Methodology Report provides an overall description of the seagrass habitat monitoring program and **Figure 45** below shows the final adopted seagrass monitoring site locations plus the final agreed oyster monitoring sites.

2.3.1 Monitoring Methodology Assessment

Practical implementation of the Approved Seagrass monitoring program included the following set up and analysis details:

- Seagrass blades are replicated by using polypropylene ribbon, which is 5mm wide, <1mm thick and is cut to 30cm lengths. Four of these 30cm "seagrass blades" are then bundled together and cable tied to a piece of dowel, mimicking a single *Zostera* shoot.
- To calculate the epiphytic sediment and algae weights all 16 artificial seagrass leaves from each replicate are scraped clean using a razor blade with the total wet epibiota and sediment washed into a pre-weighed dry foil dish.
- The wet weight of each foil dish was recorded, and foil dishes were then placed in a laboratory oven at 70˚C for 24 hours.
- Once oven dried the dishes are weighed again.
- The oven dried samples in the foil dishes are then placed into a scientific muffle furnace at 500˚C for 2 hours, burning off all organic matter. The final ash weight of samples is then measured.
- The algae to inorganic epiphyte biomass proportions are calculated as follows:
    - Total organic weight (algae) = Dry weight – Ash weight.
    - Total Sediment weight = Ash weight.
    - Theses sediment and organic weights were then expressed as gm/cm^2 seagrass surface.

The original problem of lost or stolen ASU replicates noted in the previous report has been lessened by better "Research" signage and less obvious replicate float systems.

2.3.2 Subtidal Seagrass ASU Monitoring Results

Table 4 provides the dates for Seagrass ASU bimonthly deployment and retrieval for the first two six-month sampling periods and the pilot study plus the formal three bi-monthly subtidal seagrass monitoring period data are provided in **Appendix D.**

Seagrass Blade Mean Algae and Sediment results are shown graphically in **Figures 46 & 47**. Note that "terms" in these figures indicate the bimonthly monitoring periods as indicated in **Table 4**). Note also missing data for site SWB1 where the ASUs were twice removed or stolen.

Table 4 Seagrass ASU Sampling Timetable

Bimonthly 1		**Bimonthly 2**		**Bimonthly 3**	
Dec-Jan		Feb-Mar		Apr-May	
In	Out	In	Out	In	Out
7/12/2022	17/1/2023	6/3/2023	4/4/2023	4/4/2023	23/5/2023
Bimonthly 4		**Bimonthly 5**		**Bimonthly 6**	
Jun-Jul		Aug-Sep		Oct-Nov	
In	Out	In	Out	In	Out
23/5/2023	4/7/2023	3/7/2023	15/8/2023	23/10/2023	
Bimonthly 7		**Bimonthly 8**		**Bimonthly 9**	
Dec-Jan		Feb-Mar		Apr-May	
In	Out	In	Out	In	Out

Figure 45 Combined Seagrass Sampling Sites (red) and Oyster Monitoring Sites (blue) as adjusted following consultations with Crookhaven Oyster Farmers.

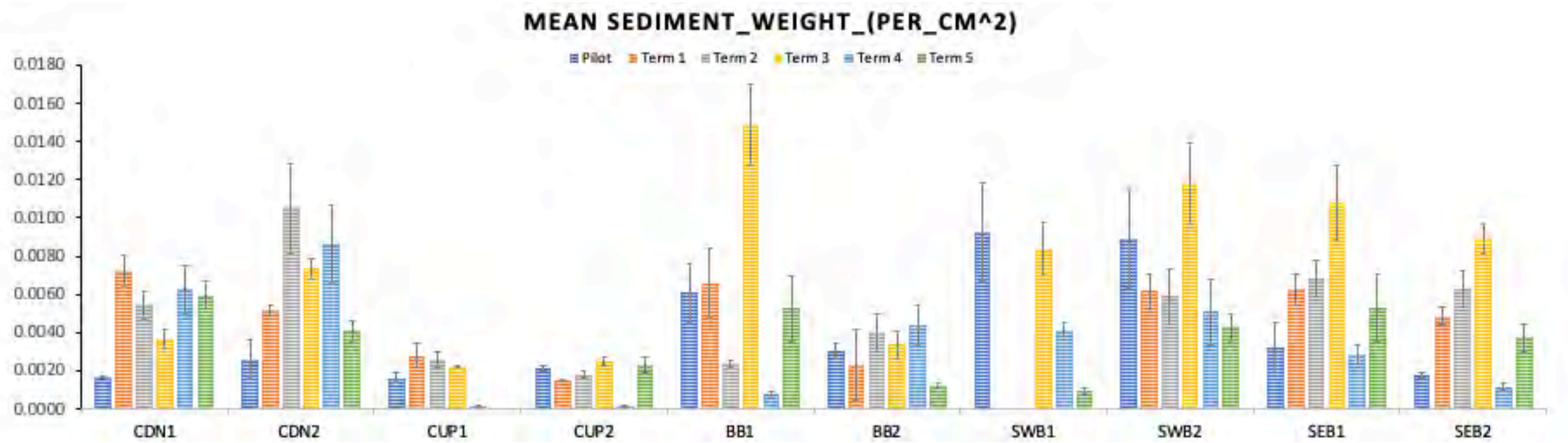


Figure 46 Seagrass Blade Mean Sediment weight

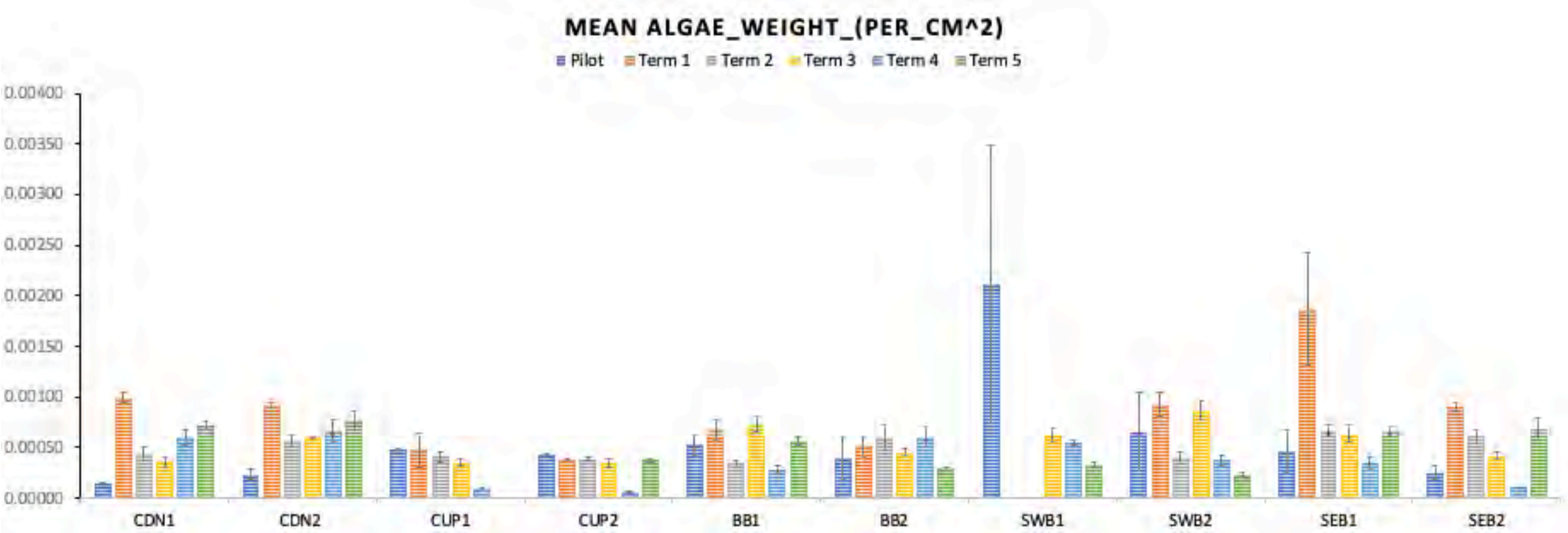


Figure 47 Seagrass Blade Mean algae weight

2.4 Crookhaven Estuary Aquaculture Oyster Monitoring

Following commencement of the Aquatic Ecology Monitoring program and as per Condition C18 (e), the oyster monitoring component of the project was presented to Crookhaven/Shoalhaven oyster industry representatives who made a number of recommendations, as detailed in the August 2023 Monitoring Addendum report. These recommendations were accepted and final site selection and site establishment was then undertaken in direct partnership with the oyster farmers, who placed suitable infrastructure to hold sample containers to mimic normal farming practice, provided oyster farming containers for the trials (**Figure 48**) and have supplied the necessary oysters for each bi-monthly six to seven week deployment trial.

Figure 48 Monitoring Sites for Sydney Rock Oyster and Pacific Oysters Cages were established at purpose-built monitoring sites (left) or at the end of existing commercial sites (right). The sites were established by the Oyster Farmers.

Figure 49 below shows the original lease siting for the pilot study shore and lease wild oyster sampling and **Figure 50** below shows the final adopted methodology lease sampling site locations as per Oyster Farmer recommendations,

2.4.1 Crookhaven Estuary Aquaculture Oyster Monitoring Results

Table 5 shows the oyster deployment and recovery dates for the first twelve months sampling program and the Oyster Monitoring Data and Laboratory Analysis results are provided in **Appendix E** with Oyster Condition Index Data provided in Tables **E1 to E3** and Laboratory Certificates of Analysis (COAs) provided as **Appendix E4**.

Table 5 Oyster Deployment Timetable					
Bimonthly 1		**Bimonthly 2**		**Bimonthly 3**	
Dec-Jan		Feb-Mar		Apr-May	
In	Out	In	Out	In	Out
20/10/2022	24/1/2023	22/2/2023	7/3/2023	22/3/2023	9/5/2023
Bimonthly 4		**Bimonthly 5**		**Bimonthly 6**	
Jun-Jul		Aug-Sep		Oct-Nov	
In	Out	In	Out	In	Out
4/7/2023	7/8/2023	9/8/2023	18/9/2023	10/10/2023	
Bimonthly 7		**Bimonthly 8**		**Bimonthly 9**	
Dec-Jan		Feb-Mar		Apr-May	
In	Out	In	Out	In	Out
Note: Yellow highlights indicate which bimonthly monitoring periods included at least 20mm of rainfall within a 24hr period.					

As per the Approved Wet Weather Methodology, the Second Bimonthly Deployed Oyster batch was left *in situ* for an extra week (making total deployment 8 weeks instead of 7 weeks) to account for a wet weather event just before scheduled sampling.

Inspection of the Laboratory COAs for the Term 3 to 5 results show that aside for Naphthalene which had above detection results for some Pacific Oysters samples on 21 August 2023, all other PAH and all Organochloride results have remained below laboratory detection limits for the entire second sampling six-month period.

For metals, the majority of Mercury Lead and Chromium and about half the Selenium results for the combined first 12 months of sampling have been below detection. For this data report the mean metal concentrations have been graphed for Bimonthly Terms 1 and 5 (see **Figures 51 to 6**4 below) for all data, noting that for this data presentation, all values less than detection have been set at half detection for mean calculations. Note also that as laboratory detection limits have varied, half detection values would vary as well. For each bar graph, the horizontal lines show the mean concentrations for the "before deployment" oysters and the bar graphs indicate mean concentrations "after deployment" on a site-by-site basis. Note that "terms" in these figures refer to the bimonthly deployment periods

Figure 49 Lease and Shoreline Oyster Sampling Locations used for the Pilot Study Wild Oyster Sampling

Figure 50 Final Adjusted Lease Oyster Deployment Locations (blue dots) as recommended by Oyster Farmers. Red dots show corresponding Seagrass ASU sites.

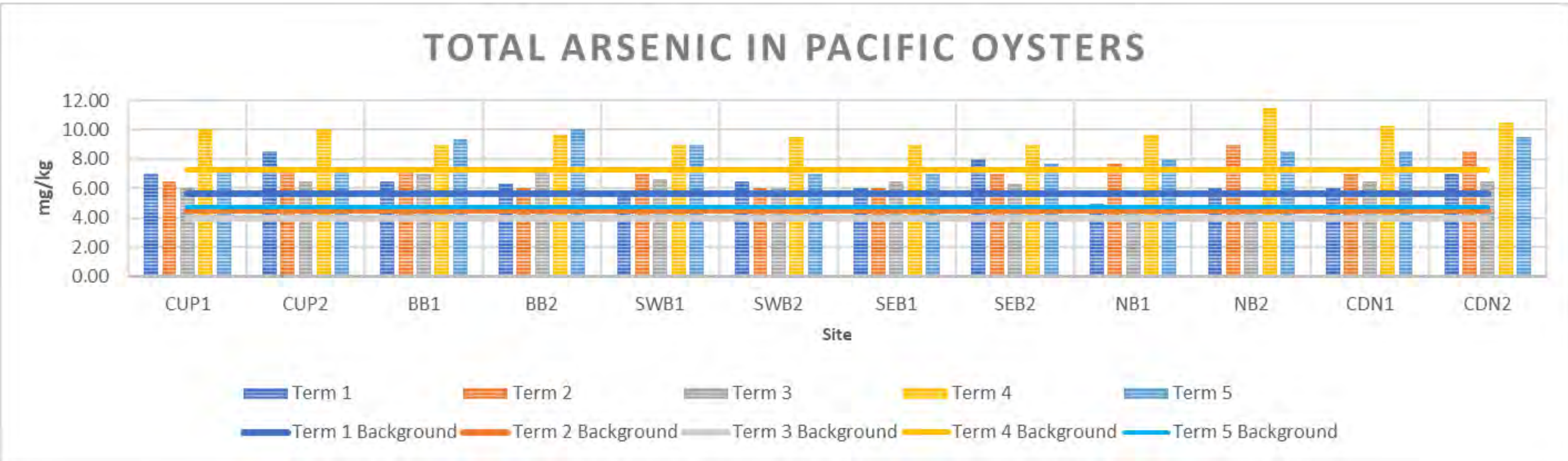


Figure 51 Mean total arsenic concentration in pacific oysters

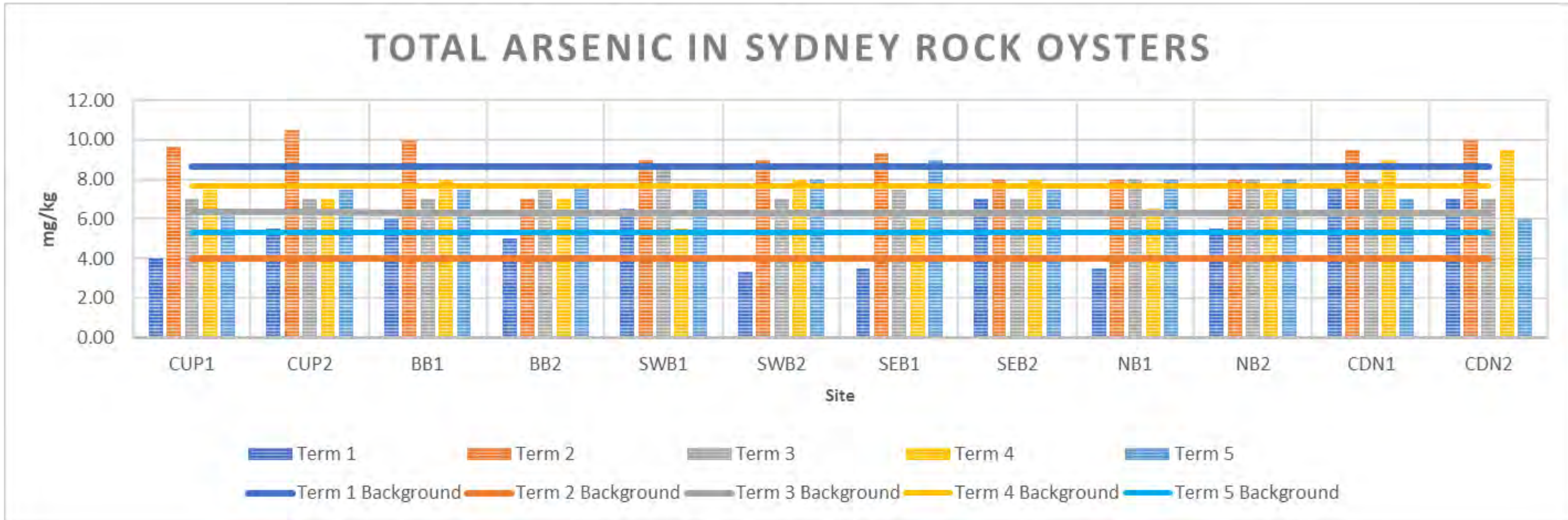


Figure 52 Mean total arsenic concentration in Sydney rock oysters

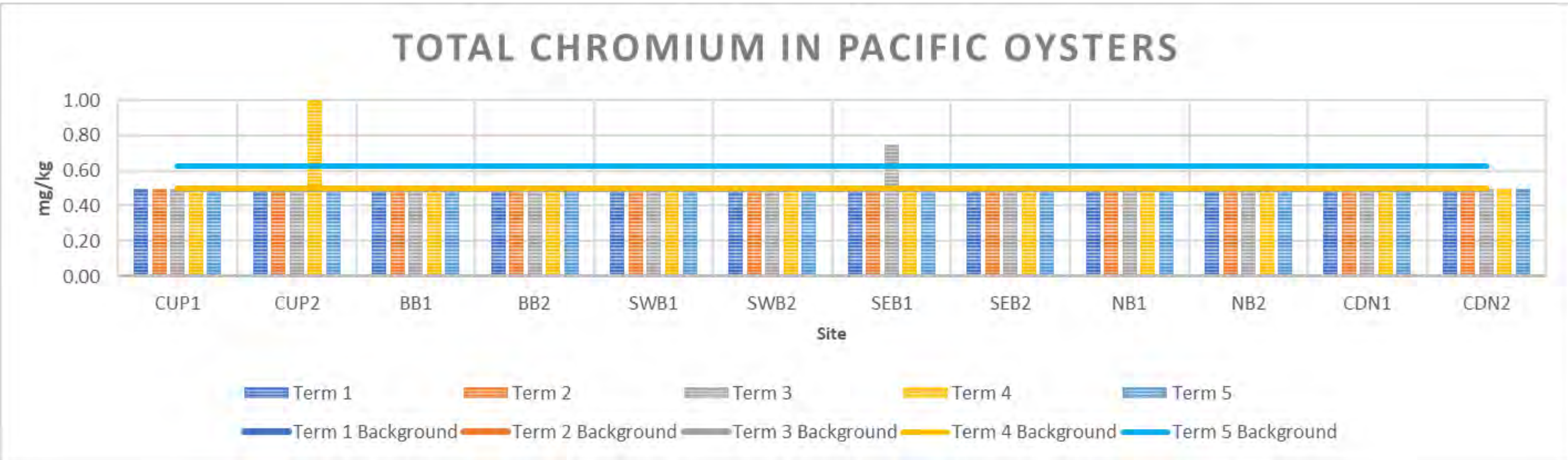


Figure 53 Mean total chromium concentration in pacific oysters

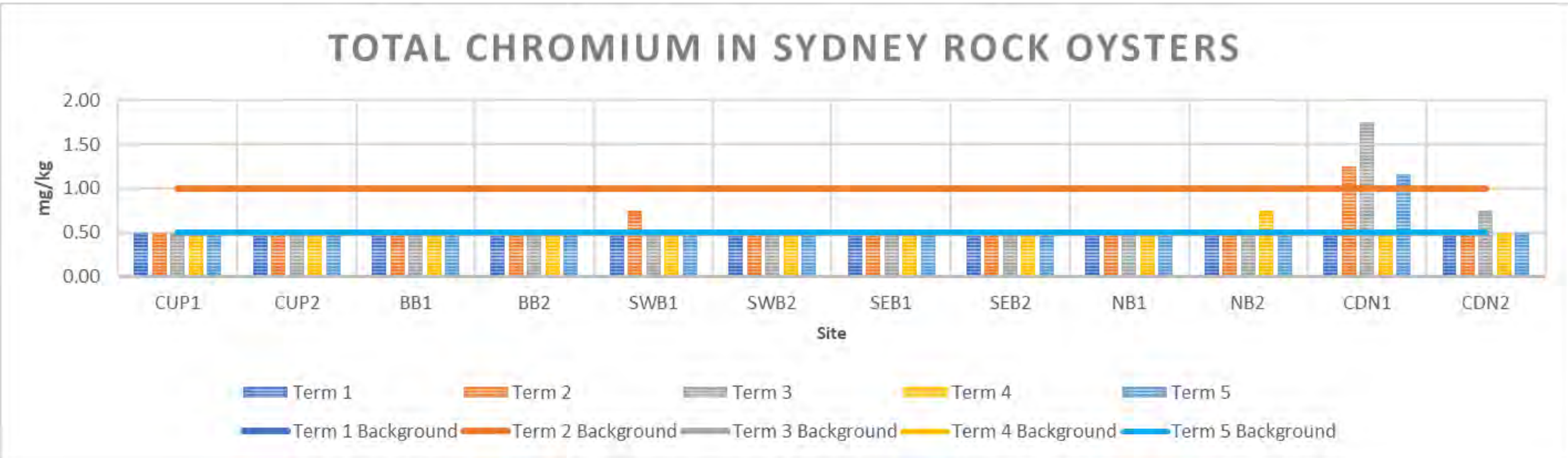


Figure 54 Mean total chromium concentration in Sydney rock oysters

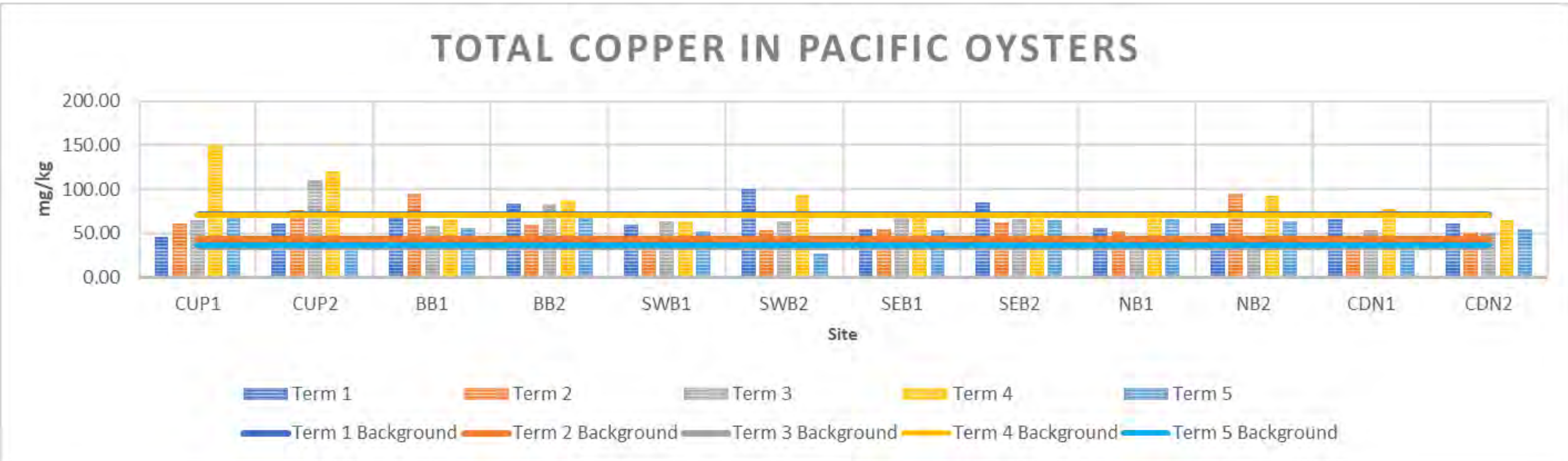


Figure 55 Mean total copper concentration in pacific oysters

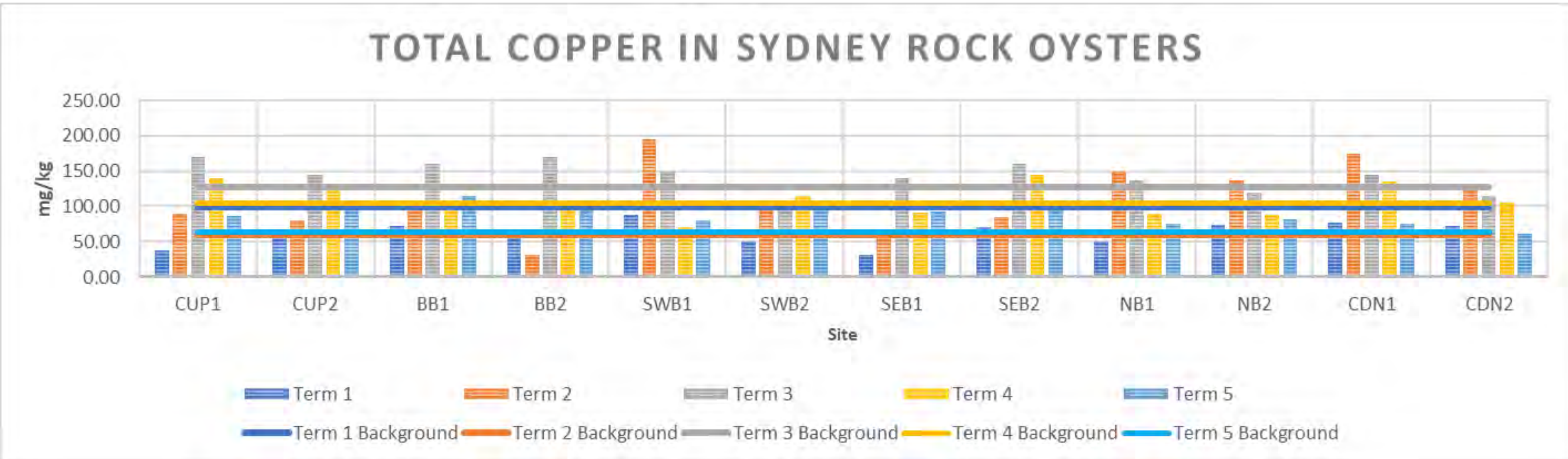


Figure 56 Mean total copper concentration in Sydney rock oysters

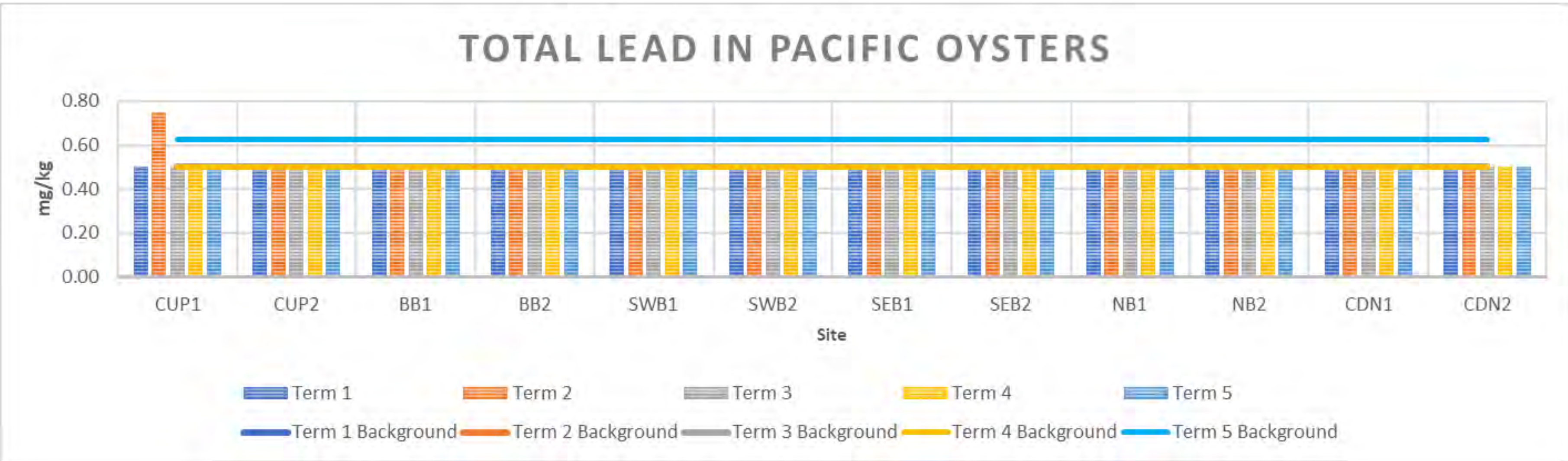


Figure 57 Mean total lead concentration in pacific oysters

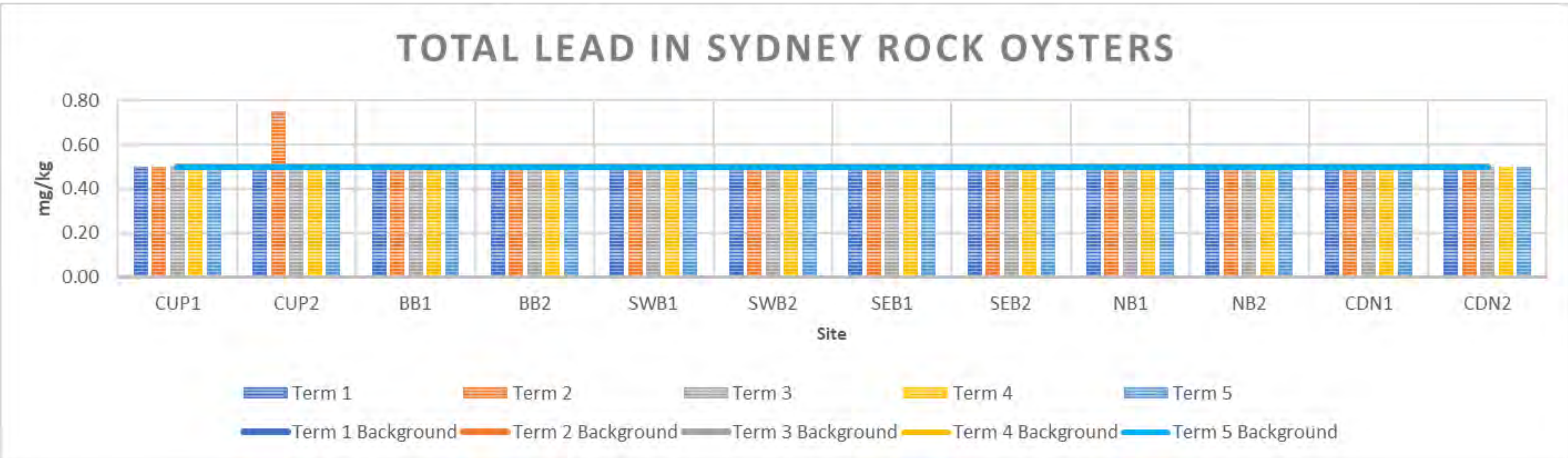


Figure 58 Mean total lead concentration in Sydney rock oysters

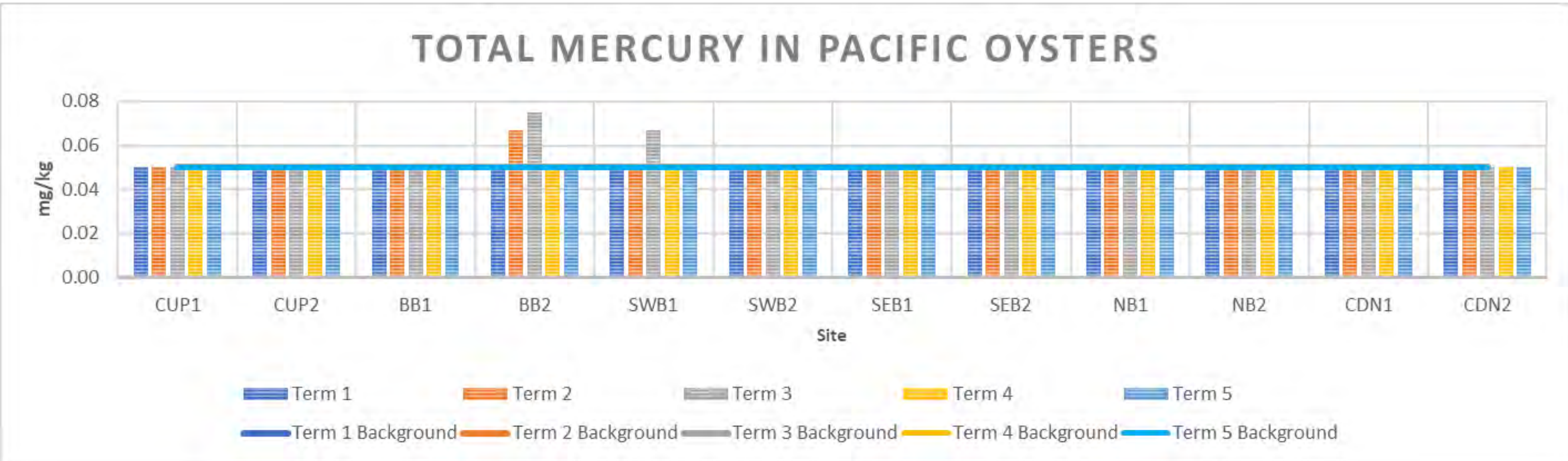


Figure 59 Mean total mercury concentration in pacific oysters

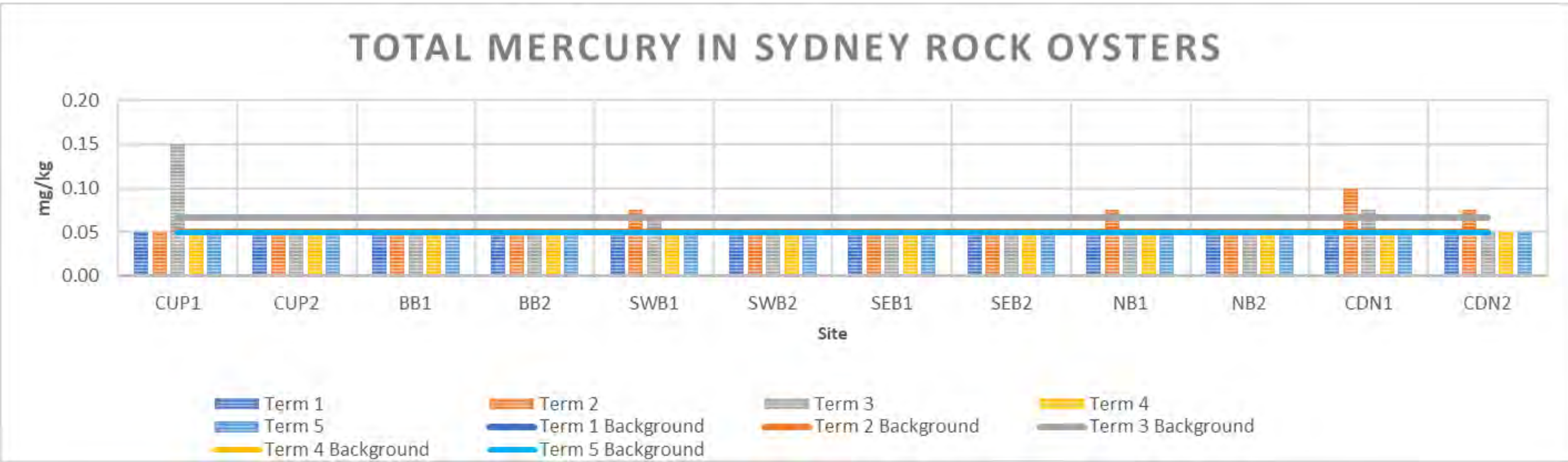


Figure 60 Mean total mercury concentration in Sydney rock oysters.

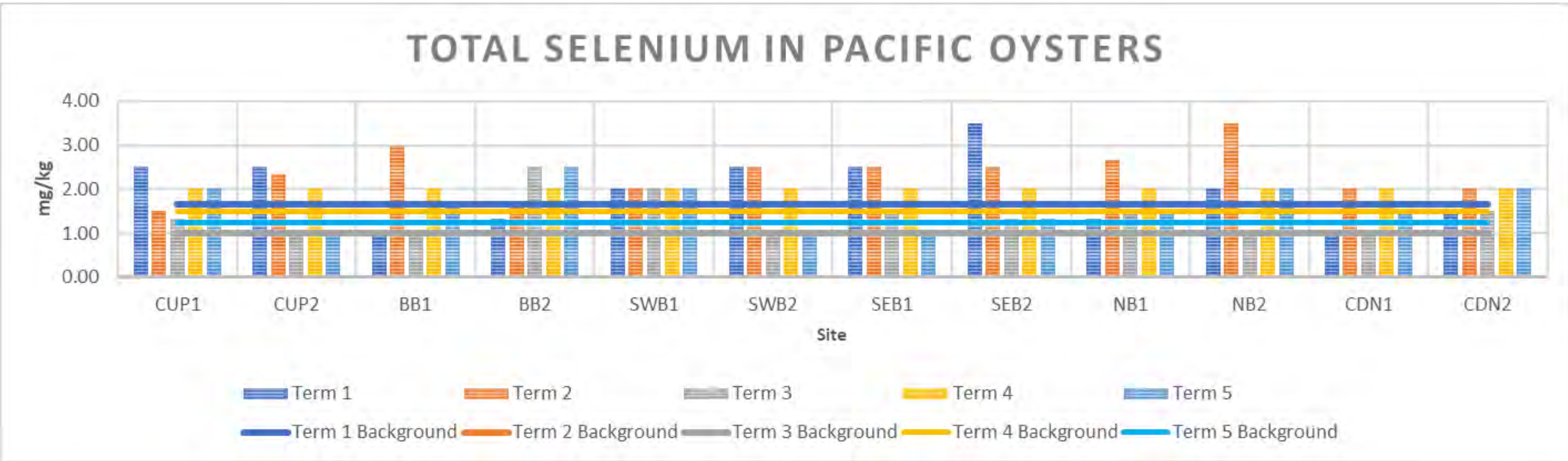


Figure 61 Mean total selenium concentration in pacific oysters

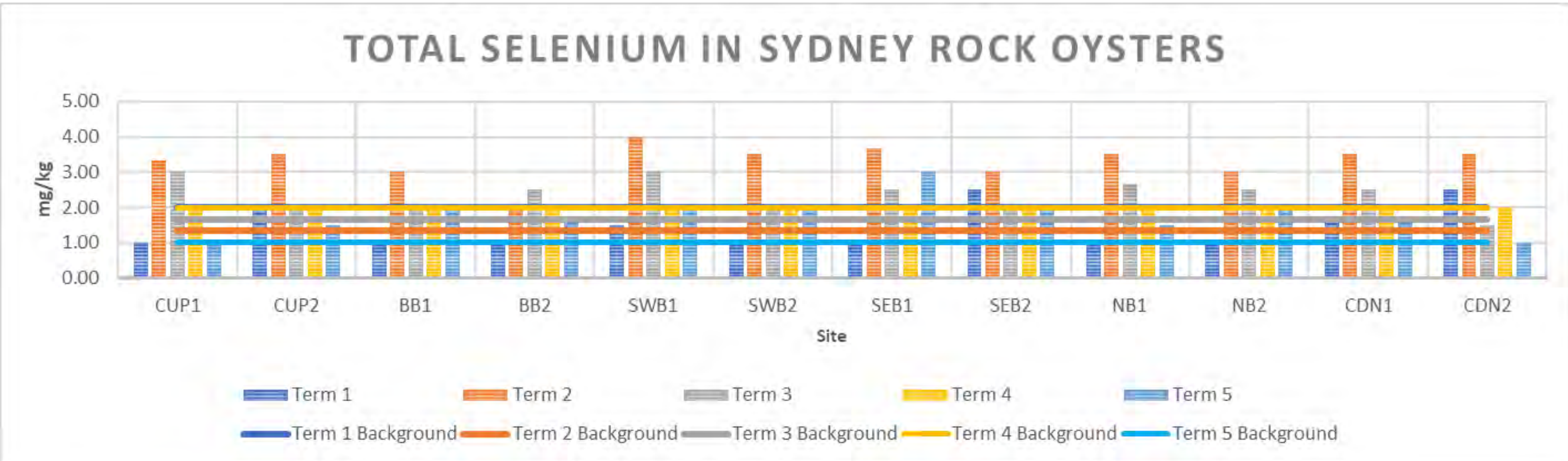


Figure 62 Mean total selenium concentration in Sydney rock oysters.

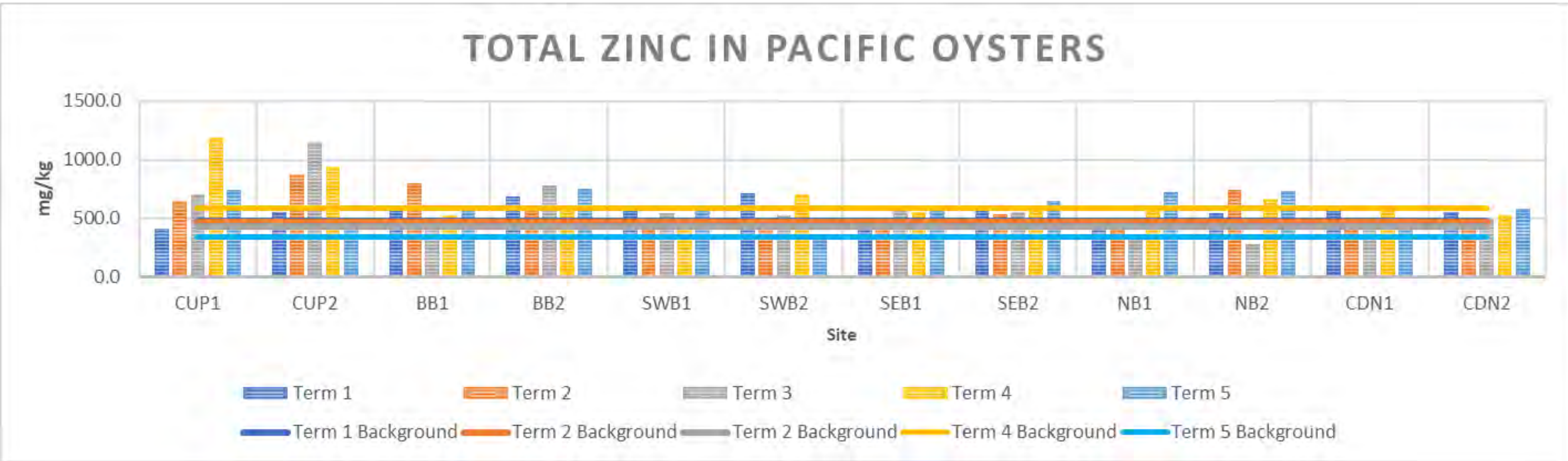


Figure 63 Mean total zinc concentration in pacific oysters

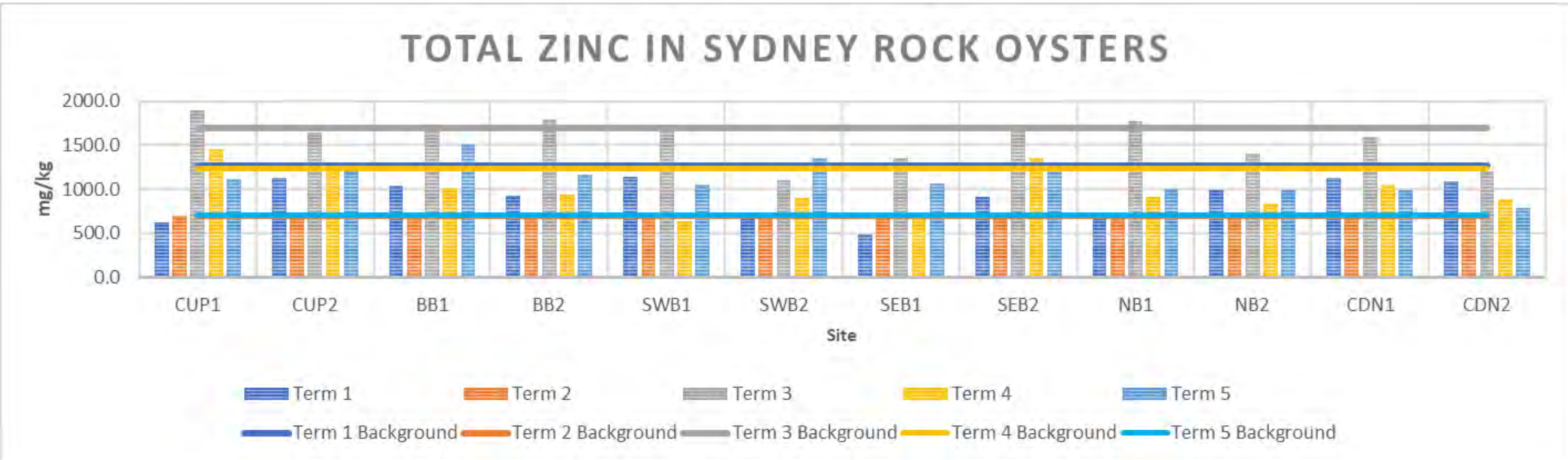


Figure 64 Mean total zinc concentration in Sydney rock oysters

2.5 Lake Wollumboola Freshwater Biota Monitoring

Section 2.3 of the Approved Aquatic Ecology Methodology Report and Section 2.4 of the August 2023 Aquatic Ecology Monitoring Addendum Report provide the rationale and methodology for the adopted Freshwater Biota monitoring program being undertaken at six sites in three creeks, and sampling sites are shown in **Figure 65** below.

Sampling is required to be undertaken seasonally, and **Table 6** below provides the deployment dates for Freshwater Artificial Sampling Units (ASUs). **Table 7** provides dates for Seasonal Electrofishing. Note that for aquatic ecology sampling purposes seasons start mid month. i.e., summer, mid December, autumn mid March, etc.

Table 6 Freshwater ASU Seasonal Timetable

1 Summer		**2 Autumn**		**3 Winter**	
16 Dec-15 Mar		16 Mar-15 Jun		16 Jun-15 Sep	
In	Out	In	Out	In	Out
21/12/2022	17/1/2023	1/3/2023	26/4/2023	9/6/2023	28/8/2023
4 Spring		**5 Summer**		**6 Autumn**	
16 Sep-15Dec		16 Dec-15 Mar		16 Mar-15 Jun	
In	Out	In	Out	In	Out
28/8/2023	27/11/23				

Table 7 Freshwater Electrofishing Seasonal Timetable

1 Summer		**2 Autumn**		**3 Winter**	
16 Dec-15 Mar		16 Mar-15 Jun		16 Jun-15 Sep	
Start	Finish	Start	Finish	Start	Finish
27/3/2023	28/3/2023	4/7/2023	5/7/2023	11/9/23	11/9/23
4 Spring		**5 Summer**		**6 Autumn**	
16 Sep-15Dec		16 Dec-15 Mar		16 Mar-15 Jun	
Start	Finish	Start	Finish	Start	Finish
27/11/23	27/11/23				

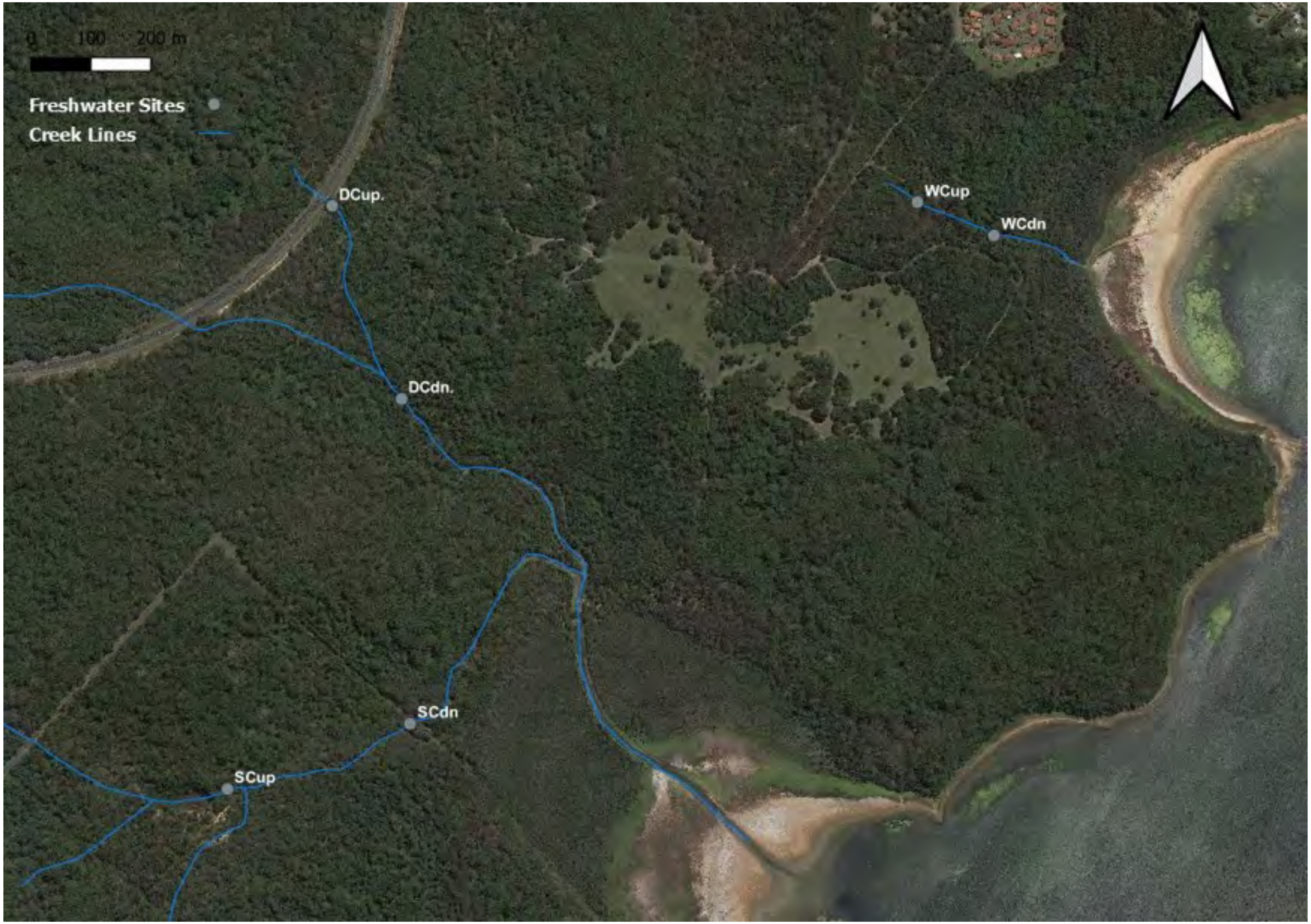


Figure 65 Freshwater Monitoring Site Locations.

2.5.1 Water quality metering

Appendix Tables F1.1 to **F1.3** provide the full metered water quality profiling data for each creek, and **Tables 8** to **10** below summarise the individual site water quality statistics for surface readings including means (± standard deviation SD). Note that profiling was undertaken on eight occasions between December 2022 and December 2023. Appendix table **F1.4** provides the site water level status as to whether the creek was dry or had water.

Table 8 Wattle Creek Site Water Quality Summary Data Results

Site		Temp °C	Cond μS/cm	Sal ppt	DO %sat	DO mg/l	pH Units	Turb ntu
WCUp	Min	12.5	428.0	0.2	41.9	3.8	5.2	0.1
	Max	20.3	503.0	0.3	88.0	9.4	5.9	2.7
	Mean	17.8	462.0	0.2	57.6	5.6	5.6	1.3
	SD	3.6	36.4	0.1	21.6	2.6	0.3	1.3
WCDn	Min	11.5	355.0	0.2	30.7	3.3	5.1	5.3
	Max	26.6	2311.0	1.2	96.2	7.7	6.7	43.2
	Mean	16.4	1176.8	0.6	53.0	5.0	6.0	20.8
	SD	6.4	740.6	0.4	26.8	1.8	0.6	14.8

Table 9 Downs Creek Site Water Quality Summary Data Results

Site		Temp °C	Cond μS/cm	Sal ppt	DO %sat	DO mg/l	pH Units	Turb ntu
DCUp	Min	11.4	337.0	0.1	34.7	3.2	5.8	1.3
	Max	24.5	1331.0	0.7	99.1	10.8	7.7	17.7
	Mean	18.4	774.3	0.4	64.3	6.2	6.9	8.0
	SD	5.2	343.2	0.2	21.1	2.4	0.5	5.9
DCDn	Min	9.8	271.0	0.1	12.7	1.2	4.9	8.6
	Max	20.3	791.0	0.4	69.0	7.5	6.7	69.2
	Mean	15.4	448.4	0.2	44.0	4.5	5.8	22.9
	SD	4.4	176.8	0.1	19.2	2.1	0.6	19.9

Table 10 South Creek Site Water Quality Summary Data Results

		Temp °C	Cond μS/cm	Sal ppt	DO %sat	DO mg/l	pH Units	Turb ntu
SCUp	Min	10.4	107.0	0.1	16.9	1.6	5.4	10.4
	Max	24.1	327.0	0.3	112.8	12.5	6.0	75.8
	Mean	15.6	244.7	0.2	43.8	4.6	5.7	31.5
	SD	5.7	78.4	0.1	35.4	4.1	0.2	25.7
SCDn	Min	11.1	479.0	0.2	47.0	4.4	5.0	1.3
	Max	21.7	3408.0	1.8	76.4	8.4	5.8	53.5
	Mean	17.4	1472.2	0.8	63.1	6.1	5.3	12.7
	SD	4.8	1007.0	0.5	9.9	1.4	0.3	20.7

2.5.2 Artificial Sampling Unit (ASU) macroinvertebrate monitoring results

The Season 1 Summer and Season 2 Autumn ASU macroinvertebrate results were only partially confirmed for the first six monthly report and finalised results are provided in full for this report as **Appendix Tables F2.1** and **F2.2** respectively. Whilst Season 3 Winter and Season 4 Spring ASUs have been collected and preserved, specimens have not yet been keyed out by our specialist taxonomist due to time constraints. These samples will be processed with results included in the next 6 monthly data report.

Figure 66 below shows the mean (± standard error SE) replicate total abundance of macroinvertebrate specimens for each site and the mean replicate macroinvertebrate taxa diversity (richness) is shown in in **Figure 67**.

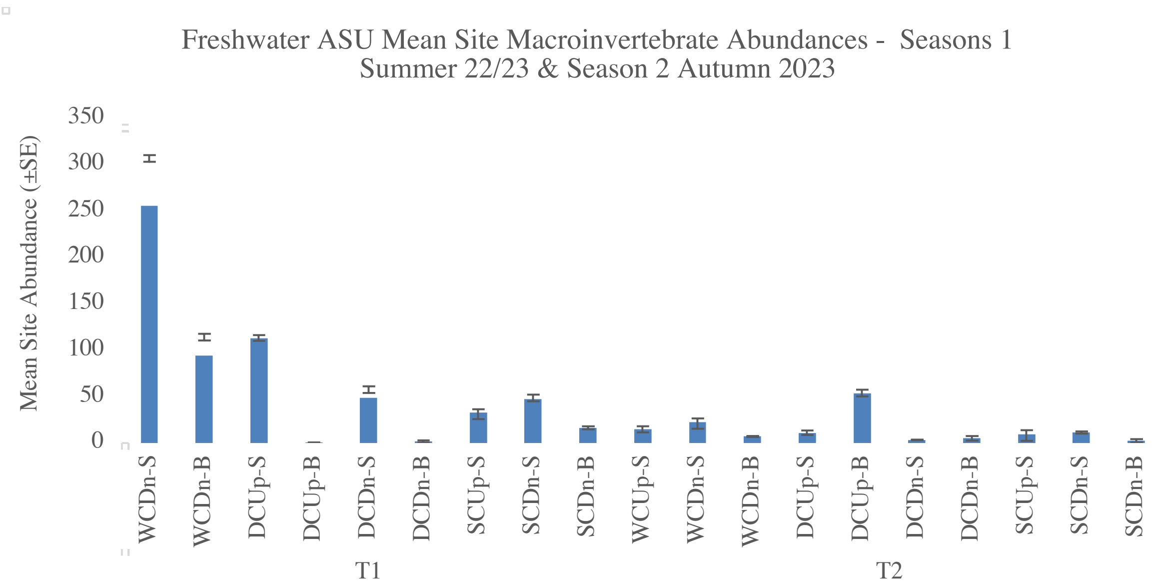


Figure 66 Mean replicate total abundance of macroinvertebrate specimens per site

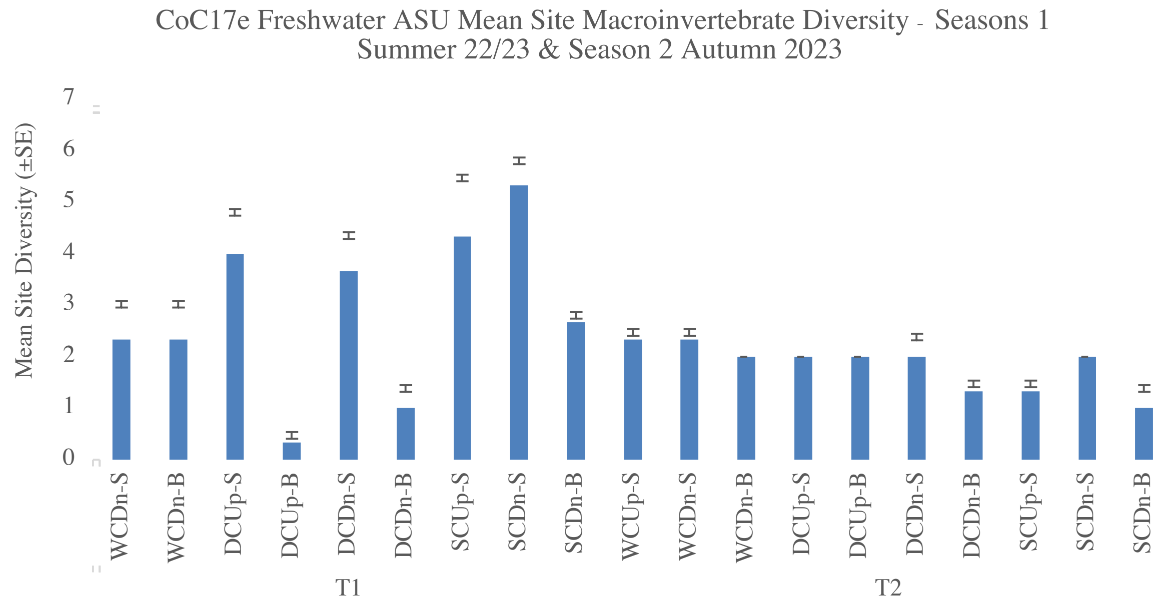


Figure 67 Mean replicate macroinvertebrate taxa diversity

Table 11 below provides the grouped ASU replicate results for abundance, taxa diversity and percentage of Chironomidae (bloodworms) compared to total abundance.

Table 11 Grouped Replicate ASU Macroinvertebrate Results Seasons 1 & 2										
	Season 1 Summer 22/23									
	WCUp-S	WCDn-S	WCDn-B	DCUp-S	DCUp-B	DCDn-S	DCDn-B	SCUp-S	SCDn-S	SCDn-B
Total Abundance	Dry	766	282	339	1	145	5	98	142	49
Total No. of taxa		4	5	6	1	5	2	8	8	4
Chironomidae %		99%	99%	98%	100%	92%	60%	85%	87%	92%
	Season 2 Autumn 23									
	WCUp-S	WCDn-S	WCDn-B	DCUp-S	DCUp-B	DCDn-S	DCDn-B	SCUp-S	SCDn-S	SCDn-B
Total Abundance	44	68	21	33	160	10	15	28	34	7
Total No. of taxa	3	3	3	2	2	4	2	2	2	2
Chironomidae %	98%	99%	90%	100%	100%	80%	100%	100%	100%	100%

2.5.3 Electrofishing results

The electrofishing fish catch and measurement data for Seasons 1 to 4 are provided in **Appendix Table F3**. Electrofishing fishing effort comprised three replicated 3-minute shots at each site for each survey period, and **Table 12** below shows summary occurrence results for Seasons 1 to 4.

Table 12 Culburra West Electrofishing Fish Catch Summary Results

		Date	Site	Rep	Empire Gudgeon *Hypseleotris compressa*	Striped Gudgeon *Giobiomorphus australis*	Common Jollytail *Galaxias maculatus*	Plague Minnow *Gambusia holbrooki*	Short-Finned Eel *Anguilla australis*	Tadpole
Season 1 Su 22/23	Wattle Creek	28/03/2023	WCUp	1	0	0	0	0	0	0
				2	0	0	2	0	0	0
				3	0	0	1	1	0	0
		28/03/2023	WCDn	1	1	1	1	0	0	0
				2	2	3	3	1	1	0
				3	3	8	2	2	0	0
	Downs Creek	27/03/2023	DCUp	1	18	8	1	1	0	0
				2	6	9	1	0	0	0
				3	18	8	0	0	0	0
		27/03/2023	DCDn	1	7	5	0	0	1	0
				2	14	6	1	0	0	0
				3	13	7	0	0	0	0
	South Creek	28/03/2023	SCUp	1	1	0	0	9	0	1
				2	0	0	0	7	0	0
				3	0	2	4	1	0	0
		28/03/2023	SCDn	1	6	11	0	0	0	0
				2	10	8	0	1	0	0
				3	6	4	0	0	1	0
Season 2 Au 23	Wattle Creek	5/07/2023	WCUp	1	Dry					
				2						
				3						
		5/07/2023	WCDn	1	0	0	3	1	0	0
				2	0	0	2	2	0	0
				3	5	10	1	1	1	0
	Downs Creek	4/07/2023	DCUp	1	5	9	0	0	1	0
				2	6	6	0	0	1	0
				3	55	16	0	0	2	0
		4/07/2023	DCDn	1	32	29	1	0	0	0
				2	8	23	0	0	0	0
				3	4	31	5	0	0	0
	South Creek	5/07/2023	SCUp	1	0	0	0	14	0	0
				2	0	0	0	3	0	0
				3	0	0	0	7	0	0
		5/07/2023	SCDn	1	0	12	1	9	0	0
				2	12	7	1	1	0	0
				3	8	24	0	1	2	0
Season 3 Wi 23	Wattle Creek	11/09/2023	WCUp	1	Dry					
				2						
				3						
		11/09/2023	WCDn	1	4	13	1	5	25	0
				2	Only one replicate taken					
				3						
	Downs Creek	11/09/2023	DCUp	1	17	21	0	0	4	0
				2	21	15	0	0	2	0
				3	6	4	8	0	5	0
		11/09/2023	DCDn	1	Dry					
				2						

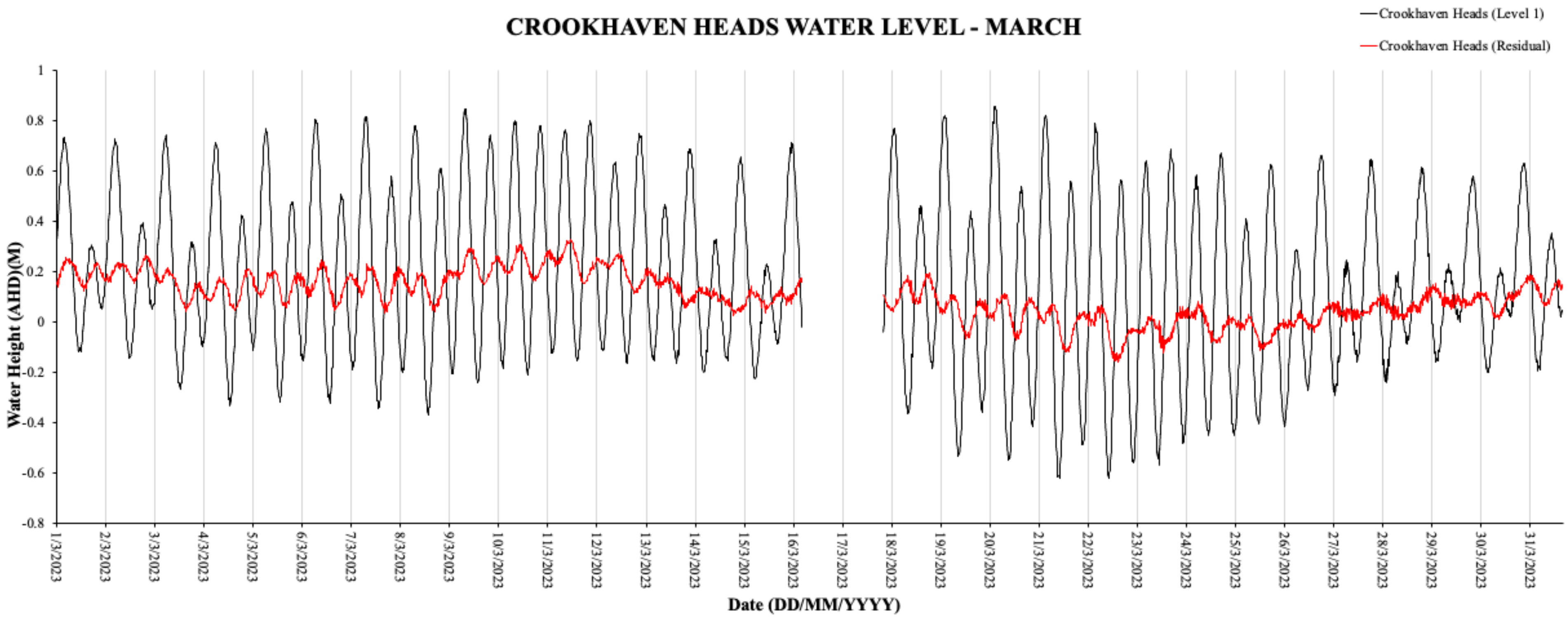
				3						
	South Creek	11/09/2023	SCUp	1	Dry					
				2						
				3						
		11/09/2023	SCDn	1	Dry					
				2						
				3						
Season 4 Sp 23	Wattle Creek	27/11/2023	WCUp	1	Dry					
				2						
				3						
		27/11/2023	WCDn	1	2	8	0	1	11	0
				2	Only one replicate taken					
				3						
	Downs Creek	27/11/2023	DCUp	1	15	13	0	0	1	0
				2	30	9	2	0	1	0
				3	45	15	3	0	2	0
		27/11/2023	DCDn	1	Dry					
				2						
				3						
	South Creek	27/11/2023	SCUp	1	Dry					
				2						
				3						
		27/11/2023	SCDn	1	Dry					
				2						
				3						

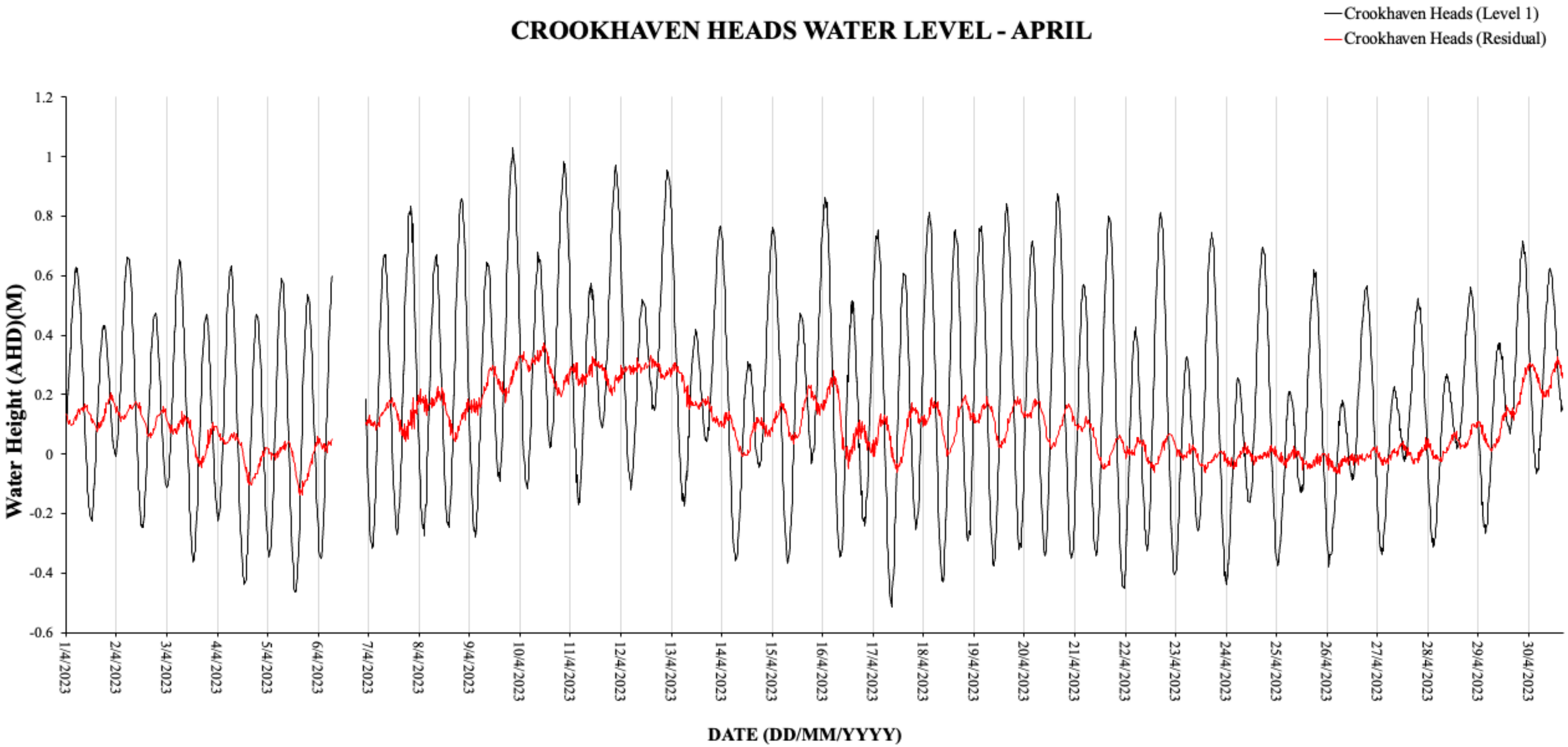
APPENDICES

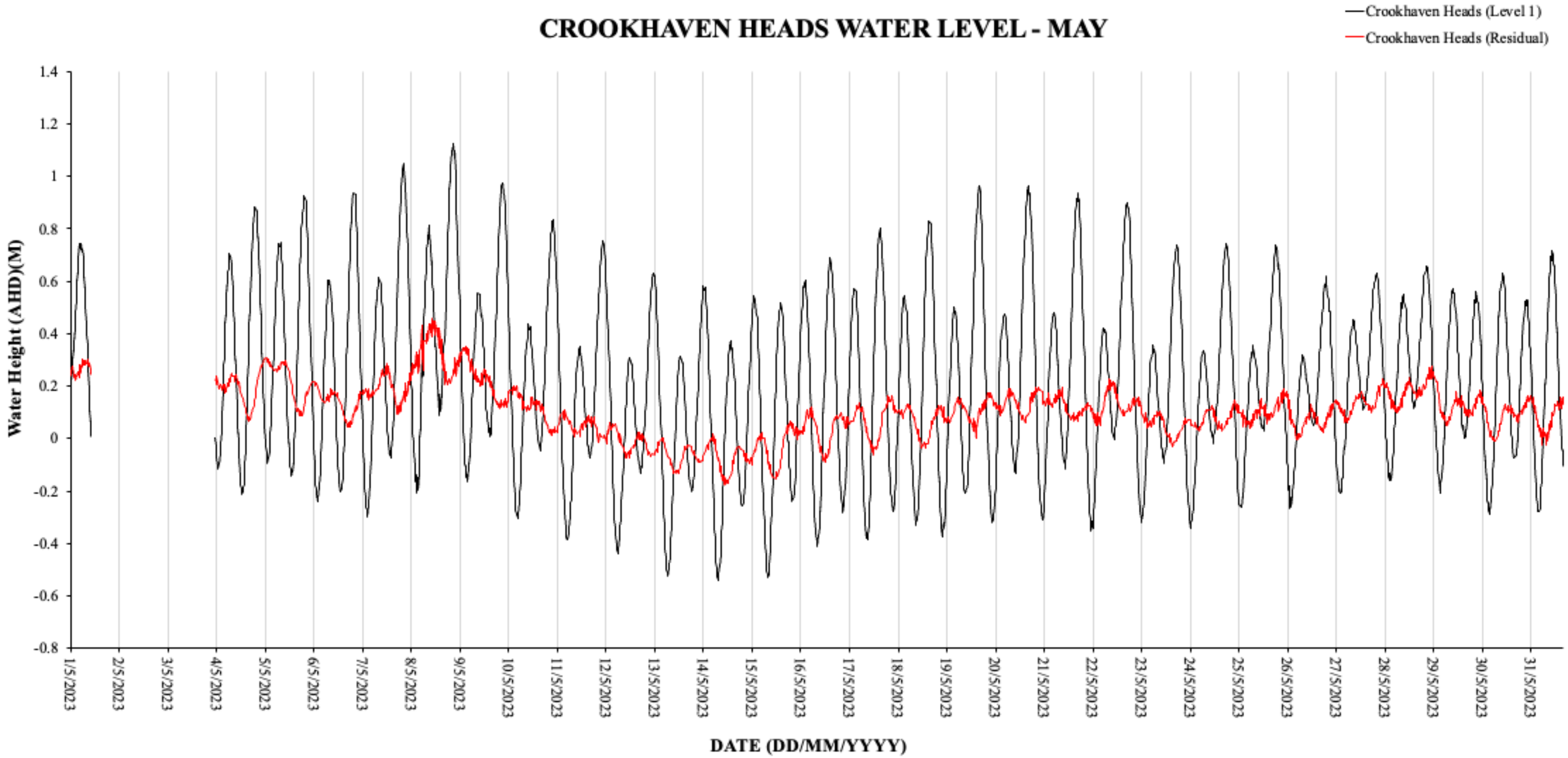
APPENDIX A
SITE RAINFALL 2023 (to date)

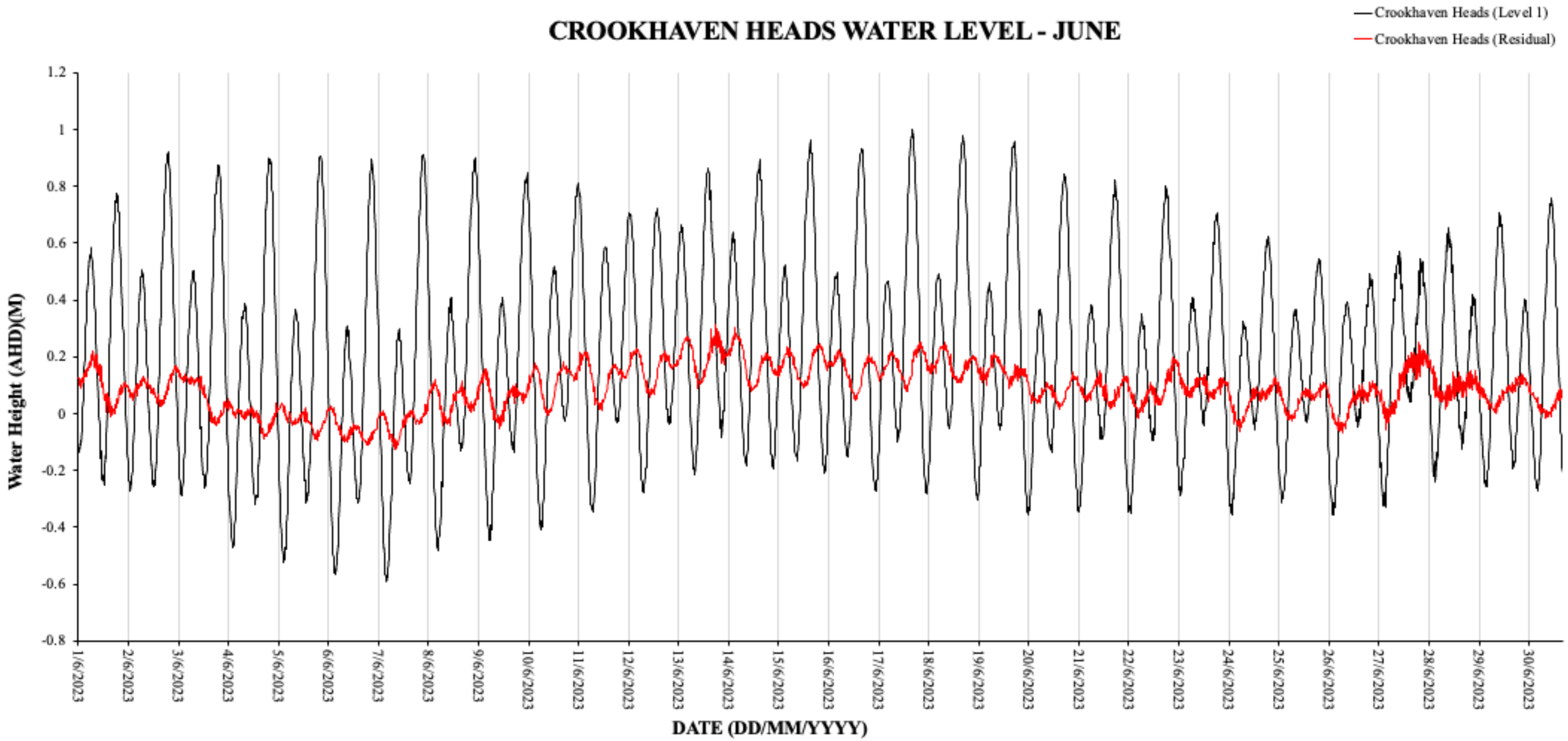
A1 2023 Daily Rainfall											
Date	2023										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1st	0	0	0	4.6	0	0	0	0	0	0	0
2nd	0	0	2.8	1.8	0	0	2	1.6	0	0	0
3rd	0	0	5	0	0	1	0	0	0	0	0.6
4th	1.6	0	8.6	0.6	0	5	4.2	0	0	0	1.2
5th	15.2	0	0	0	0	1.6	3.8	0.2	0	18.2	17.2
6th	16.6	0	2.2	0	0	0.6	0	1	0	0	0
7th	3	0	0	0	0	0	0	2.2	0	0.4	0
8th	0	24	0	6.4	15.6	0	0	1.6	2.6	0	0
9th	0	253	0	0	0	0.4	0	0	0	0	11
10th	0	7	0	0	0	0	0	0	0	0	8
11th	0	2.5	0	0	0	0	0	0	0	0.6	0
12th	0	0	0	0	0	0	0	0	0	0	0
13th	0	2.4	22	3	0	0.2	0	0	0	1.6	0
14th	1.6	1.8	4.8	35	0	0	0	9.8	0	0	0
15th	0	17.2	12	6	0.4	0	0	5	0	0	0
16th	0	0	0	0.5	0	0	0	0.2	0	0	0
17th	0.6	0	0	0.8	2.8	0	0	0	0	2.8	2.4
18th	0	0	0	0	2.2	0	0	1.4	0	7.6	0
19th	23.4	11	0	0	0.5	0	0	0	0	0	0
20th	0.8	0	0.3	11	0	0	0	0	0	0	0
21st	0	0	6.2	0	0	0	0	0	0	0	0
22nd	1	17.4	0	0	0.8	0	1	0	2.2	0	1.6
23rd	21.4	0	0.6	0	0	5.2	0	4.8	0	0	
24th	0	0.4	7.4	29.6	0	0	0	1.8	0	0	
25th	12.8	0	0.5	0	0	0	0	0	0	0	
26th	0	0	0	0	0	0	0	0	0	0	
27th	0	0	5	0	2	0	0	0	7.2	11.5	
28th	1	0	0	0	0	0	0	0	4.2	19	
29th	0		0.4	1.4	1	1.4	0	4.6	0	0	
30th	6.8		3.8	61.4	0	0	1	0	0	0	
31st	13.6		2		0		0	2		0	
Monthly total	119.4	336.7	83.6	162.1	25.3	15.4	12	36.2	16.2	61.7	42
Monthly Average	98.1	130.3	140.1	112.1	104.6	139.3	84	79.3	73.4	86.7	84.9

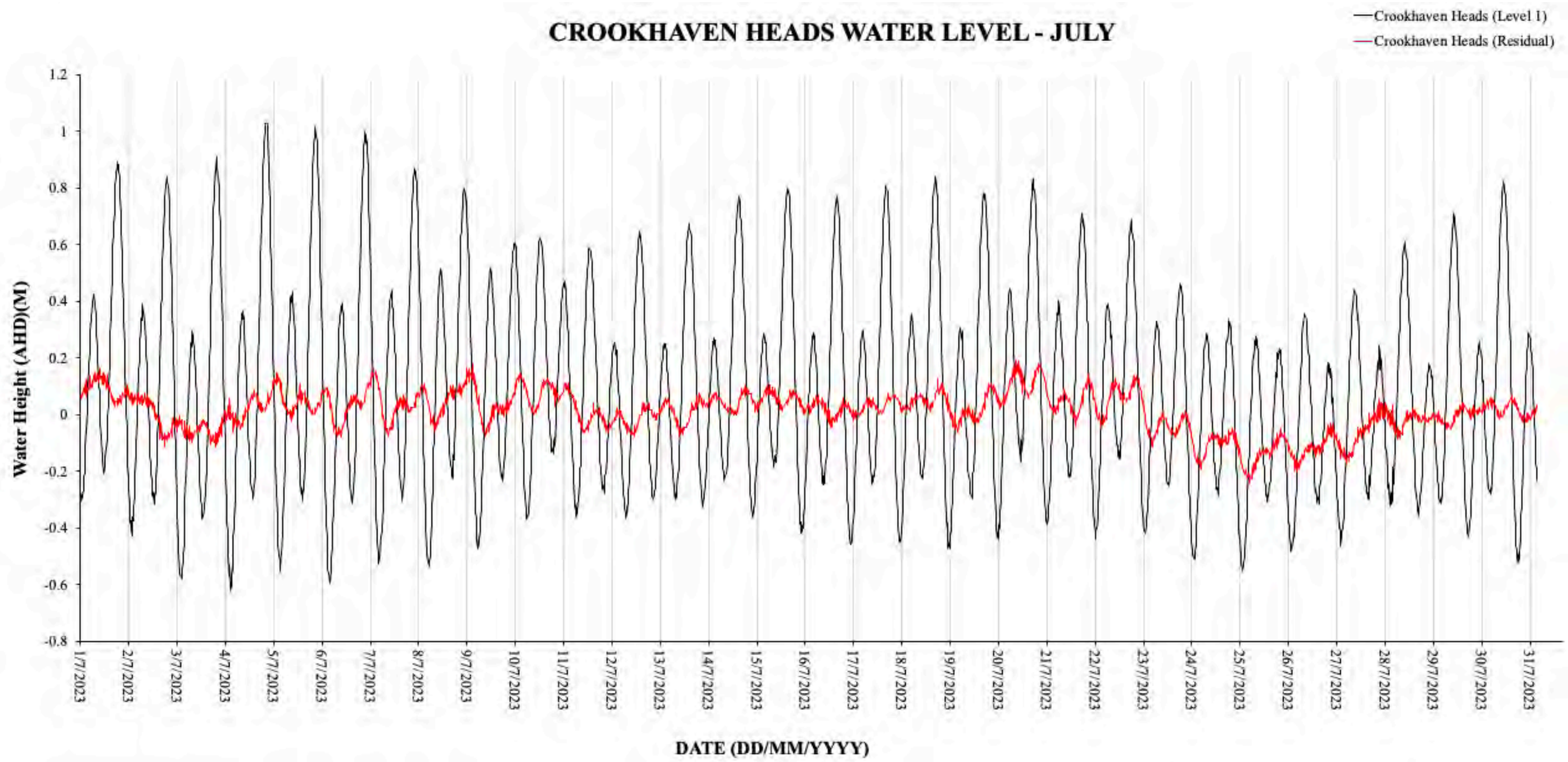
APPENDIX B
CROOKHAVEN RIVER TIDE, LK WOLLUMBOOLA & GREENWELL POINT WATER LEVEL DATA

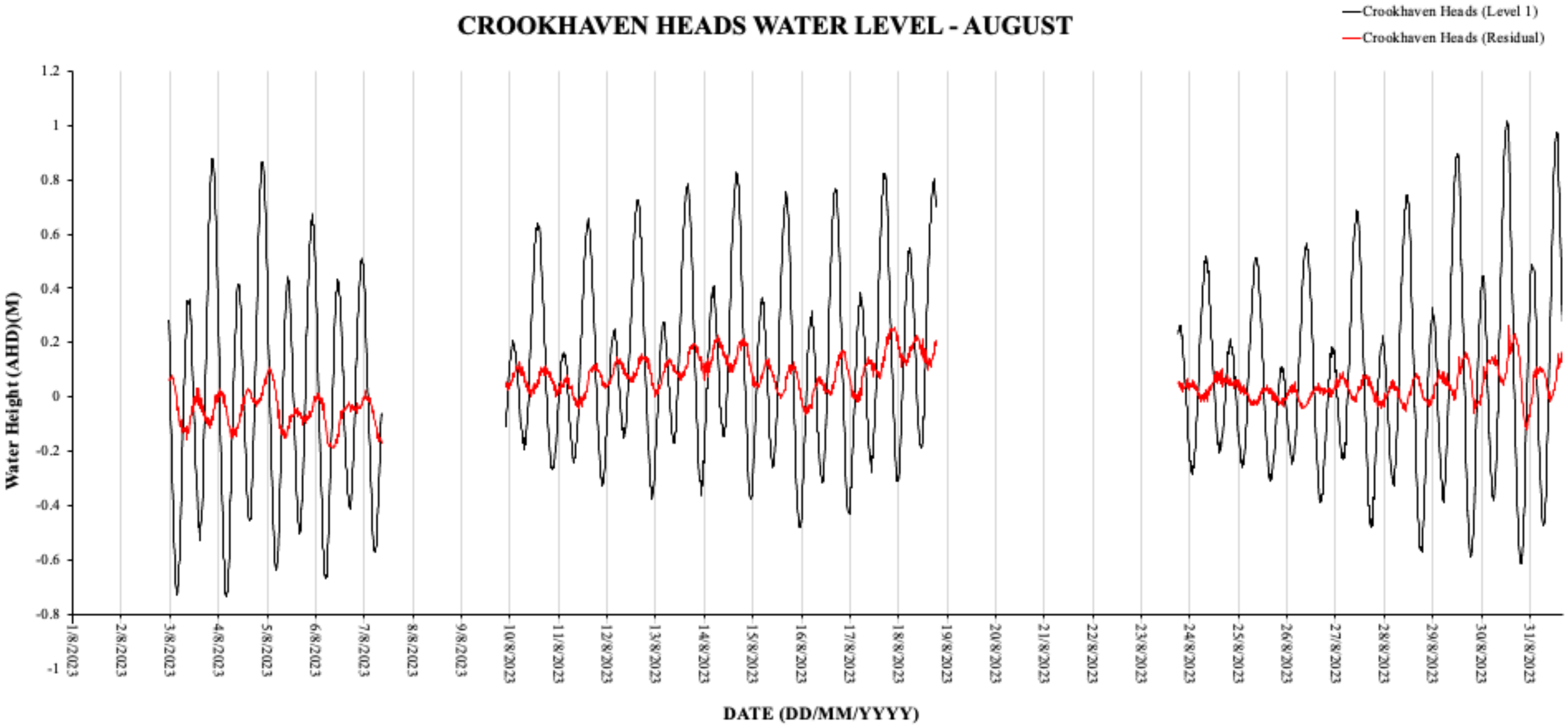


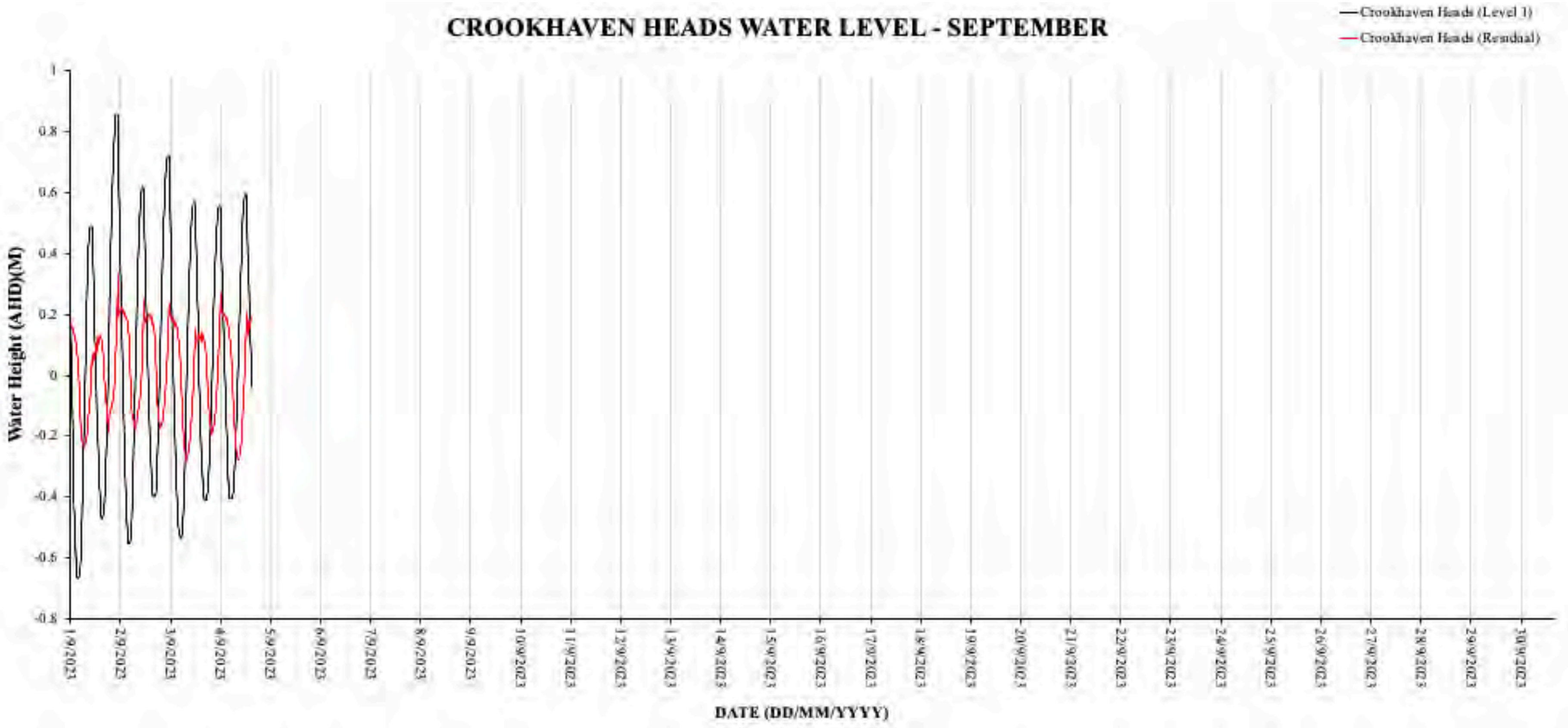

CROOKHAVEN HEADS WATER LEVEL - APRIL
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1/4/2023
2/4/2023
3/4/2023
4/4/2023
5/4/2023
6/4/2023
7/4/2023
8/4/2023
9/4/2023
10/4/2023
11/4/2023
12/4/2023
13/4/2023
14/4/2023
15/4/2023
16/4/2023
17/4/2023
18/4/2023
19/4/2023
20/4/2023
21/4/2023
22/4/2023
23/4/2023
24/4/2023
25/4/2023
26/4/2023
27/4/2023
28/4/2023
29/4/2023
30/4/2023
DATE (DD/MM/YYYY)

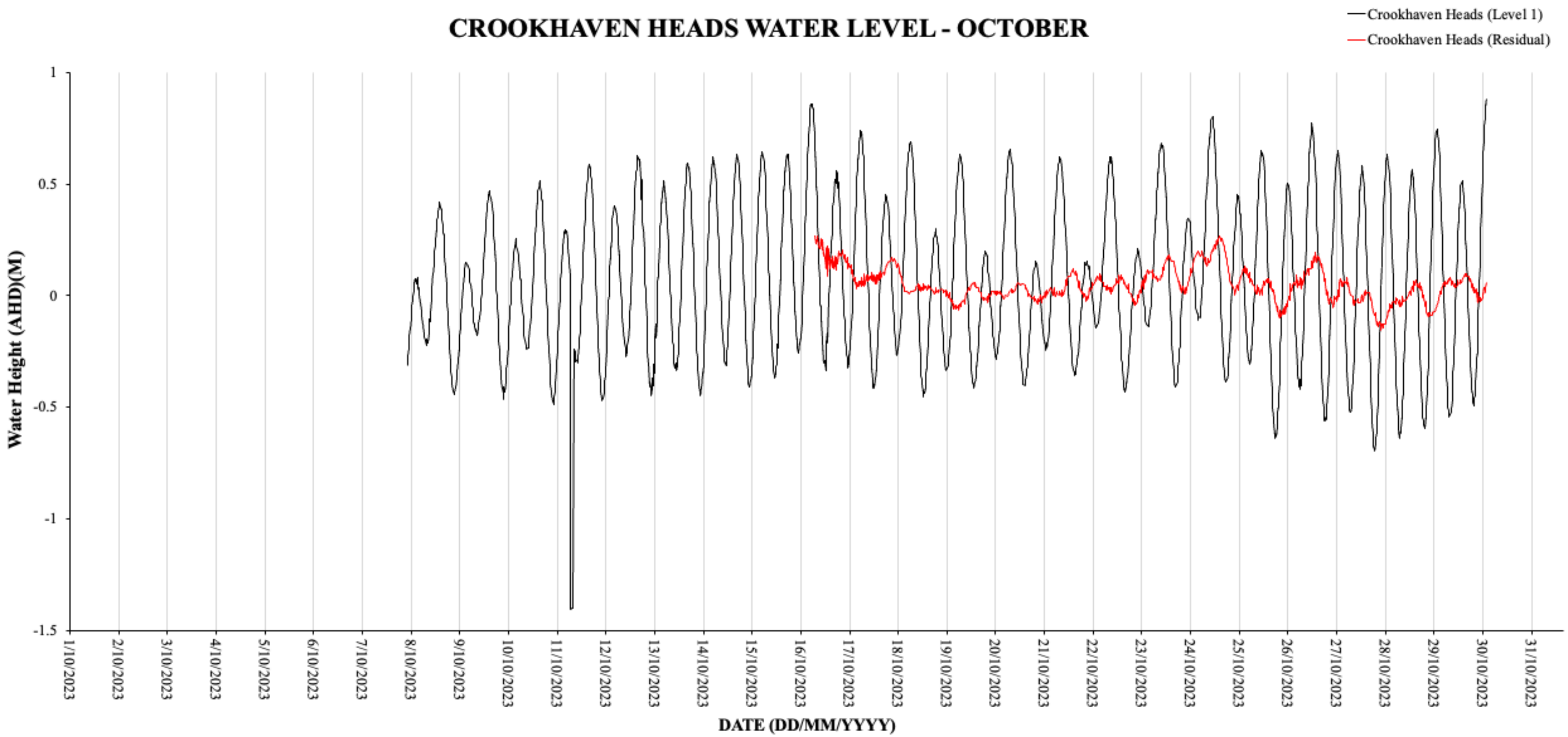

CROOKHAVEN HEADS WATER LEVEL - MAY
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
1/5/2023
2/5/2023
3/5/2023
4/5/2023
5/5/2023
6/5/2023
7/5/2023
8/5/2023
9/5/2023
10/5/2023
11/5/2023
12/5/2023
13/5/2023
14/5/2023
15/5/2023
16/5/2023
17/5/2023
18/5/2023
19/5/2023
20/5/2023
21/5/2023
22/5/2023
23/5/2023
24/5/2023
25/5/2023
26/5/2023
27/5/2023
28/5/2023
29/5/2023
30/5/2023
31/5/2023
DATE (DD/MM/YYYY)

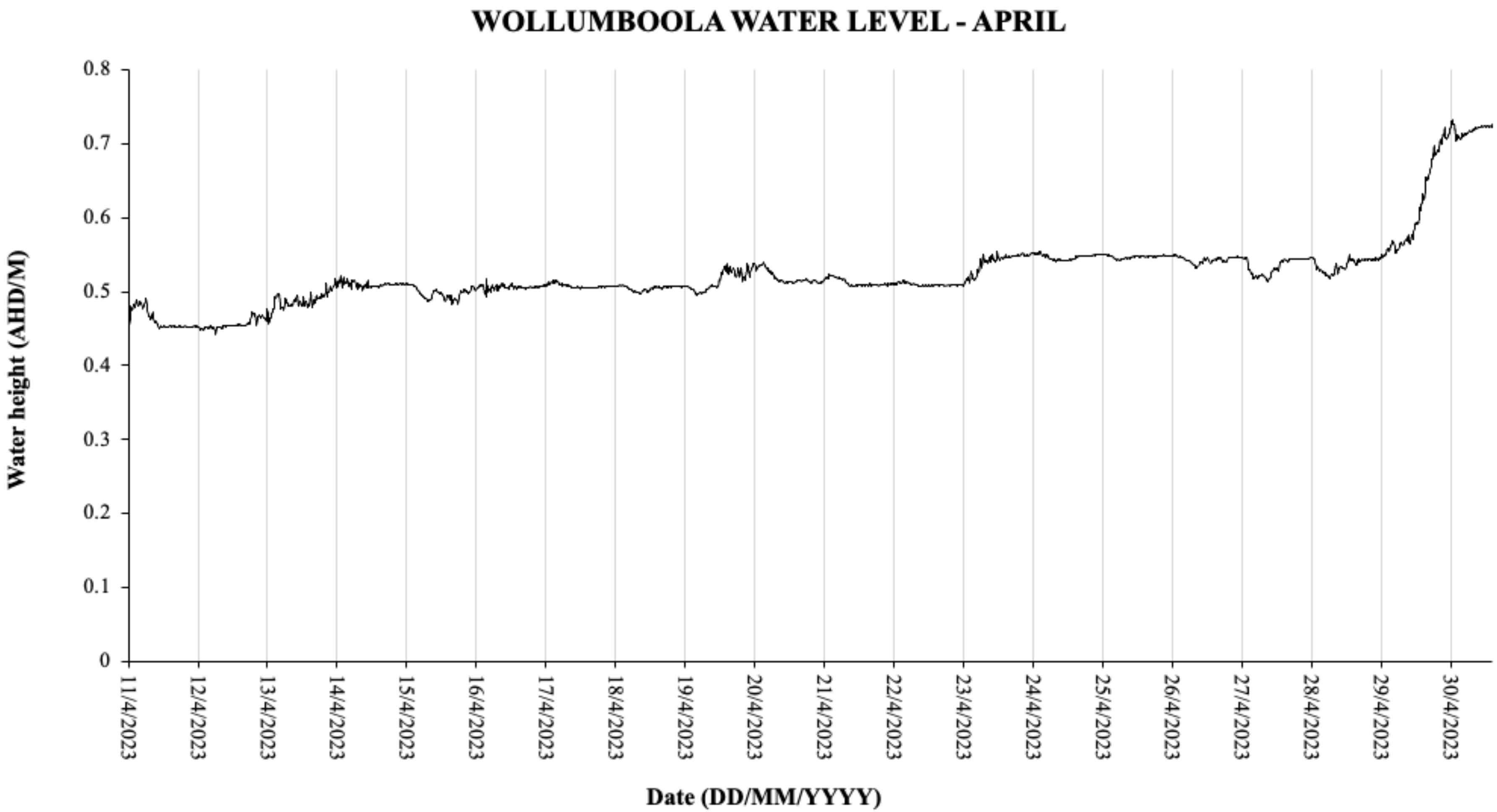

CROOKHAVEN HEADS WATER LEVEL - JUNE
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
1/6/2023
2/6/2023
3/6/2023
4/6/2023
5/6/2023
6/6/2023
7/6/2023
8/6/2023
9/6/2023
10/6/2023
11/6/2023
12/6/2023
13/6/2023
14/6/2023
15/6/2023
16/6/2023
17/6/2023
18/6/2023
19/6/2023
20/6/2023
21/6/2023
22/6/2023
23/6/2023
24/6/2023
25/6/2023
26/6/2023
27/6/2023
28/6/2023
29/6/2023
30/6/2023
DATE (DD/MM/YYYY)

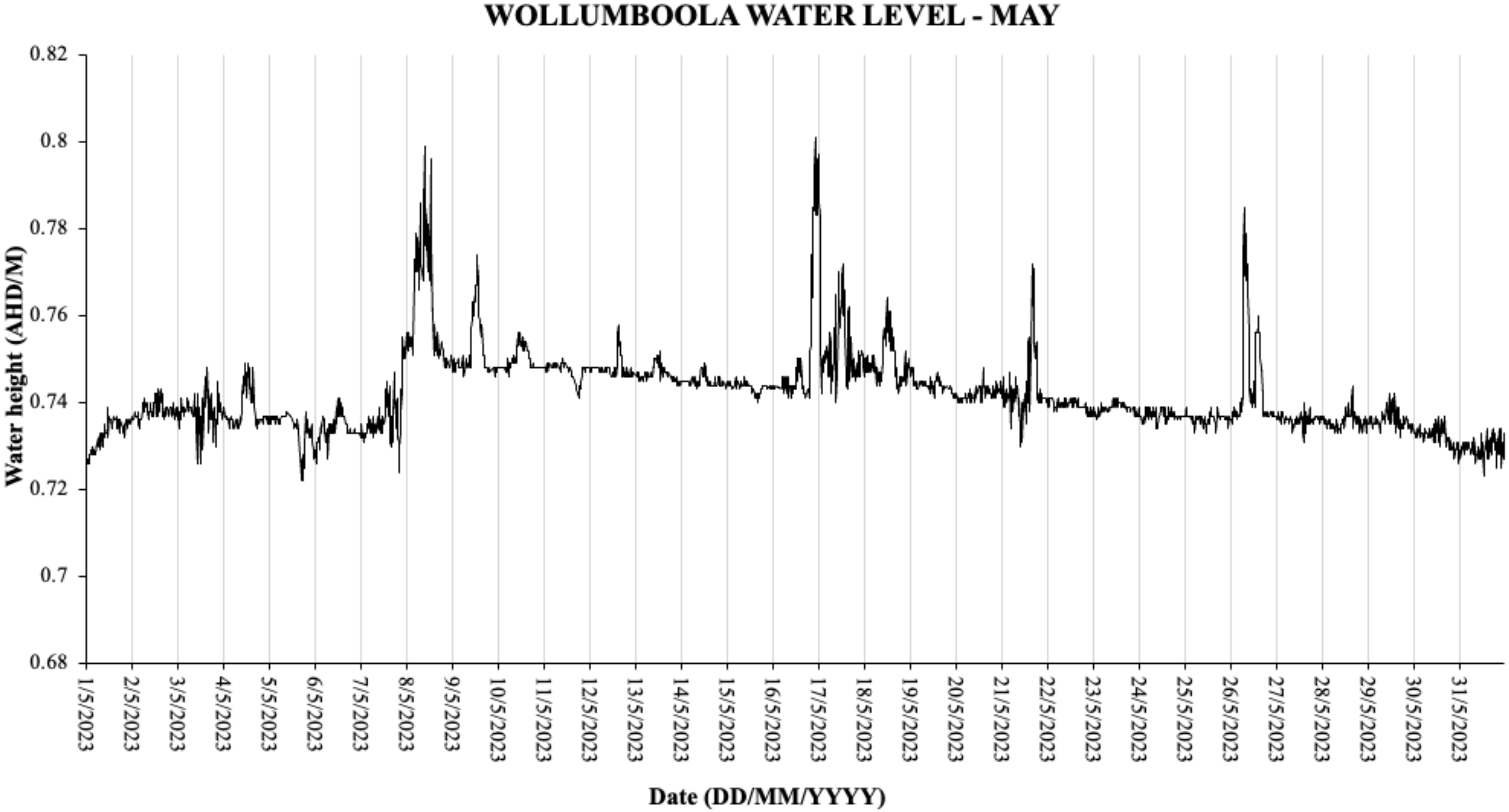

CROOKHAVEN HEADS WATER LEVEL - JULY
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
1/7/2023
2/7/2023
3/7/2023
4/7/2023
5/7/2023
6/7/2023
7/7/2023
8/7/2023
9/7/2023
10/7/2023
11/7/2023
12/7/2023
13/7/2023
14/7/2023
15/7/2023
16/7/2023
17/7/2023
18/7/2023
19/7/2023
20/7/2023
21/7/2023
22/7/2023
23/7/2023
24/7/2023
25/7/2023
26/7/2023
27/7/2023
28/7/2023
29/7/2023
30/7/2023
31/7/2023
DATE (DD/MM/YYYY)

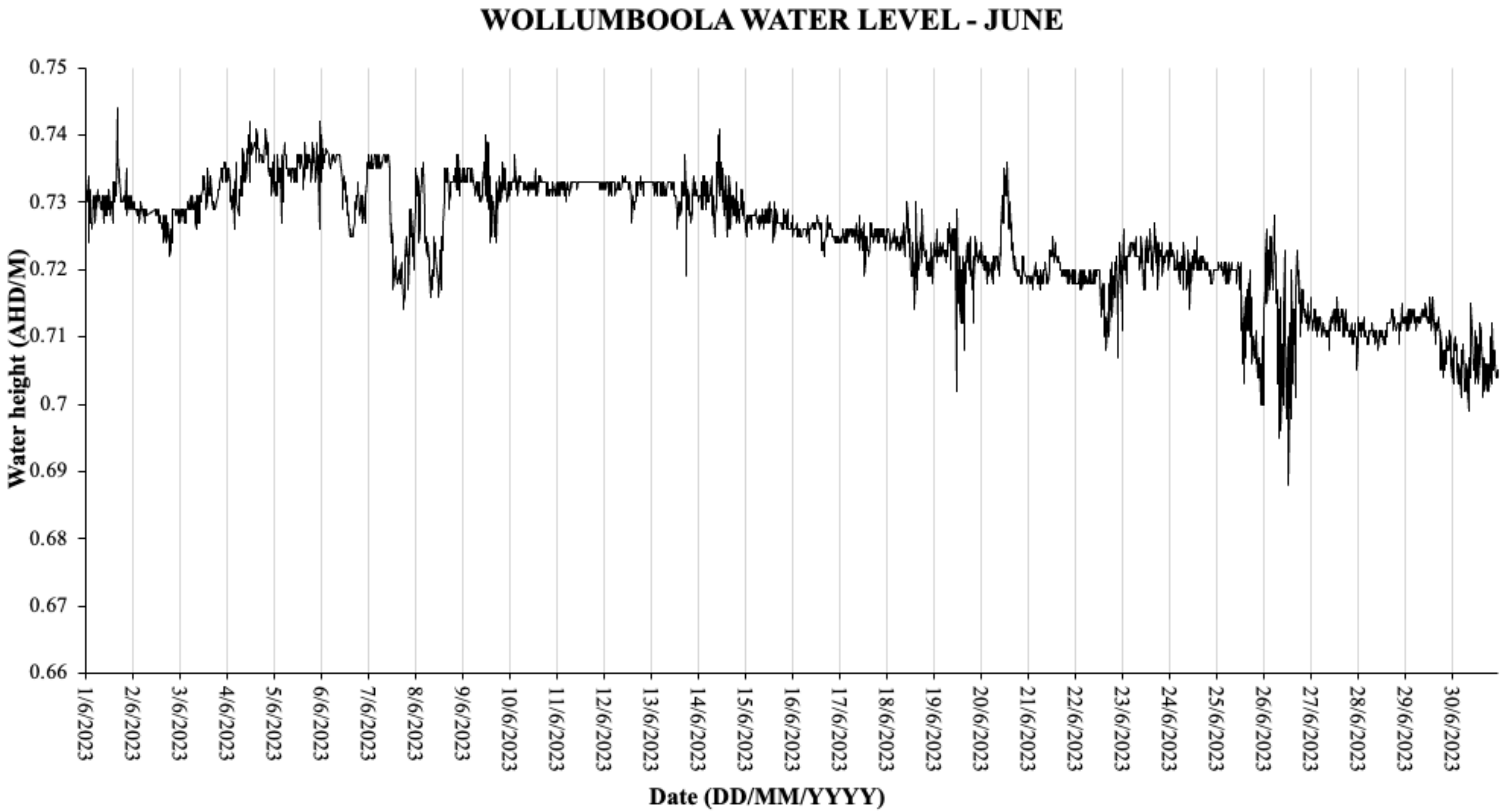

CROOKHAVEN HEADS WATER LEVEL - AUGUST
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
1/8/2023
2/8/2023
3/8/2023
4/8/2023
5/8/2023
6/8/2023
7/8/2023
8/8/2023
9/8/2023
10/8/2023
11/8/2023
12/8/2023
13/8/2023
14/8/2023
15/8/2023
16/8/2023
17/8/2023
18/8/2023
19/8/2023
20/8/2023
21/8/2023
22/8/2023
23/8/2023
24/8/2023
25/8/2023
26/8/2023
27/8/2023
28/8/2023
29/8/2023
30/8/2023
31/8/2023
DATE (DD/MM/YYYY)

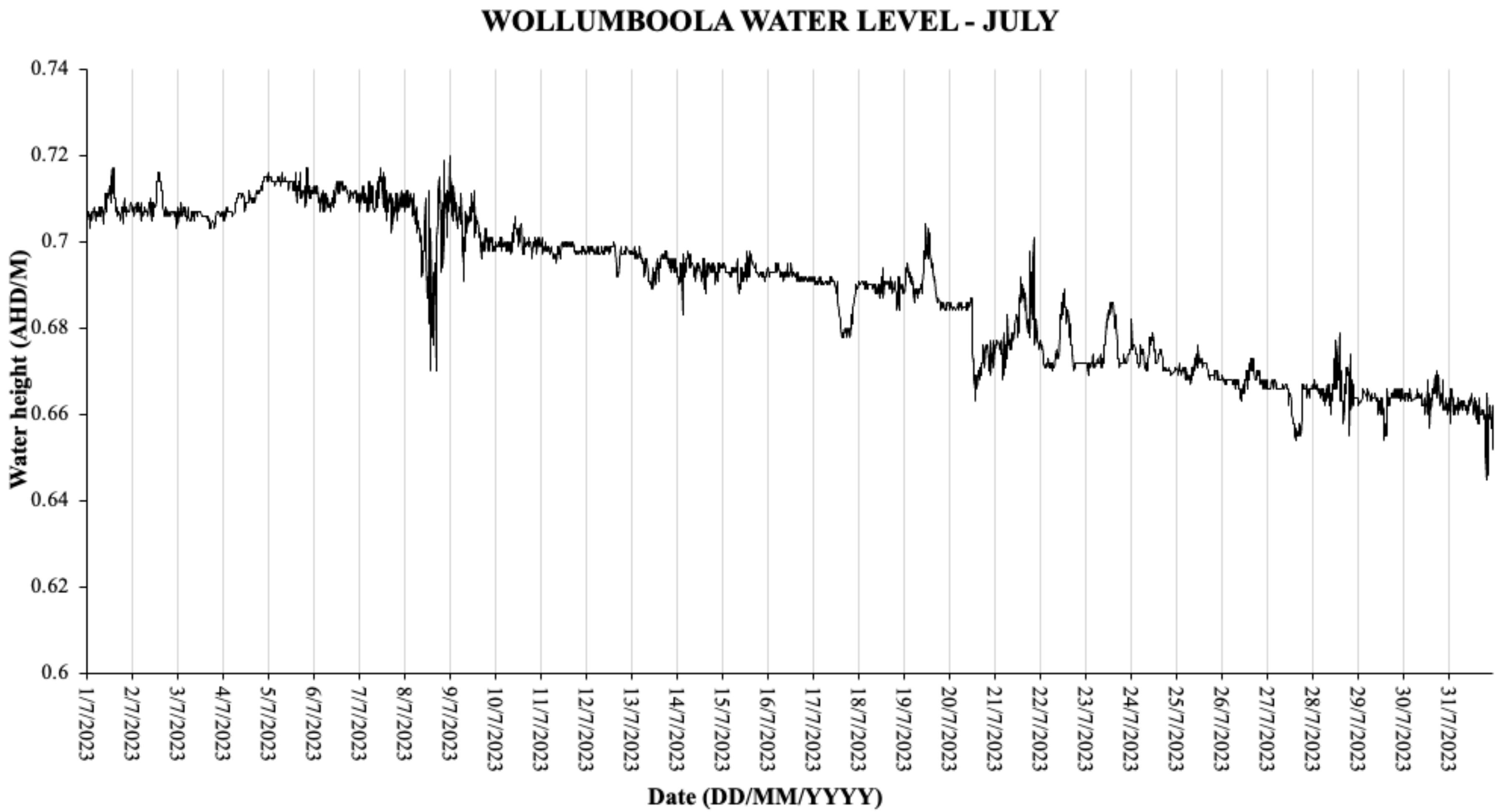

CROOKHAVEN HEADS WATER LEVEL - SEPTEMBER
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
1/9/2023
2/9/2023
3/9/2023
4/9/2023
5/9/2023
6/9/2023
7/9/2023
8/9/2023
9/9/2023
10/9/2023
11/9/2023
12/9/2023
13/9/2023
14/9/2023
15/9/2023
16/9/2023
17/9/2023
18/9/2023
19/9/2023
20/9/2023
21/9/2023
22/9/2023
23/9/2023
24/9/2023
25/9/2023
26/9/2023
27/9/2023
28/9/2023
29/9/2023
30/9/2023
DATE (DD/MM/YYYY)

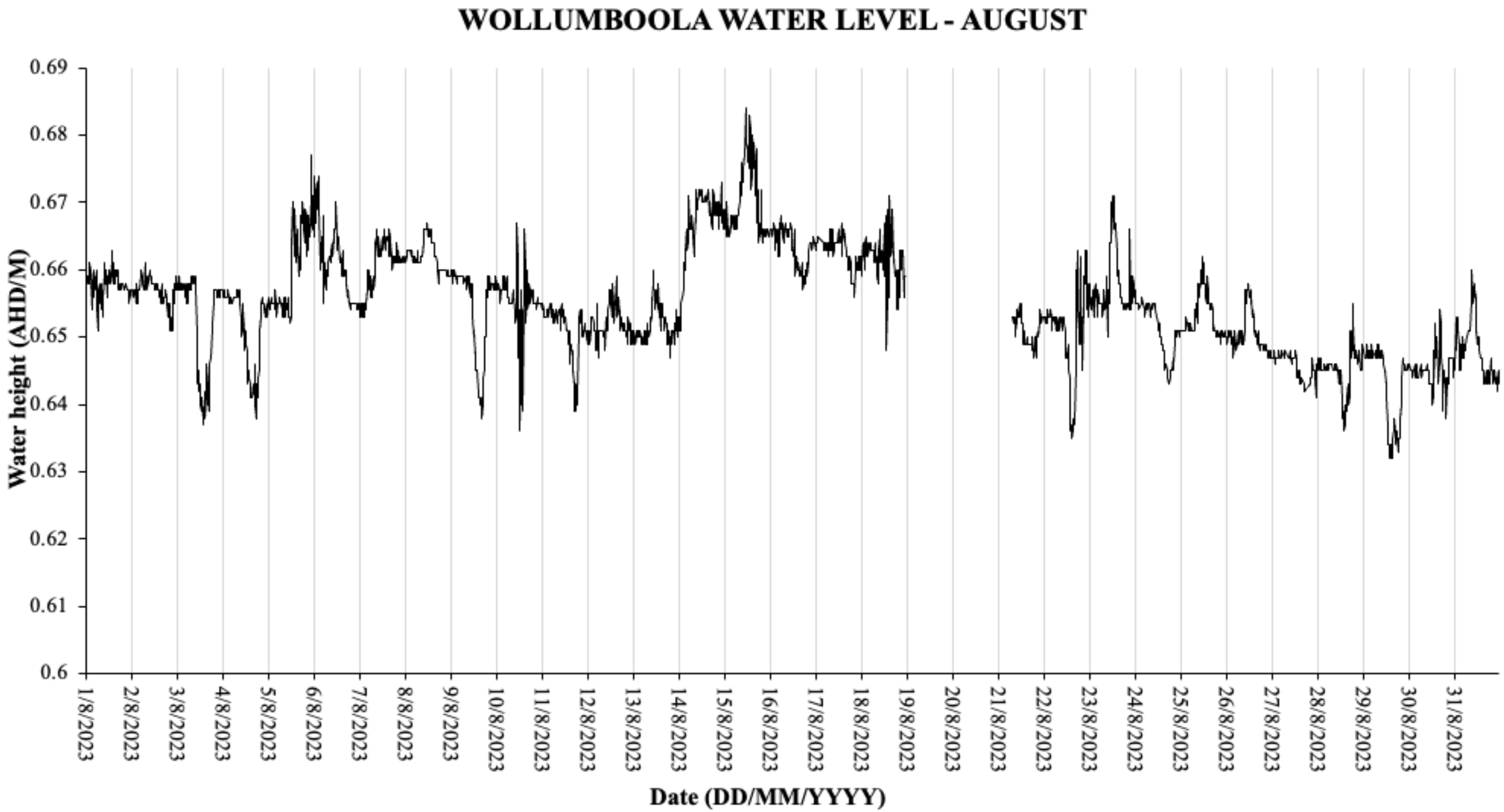

CROOKHAVEN HEADS WATER LEVEL - OCTOBER
Crookhaven Heads (Level 1)
Crookhaven Heads (Residual)
Water Height (AHD)(M)
1
0.5
0
-0.5
-1
-1.5
1/10/2023
2/10/2023
3/10/2023
4/10/2023
5/10/2023
6/10/2023
7/10/2023
8/10/2023
9/10/2023
10/10/2023
11/10/2023
12/10/2023
13/10/2023
14/10/2023
15/10/2023
16/10/2023
17/10/2023
18/10/2023
19/10/2023
20/10/2023
21/10/2023
22/10/2023
23/10/2023
24/10/2023
25/10/2023
26/10/2023
27/10/2023
28/10/2023
29/10/2023
30/10/2023
31/10/2023
DATE (DD/MM/YYYY)

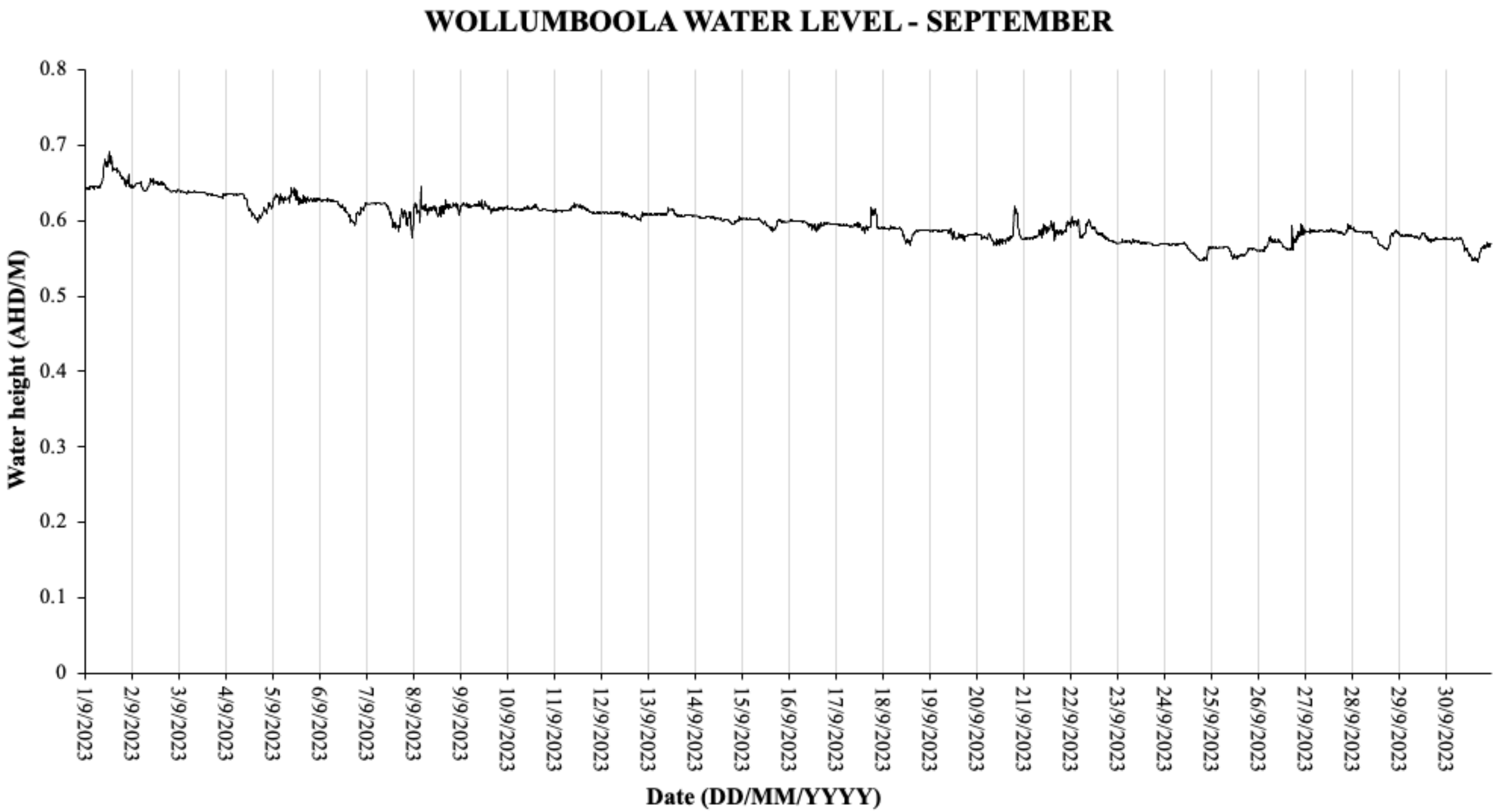

WOLLUMBOOLA WATER LEVEL - APRIL
Water height (AHD/M)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
11/4/2023
12/4/2023
13/4/2023
14/4/2023
15/4/2023
16/4/2023
17/4/2023
18/4/2023
19/4/2023
20/4/2023
21/4/2023
22/4/2023
23/4/2023
24/4/2023
25/4/2023
26/4/2023
27/4/2023
28/4/2023
29/4/2023
30/4/2023
Date (DD/MM/YYYY)

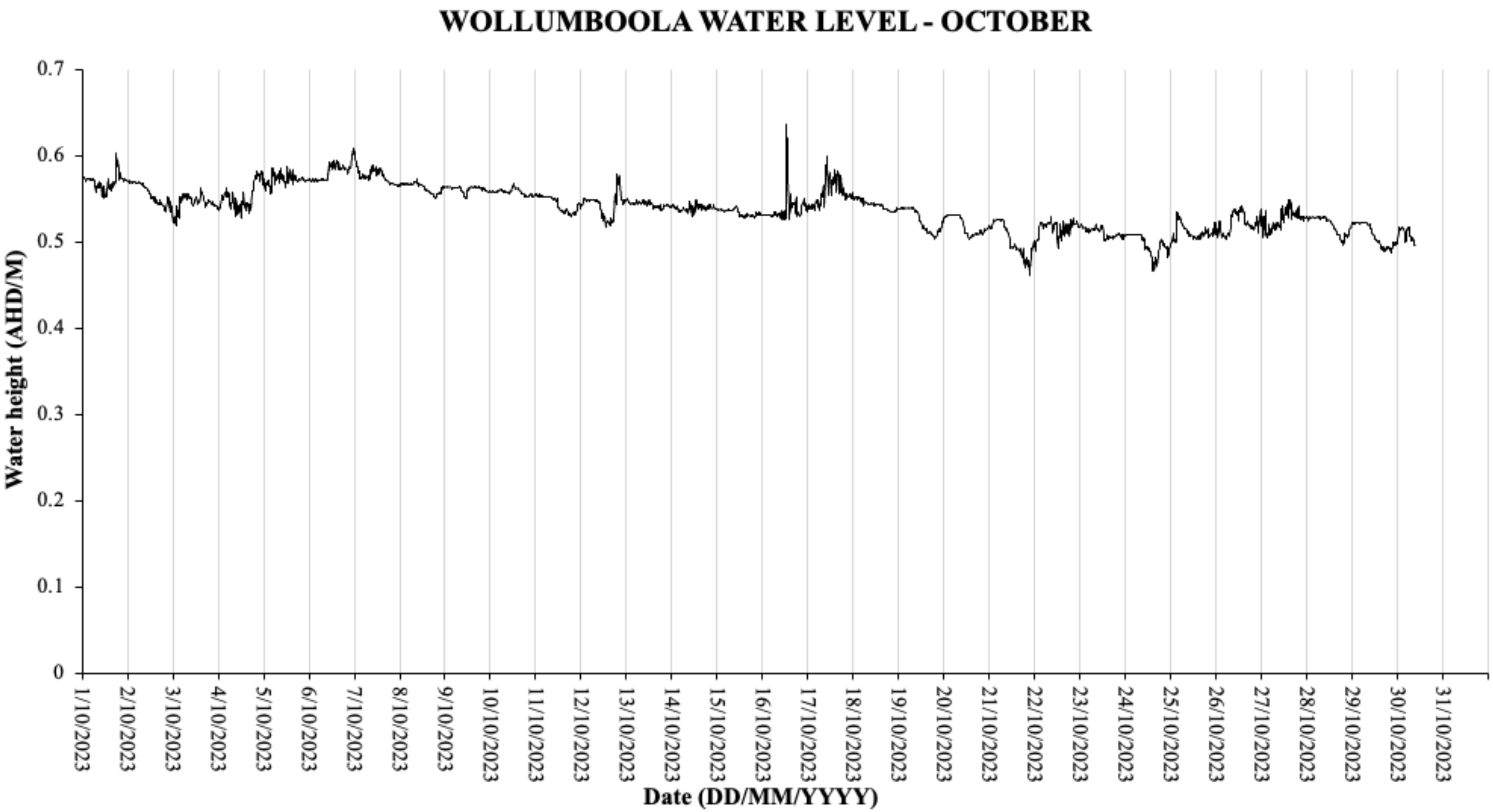

WOLLUMBOOLA WATER LEVEL - MAY
Water height (AHD/M)
0.82
0.8
0.78
0.76
0.74
0.72
0.7
0.68
1/5/2023
2/5/2023
3/5/2023
4/5/2023
5/5/2023
6/5/2023
7/5/2023
8/5/2023
9/5/2023
10/5/2023
11/5/2023
12/5/2023
13/5/2023
14/5/2023
15/5/2023
16/5/2023
17/5/2023
18/5/2023
19/5/2023
20/5/2023
21/5/2023
22/5/2023
23/5/2023
24/5/2023
25/5/2023
26/5/2023
27/5/2023
28/5/2023
29/5/2023
30/5/2023
31/5/2023
Date (DD/MM/YYYY)

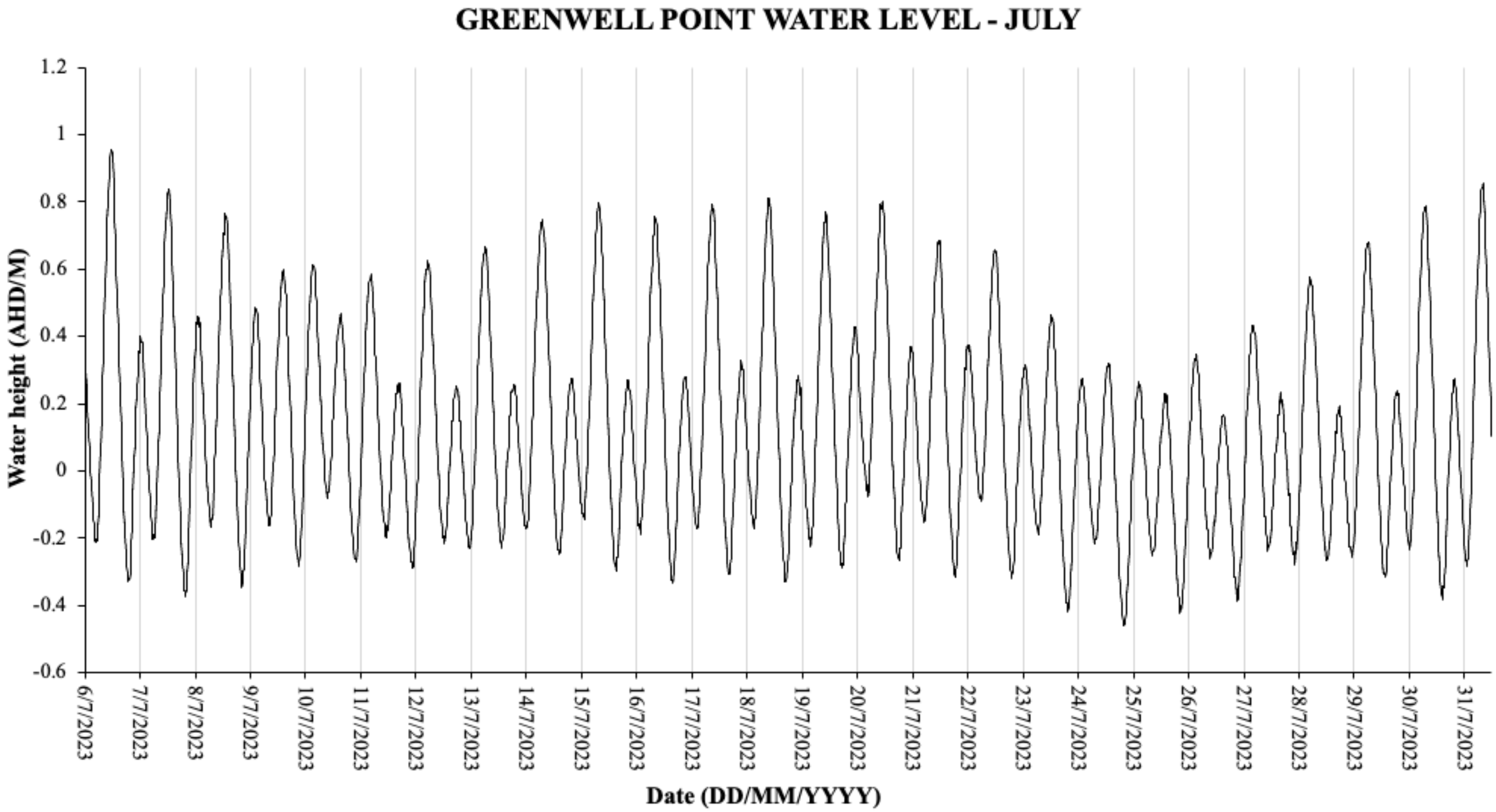

WOLLUMBOOLA WATER LEVEL - JUNE
Water height (AHD/M)
0.75
0.74
0.73
0.72
0.71
0.7
0.69
0.68
0.67
0.66
1/6/2023
2/6/2023
3/6/2023
4/6/2023
5/6/2023
6/6/2023
7/6/2023
8/6/2023
9/6/2023
10/6/2023
11/6/2023
12/6/2023
13/6/2023
14/6/2023
15/6/2023
16/6/2023
17/6/2023
18/6/2023
19/6/2023
20/6/2023
21/6/2023
22/6/2023
23/6/2023
24/6/2023
25/6/2023
26/6/2023
27/6/2023
28/6/2023
29/6/2023
30/6/2023
Date (DD/MM/YYYY)

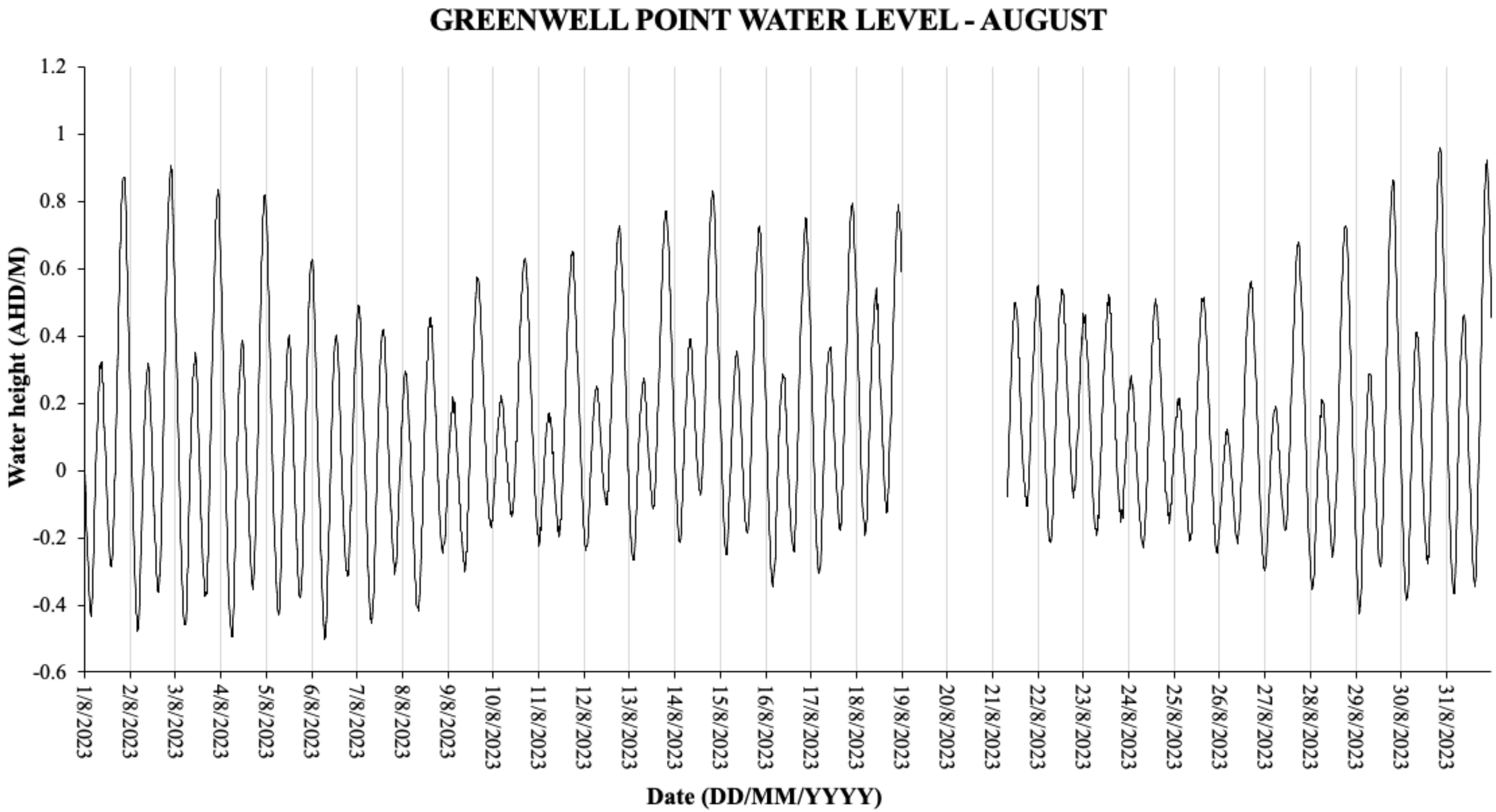

WOLLUMBOOLA WATER LEVEL - JULY
Water height (AHD/M)
0.74
0.72
0.7
0.68
0.66
0.64
0.62
0.6
1/7/2023
2/7/2023
3/7/2023
4/7/2023
5/7/2023
6/7/2023
7/7/2023
8/7/2023
9/7/2023
10/7/2023
11/7/2023
12/7/2023
13/7/2023
14/7/2023
15/7/2023
16/7/2023
17/7/2023
18/7/2023
19/7/2023
20/7/2023
21/7/2023
22/7/2023
23/7/2023
24/7/2023
25/7/2023
26/7/2023
27/7/2023
28/7/2023
29/7/2023
30/7/2023
31/7/2023
Date (DD/MM/YYYY)

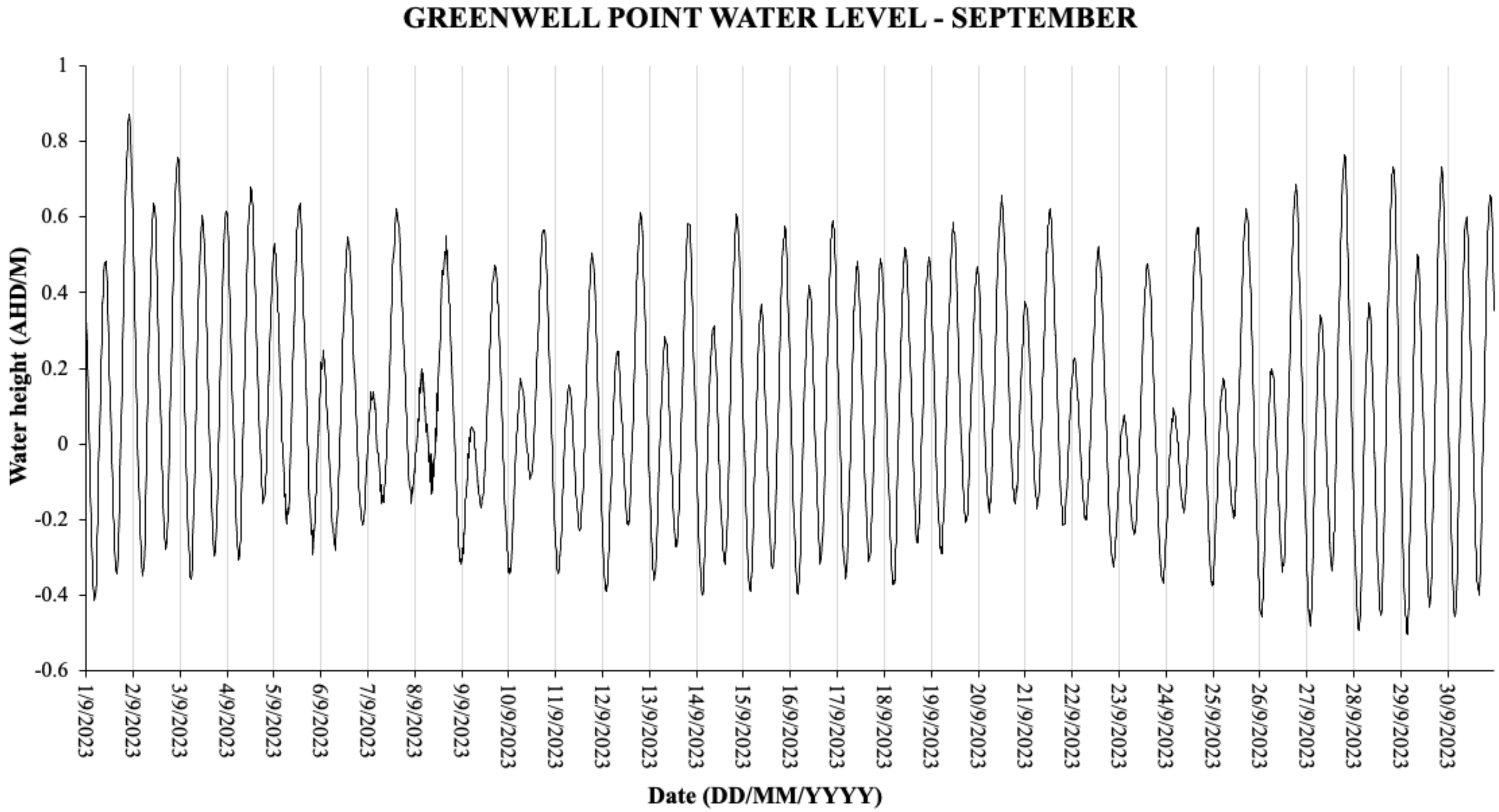

WOLLUMBOOLA WATER LEVEL - AUGUST
Water height (AHD/M)
0.69
0.68
0.67
0.66
0.65
0.64
0.63
0.62
0.61
0.6
1/8/2023
2/8/2023
3/8/2023
4/8/2023
5/8/2023
6/8/2023
7/8/2023
8/8/2023
9/8/2023
10/8/2023
11/8/2023
12/8/2023
13/8/2023
14/8/2023
15/8/2023
16/8/2023
17/8/2023
18/8/2023
19/8/2023
20/8/2023
21/8/2023
22/8/2023
23/8/2023
24/8/2023
25/8/2023
26/8/2023
27/8/2023
28/8/2023
29/8/2023
30/8/2023
31/8/2023
Date (DD/MM/YYYY)

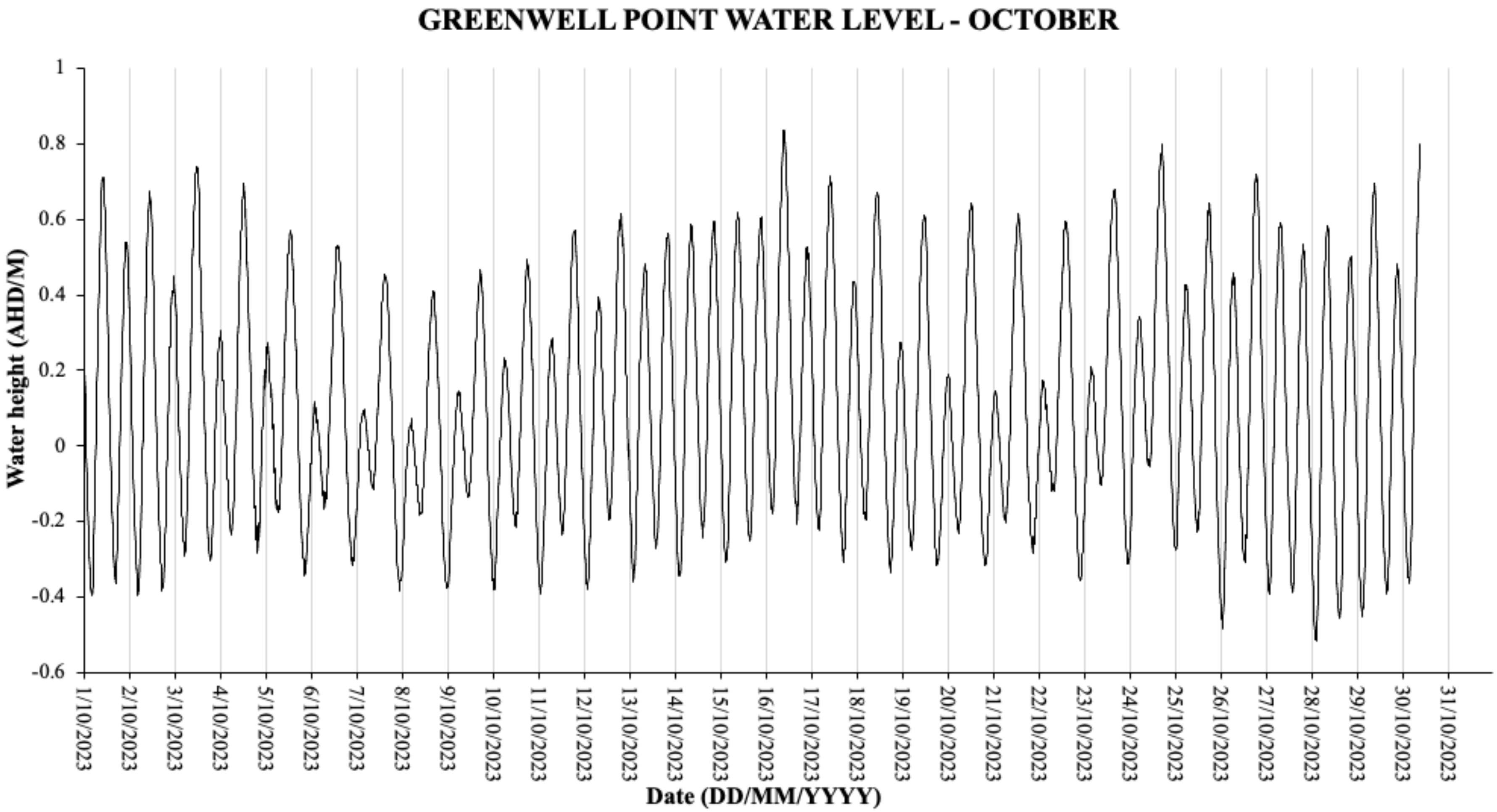

WOLLUMBOOLA WATER LEVEL - SEPTEMBER
Water height (AHD/M)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/9/2023
2/9/2023
3/9/2023
4/9/2023
5/9/2023
6/9/2023
7/9/2023
8/9/2023
9/9/2023
10/9/2023
11/9/2023
12/9/2023
13/9/2023
14/9/2023
15/9/2023
16/9/2023
17/9/2023
18/9/2023
19/9/2023
20/9/2023
21/9/2023
22/9/2023
23/9/2023
24/9/2023
25/9/2023
26/9/2023
27/9/2023
28/9/2023
29/9/2023
30/9/2023
Date (DD/MM/YYYY)


WOLLUMBOOLA WATER LEVEL - OCTOBER
Water height (AHD/M)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/10/2023
2/10/2023
3/10/2023
4/10/2023
5/10/2023
6/10/2023
7/10/2023
8/10/2023
9/10/2023
10/10/2023
11/10/2023
12/10/2023
13/10/2023
14/10/2023
15/10/2023
16/10/2023
17/10/2023
18/10/2023
19/10/2023
20/10/2023
21/10/2023
22/10/2023
23/10/2023
24/10/2023
25/10/2023
26/10/2023
27/10/2023
28/10/2023
29/10/2023
30/10/2023
31/10/2023
Date (DD/MM/YYYY)


GREENWELL POINT WATER LEVEL - JULY
Water height (AHD/M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
6/7/2023
7/7/2023
8/7/2023
9/7/2023
10/7/2023
11/7/2023
12/7/2023
13/7/2023
14/7/2023
15/7/2023
16/7/2023
17/7/2023
18/7/2023
19/7/2023
20/7/2023
21/7/2023
22/7/2023
23/7/2023
24/7/2023
25/7/2023
26/7/2023
27/7/2023
28/7/2023
29/7/2023
30/7/2023
31/7/2023
Date (DD/MM/YYYY)


GREENWELL POINT WATER LEVEL - AUGUST
Water height (AHD/M)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1/8/2023
2/8/2023
3/8/2023
4/8/2023
5/8/2023
6/8/2023
7/8/2023
8/8/2023
9/8/2023
10/8/2023
11/8/2023
12/8/2023
13/8/2023
14/8/2023
15/8/2023
16/8/2023
17/8/2023
18/8/2023
19/8/2023
20/8/2023
21/8/2023
22/8/2023
23/8/2023
24/8/2023
25/8/2023
26/8/2023
27/8/2023
28/8/2023
29/8/2023
30/8/2023
31/8/2023
Date (DD/MM/YYYY)


GREENWELL POINT WATER LEVEL - SEPTEMBER
Water height (AHD/M)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1/9/2023
2/9/2023
3/9/2023
4/9/2023
5/9/2023
6/9/2023
7/9/2023
8/9/2023
9/9/2023
10/9/2023
11/9/2023
12/9/2023
13/9/2023
14/9/2023
15/9/2023
16/9/2023
17/9/2023
18/9/2023
19/9/2023
20/9/2023
21/9/2023
22/9/2023
23/9/2023
24/9/2023
25/9/2023
26/9/2023
27/9/2023
28/9/2023
29/9/2023
30/9/2023
Date (DD/MM/YYYY)


GREENWELL POINT WATER LEVEL - OCTOBER
Water height (AHD/M)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
1/10/2023
2/10/2023
3/10/2023
4/10/2023
5/10/2023
6/10/2023
7/10/2023
8/10/2023
9/10/2023
10/10/2023
11/10/2023
12/10/2023
13/10/2023
14/10/2023
15/10/2023
16/10/2023
17/10/2023
18/10/2023
19/10/2023
20/10/2023
21/10/2023
22/10/2023
23/10/2023
24/10/2023
25/10/2023
26/10/2023
27/10/2023
28/10/2023
29/10/2023
30/10/2023
31/10/2023
Date (DD/MM/YYYY)

APPENDIX C
ESTUARY INTERTIDAL MONITORING DATA

C1 INTERTIDAL SPECIES CODES

C2 INTERTIDAL HEIGHT PROFILES

C3 INTERTIDAL MOSAIC PLOTS & TRANSECT PHOTOS

C4 INTERTIDAL TRANSECT DRIPLINE RESULTS

C5 PRE TO POST WET WEATHER SITE PHOTOS

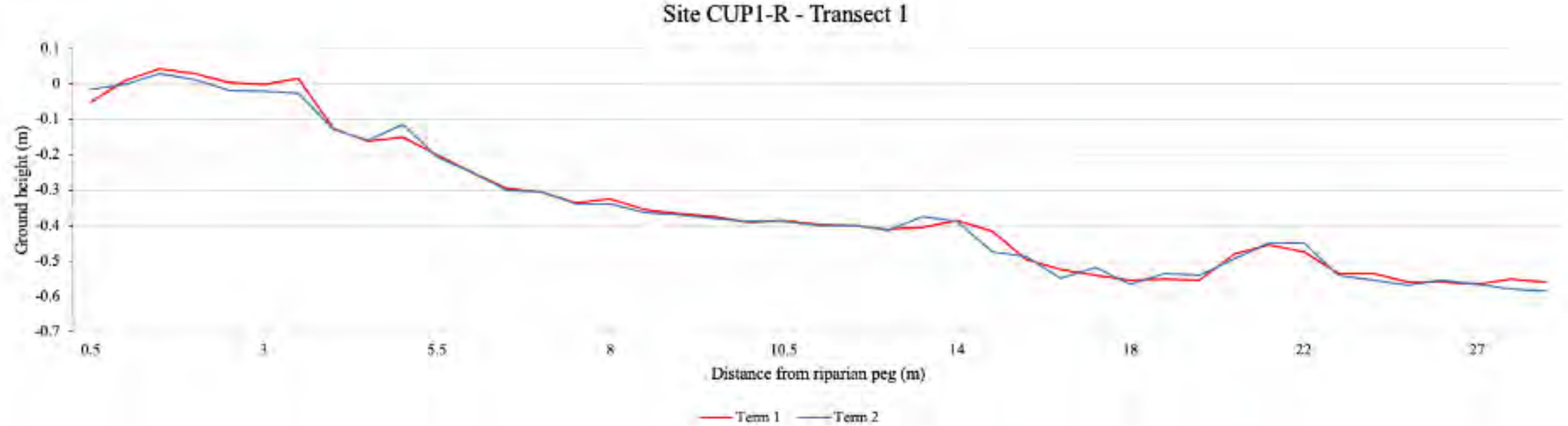
APPENDIX C 1
WORKING CODES FOR INTERTIDAL TRANSECTS

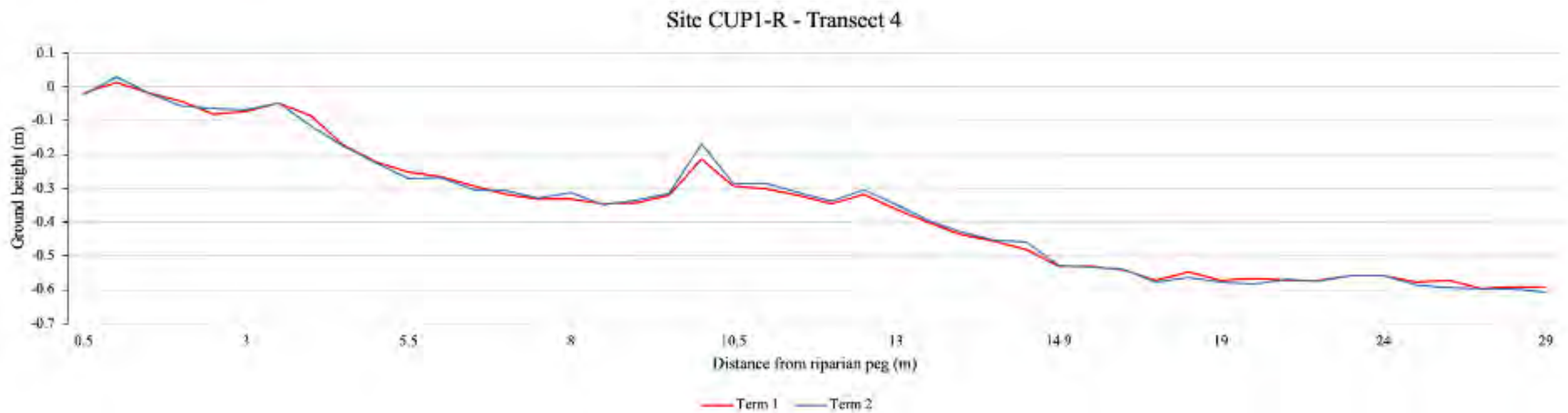
Yellow highlight indicates tentative IDs

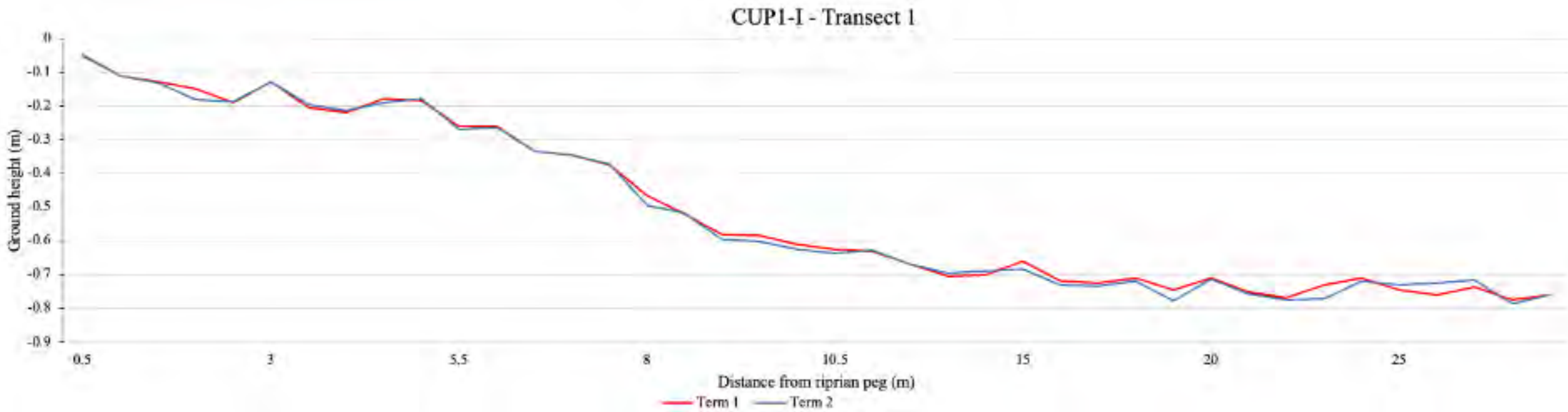
Vegetation Type	Species	Coding
Mangrove	*Avicennia marina*	AM
	River Mangroves	RM
Intertidal	*Sporobolus virginicus*	SQ
	Juncus kraussii	JK
	Baumea juncea	BJ
	Sarcocornia quinqueflora – Glass wort	GW
	Suaeda australis	SA
Riparian	*Asparagus sp.*	AF
	Lobelia	AL
	Alternanthera	ALT
	Viola hederacea	AV
	Buffalo grass - Stenotaphrunisp	BG
	Bryophyta	BR
	Sellieria sp.	BS
	Carpobrotus	CA
	Cynodon dactylon	CD
	Cogon grass	CG
	Cape Ivy - Delairea odorata	CI
	Edrastina	ED
	French Flax	FF
	Ghania sp.	GH
	Hydrocotyle	HD
	Hypochaeris	HY
	Ichnocarpes	IC
	Ipomoea	IP
	Lantana camara	LC
	Mikania micrantha	MK
	Nightshade - Solanumincanum	NS
	Oplismenus	OP
	Phragmites australis	PA
	Parsonsia straminea	PS
	Pittostrum	PT
	Rhagodia candolleana	RC
	Riparian Grass	RG
	Ranunculus	RN
	Spreading nut heads - Sphaeromorphae australis	SH
	Star jasmin	SJ

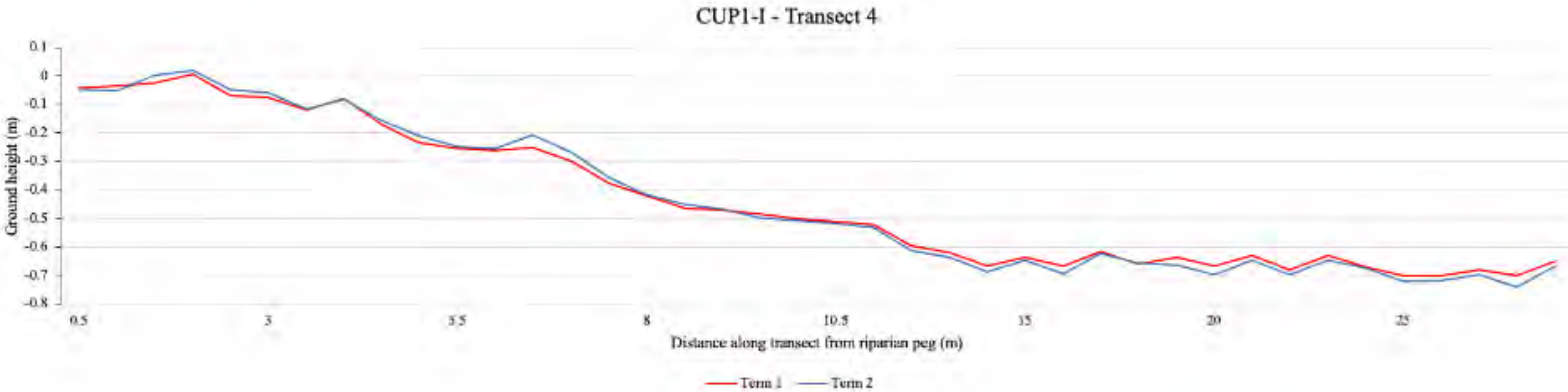
	Common Sowthistle - Sonchus	SO
	Sea primrose	SE
	Stinkvine	SV
	Tracheophyta	TR
	Tetragonia tetragonoides	TT
	Wahlenbergia - I naturalist	WAH
	Climbing dayflower.Commelina.sp	WM
Trees	*African boxthorn*	AB
	Casuarina glauca	C
	Cyprus.sp.	CP
	Casuarina sapling	CS
	Melaleuca	ML
Abiotic	*Bare Mud*	BM
	Casuarina wrack	CW
	Debris	D
	Eucalyptus leaf wrack	EW
	Rubbish	R
	Zostera wrack	ZW

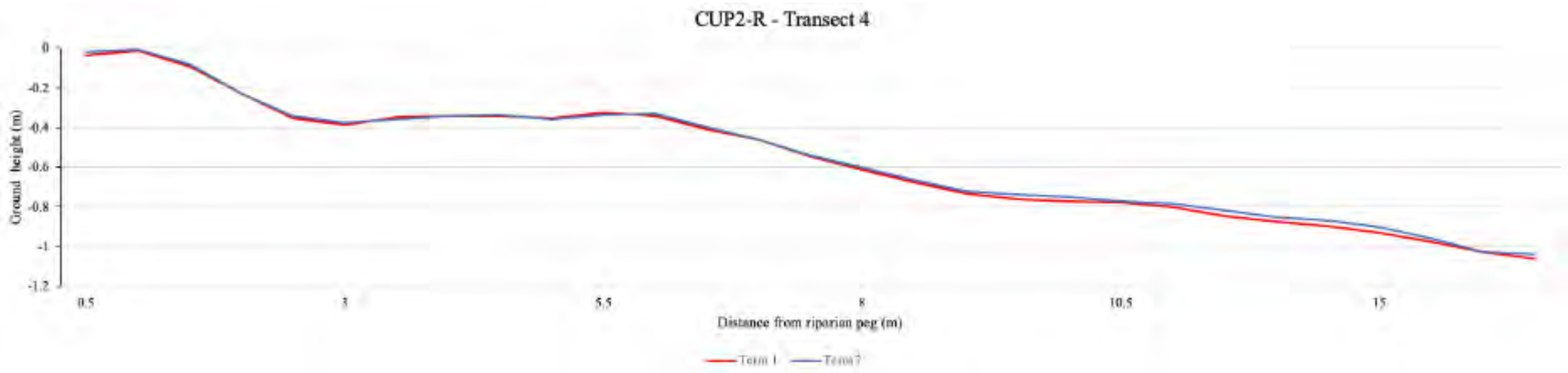
APPENDIX C2
Six-Monthly INTERTIDAL HEIGHT PROFILE

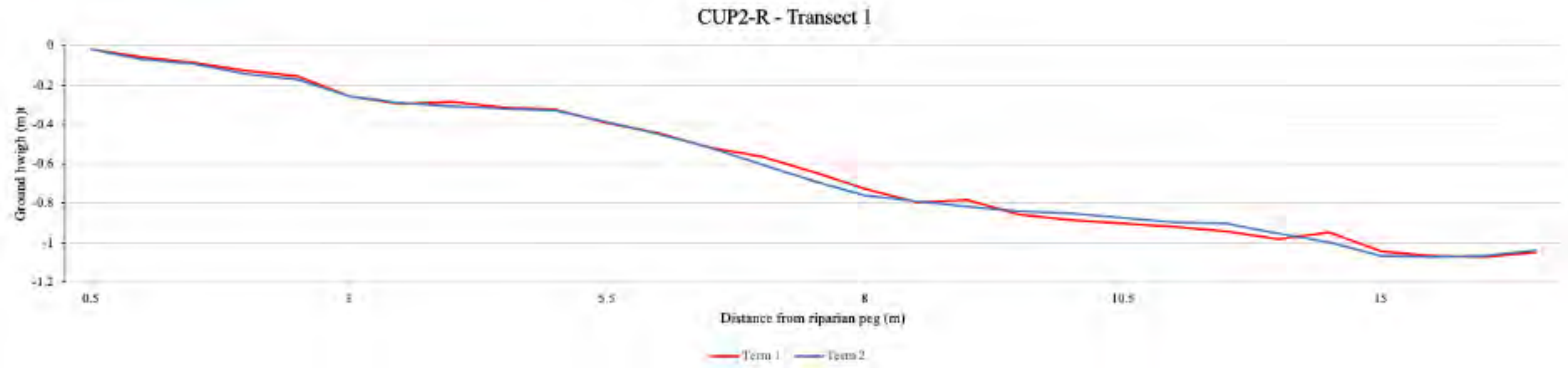


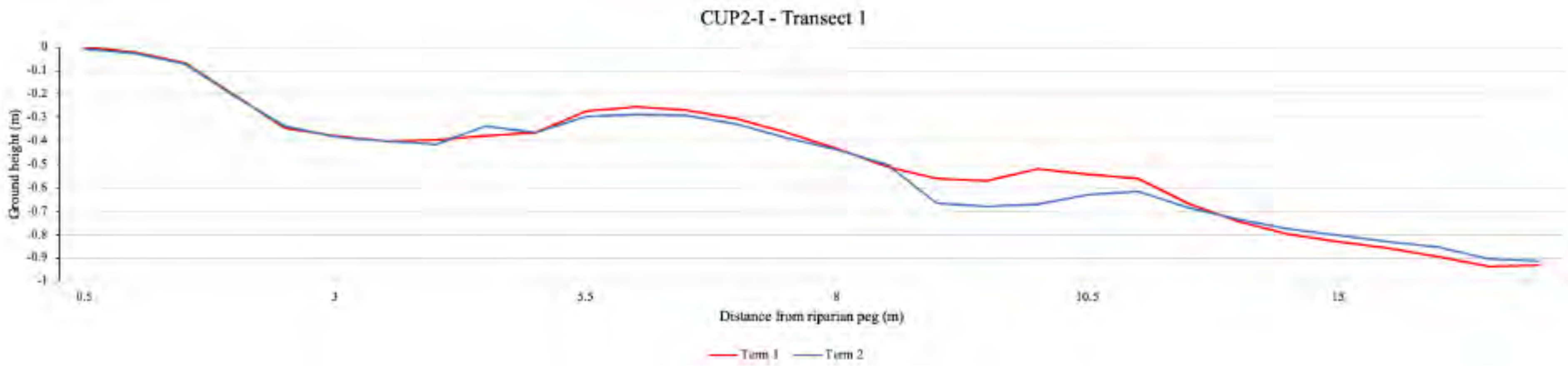


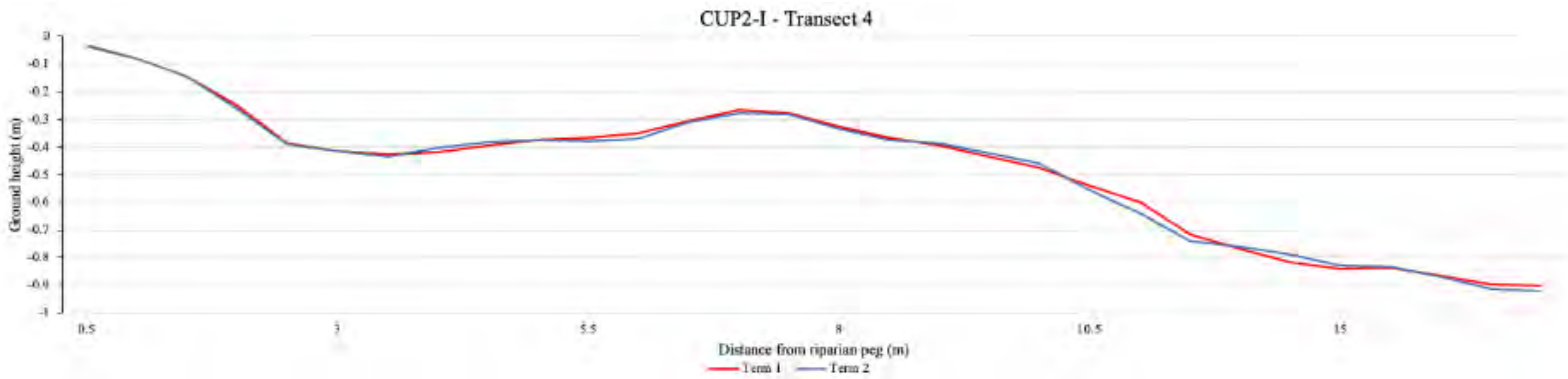

CUP1-I - Transect 1
Ground height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
0.5
3
5.5
8
10.5
15
20
25
Distance from riprian peg (m)
Term 1
Term 2

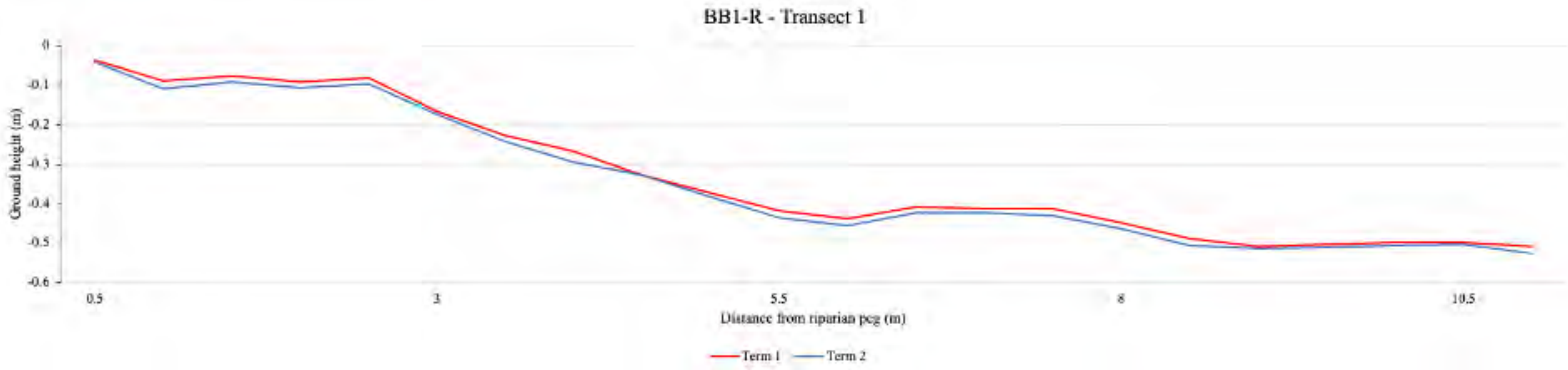

CUP1-I - Transect 4
Ground height (m)
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
0.5
3
5.5
8
10.5
15
20
25
Distance along transect from riparian peg (m)
Term 1
Term 2

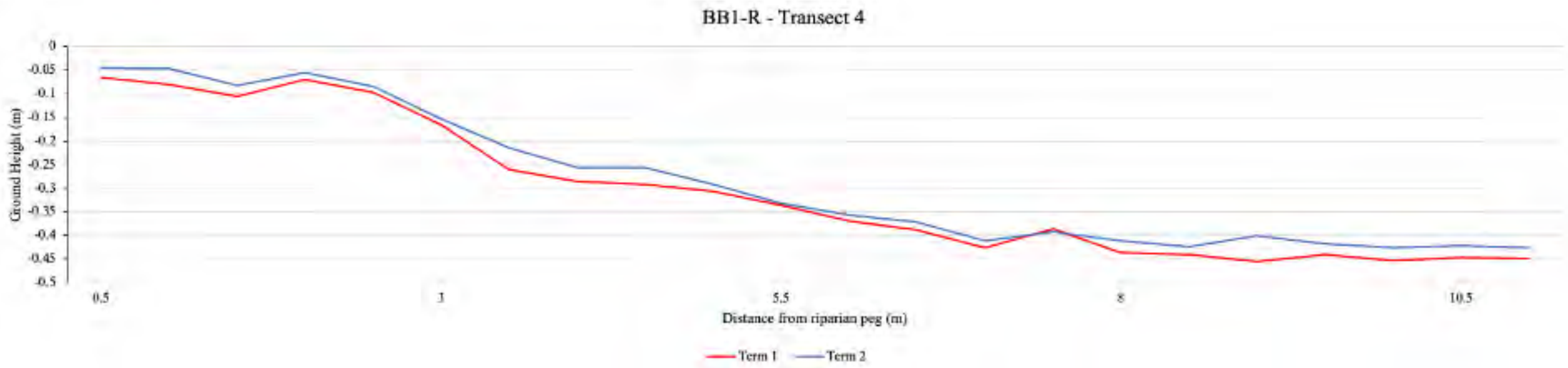

CUP2-R - Transect 4
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
Ground height (m)
0.5
3
5.5
8
10.5
13
Distance from riparian peg (m)
Term 1
Term 2

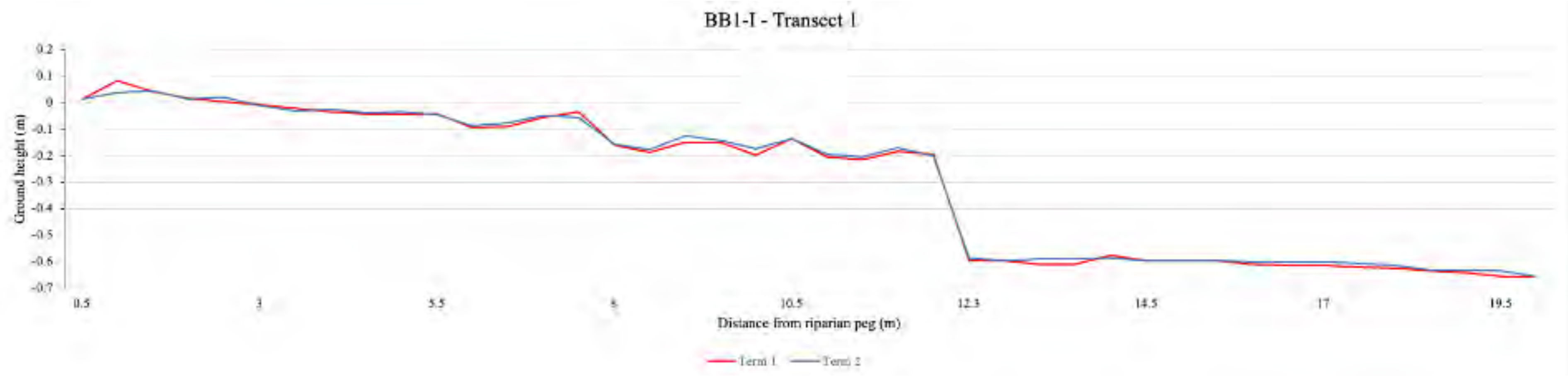

CUP2-R - Transect 1
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
Ground hwigh (m)
0.5
3
5.5
8
10.5
13
Distance from riparian peg (m)
Term 1
Term 2

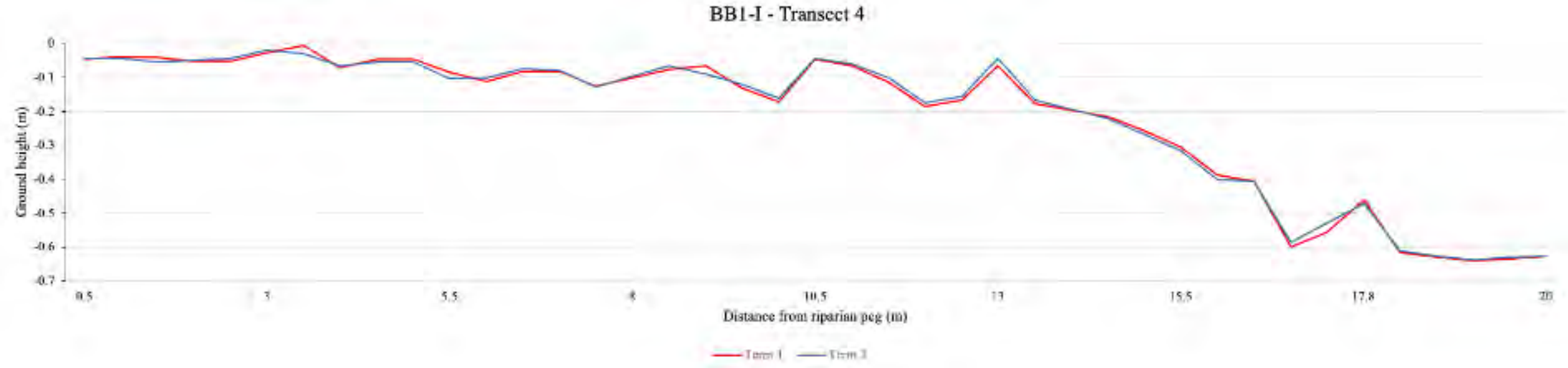

CUP2-I - Transect 1
Ground height (m)
Distance from riparian peg (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
0.5
3
5.5
8
10.5
15
Term 1
Term 2

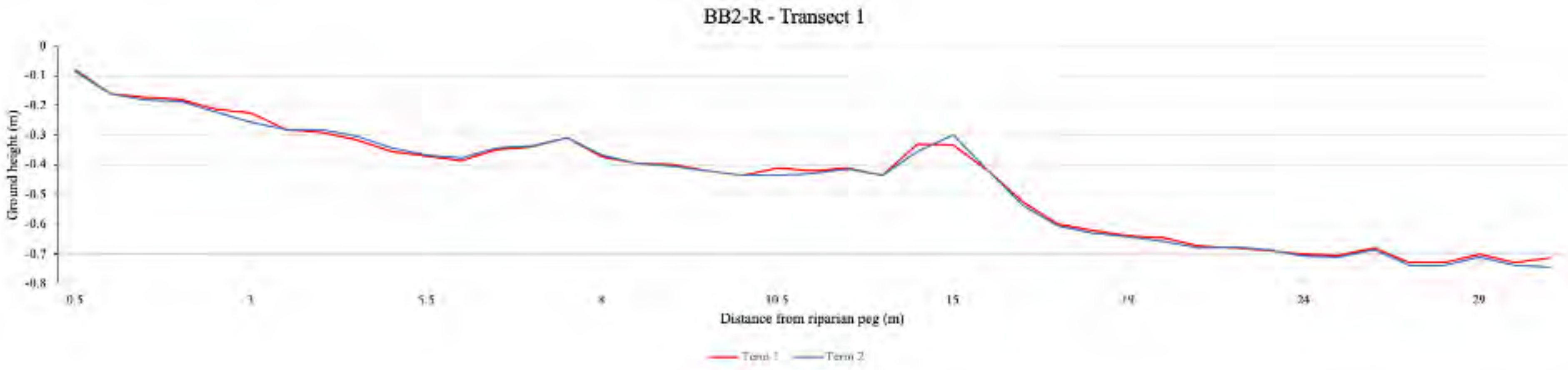

CUP2-I - Transect 4
Ground height (m)
Distance from riparian peg (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
-0.9
-1
0.5
3
5.5
8
10.5
15
Term 1
Term 2

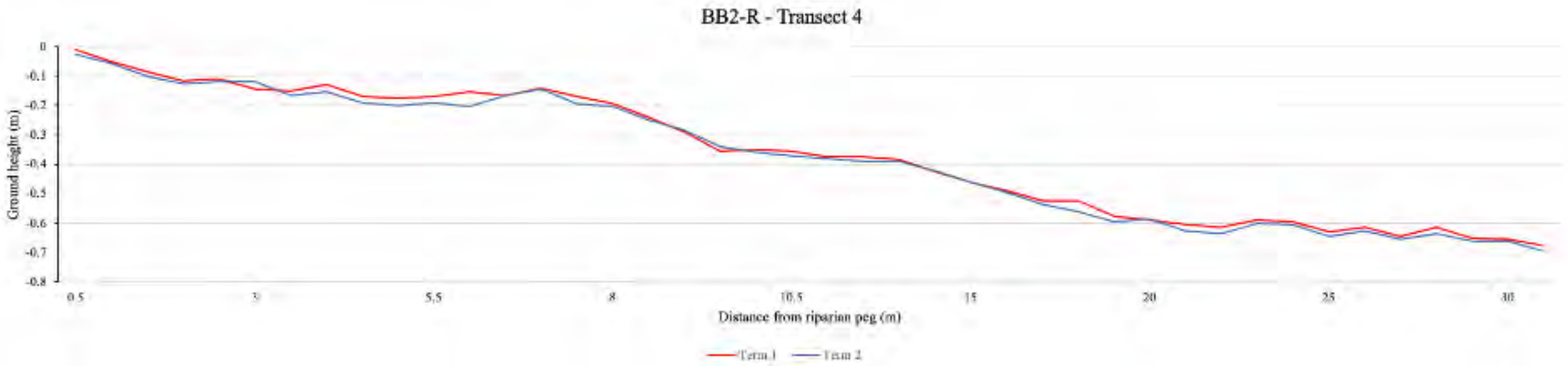

BB1-R - Transect 1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Ground height (m)
0.5
3
5.5
8
10.5
Distance from riparian peg (m)
Term 1
Term 2

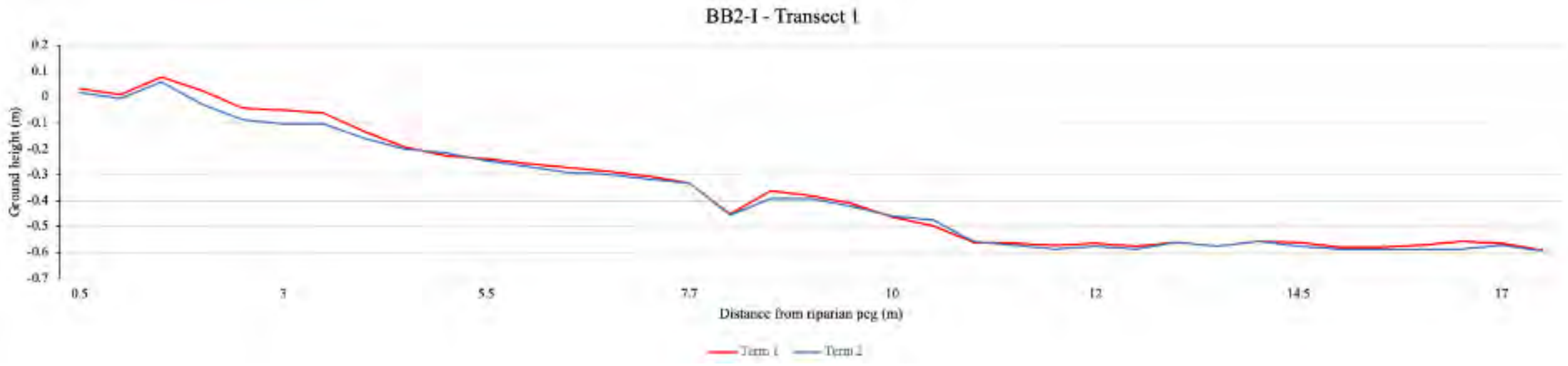

BB1-R - Transect 4
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
-0.4
-0.45
-0.5
Ground Height (m)
0.5
3
5.5
8
10.5
Distance from riparian peg (m)
Term 1
Term 2

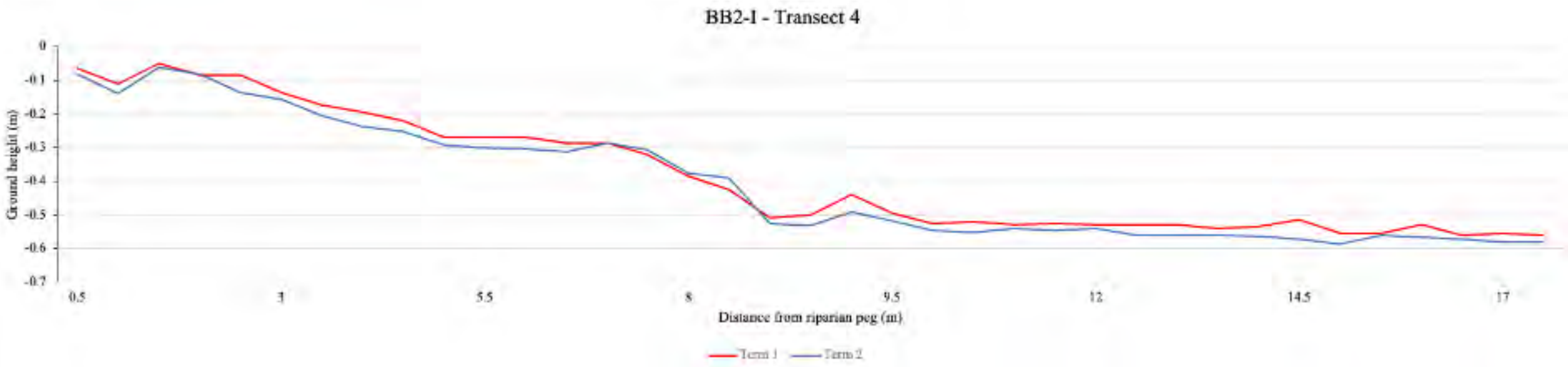

BB1-I - Transect 1
Ground height (m)
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
0.5
3
5.5
8
10.5
12.3
14.5
17
19.5
Distance from riparian peg (m)
Term 1
Term 2

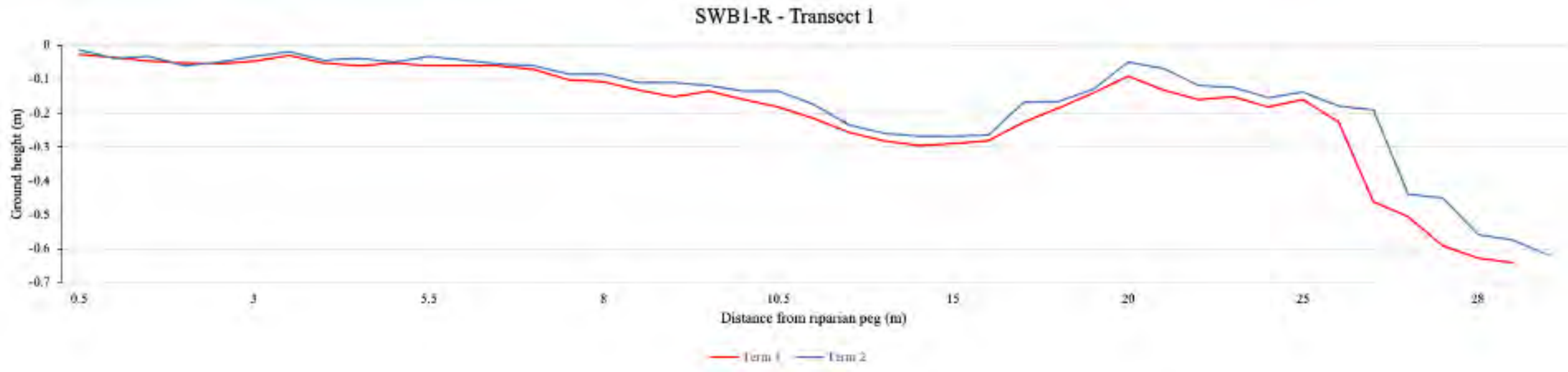

BB1-I - Transect 4
Ground height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
0.5
3
5.5
8
10.5
13
15.5
17.8
20
Distance from riparian peg (m)
Term 1
Term 2

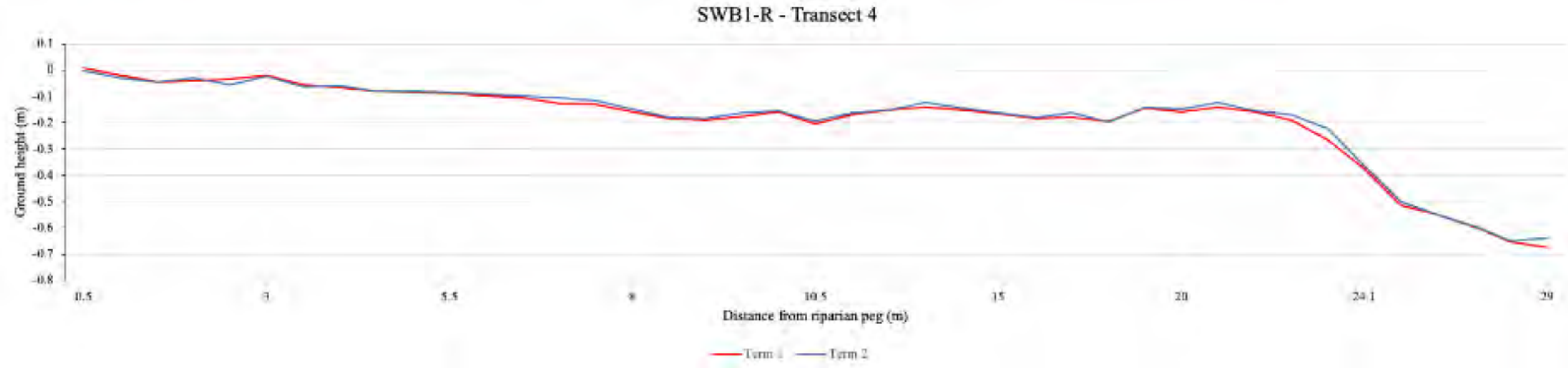

BB2-R - Transect 1
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

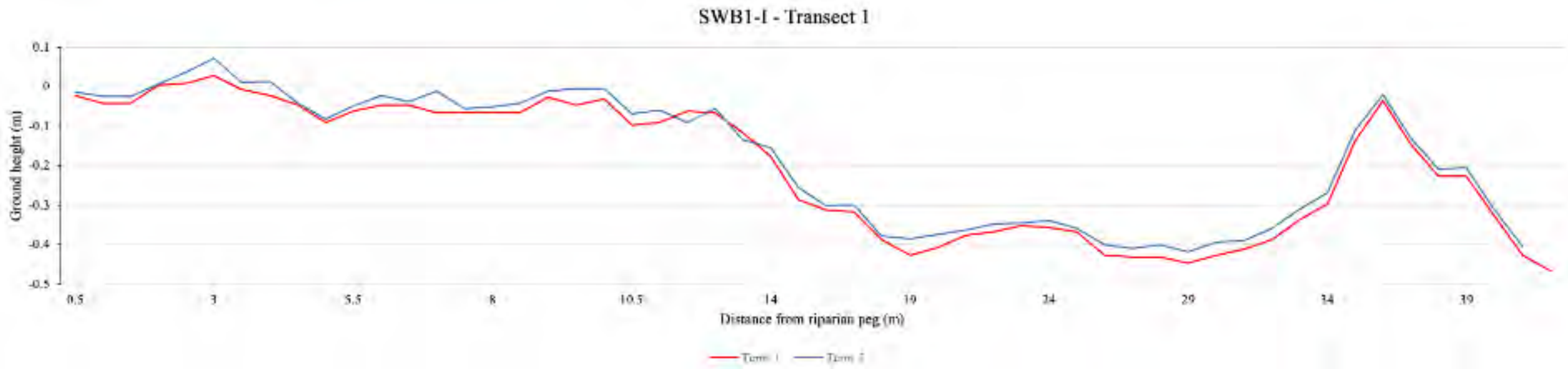

BB2-R - Transect 4
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

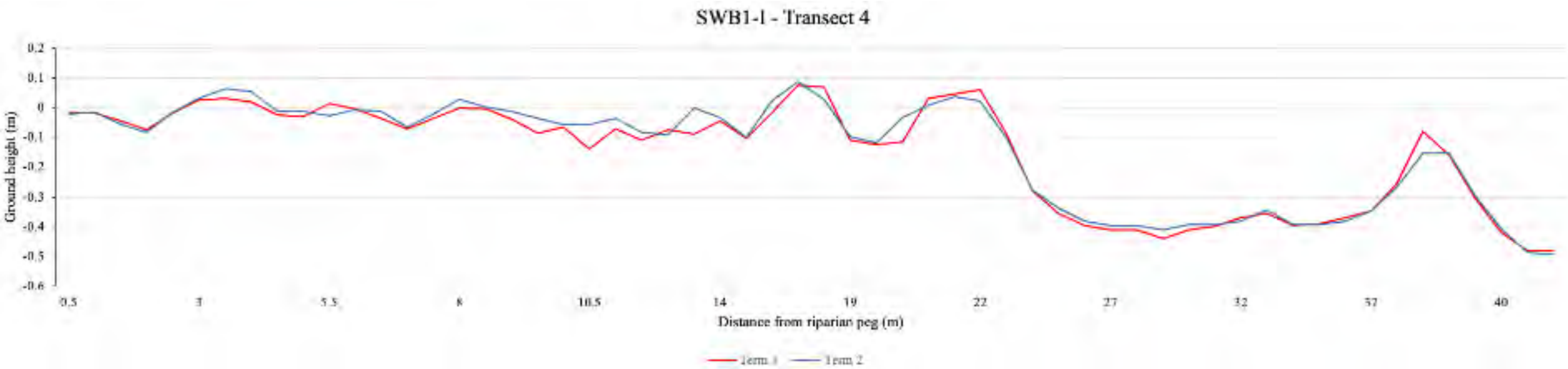

BB2-I - Transect 1
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
Ground height (m)
0.5
3
5.5
7.7
10
12
14.5
17
Distance from riparian peg (m)
Term 1
Term 2

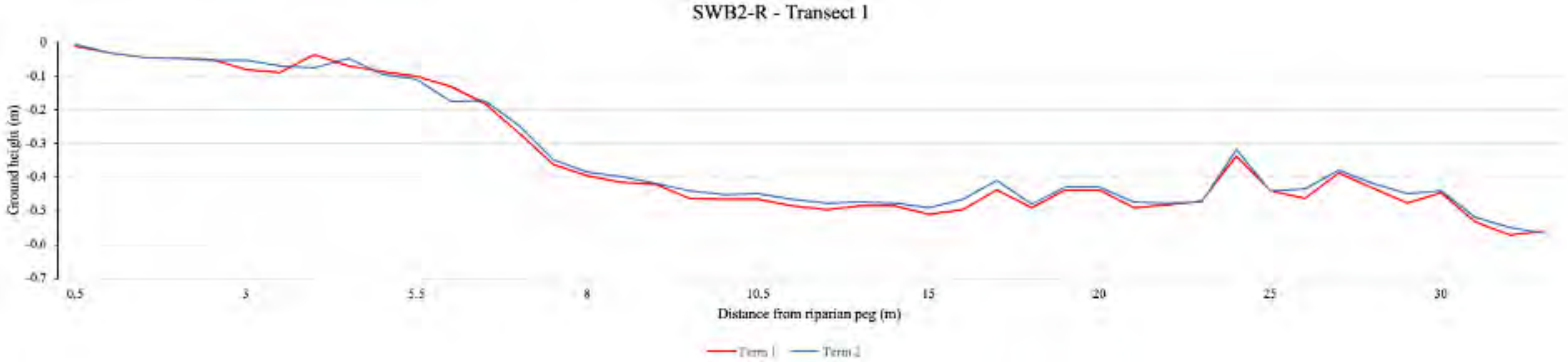

BB2-I - Transect 4
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
Ground height (m)
0.5
3
5.5
8
9.5
12
14.5
17
Distance from riparian peg (m)
Term 1
Term 2

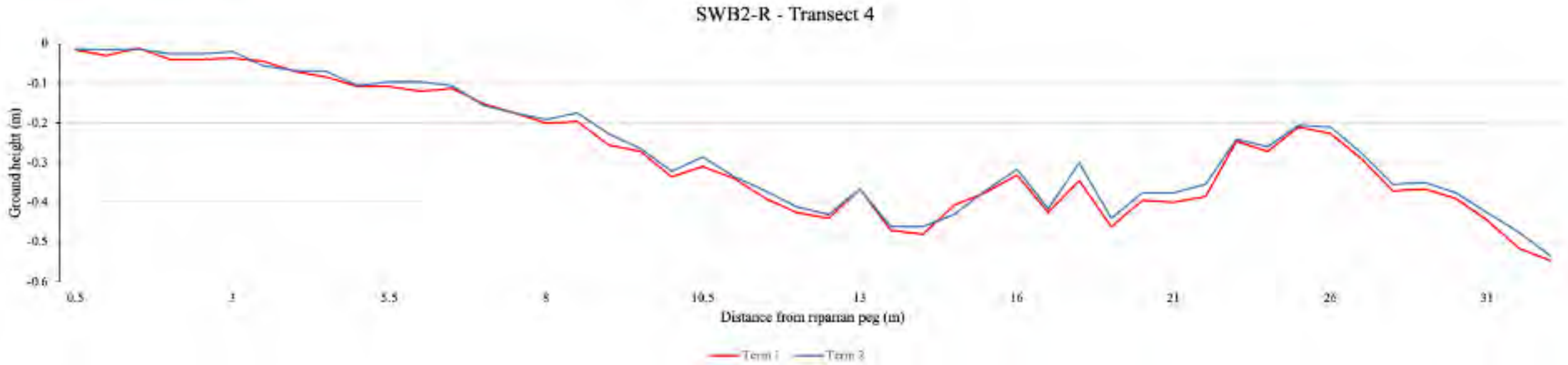

SWB1-R - Transect 1
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

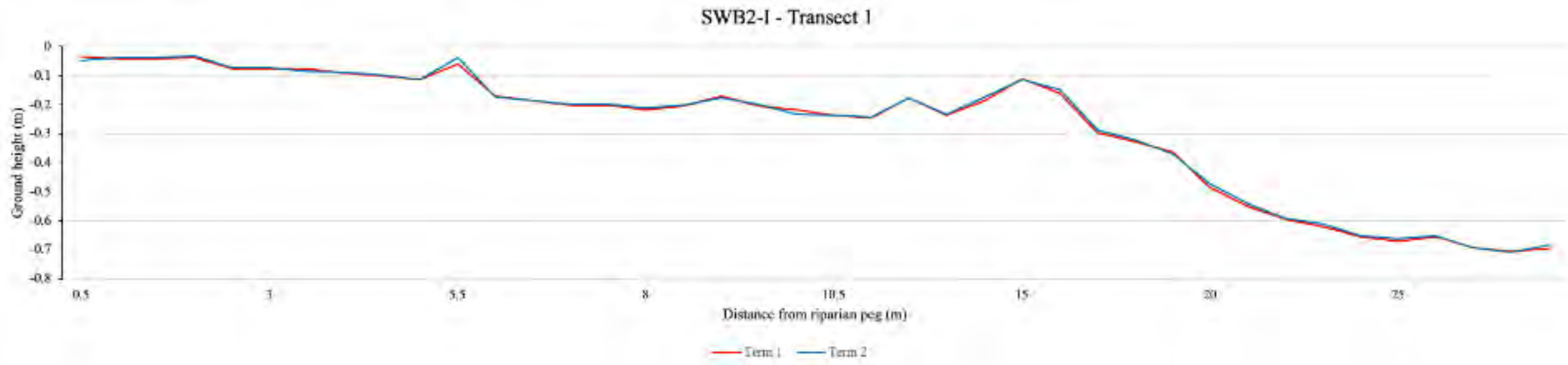

SWB1-R - Transect 4
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

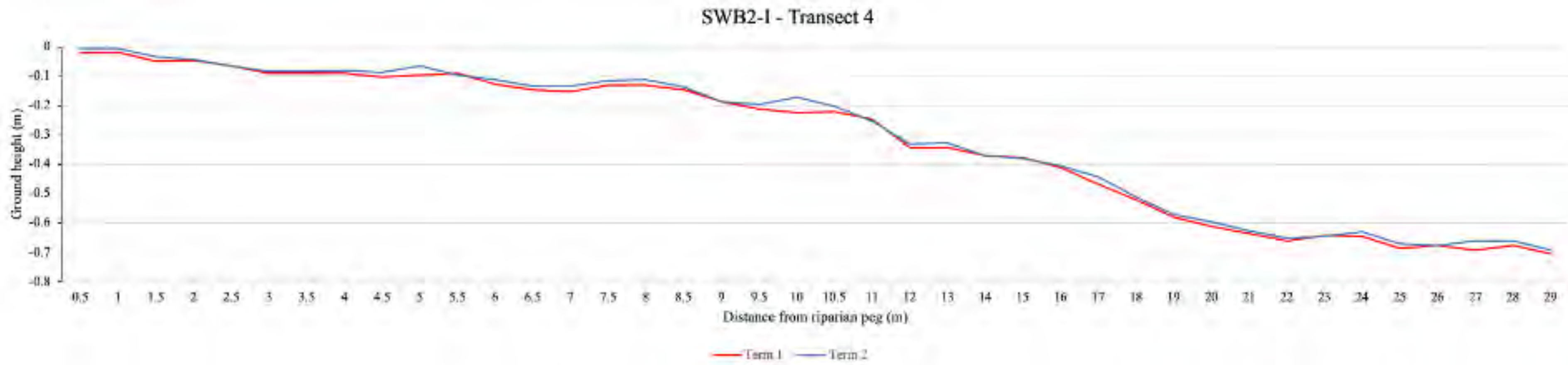

SWB1-I - Transect 1
Ground height (m)
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0.5
3
5.5
8
10.5
14
19
24
29
34
39
Distance from riparian peg (m)
Term 1
Term 2

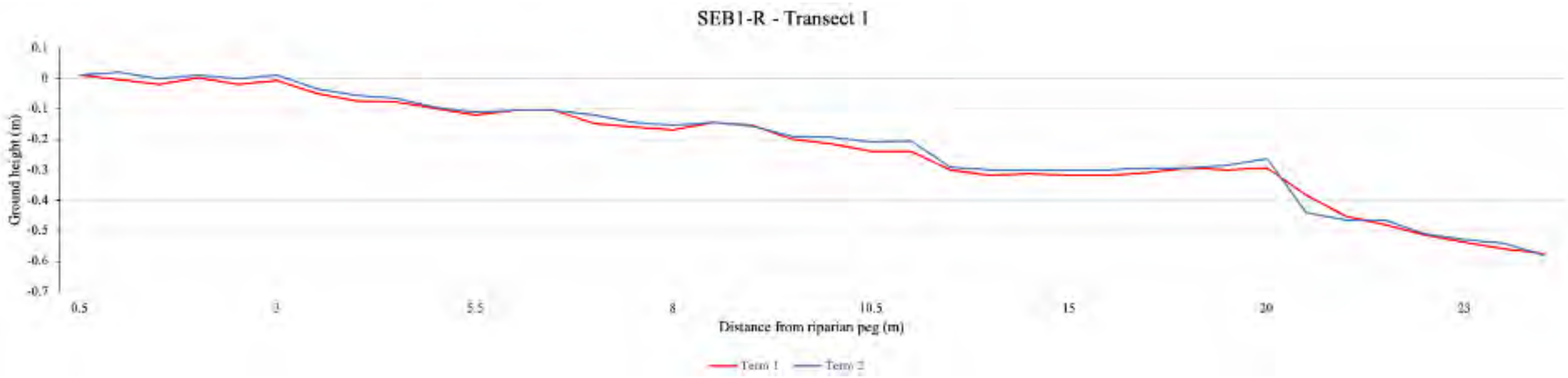

SWB1-I - Transect 4
Ground height (m)
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
0.5
3
5.5
8
10.5
14
19
22
27
32
37
40
Distance from riparian peg (m)
Term 1
Term 2

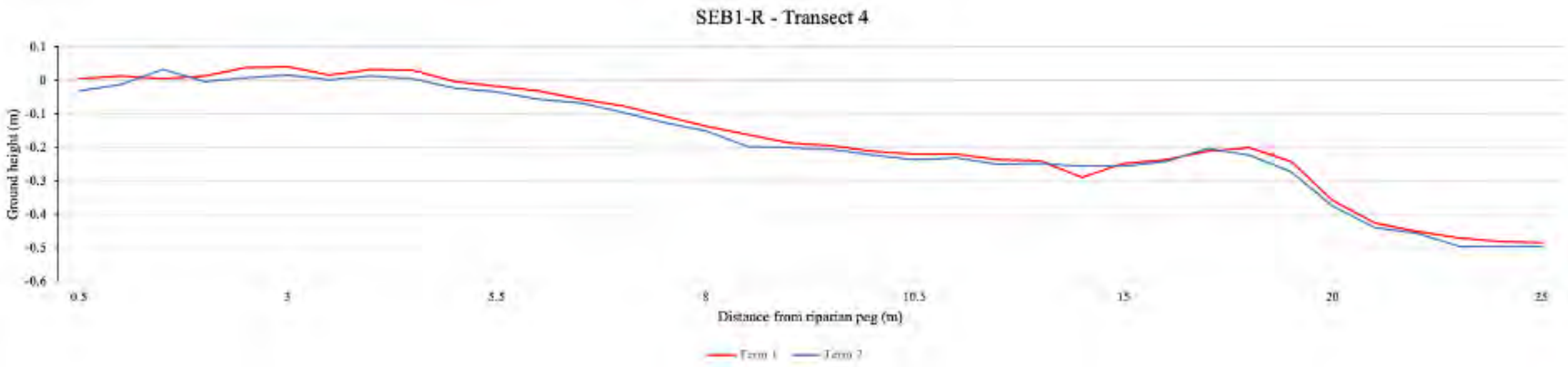

SWB2-R - Transect 1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
Ground height (m)
0.5
3
5.5
8
10.5
15
20
25
30
Distance from riparian peg (m)
Term 1
Term 2

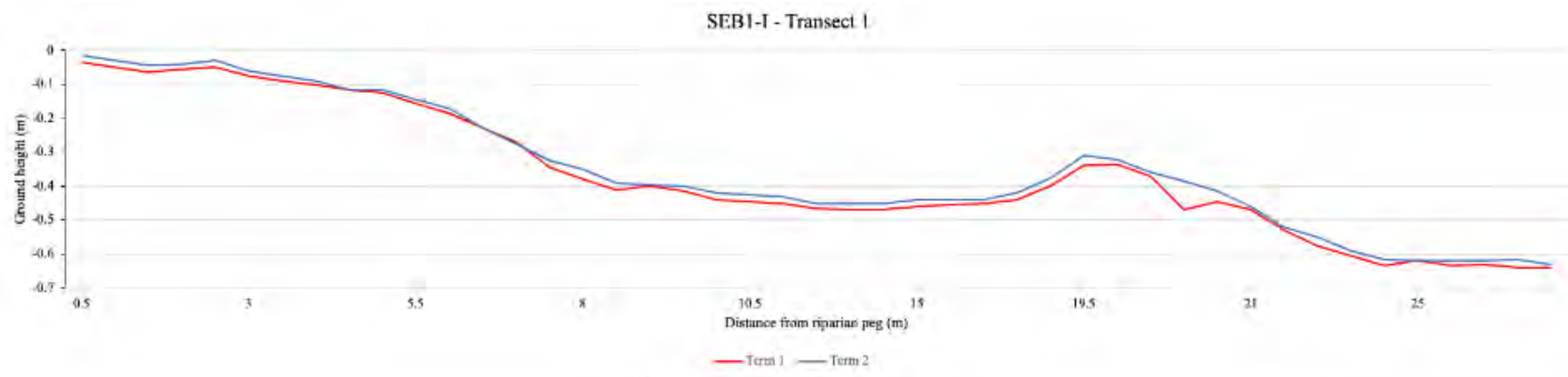

SWB2-R - Transect 4
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Ground height (m)
0.5
3
5.5
8
10.5
13
16
21
26
31
Distance from riparian peg (m)
Term 1
Term 2

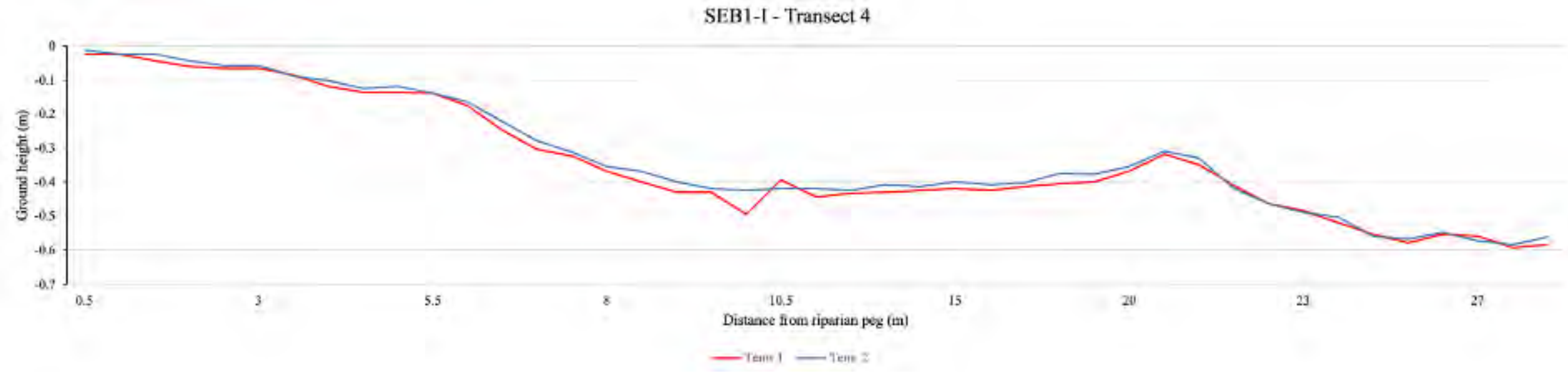

SWB2-I - Transect 1
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

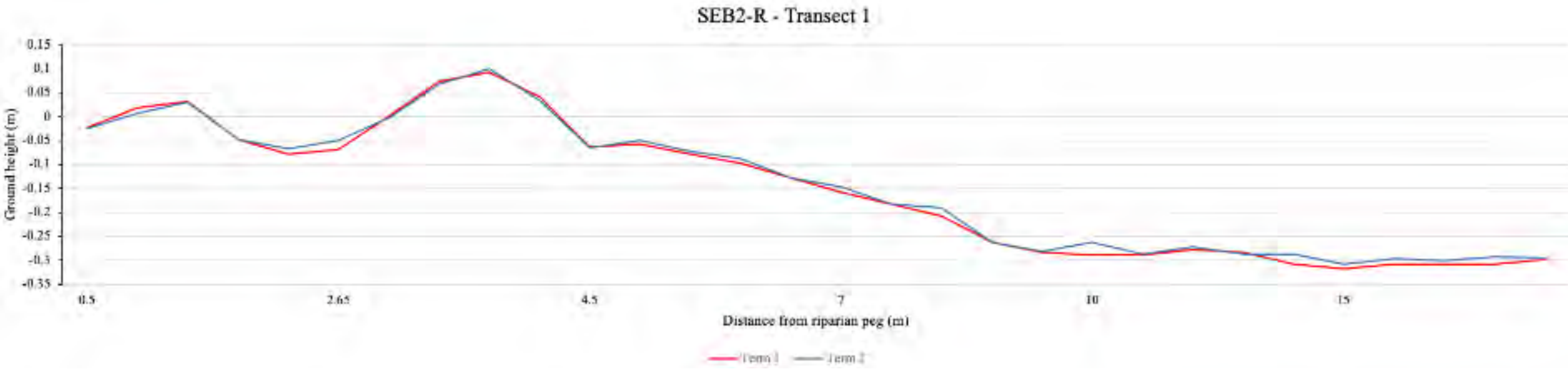

SWB2-I - Transect 4
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

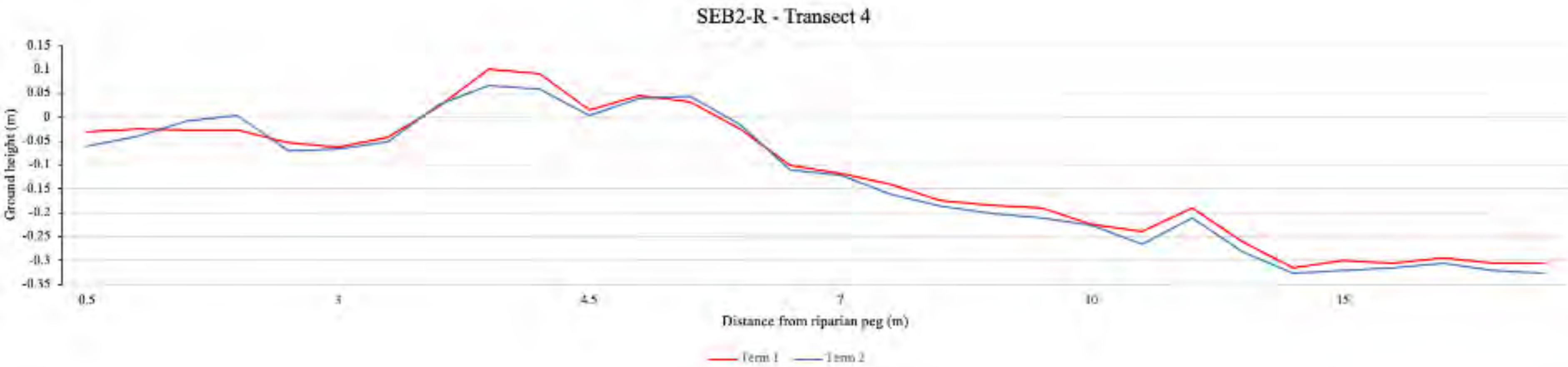

SEB1-R - Transect 1
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
Ground height (m)
0.5
3
5.5
8
10.5
15
20
23
Distance from riparian peg (m)
Term 1
Term 2

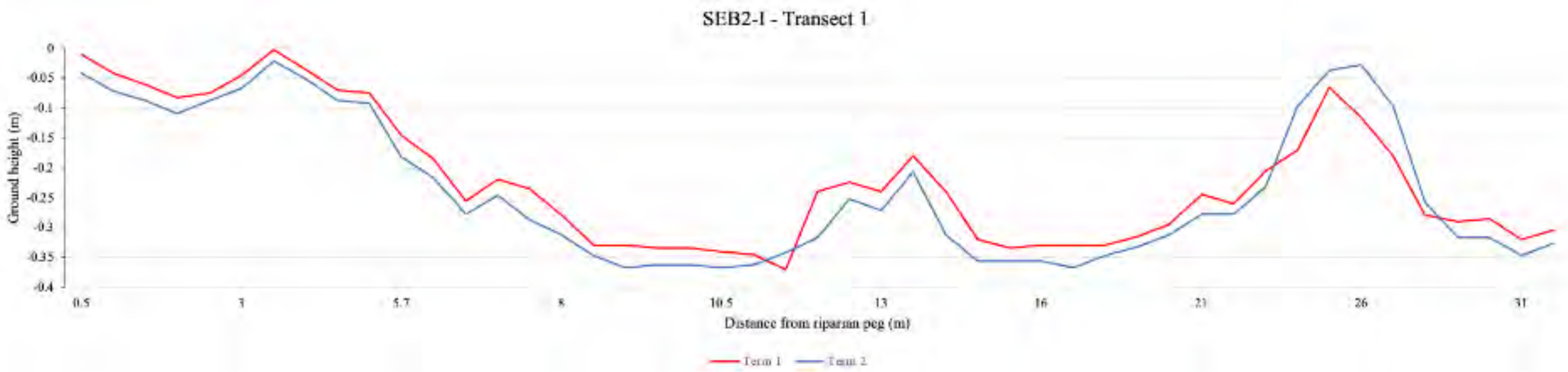

SEB1-R - Transect 4
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Ground height (m)
0.5
3
5.5
8
10.5
15
20
25
Distance from riparian peg (m)
Term 1
Term 2

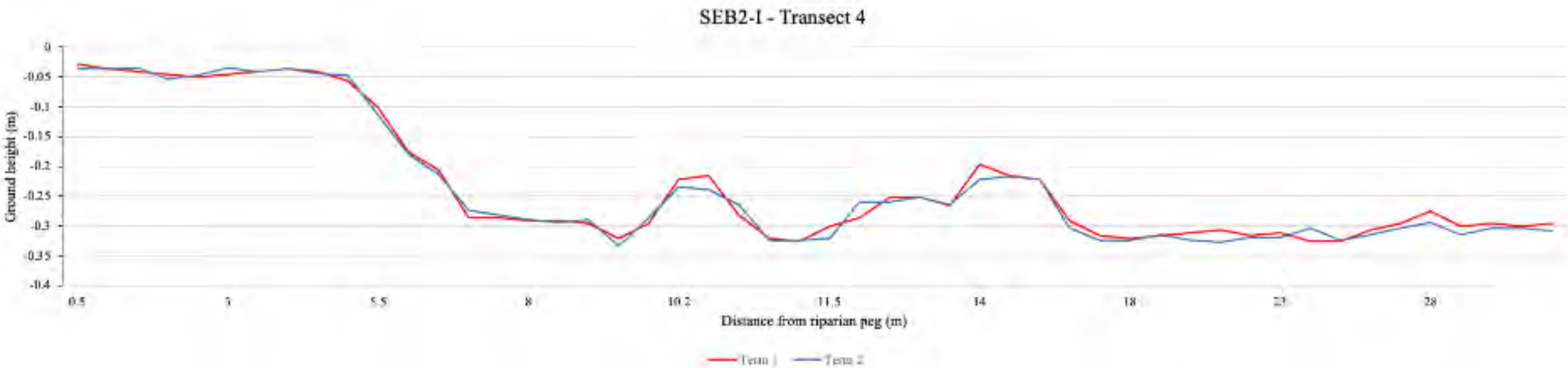

SEB1-I - Transect 1
Ground height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
0.5
3
5.5
8
10.5
19.5
21
25
Distance from riparian peg (m)
Term 1
Term 2

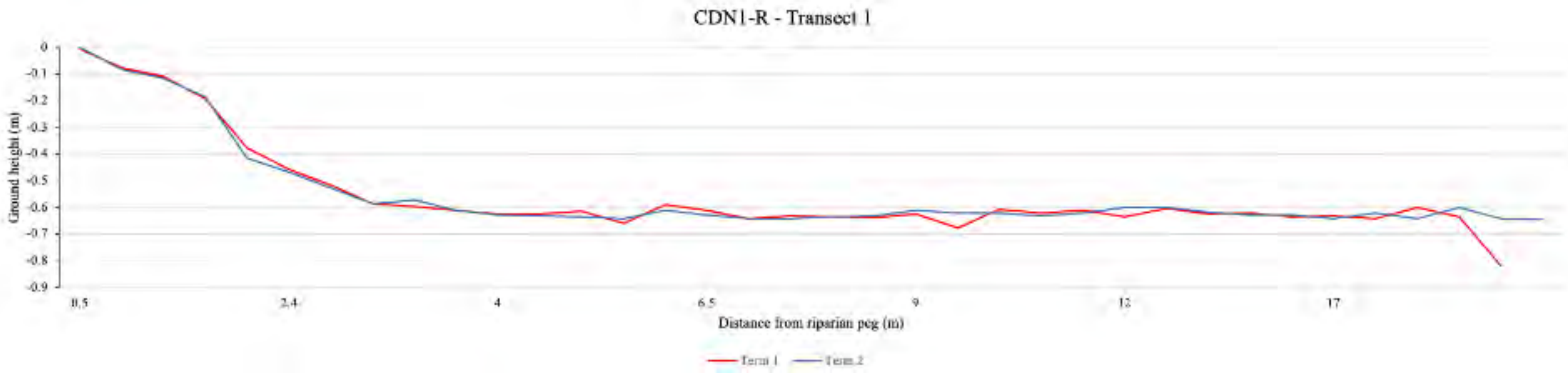

SEB1-I - Transect 4
Ground height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
0.5
3
5.5
8
10.5
15
20
23
27
Distance from riparian peg (m)
Term 1
Term 2

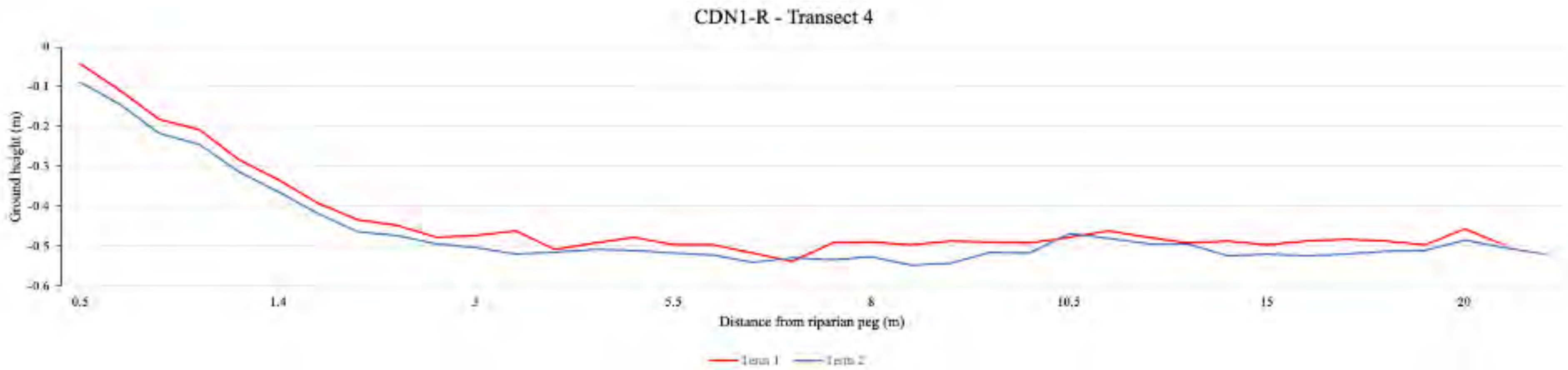

SEB2-R - Transect 1
Ground height (m)
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
0.5
2.65
4.5
7
10
15
Distance from riparian peg (m)
Term 1
Term 2


SEB2-R - Transect 4
Ground height (m)
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
0.5
3
4.5
7
10
15
Distance from riparian peg (m)
Term 1
Term 2

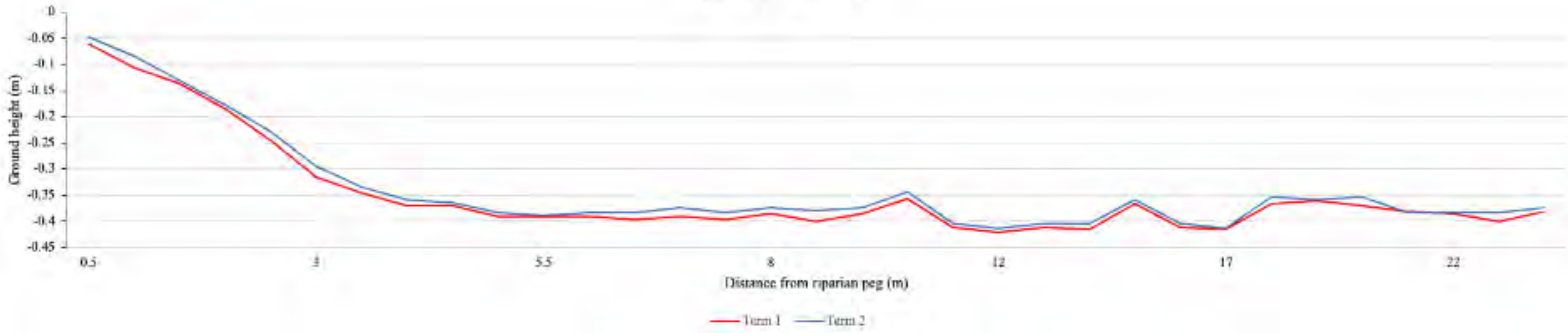

SEB2-I - Transect 1
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2


SEB2-I - Transect 4
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

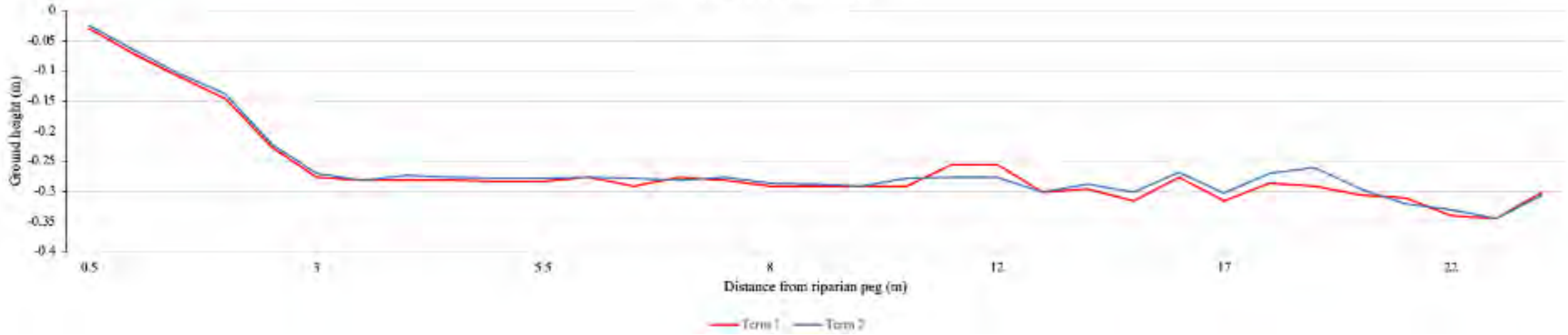

CDN1-R - Transect 1
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

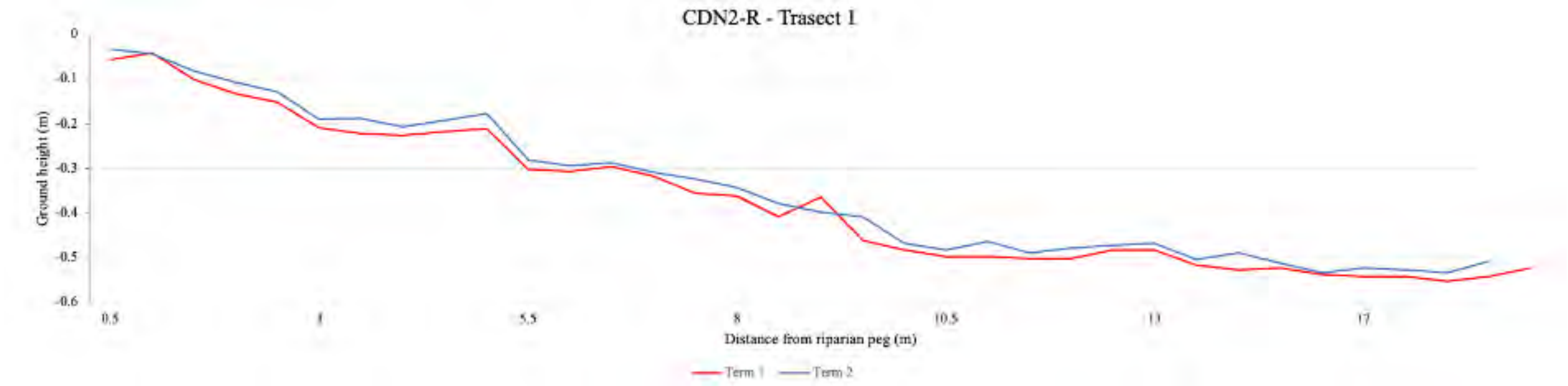

CDN1-R - Transect 4
Ground height (m)
Distance from riparian peg (m)
Term 1
Term 2

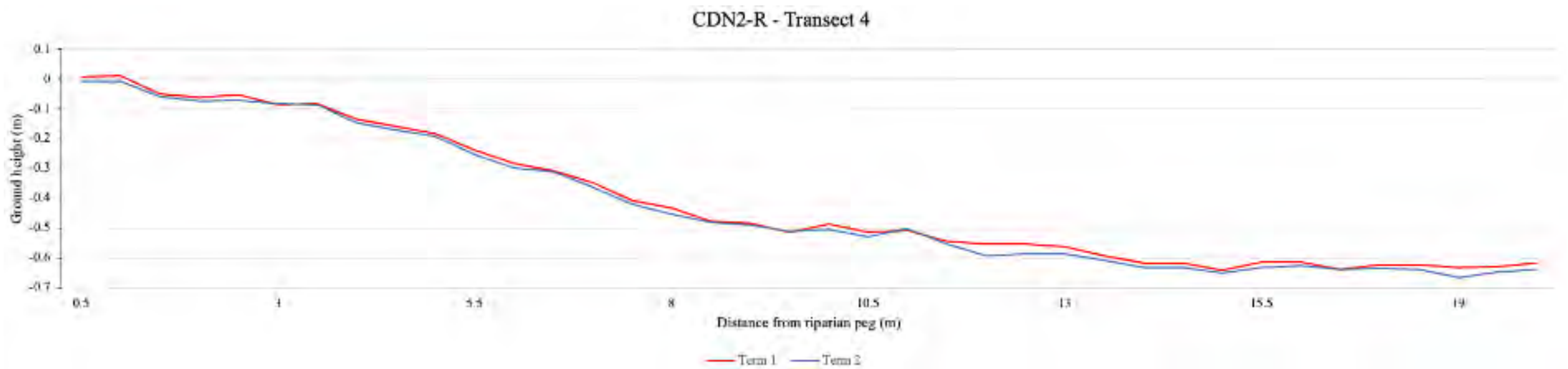
CDN1-I - Transect 1

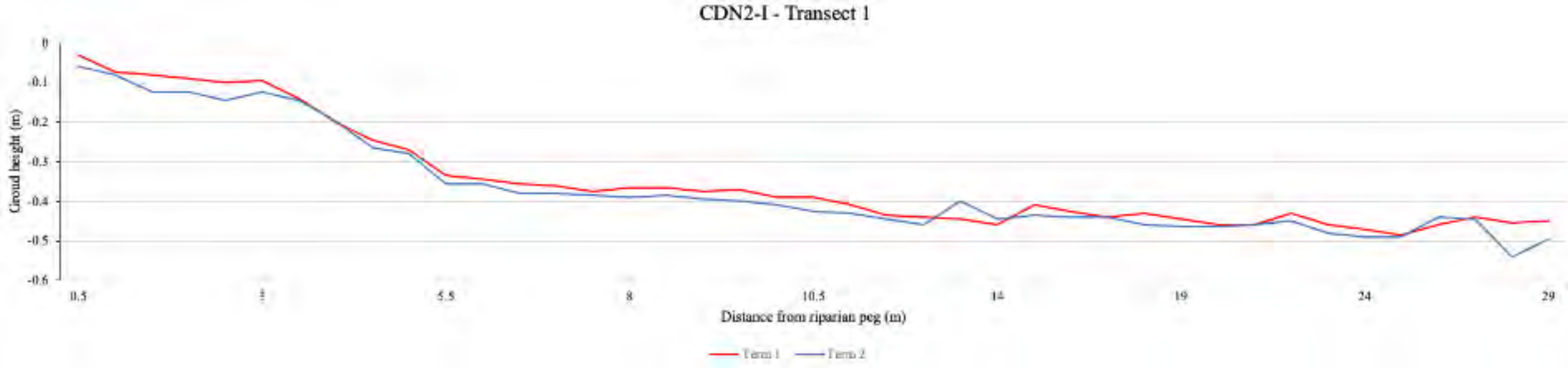


CDN1-I - Transect 4

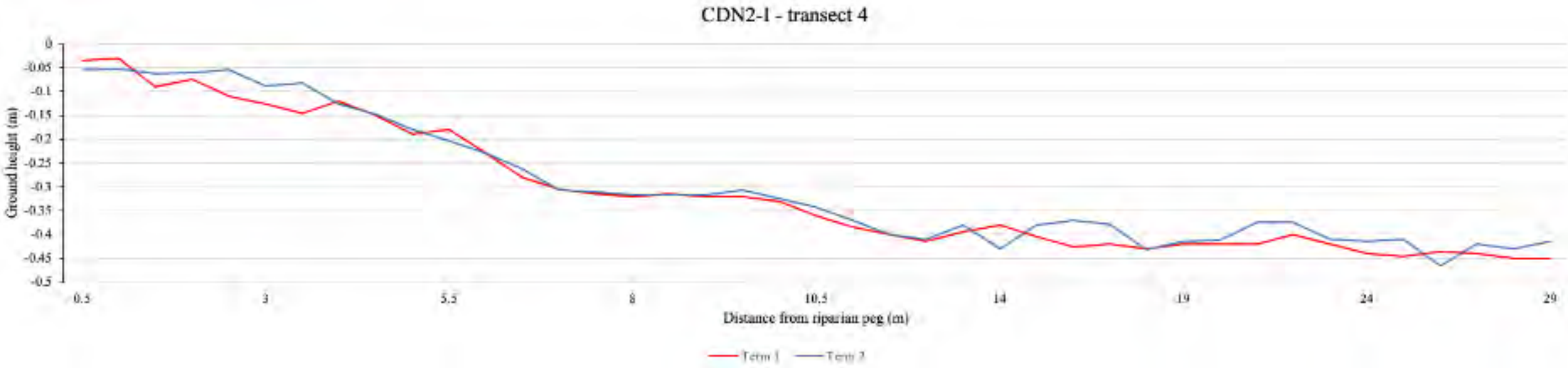



CDN2-R - Trasect 1
Ground height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
0.5
3
5.5
8
10.5
13
17
Distance from riparian peg (m)
Term 1
Term 2


CDN2-R - Transect 4
Ground height (m)
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
0.5
3
5.5
8
10.5
13
15.5
19
Distance from riparian peg (m)
Term 1
Term 2



CDN2-I - Transect 1
Groud height (m)
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
0.5
3
5.5
8
10.5
14
19
24
29
Distance from riparian peg (m)
Term 1
Term 2



CDN2-I - transect 4
Ground height (m)
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
-0.35
-0.4
-0.45
-0.5
0.5
3
5.5
8
10.5
14
19
24
29
Distance from riparian peg (m)
Term 1
Term 2

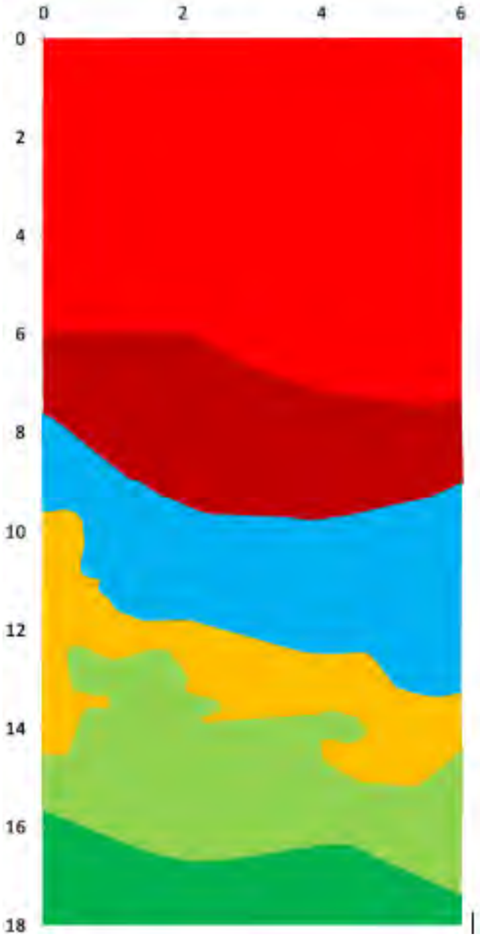
APPENDIX C3

SIX-MONTHLY
INTERTIDAL MOSAIC PLOTS & TRANSECT PHOTOS

SEB2-R – Transect Mosaic

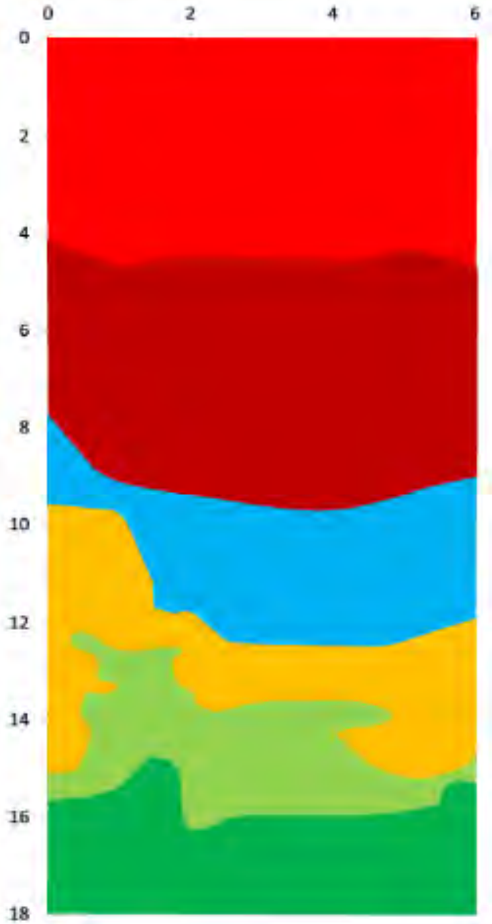
Term 1	Term 2	Term 3

Term 1



(red)	CD + CW + AF + IP + PN + C + D
(dark red)	JK + CD + SQ + CW + Little PN
(blue)	JK + SQ + Little CH +PN
(orange)	PN + CH + BM + Thinner SQ
(light green)	BM + PN + SD + SP
(green)	PN + SD + SP + AD + BM + CH

Term 2



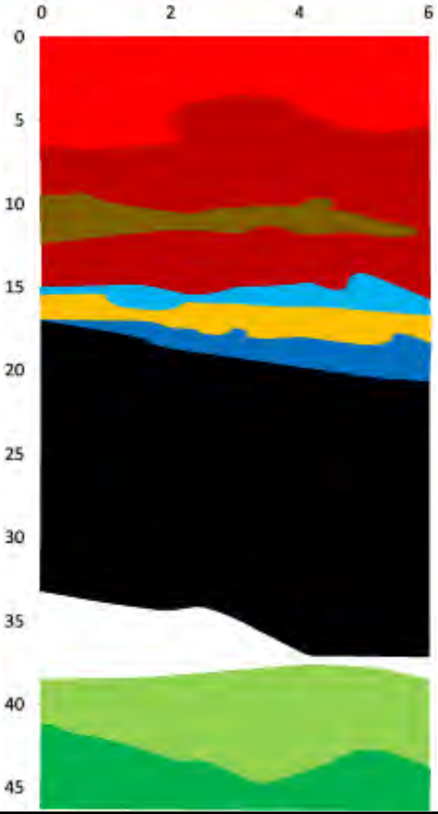
(red)	CW + CD + AF + Some JK
(dark red)	SQ + JK + CD
(blue)	JK + SQ
(orange)	Sparse SQ + PN + Edging saplings
(light green)	PN + SP
(green)	PN + SP + SD + AD

Term 3

SEB2-I – Transect Mosaic

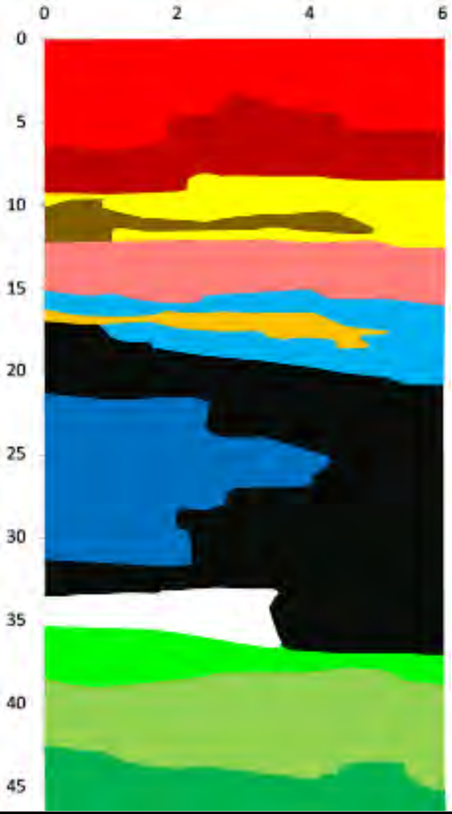
Term 1	Term 2	Term 3

Term 1



	CW + CS (0.5m), AF + RG + CD + Little JK
	SQ + JK
	BM + Little PN (rainbow sheen on BM)
	SQ + PN
	BM + PN + Little SQ + SP
	SQ + AD + PN
	JK
	JK + RM (>1.5m and budding) + AD (>1.5m) + PN
	PN + SQ + SP + AD
	PN + SP + AD

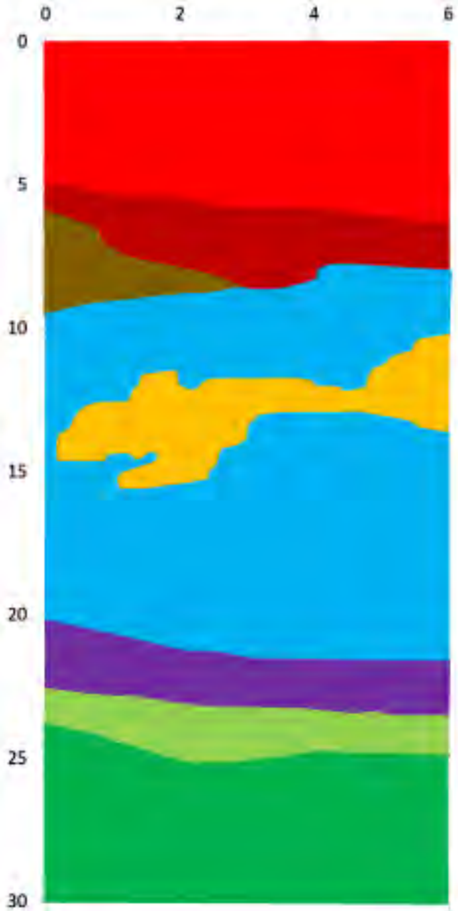
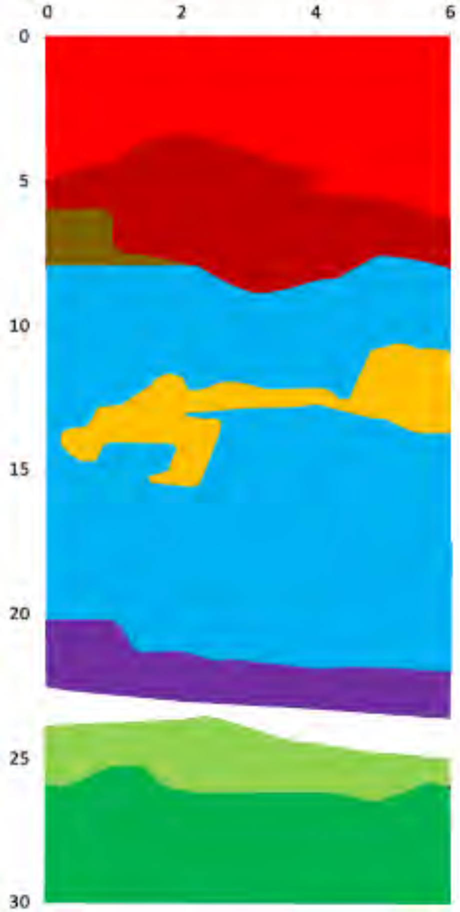
Term 2



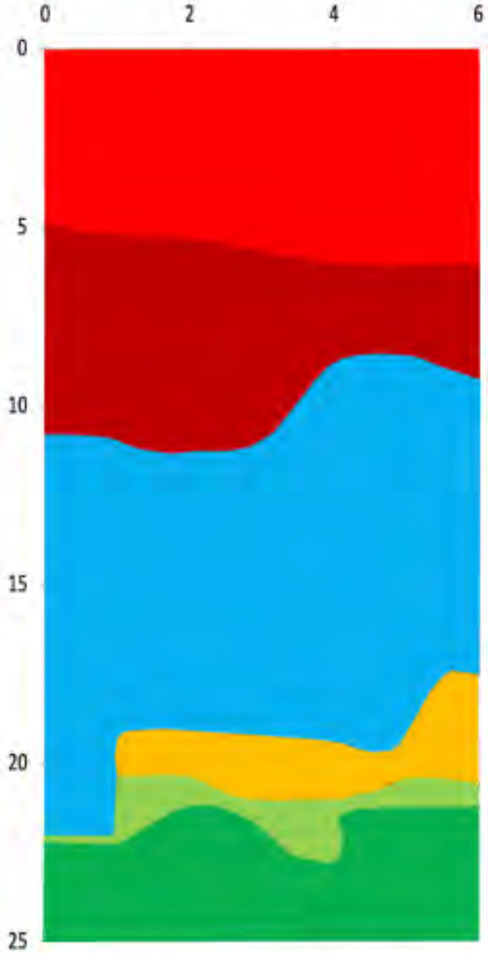
	CD + AF + CW + CS + Little SQ + JK
	JK + SQ + CW
	SQ + D + Little PN
	BM + Little PN
	JK + SQ + CH + Little PN
	SQ + PN + SD + AD
	BM + PN
	PN + JK + BM
	JK + CW + SQ + PN + C
	JK + RM + PN + BM Little SP
	JK + PN + SD + SP + BM + D + R + Little SQ
	SQ + BM + PN + SD + SP + AD + D + RM Seedlings
	PN + SD + SP + AD + BM

Term 3

SEB1-I – Transect Mosaic

Term 1	Term 2	Term 3
		
CW + CD	AF + CW + SJ + CD + D + Iso JK	
JK + CD + SQ	JK + CD + CW + C	
CD + SQ	CD + SQ + CW	
SQ	SQ + CW	
BM	BM	
JK + SQ	JK + CW + SQ	
SP + PN + sparse SQ	SQ + BM + PN + CH + SD + ZW + CW	
PN, SP, SD, AD.	BM + PN + SD + SP + CH	
	PN + SD + SP + AD + CH + Little CW	

SEB1–R – Transect Mosaic

Term 1	Term 2	Term 3
		

Term 1 legend:

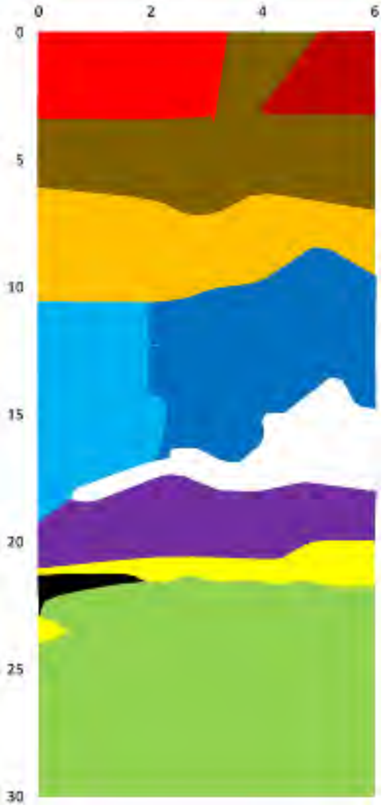
	C + RG + BG + Little JK + CI + NS + AF
	CD + SQ + JK + TT
	JK + SQ + Little SA
	JK + SQ + SA
	PN + SD + SQ + SA
	PN + SD + SP + AD

Term 2 legend:

	BG + CW + TT + AF + SJ + Sparse CD
	JK
	CD + SQ + JK + CW
	JK + SQ
	JK + SA + PN + CW + some SQ
	PN + SA + SQ + D + CW + ZW
	Large ZW line + D + SQ + BM + SA + PN + SD + SP
	PN + SD + SP + SQ
	PN + SD + SP + AD

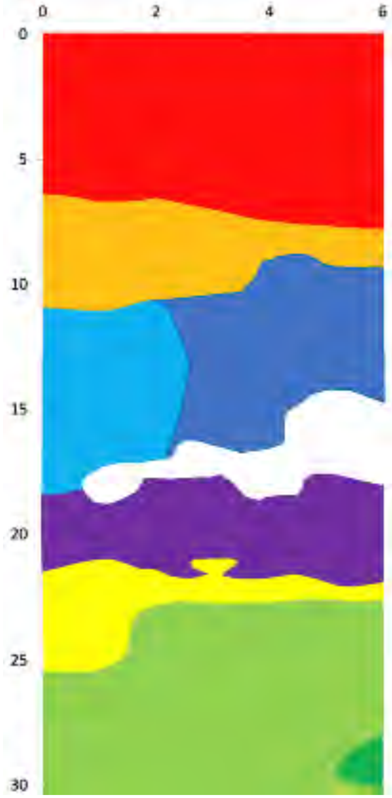
SWB2-I - Transect Mosaic

Term 1



NS + BS + BJ + BG + CS + AV + SP + MA + BR
BS + BJ + LC + AV + RG
BS + BJ + AV + CS + RG
JK + BJ + BS
JK + BJ
BJ
BJ + CW + JK
JK + SQ
JK + SQ + PN + SP
CW
PN + SP

Term 2



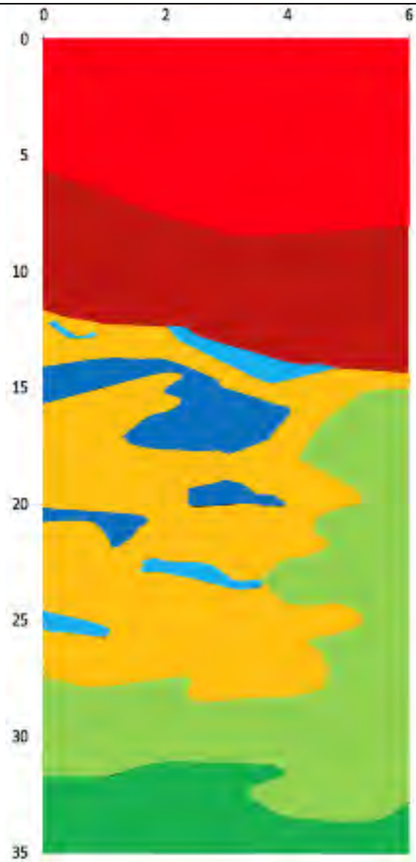
BS + AV + ALT + LC + CW + BJ + RG + CS + GH + SN + MA + BR
BJ + BS + JK + CW
JK + BJ + CW + D + C
BJ + CW
CW deposit + Little SQ + JK
JK + SQ + BM + CW + Little SD at edge
CW line with PN + SD + SP + D
PN + SD + SP + BM + CH + ZW + D
PN + SD + SP + AD + ZW

Term 3

SWB2-R – Transect Mosaic

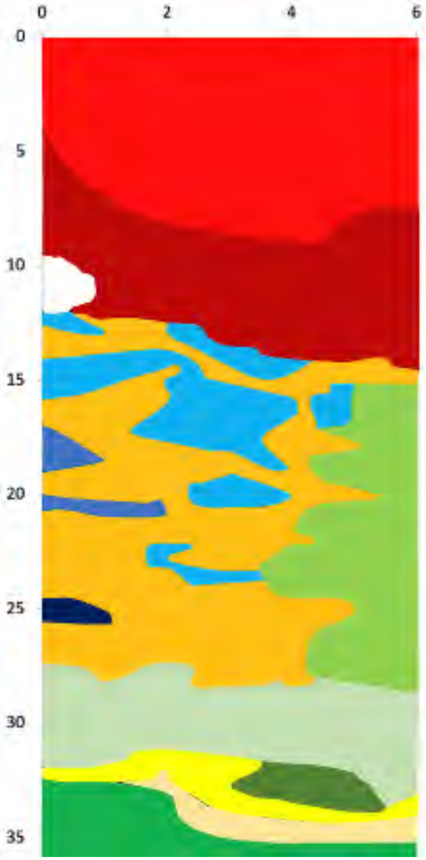
Term 1	Term 2	Term 3

Term 1



	BS + JK + C + CW + CS
	JK + Little SQ + C
	PN + SD + BM
	SQ
	SQ + PN
	JK + SQ
	PN+ SD + SP + AD

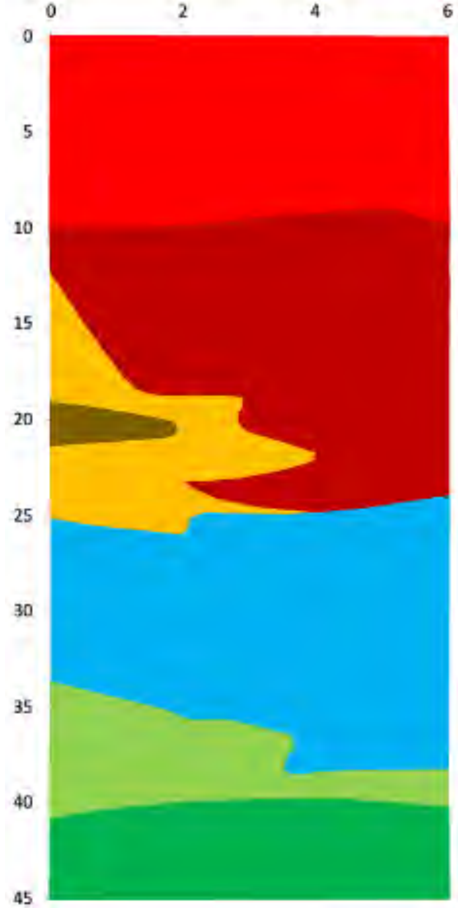
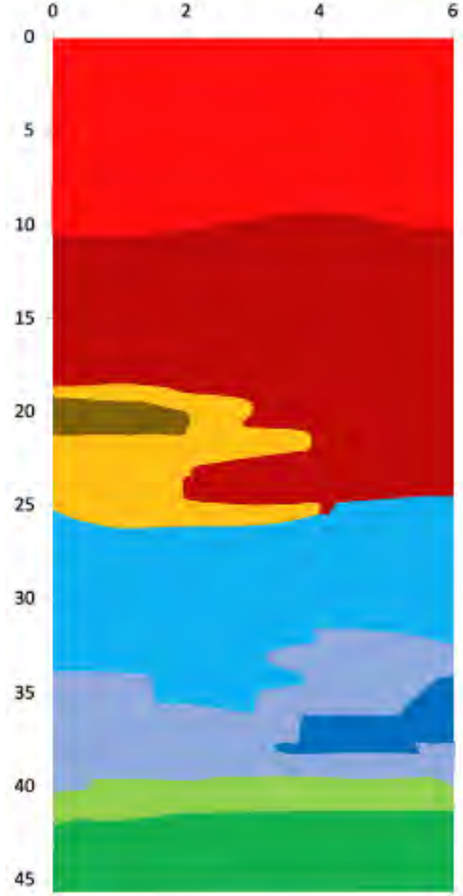
Term 2



	JK + BS + C + CS + CW
	JK + SQ + XW + C
	CW
	SQ + BM
	SQ + BM + PN
	SQ + BM + PN + JK
	BM
	JK + SQ
	JK + SQ + CH + BM + CW
	JK + SQ + BM + PN + SD + SP + ZW
	ZW line with PN + SD + SP + BM
	PN + SD + SP BM + ZW
	PN + SD + SP + AD + BM + ZW

Term 3

SWB1-I – Transect Mosaic

Term 1	Term 2	Term 3
		

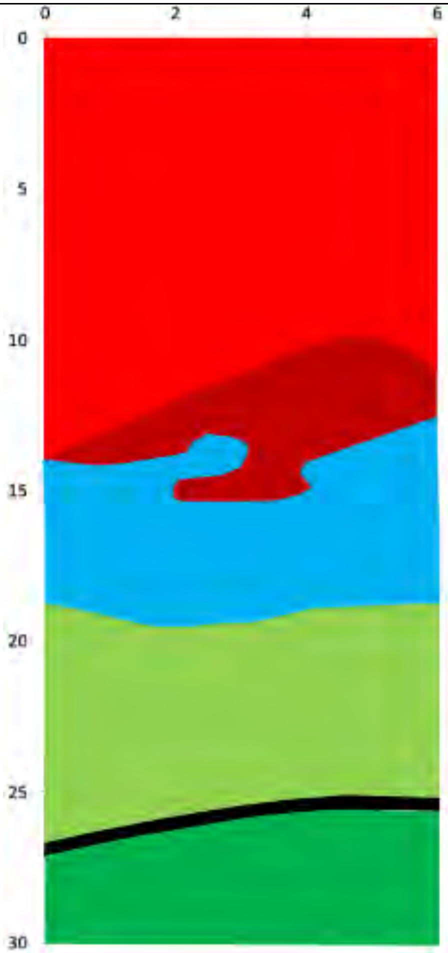
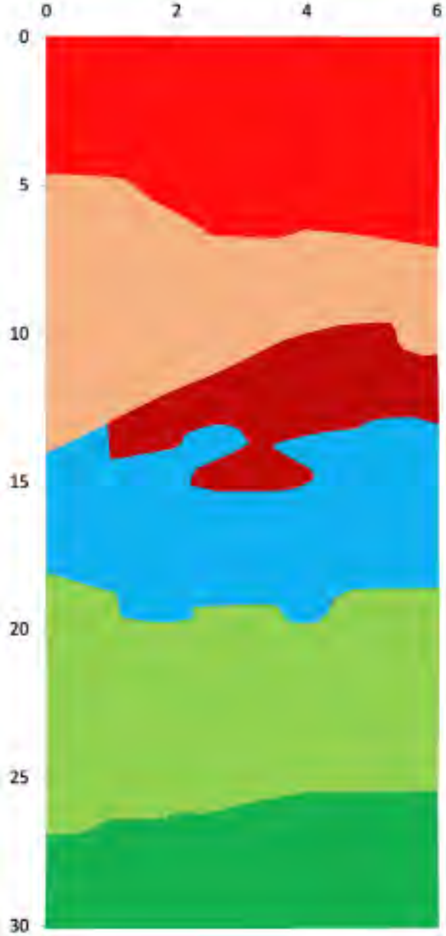
Term 1 legend

(red)	CW + CD + RG + AL + BS + LC + PT + C
(dark red)	BJ + JK + C + PT + CD
(orange)	JK + BJ + SQ + C + BM + CW
(dark purple)	BM
(light blue)	SQ + BM + clumped JK
(light green)	JK + SQ + C
(green)	SQ + PN + SD + AD

Term 2 legend

(red)	RN + BS + HD + JK + BJ + PT + LC + AL + SJ + CW
(dark red)	JK + BJ + CD
(orange)	JK + SQ + CW + BM
(dark purple)	BM + CW + CH
(light blue)	SQ + BM
(lavender)	JK + SQ + CW + R + Very little SA
(blue)	SQ + BM + PN
(light green)	PN + SD + SP + SQ
(green)	PN + SD + SP + BM + Little AD and SQ

SWB1-R– Transect Mosaic

Term 1	Term 2	Term 3
		

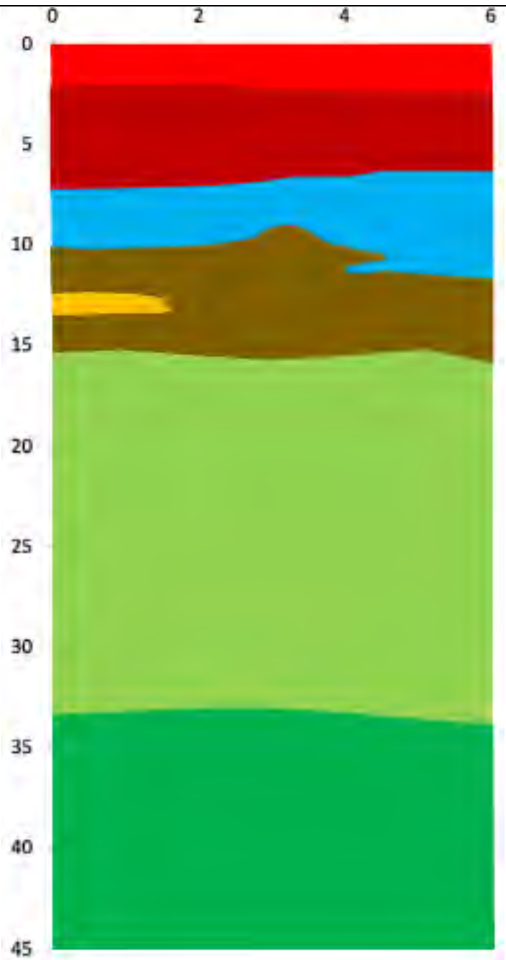
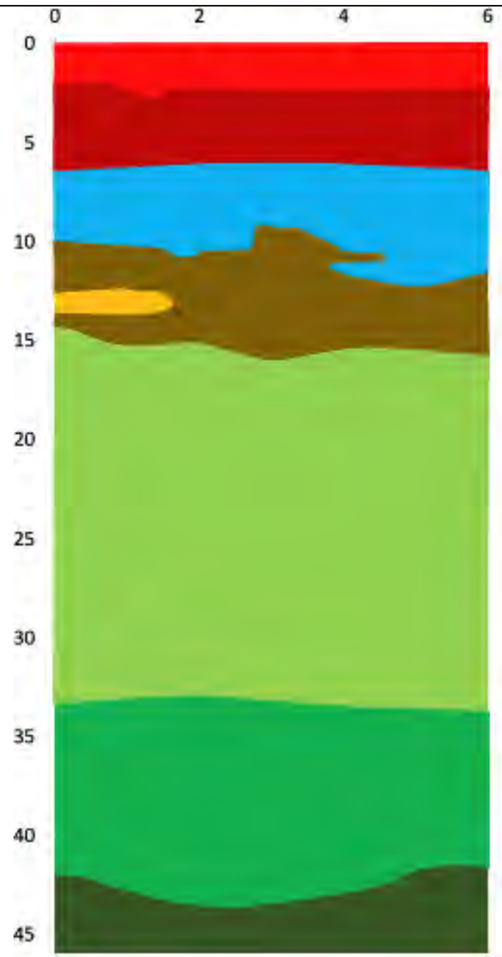
Term 1 legend:

(red)	CW + BS + CD + C + JK + AL
(dark red)	JK + CW + Little SQ
(blue)	JK + SQ + CW
(light green)	JK + SQ
(black)	ZW
(green)	BM + PN + SP

Term 2 legend:

(red)	BS + SJ + CW + RG
(pink)	Some SQ and JK + CW + D + CS
(dark red)	JK + SQ + Little FF
(blue)	SQ + BM + FF + CW + Little JK
(light green)	JK + SQ + CW + CS
(green)	PN + SD + SP + BM + CH

CUP1-I – Transect Mosaic

Term 1	Term 2	Term 3
		

Term 1

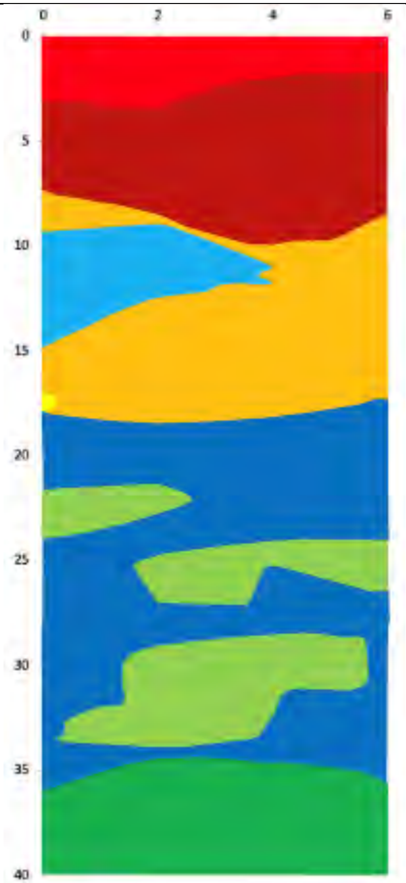
	BJ + CS + RG
	BJ + JK
	JK + BJ + SQ
	SQ
	BM + Little SQ + PN + SD + SP + AD
	SQ + SD + SP
	Sparse SQ + SD + SP

Term 2

	RG + CW + AV + HY + AL + CS + BS + Little BJ
	Dense BJ + CW + Little JK and AL
	Dense JK + SQ + Little BJ
	CW + BM + PN + SD + SP + AD (All mangroves in low density)
	SQ + BM
	Dense SQ + BM + Very sparse SD + SP
	PN + SD + SP + BM + Sparse SQ
	PN + SD + SP + AD + BM + Very sparse SQ

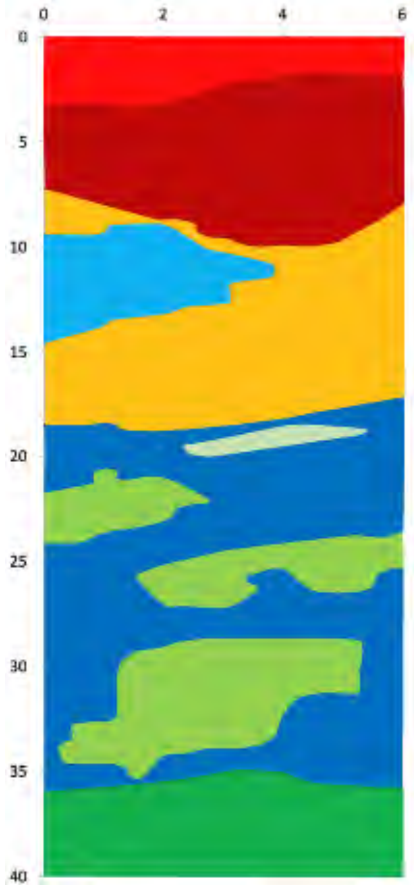
CUP1-R – Transect Mosaic

Term 1



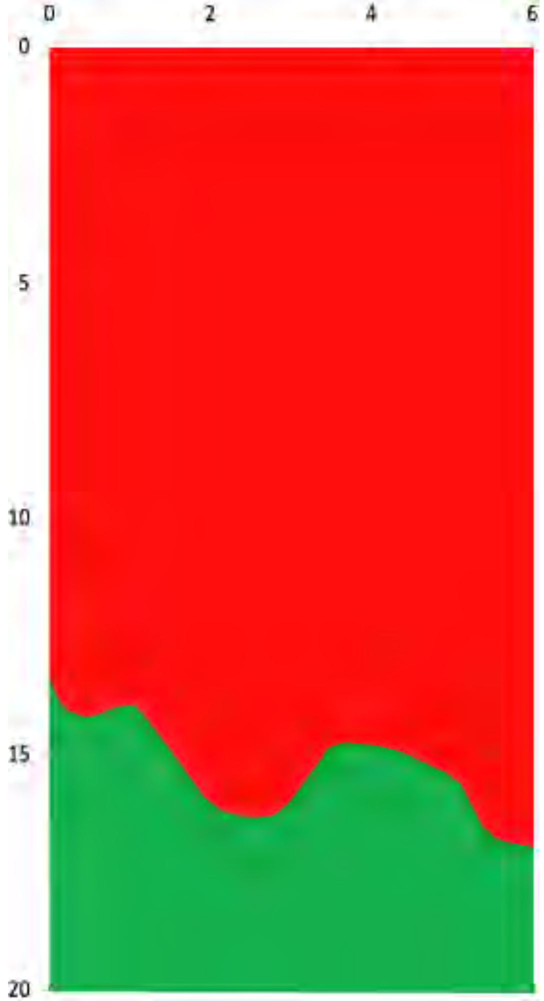
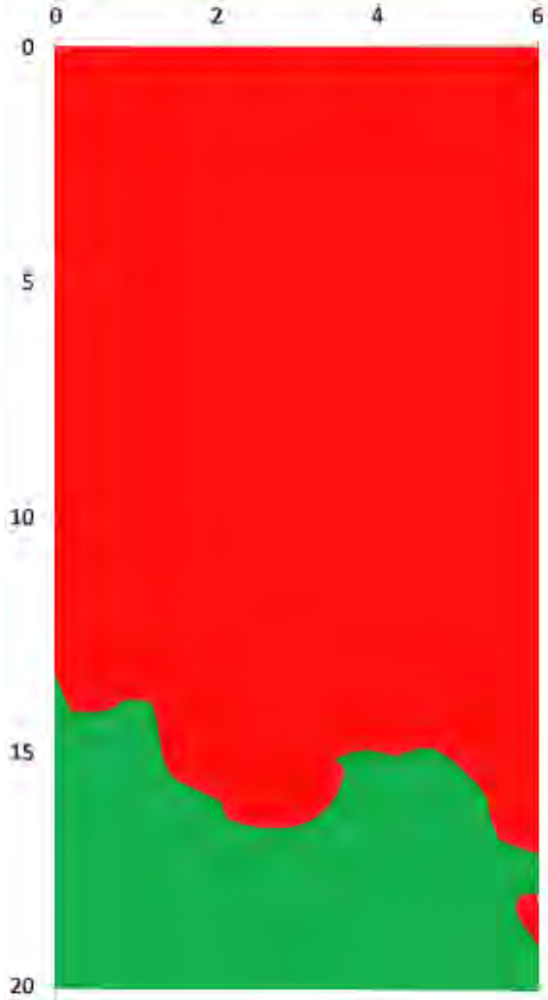
(red)	C + CS + CW + BS + AL
(dark red)	JK + CD + SQ
(orange)	SQ + JK + Islands with C
(light blue)	SQ
(yellow)	BM
(blue)	PN + SD + SP + SQ
(light green)	JK + SQ
(green)	PN + SD + AD + sparse SQ

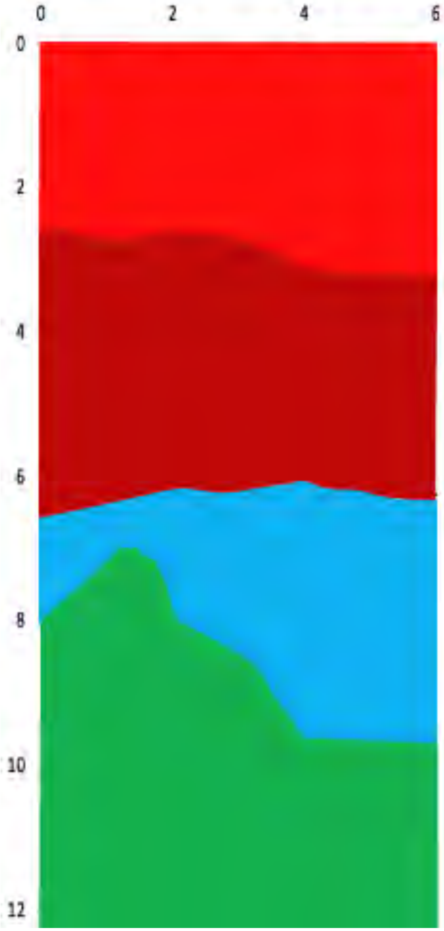
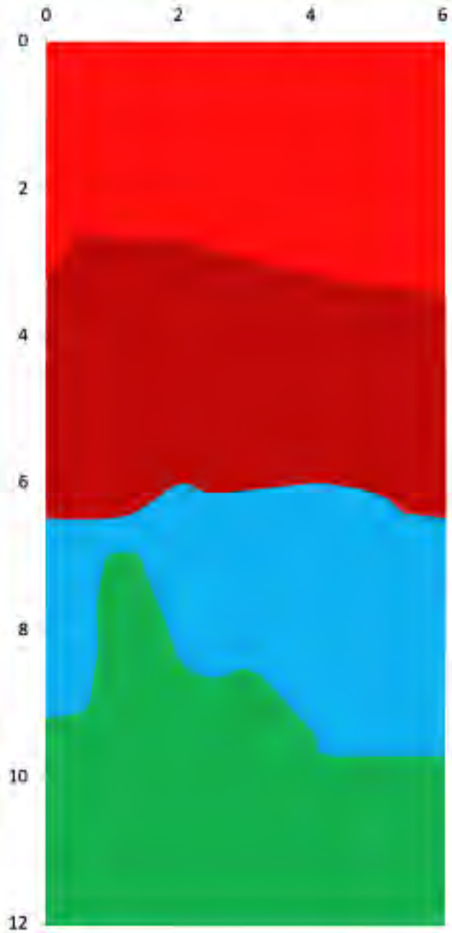
Term 2



(red)	BS + CW + RG + CS
(dark red)	JK + CD + C + CW + SQ near edges
(orange)	JK + SQ + C + CW
(light blue)	SW + Little CW
(peach)	SQ + BM
(light green)	JK + SQ
(blue)	BM + SD + SP + Little PN + CH
(green)	PN + SD + SP + AD + SQ + BM + CH

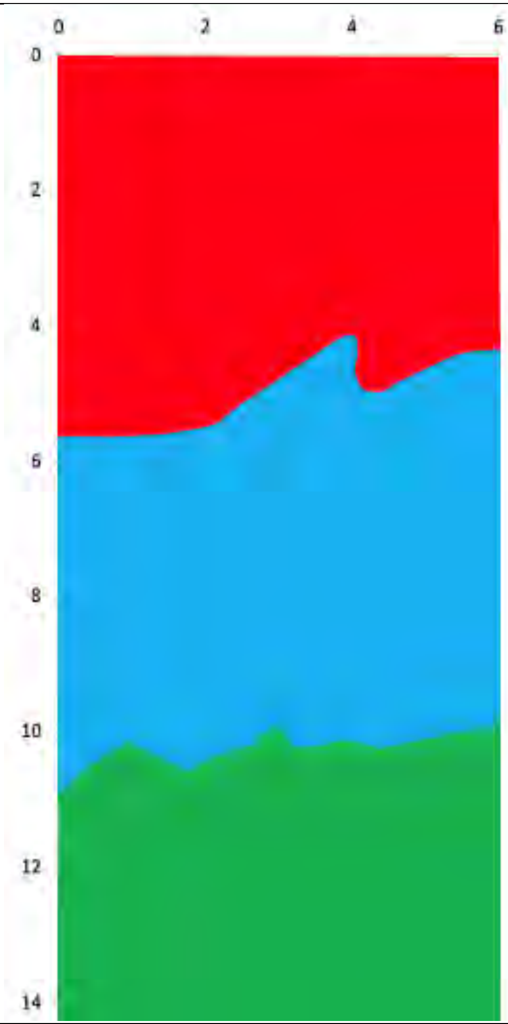
Term 3

<table>
<tr><th colspan="3">BB1-I – Transect Mosaic</th></tr>
<tr><td>Term 1</td><td>Term 2</td><td>Term 3</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>JK + BJ + CG + BG + SJ + HD + AV + AL
PN + AD + CW + BM</td><td>JK + BJ + CG + BG + SJ + HD + AV + AL
PN + SP + AD + CW + BM</td><td></td></tr>
</table>

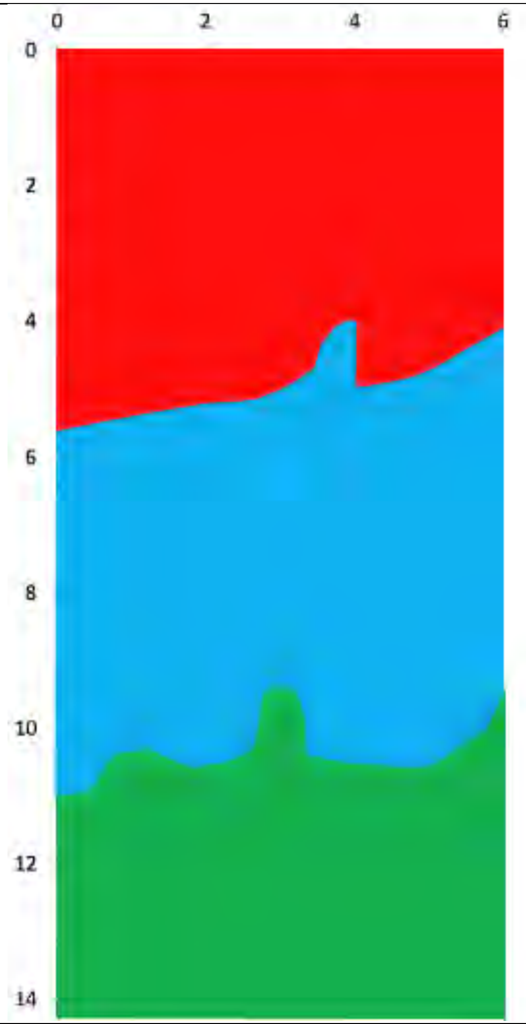
BB1-R – Transect Mosaic		
Term 1	Term 2	Term 3
		
C + BS + LC + Little BJ	BS + RG + LC + CW + Little BJ	
JK + BJ + Little SQ	JK + BJ + CS + Little SQ and AL	
JK + SQ	JK + SQ + PN + CW	
PN + SD + AD	PN + SD + AD + BM + CW	

BB2-I – Transect Mosaic

<table>
<tr><th>Term 1</th><th>Term 2</th><th>Term 3</th></tr>
<tr><td>



</td><td>



</td><td></td></tr>
<tr><td>

(red)	C + ML + BJ + little JK + CD + PA
(blue)	JK + SQ + PA
(green)	PN + SD + AD

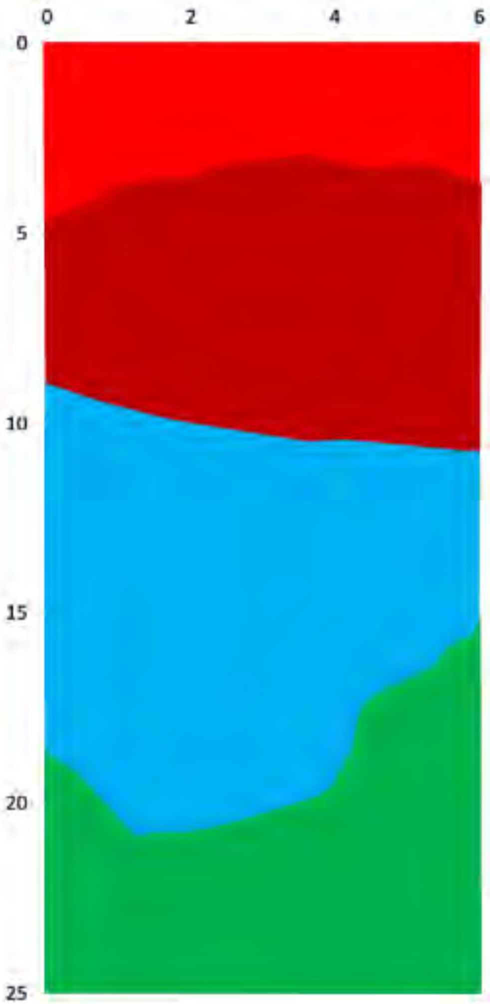
</td><td>

(red)	ML + CW + BJ + C + Little JK + SQ
(blue)	JK + SQ + Little BJ
(green)	PN + SD + SP + AD

</td><td></td></tr>
</table>

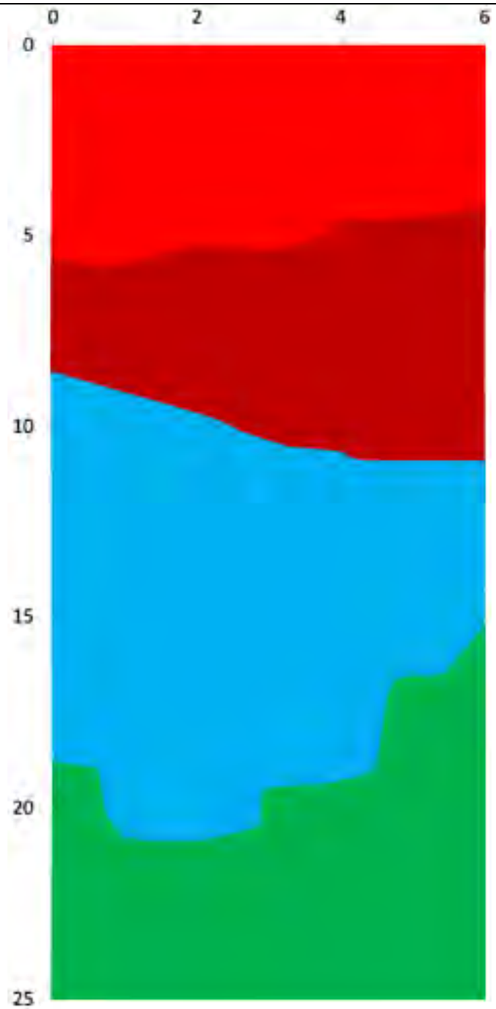
BB2-R – Transect Mosaic

Term 1



Red	BS + RN + JK + BG + LC + CW + PT + IP
Dark red	C + CW + JK + Sparse SQ
Blue	JK + SQ + CW + D
Green	PN + SD + AD + Sparse SQ

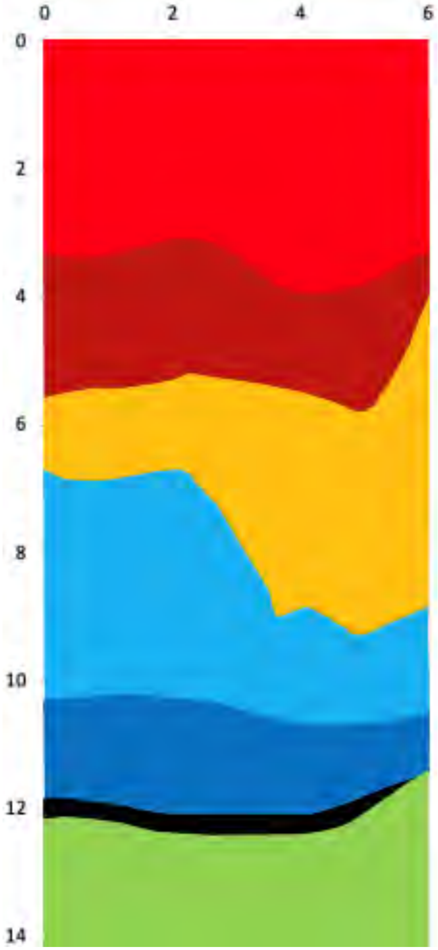
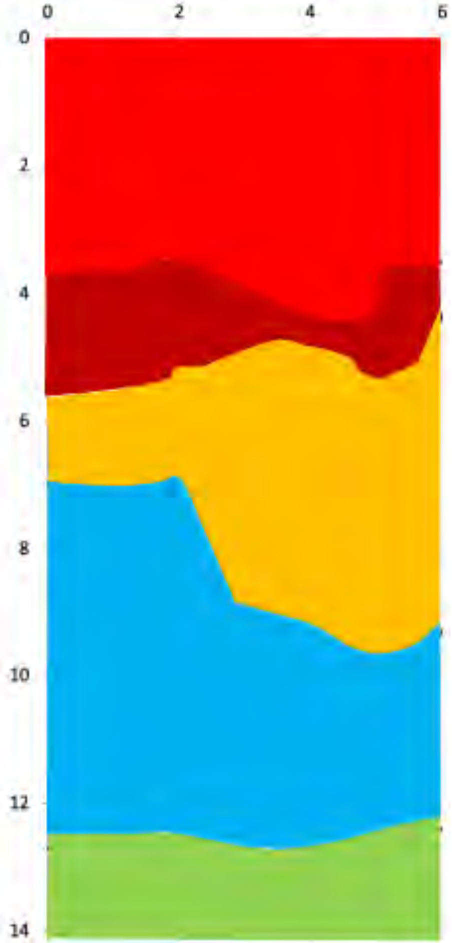
Term 2



Red	CW + BS + RN + BG + JK + C + RG + IP
Dark red	C + CW + JK + D + Sparse SQ
Blue	JK + SQ + CW + R + Little PN + D
Green	PN + SD + SP + AD + SQ + CH

Term 3

CUP2-I – Transect Mosaic

Term 1	Term 2	Term 3
		

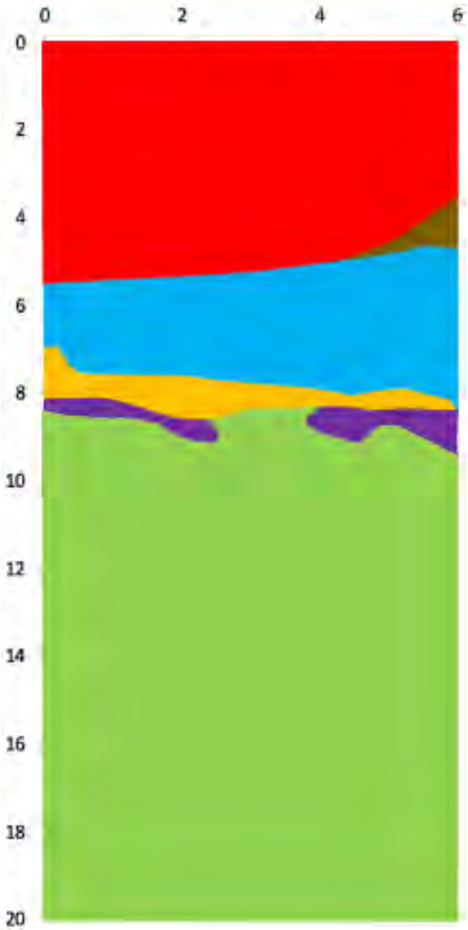
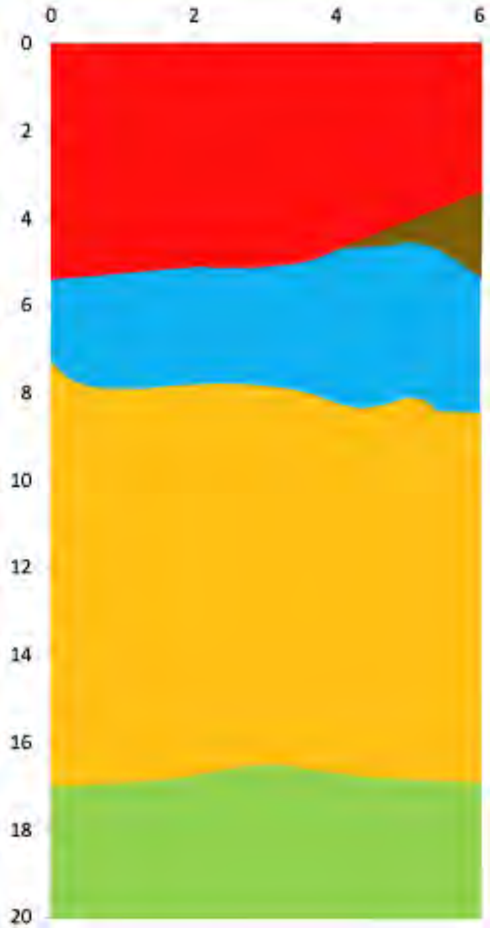
Term 1

	TT + AB + BG + NS + CD
	BM + AD + some CD
	JK + SA + AD
	ZW Covering SQ + some SA + PN +SD + SP
	SQ + some SA + PN + SD + SP
	ZW
	PN + SD + SP + BM

Term 2

	BG + RG + CW + NS + Dead AB + SJ
	BM CW + CH + D
	SA + CW + JK + SQ + SP + AD
	Dense ZW covering SA + SD + SP + SQ + D
	PN + SD + SP + CH + BM + ZW

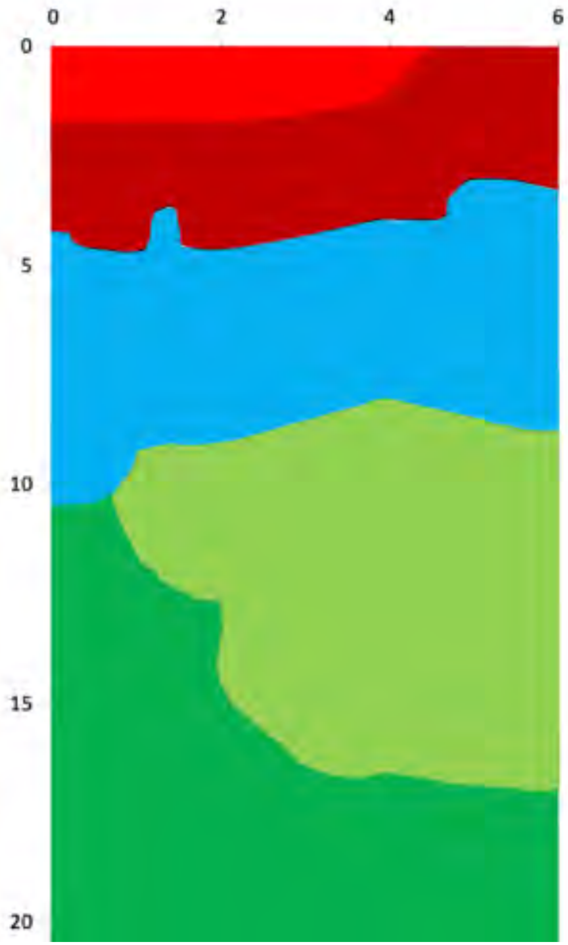
CUP2-R– Transect Mosaic

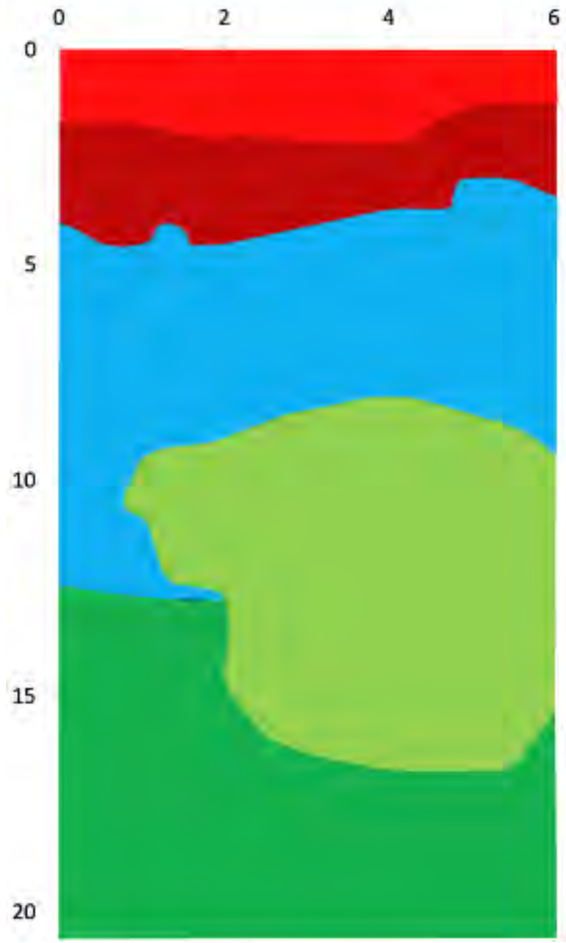
Term 1	Term 2	Term 3
		

	Term 1		Term 2	Term 3
Red	BG + TT + WM + CW	Red	BG + CW + WM + SJ + NS + TT	
Dark purple	BM + CW	Dark purple	CW + CH + BM	
Blue	SA	Blue	SA + Little SQ	
Orange	ZW + CW + PN + SD	Orange	ZW line covering PN + SD + SP + Little SQ	
Purple	SQ + PN + SD	Green	PN + SD + SP + BM + Little ZW	
Green	PN + SP + ZW			

CDN1-I – Transect Mosaic

Term 1	Term 2	Term 3
(see below)	(see below)	





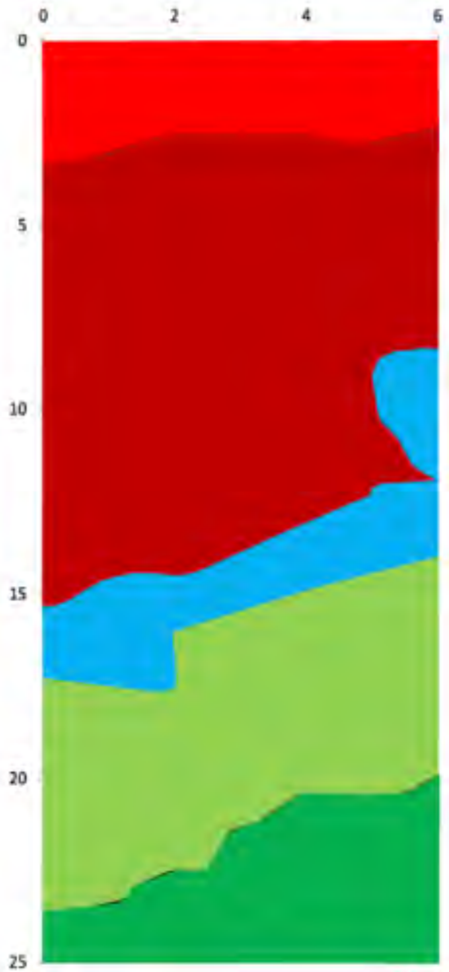
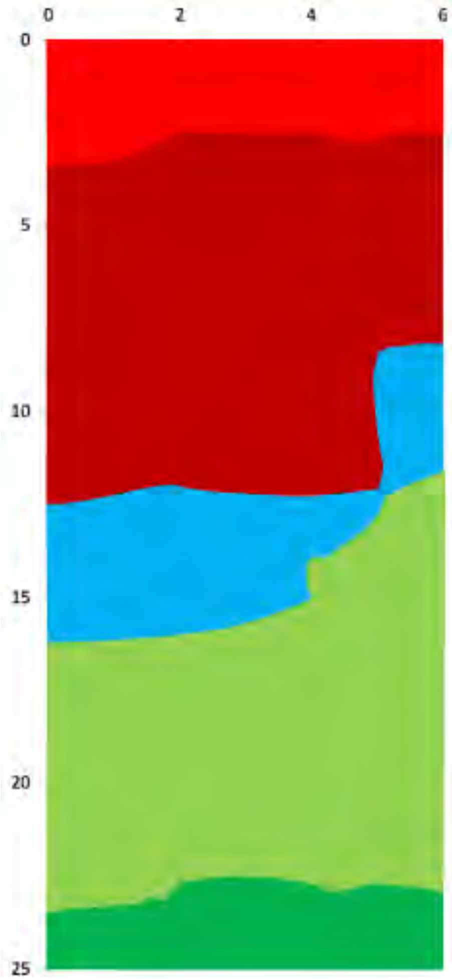
Term 1 legend:

(red)	CW + CD + Little JK + EW
(dark red)	JK + SQ + CW + EW + R
(blue)	PN + SQ + BM + Iso AD + 2 SP
(light green)	PN + SP + SD + AD (Dominating) + sparse SQ
(green)	PN + SP + SD + AD + BM + sparse SQ

Term 2 legend:

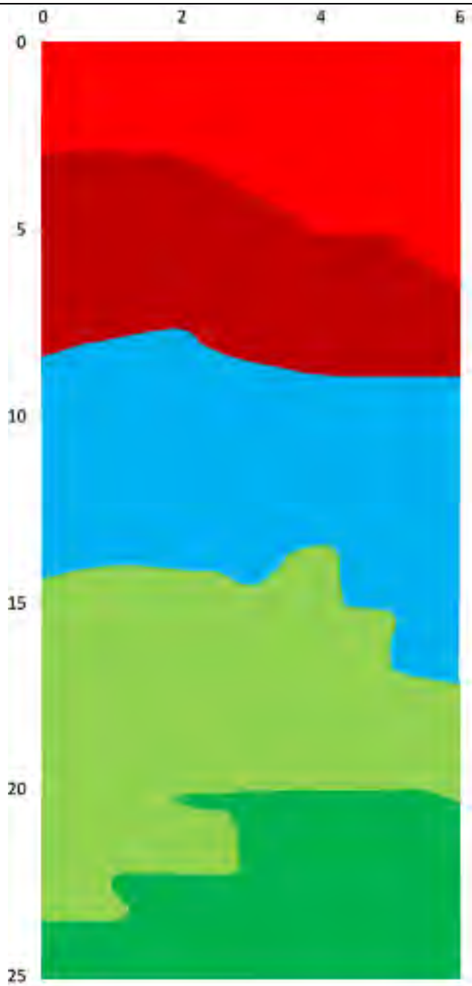
(red)	CD + CW + EW + D + Little JK
(dark red)	JK + SQ + CW + EW + R + Sparse PN
(blue)	SQ + PN + BM + Very sparse SD + SP + Iso AD
(light green)	PN + SD + SP + AD (Dominating) + BM + Very sparse SQ
(green)	PN + SD + SP + AD + BM + CH + SQ

CDN1-R – Transect Mosaic

Term 1	Term 2	Term 3
		
CD + Little JK + C + CW + CD SQ + BM + CH SQ + PN + some SD SQ + PN + SD + SP + some AD PN + BM + SD + SP + AD	CD + CW + WM + JK SQ + CH + BM + Iso SD + D PN + BM + CH + SQ + D + CW PN + BM + SD + SP + CH + Iso AD PN + SD + SP + AD +CW + ZW + D + CH	

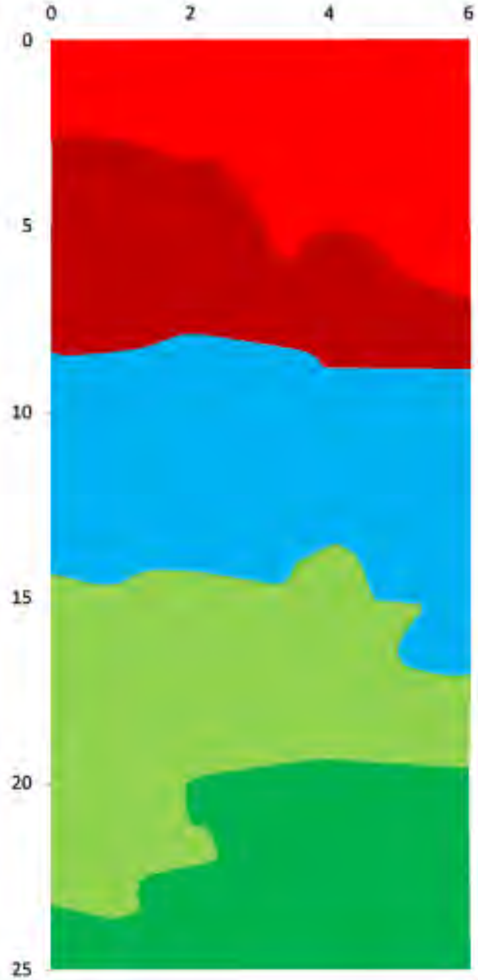
CDN2-R – Transect Mosaic

Term 1



	CD + SQ + TT + IC + CA + SO
	SQ + Little SP + D + SA
	SQ + BM + some SP, SD + 2 Isolated AD
	BM
	PN + SP + SD +BM

Term 2

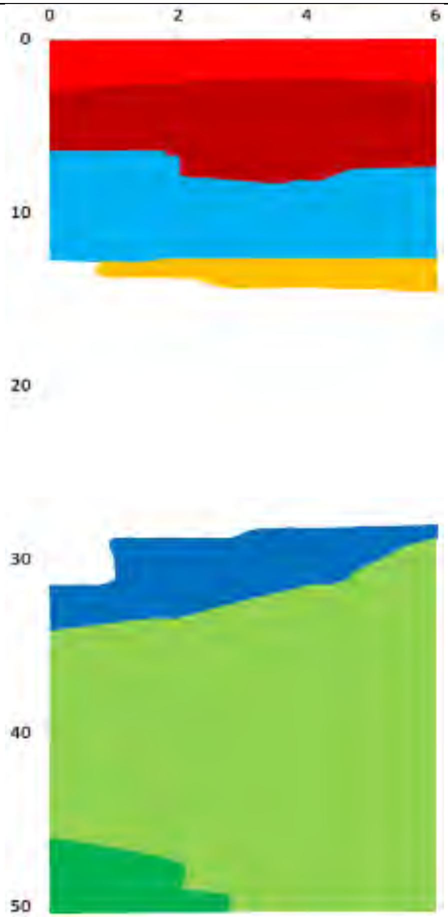


	RG + CD + CA + IC + TT
	SQ + SA + D + SD + SP
	SQ + BM + CH + SD + SP + Iso AD
	BM + CH
	BM + CH + PN + SD + SP + AD

Term 3

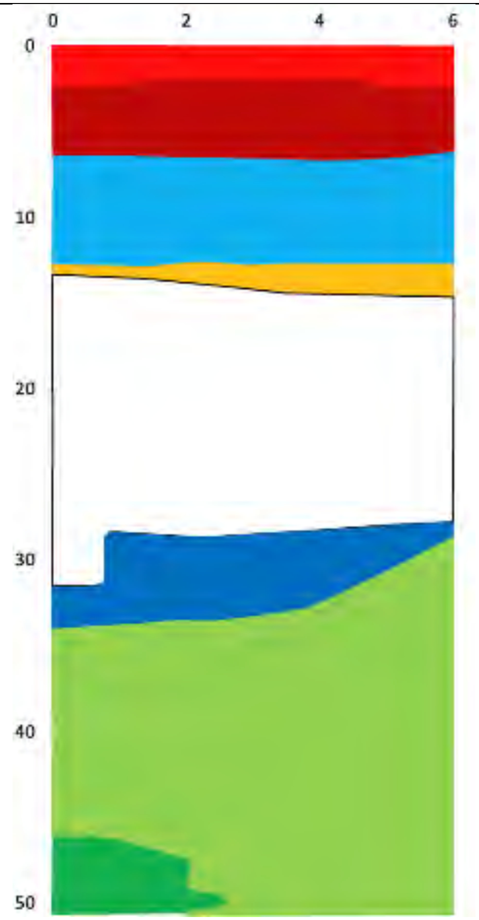
CDN2-I – Transect Mosaic

Term 1



	JK + AL + CW + C + GH + ALT
	JK
	JK + SQ + Little SD and SP + PN
	SQ + PN + SP + SD + AD
	SQ + Little PN
	SQ + PN + SP + SD
	Little SQ + BM + PN + SP + SD + AD
	PN + SD + SP + large AD dominating

Term 2

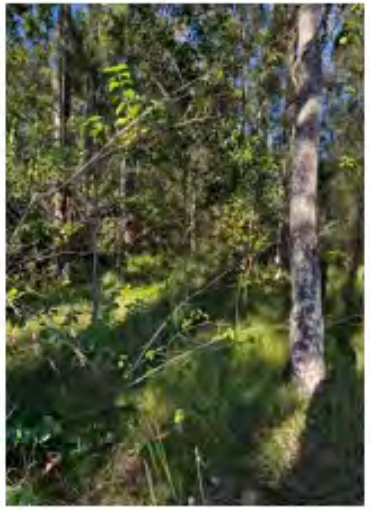


	JK + RG + ALT + BS + CW + AL + HD + CS
	Dense JK
	SQ + JK + BM + PN + Very sparse SD + SP
	BM + PN + SD + SP + Little SQ
	SQ + BM Little PN
	PN + SD + SP + SQ + BM + CH
	PN + SD + SP + AD + BM + CH + Little SQ
	PN + SD + SP + Large AD dominating

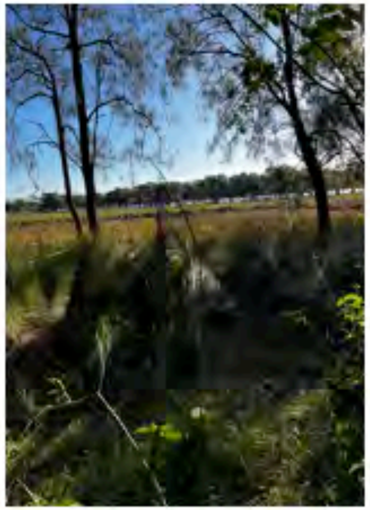
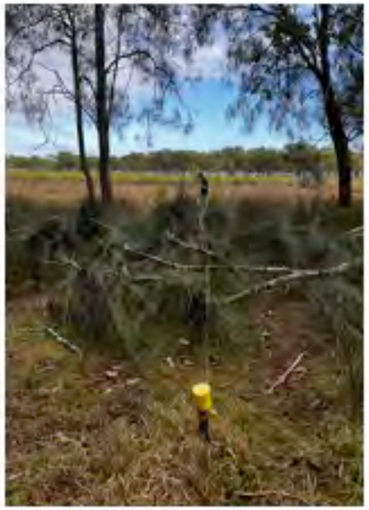
Term 3

CUP1-I Transect 1 Site photos

Looking up transect 1

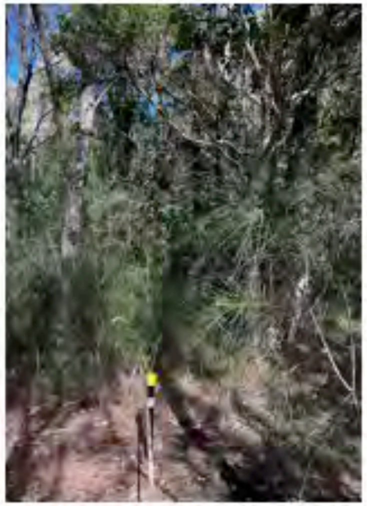
	16/5/23	24/8/23
Photos not taken		

Looking down transect 1

	16/5/23	24/8/23
Photos not taken		

CUP1-R Transect 1 Site photos

Looking up transect 1

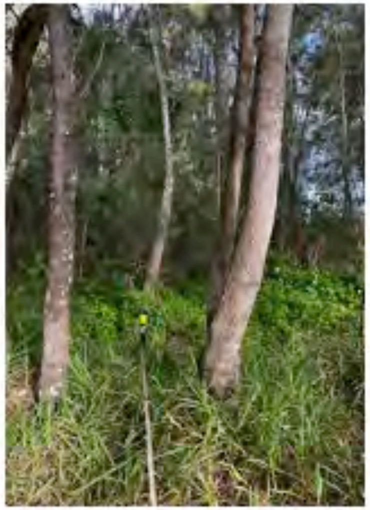
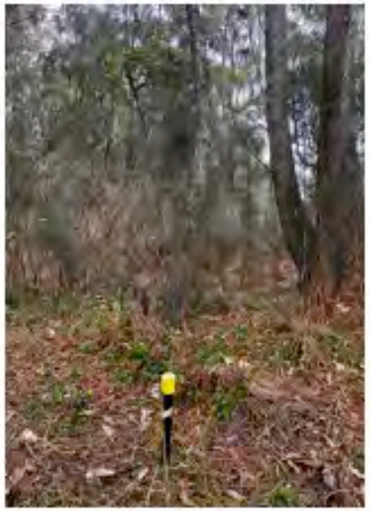
	4/5/23	22/8/23
Photos not taken		

Looking down transect 1

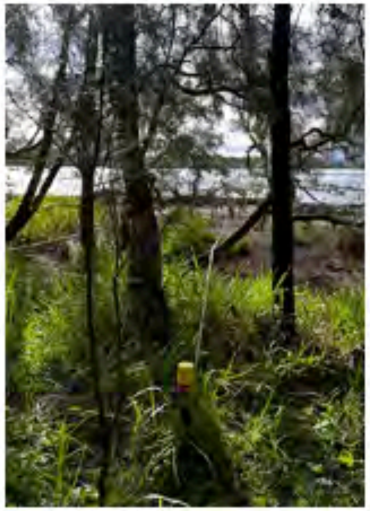
	4/5/23	22/8/23
Photos not taken		

CUP2-I Transect 1 Site photos

Looking up transect 1

	4/5/23	23/8/23
Photos not taken		

Looking down transect 1

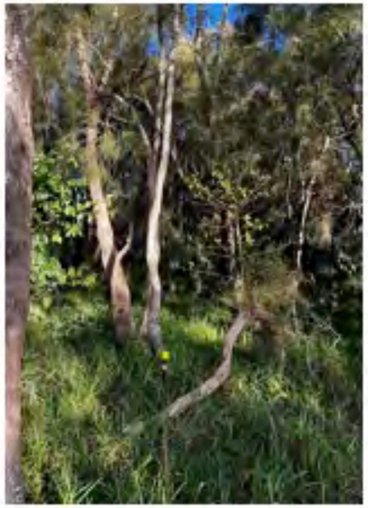
	4/5/23	23/8/23
Photos not taken		

CUP2-R Transect 1 Site photos

Looking up transect 1

3/3/23

4/5/23

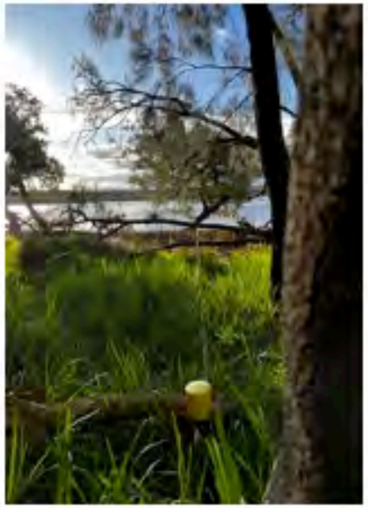


23/8/23

Looking down transect 1

3/3/23

4/5/23



23/8/23

BB1-I Transect 1 Site photos

Looking up transect 1

12/4/23

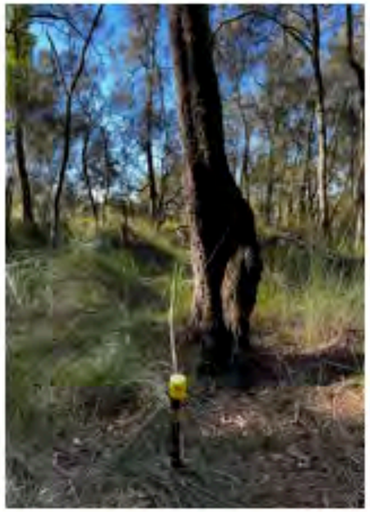
5/5/23

22/8/23

Looking down transect 1

12/4/23

5/5/23



22/8/23

BB1-R Transect 1 Site photos

Looking up transect 1

12/4/23

5/5/23

22/8/23

Looking down transect 1

12/4/23

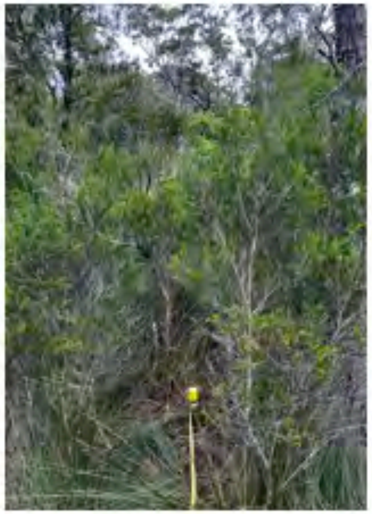
5/5/23

22/8/23

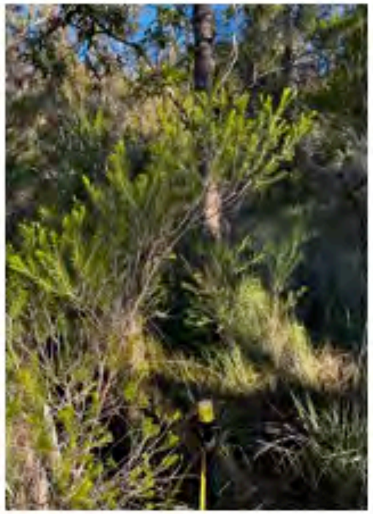
BB2-I Transect 1 Site photos

Looking up transect 1

12/4/23



3/5/23



21/8/23

Looking down transect 1

12/4/23

3/5/23

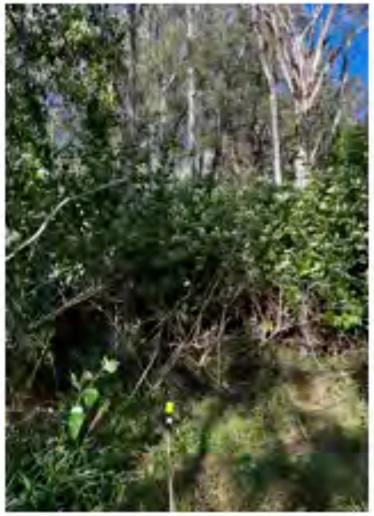
21/8/23

BB2-R Transect 1 Site photos

Looking up transcect 1

29/3/23

3/5/23



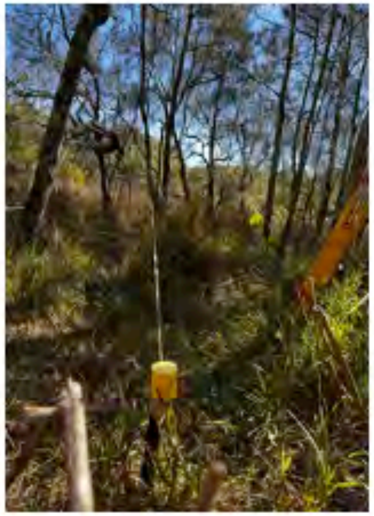
21/8/23

Looking down transect 1

29/3/23

3/5/23

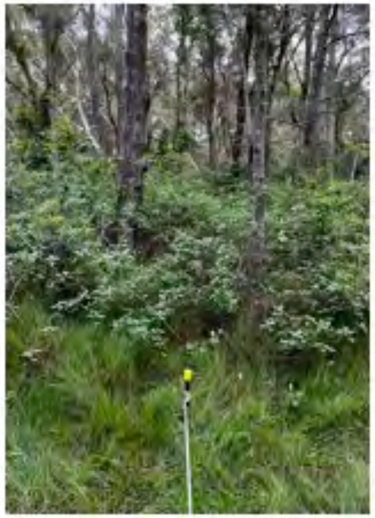
21/8/23



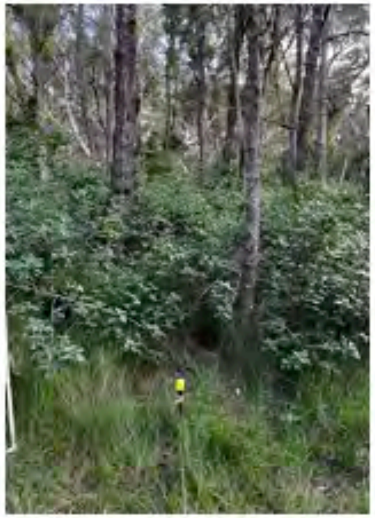
SWB1-I Transect 1 Site photos

Looking up Transect 1

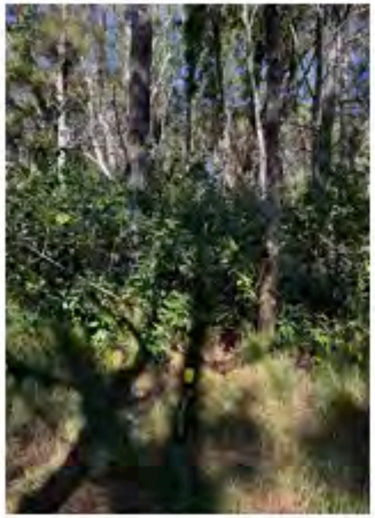
21/3/23



2/5/23



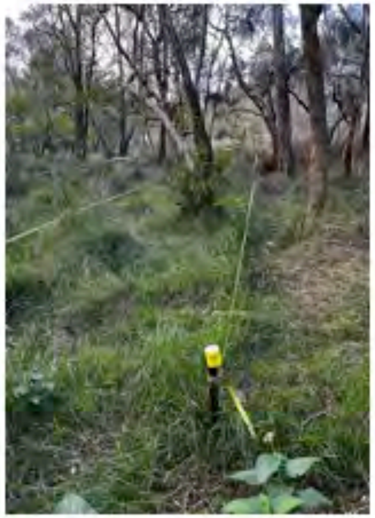
3/8/23



Looking down transect 1

21/3/23

2/5/23

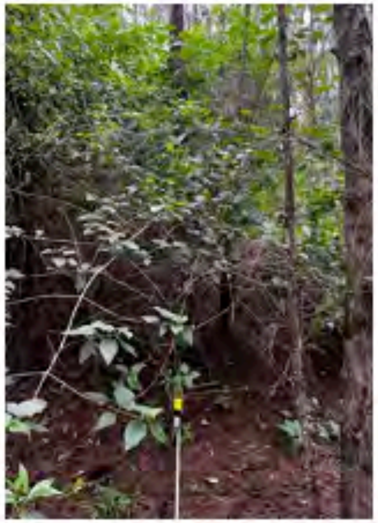


3/8/23

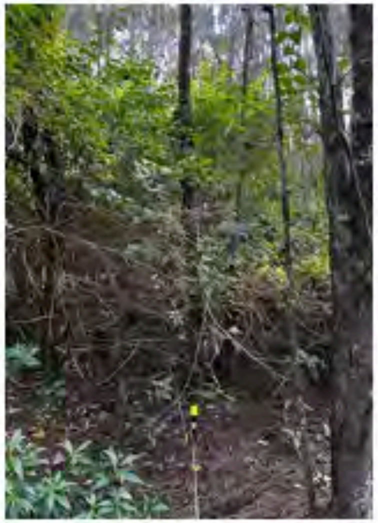
SWB1-R Transect 1 Site photos

Looking up transect 1

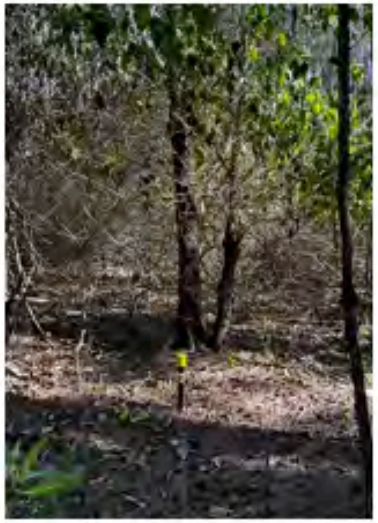
21/3/23



2/5/23



3/8/23

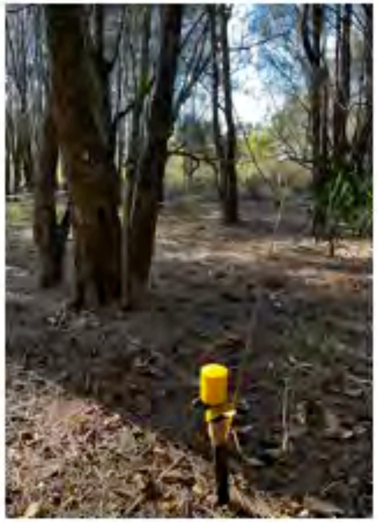


Looking down transect 1

21/3/23

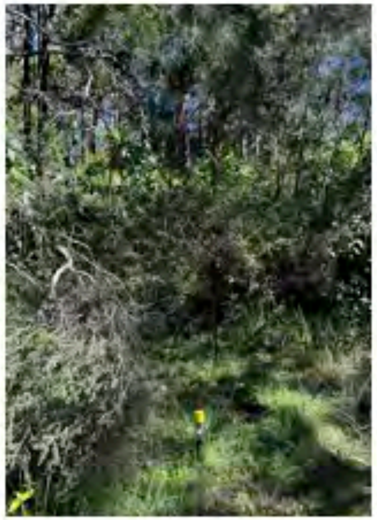
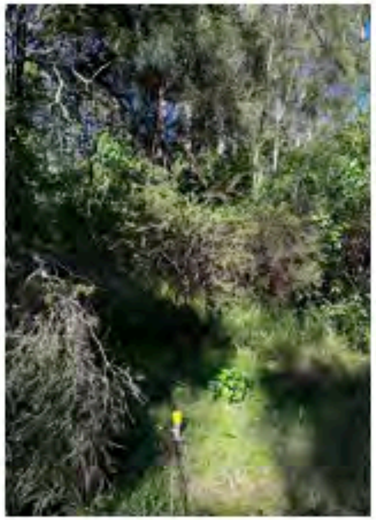
2/5/23

3/8/23

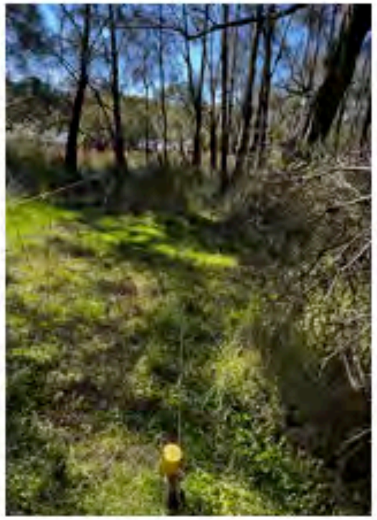


SWB2-I Transect 1 Site photos

Looking up transect 1

6/3/23	2/5/23	2/8/23
		

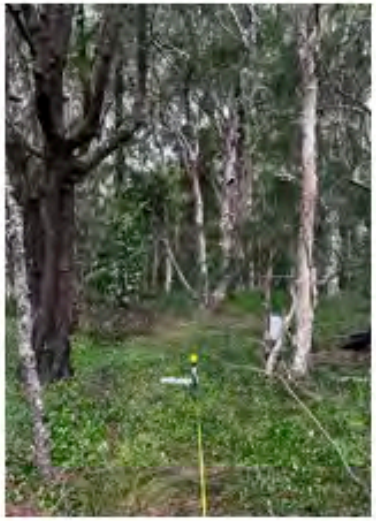
Looking down transect 1

6/3/23	2/5/23	2/8/23
		

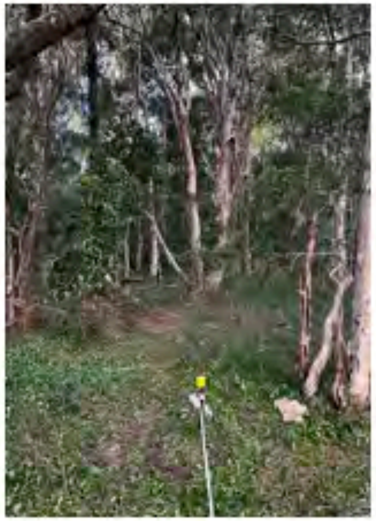
SWB2-R Transect 1 Site photos

Looking up transect 1

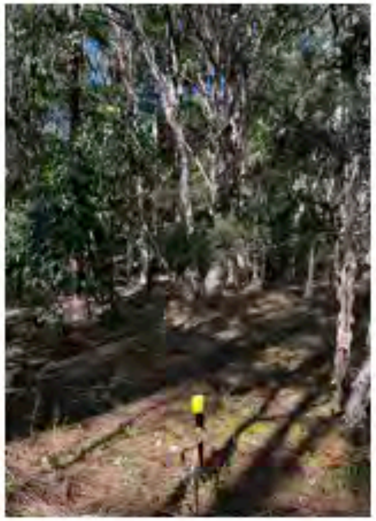
20/3/23



2/5/23



24/8/23

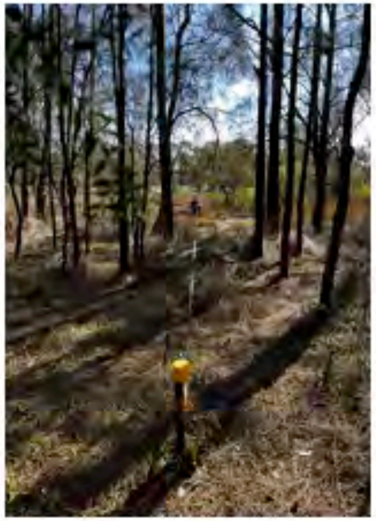


Looking down transect 1

20/3/23

2/5/23

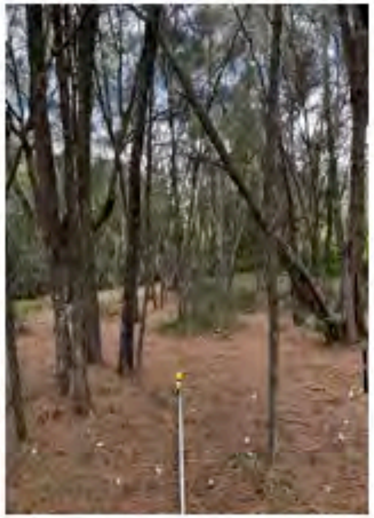
24/8/23



SEB1-I Transect 1 Site photos

Looking up transect 1

1/3/23



Photos not taken – Camera broken

31/7/23

Looking down transect 1

1/3/23

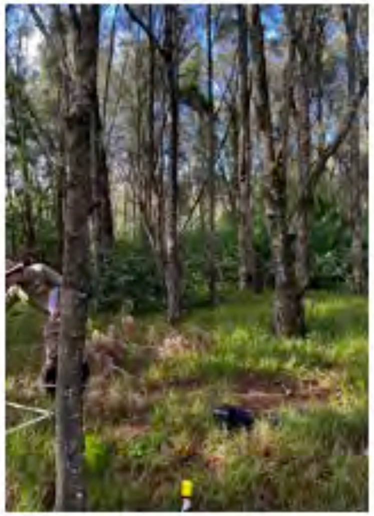
Photos not taken – Camera broken

31/7/23

SEB1-R Transect 1 Site photos

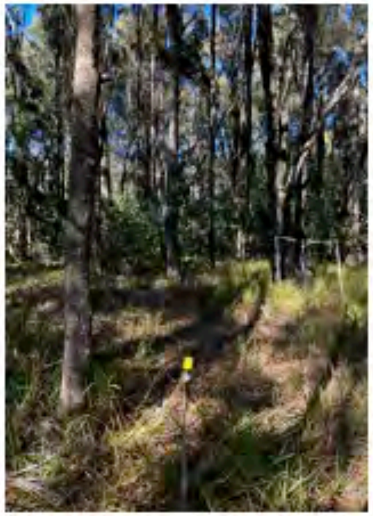
Looking up transect 1

2/3/23



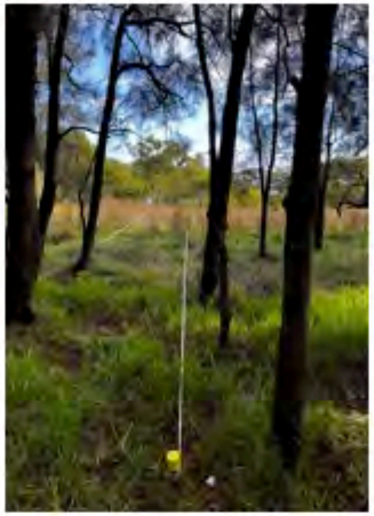
Photos not taken – Camera broken

1/8/23



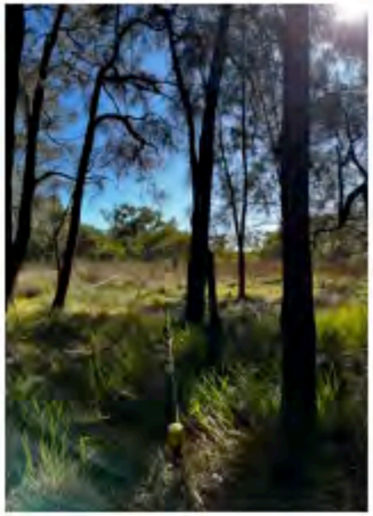
Looking down transect 1

2/3/23



Photos not taken – Camera broken

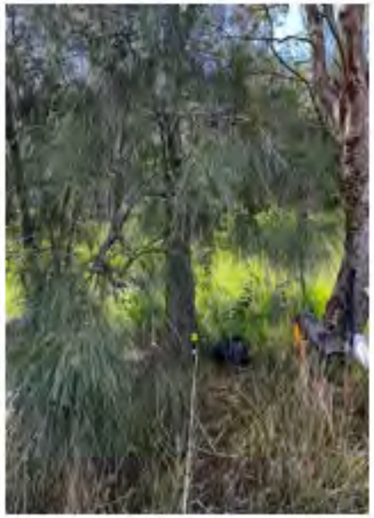
1/8/23



CDN1-I Transect 1 Site photos

Looking up transect 1

28/2/23



24/5/23

25/8/23

Looking down transect 1

28/2/23

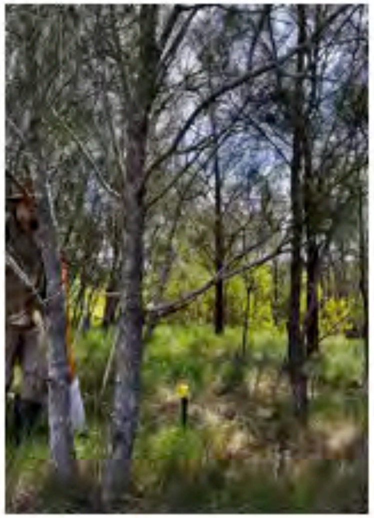
24/5/23

25/8/23

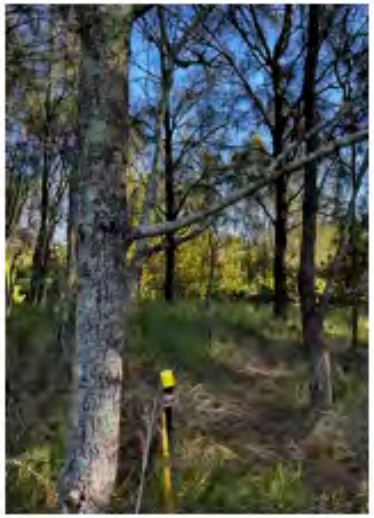
CDN1-R Transect 1 Site photos

Looking up transect 1

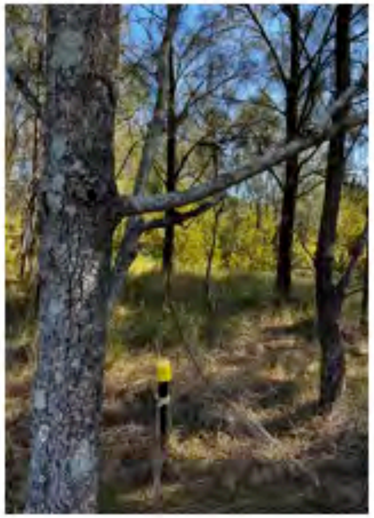
28/2/23



24/5/23

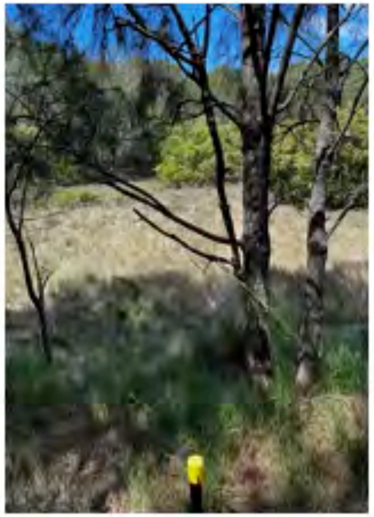


25/8/23

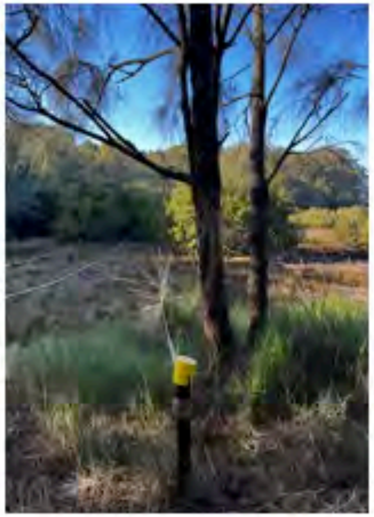


Looking down transect 1

28/2/23



24/5/23

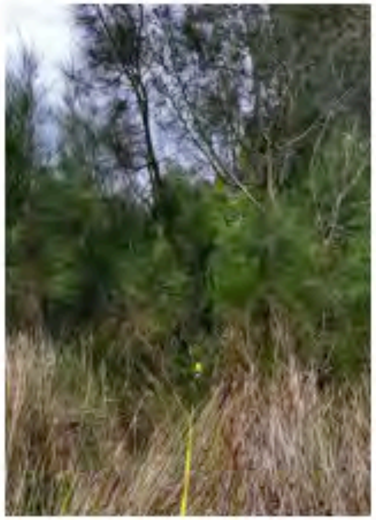


25/8/23

CDN2-I Transect 1 Site photos

Looking up transect 1

27/2/23



17/5/23

24/8/23

Looking down transect 1

27/2/23

17/5/23

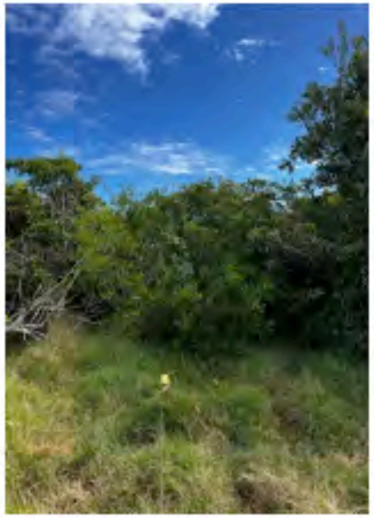
24/8/23

CDN2-R Transect 1 Site photos

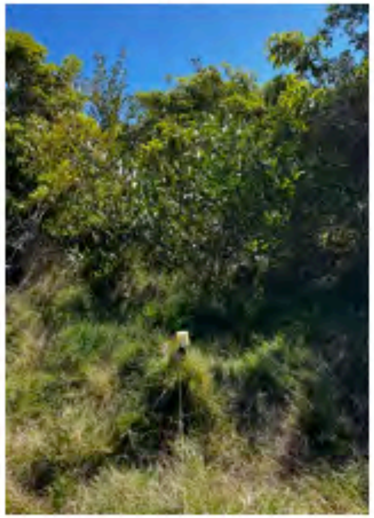
Looking up transect 1

27/2/23

17/5/23



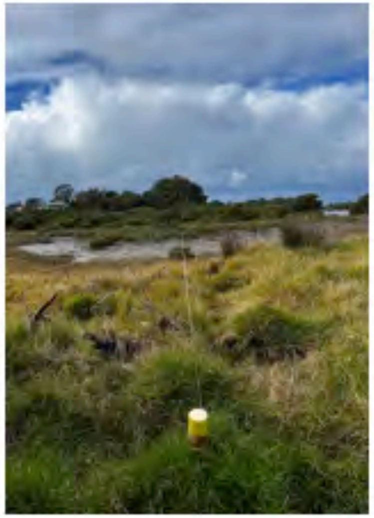
25/9/23



Looking down transect 1

27/2/23

17/5/23



25/9/23

APPENDIX C-4

Intertidal Transect Riparian Drip Line Results - Term 1 and 5								
Site	Term 1				Term 5			
	Transect				Transect			
	1	2	3	4	1	2	3	4
CUP1-I	12.1	12.2	12.1	13.4	12.2	12.3	11.9	13.4
CUP1-R	11.4	10.8	10.9	10	11.7	10.5	11	10.5
CUP2-I	8	8.3	8.7	7.7	8.1	8.4	8.5	7.4
CUP2-R	11.3	6.8	6.7	7.8	11.2	10.6	5.8	7.9
BB1-I	18.5	18.2	17.5	17.7	0	18.3	17.7	17.8
BB1-R	10.5	7.3	8.6	11.9	0	0	0	0
BB2-I	6.9	5.6	3.7	6.3	6.9	5.6	3.9	10.4
BB2-R	11	11	11.4	11	15.5	15	11.9	11.2
SWB1-I	25	27.3	29	27	25.6	26.9	28.9	27.3
SWB1-R	14.2	13.2	12.6	19.1	22.9	14.1	21.4	23.5
SWB2-I	20.2	18.6	17.9	18	22.1	19.2	18.2	18.7
SWB2-R	12.2	15.1	14.5	14.3	12.9	15.1	16.3	15.5
SEB1-I	11.6	10	10.5	9.8	11.5	10	10.2	9.5
SEB1-R	9.6	9.3	11.1	2.6	10.3	9.5	11.2	0
SEB2-I	4.5	7.5	7.6	9.2	4.9	4.7	8.2	10.4
SEB2-R	8.4	9.1	8.9	8.7	8.6	9.2	8.9	9.2
CDN1-I	5.3	5.6	5.5	3.5	5.6	5.5	5.3	3.5
CDN1-R	4.4	3.5	3.6	2.7	4.5	3.6	4.8	2.7
CDN2-I	1.8	1.5	0	1.6	2	1.8	0	0
CDN2-R	0	0	0	0	0	0	1.2	1.3

APPENDIX C5
PRE & POST WET WEATHER SITE PHOTOS

SEB2-R œLooking up transect 1

SEB2-R œLooking down transect 1

SEB2-R œLooking up transect 4

SEB2-R œLooking down transect 4

SEB2-I œLooking up transect 1

SEB2-I œLooking down transect 1

SEB2-I œLooking up transect 4

SEB2-I œLooking down transect 4

APPENDIX D
BIMONTHLY SUBTIDAL SEAGRASS MONITORING DATA

Subtidal Seagrass Monitoring Data

Site	Term	Rep	# leaves	Foil weight	Dry Weight	Ash Weight	Actual Dry	Actual Ash	Total Organic	Leaf Length	Leaf Area	Sediment Weight (cm^2)	Algae Weight (cm^2)
CDN1	Pilot	1	20	2.53	1.85	3.51	1.07	0.98	0.09	25	30	0.0016	0.0002
CDN1	Pilot	2	20	2.66	1.89	3.68	1.11	1.02	0.09	25	30	0.0017	0.0002
CDN2	Pilot	1	20	2.97	3.1	5.13	2.33	2.16	0.17	25	30	0.0036	0.0003
CDN2	Pilot	2	19	2.66	1.81	3.58	1.03	0.92	0.11	25	30	0.0016	0.0002
CUP1	Pilot	1	17	2.71	1.96	3.69	1.23	0.98	0.25	25	30	0.0019	0.0005
CUP1	Pilot	2	18	2.44	1.75	3.16	0.98	0.72	0.26	25	30	0.0013	0.0005
CUP2	Pilot	1	20	2.91	2.37	4.27	1.61	1.36	0.25	25	30	0.0023	0.0004
CUP2	Pilot	2	20	3.05	2.24	4.26	1.47	1.21	0.26	25	30	0.0020	0.0004
BB1	Pilot	1	20	2.57	5.72	7.15	4.96	4.58	0.38	25	30	0.0076	0.0006
BB1	Pilot	2	20	2.7	3.7	5.43	2.98	2.73	0.25	25	30	0.0046	0.0004
BB2	Pilot	1	20	2.72	2.45	4.28	1.67	1.56	0.11	25	30	0.0026	0.0002
BB2	Pilot	2	20	2.44	3.18	4.53	2.46	2.09	0.37	25	30	0.0035	0.0006
SWB1	Pilot	1	18	2.6	6.26	6.22	5.5	3.62	1.88	25	30	0.0067	0.0035
SWB1	Pilot	2	20	2.46	8.27	9.55	7.54	7.09	0.45	25	30	0.0118	0.0007
SWB2	Pilot	1	13	2.7	5.65	7.19	4.9	4.49	0.41	25	30	0.0115	0.0011
SWB2	Pilot	2	20	2.41	4.68	6.22	3.97	3.81	0.16	25	30	0.0064	0.0003
SEB1	Pilot	1	20	2.06	2.03	3.21	1.3	1.15	0.15	25	30	0.0019	0.0003
SEB1	Pilot	2	20	2.5	3.88	5.2	3.11	2.7	0.41	25	30	0.0045	0.0007
SEB2	Pilot	1	19	2.11	1.79	3.06	1.06	0.95	0.11	25	30	0.0017	0.0002
SEB2	Pilot	2	20	2.47	2.09	3.61	1.33	1.14	0.19	25	30	0.0019	0.0003
CDN1	Term_1	1	16	2.42	7.86	7.26	5.44	4.84	0.6	30	36	0.0084	0.0010
CDN1	Term_1	2	16	2.71	6.47	5.96	3.76	3.25	0.51	30	36	0.0056	0.0009
CDN1	Term_1	3	16	2.76	7.73	7.12	4.97	4.36	0.61	30	36	0.0076	0.0011
CDN2	Term_1	1	16	2.46	5.82	5.3	3.36	2.84	0.52	30	36	0.0049	0.0009
CDN2	Term_1	2	16	2.54	6.32	5.8	3.78	3.26	0.52	30	36	0.0057	0.0009
CDN2	Term_1	3	16	2.98	6.37	5.82	3.39	2.84	0.55	30	36	0.0049	0.0010
CUP1	Term_1	1	16	3.11	4.29	4.18	1.18	1.07	0.11	30	36	0.0019	0.0002
CUP1	Term_1	2	16	3.06	4.78	4.51	1.72	1.45	0.27	30	36	0.0025	0.0005
CUP1	Term_1	3	15	3.18	5.76	5.34	2.58	2.16	0.42	30	36	0.0040	0.0008
CUP2	Term_1	1	16	2.75	3.85	3.63	1.1	0.88	0.22	30	36	0.0015	0.0004
CUP2	Term_1	2	16	2.57	3.63	3.4	1.06	0.83	0.23	30	36	0.0014	0.0004
CUP2	Term_1	3	16	2.62	3.72	3.5	1.1	0.88	0.22	30	36	0.0015	0.0004
BB1	Term_1	1	16	2.08	5.09	4.76	3.01	2.68	0.33	30	36	0.0047	0.0006
BB1	Term_1	2	16	3	9.44	8.93	6.44	5.93	0.51	30	36	0.0103	0.0009
BB1	Term_1	3	16	2.34	5.48	5.14	3.14	2.8	0.34	30	36	0.0049	0.0006

BB2	Term_1	1	16	2.13	3.6	3.27	1.47	1.14	0.33	30	36	0.0020	0.0006
BB2	Term_1	2	16	2.67	4.59	4.29	1.92	1.62	0.3	30	36	0.0028	0.0005
BB2	Term_1	3	16	2.78	4.2	3.95	1.42	1.17	0.25	30	36	0.0020	0.0004
SWB1	Term_1	1	16		sample					30	36		
SWB1	Term_1	2	16		sample					30	36		
SWB1	Term_1	3	16		sample					30	36		
SWB2	Term_1	1	16	2.7	5.62	5.22	2.92	2.52	0.4	30	36	0.0044	0.0007
SWB2	Term_1	2	16	2.51	6.86	6.3	4.35	3.79	0.56	30	36	0.0066	0.0010
SWB2	Term_1	3	16	2.65	7.61	6.98	4.96	4.33	0.63	30	36	0.0075	0.0011
SEB1	Term_1	1	12	2.7	5.93	5.42	3.23	2.72	0.51	30	36	0.0063	0.0012
SEB1	Term_1	2	16	2.48	7.75	6.91	5.27	4.43	0.84	30	36	0.0077	0.0015
SEB1	Term_1	3	16	2.9	7.35	5.64	4.45	2.74	1.71	30	36	0.0048	0.0030
SEB2	Term_1	1	16	2.67	5.54	5.06	2.87	2.39	0.48	30	36	0.0041	0.0008
SEB2	Term_1	2	16	2.47	5.78	5.22	3.31	2.75	0.56	30	36	0.0048	0.0010
SEB2	Term_1	3	16	3.03	6.83	6.31	3.8	3.28	0.52	30	36	0.0057	0.0009
CDN1	Term_2	1	16	1.69	5.98	5.66	4.29	3.97	0.32	30	36	0.0069	0.0006
CDN1	Term_2	2	15	1.69	4.41	4.23	2.72	2.54	0.18	30	36	0.0047	0.0003
CDN1	Term_2	3	16	1.69	4.66	4.42	2.97	2.73	0.24	30	36	0.0047	0.0004
CDN2	Term_2	1	17	1.7	10.34	9.94	8.64	8.24	0.4	30	36	0.0135	0.0007
CDN2	Term_2	2	15	1.7	8.65	8.32	6.95	6.62	0.33	30	36	0.0123	0.0006
CDN2	Term_2	3	16	1.7	5.34	5.08	3.64	3.38	0.26	30	36	0.0059	0.0005
CUP1	Term_2	1	16	1.7	3.51	3.28	1.81	1.58	0.23	30	36	0.0027	0.0004
CUP1	Term_2	2	16	1.7	3.86	3.57	2.16	1.87	0.29	30	36	0.0032	0.0005
CUP1	Term_2	3	12	1.7	2.6	2.46	0.9	0.76	0.14	30	36	0.0018	0.0003
CUP2	Term_2	1	15	1.7	2.8	2.6	1.1	0.9	0.2	30	36	0.0017	0.0004
CUP2	Term_2	2	16	1.7	3.16	2.92	1.46	1.22	0.24	30	36	0.0021	0.0004
CUP2	Term_2	3	16	1.68	2.84	2.63	1.16	0.95	0.21	30	36	0.0016	0.0004
BB1	Term_2	1	16	1.72	3.47	3.24	1.75	1.52	0.23	30	36	0.0026	0.0004
BB1	Term_2	2	16	1.71	3.25	3.06	1.54	1.35	0.19	30	36	0.0023	0.0003
BB1	Term_2	3	16	1.7	3.09	2.92	1.39	1.22	0.17	30	36	0.0021	0.0003
BB2	Term_2	1	15	1.7	4.87	4.45	3.17	2.75	0.42	30	36	0.0051	0.0008
BB2	Term_2	2	16	1.67	3.07	2.87	1.4	1.2	0.2	30	36	0.0021	0.0003
BB2	Term_2	3	16	1.67	4.82	4.43	3.15	2.76	0.39	30	36	0.0048	0.0007
SWB1	Term_2	1			sample					30	36		
SWB1	Term_2	2			Sample					30	36		
SWB1	Term_2	3			Sample					30	36		
SWB2	Term_2	1	16	1.68	4.76	4.54	3.08	2.86	0.22	30	36	0.0050	0.0004
SWB2	Term_2	2	16	1.67	6.95	6.66	5.28	4.99	0.29	30	36	0.0087	0.0005
SWB2	Term_2	3	16	1.67	4.17	3.99	2.5	2.32	0.18	30	36	0.0040	0.0003
SEB1	Term_2	1	14	1.67	6.37	5.98	4.7	4.31	0.39	30	36	0.0086	0.0008
SEB1	Term_2	2	16	1.7	5.87	5.51	4.17	3.81	0.36	30	36	0.0066	0.0006
SEB1	Term_2	3	13	1.68	4.46	4.18	2.78	2.5	0.28	30	36	0.0053	0.0006
SEB2	Term_2	1	15	1.67	4.34	4.08	2.67	2.41	0.26	30	36	0.0045	0.0005
SEB2	Term_2	2	16	1.68	6.37	5.99	4.69	4.31	0.38	30	36	0.0075	0.0007
SEB2	Term_2	3	19	1.69	6.87	6.4	5.18	4.71	0.47	30	36	0.0069	0.0007

CDN1	Term_3	1	16	1.72	4.66	4.4	2.94	2.68	0.26	30	36	0.0047	0.0005
CDN1	Term_3	2	16	1.73	3.76	3.59	2.03	1.86	0.17	30	36	0.0032	0.0003
CDN1	Term_3	3	16	1.78	3.79	3.6	2.01	1.82	0.19	30	36	0.0032	0.0003
CDN2	Term_3	1	16	1.76	6.8	6.46	5.04	4.7	0.34	30	36	0.0082	0.0006
CDN2	Term_3	2	15	1.85	5.56	5.24	3.71	3.39	0.32	30	36	0.0063	0.0006
CDN2	Term_3	3	16	1.76	6.49	6.14	4.73	4.38	0.35	30	36	0.0076	0.0006
CUP1	Term_3	1	16	1.73	3.38	dropped	1.65			30	36		
CUP1	Term_3	2	16	1.73	3.2	2.98	1.47	1.25	0.22	30	36	0.0022	0.0004
CUP1	Term_3	3	16	1.75	3.26	3.07	1.51	1.32	0.19	30	36	0.0023	0.0003
CUP2	Term_3	1	15	1.74	3.56	3.33	1.82	1.59	0.23	30	36	0.0029	0.0004
CUP2	Term_3	2	15	1.72	3.17	3	1.45	1.28	0.17	30	36	0.0024	0.0003
CUP2	Term_3	3	16	1.73	3.15	2.97	1.42	1.24	0.18	30	36	0.0022	0.0003
BB1	Term_3	1	15	1.78	10.12	9.75	8.34	7.97	0.37	30	36	0.0148	0.0007
BB1	Term_3	2	16	1.76	9.54	9.14	7.78	7.38	0.4	30	36	0.0128	0.0007
BB1	Term_3	3	16	1.74	12.06	11.59	10.32	9.85	0.47	30	36	0.0171	0.0008
BB2	Term_3	1	15	1.76	4.39	4.14	2.63	2.38	0.25	30	36	0.0044	0.0005
BB2	Term_3	2	16	1.74	3.13	2.9	1.39	1.16	0.23	30	36	0.0020	0.0004
BB2	Term_3	3	16	1.78	4.17	3.88	2.39	2.1	0.29	30	36	0.0036	0.0005
SWB1	Term_3	1	15	1.72	6.75	6.4	5.03	4.68	0.35	30	36	0.0087	0.0006
SWB1	Term_3	2	15	1.74	7.86	7.46	6.12	5.72	0.4	30	36	0.0106	0.0007
SWB1	Term_3	3	16	1.77	5.5	5.21	3.73	3.44	0.29	30	36	0.0060	0.0005
SWB2	Term_3	1	14	1.78	8.14	7.71	6.36	5.93	0.43	30	36	0.0118	0.0009
SWB2	Term_3	2	16	1.74	11.29	10.69	9.55	8.95	0.6	30	36	0.0155	0.0010
SWB2	Term_3	3	16	1.78	6.89	6.48	5.11	4.7	0.41	30	36	0.0082	0.0007
SEB1	Term_3	1	16	1.77	7.96	7.58	6.19	5.81	0.38	30	36	0.0101	0.0007
SEB1	Term_3	2	16	1.71	10.48	10.04	8.77	8.33	0.44	30	36	0.0145	0.0008
SEB1	Term_3	3	14	1.78	5.97	5.72	4.19	3.94	0.25	30	36	0.0078	0.0005
SEB2	Term_3	1	14	1.69	7	6.77	5.31	5.08	0.23	30	36	0.0101	0.0005
SEB2	Term_3	2	15	1.69	5.89	5.7	4.2	4.01	0.19	30	36	0.0074	0.0004
SEB2	Term_3	3	16	1.69	7.28	7.02	5.59	5.33	0.26	30	36	0.0093	0.0005
CDN1	Term 4	1	14	1.86	6.29	5.94	4.43	4.08	0.35	30	36	0.0081	0.0007
CDN1	Term 4	2	16	1.85	6.2	5.83	4.35	3.98	0.37	30	36	0.0069	0.0006
CDN1	Term 4	3	16	1.85	4.31	4.05	2.46	2.2	0.26	30	36	0.0038	0.0005
CDN2	Term 4	1	16	2.04	9.84	9.33	7.8	7.29	0.51	30	36	0.0127	0.0009
CDN2	Term 4	2	16	1.96	6.26	5.96	4.3	4	0.3	30	36	0.0069	0.0005
CDN2	Term 4	3	16	1.84	5.83	5.49	3.99	3.65	0.34	30	36	0.0063	0.0006
CUP1	Term 4	1	12	1.91	2	1.96	0.09	0.05	0.04	30	36	0.0001	0.0001
CUP1	Term 4	2	12	1.84	1.96	1.91	0.12	0.07	0.05	30	36	0.0002	0.0001
CUP1	Term 4	3	12	1.87	1.94	1.91	0.07	0.04	0.03	30	36	0.0001	0.0001
CUP2	Term 4	1	16	1.96	2.08	2.03	0.12	0.07	0.05	30	36	0.0001	0.0001
CUP2	Term 4	2	15	1.87	1.98	1.95	0.11	0.08	0.03	30	36	0.0001	0.0001
CUP2	Term 4	3	15	1.81	1.95	1.92	0.14	0.11	0.03	30	36	0.0002	0.0001
BB1	Term 4	1	16	2	2.49	2.37	0.49	0.37	0.12	30	36	0.0006	0.0002
BB1	Term 4	2	16	1.9	2.52	2.33	0.62	0.43	0.19	30	36	0.0007	0.0003

BB1	Term 4	3	16	1.88	2.61	2.43	0.73	0.55	0.18	30	36	0.0010	0.0003
BB2	Term 4	1	16	1.99	4.33	4.01	2.34	2.02	0.32	30	36	0.0035	0.0006
BB2	Term 4	2	14	1.96	5.59	5.19	3.63	3.23	0.4	30	36	0.0064	0.0008
BB2	Term 4	3	15	1.84	3.85	3.6	2.01	1.76	0.25	30	36	0.0033	0.0005
SWB1	Term 4	1	16	1.93	4.64	4.33	2.71	2.4	0.31	30	36	0.0042	0.0005
SWB1	Term 4	2	15	1.96	4.83	4.51	2.87	2.55	0.32	30	36	0.0047	0.0006
SWB1	Term 4	3	15	1.97	4.12	3.85	2.15	1.88	0.27	30	36	0.0035	0.0005
SWB2	Term 4	1	15	1.67	4.3	4.1	2.63	2.43	0.2	30	36	0.0045	0.0004
SWB2	Term 4	2	15	1.67	3.15	2.99	1.48	1.32	0.16	30	36	0.0024	0.0003
SWB2	Term 4	3	14	1.67	6.08	5.85	4.41	4.18	0.23	30	36	0.0083	0.0005
SEB1	Term 4	1	16	1.67	4.15	3.88	2.48	2.21	0.27	30	36	0.0038	0.0005
SEB1	Term 4	2	16	1.68	3.25	3.09	1.57	1.41	0.16	30	36	0.0024	0.0003
SEB1	Term 4	3	16	1.67	3.17	2.99	1.5	1.32	0.18	30	36	0.0023	0.0003
SEB2	Term 4	1	16	1.68	2.5	2.44	0.82	0.76	0.06	30	36	0.0013	0.0001
SEB2	Term 4	2	16	1.66	2.19	2.13	0.53	0.47	0.06	30	36	0.0008	0.0001
SEB2	Term 4	3	16	1.66	2.5	2.44	0.84	0.78	0.06	30	36	0.0014	0.0001
CDN1	Term 5	1	16	1.61	6.3	5.84	4.69	4.23	0.46	30	36	0.00734	0.0008
CDN1	Term 5	2	18	1.61	5.66	5.24	4.05	3.63	0.42	30	36	0.0056	0.00065
CDN1	Term 5	3	13	1.61	4.26	3.93	2.65	2.32	0.33	30	36	0.00496	0.00071
CDN2	Term 5	1	16	1.61	5.16	4.61	3.55	3	0.55	30	36	0.00521	0.00095
CDN2	Term 5	2	15	1.63	3.99	3.62	2.36	1.99	0.37	30	36	0.00369	0.00069
CDN2	Term 5	3	16	1.62	3.98	3.59	2.36	1.97	0.39	30	36	0.00342	0.00068
CUP1	Term 5	1								30	36		
CUP1	Term 5	2								30	36		
CUP1	Term 5	3								30	36		
CUP2	Term 5	1	12	1.62	2.54	2.36	0.92	0.74	0.18	30	36	0.00171	0.00042
CUP2	Term 5	2	14	1.63	3.34	3.16	1.71	1.53	0.18	30	36	0.00304	0.00036
CUP2	Term 5	3	13	1.61	2.79	2.62	1.18	1.01	0.17	30	36	0.00216	0.00036
BB1	Term 5	1	17	1.6	6.91	6.56	5.31	4.96	0.35	30	36	0.0081	0.00057
BB1	Term 5	2	16	1.6	3.17	2.89	1.57	1.29	0.28	30	36	0.00224	0.00049
BB1	Term 5	3	16	1.62	5.11	4.74	3.49	3.12	0.37	30	36	0.00542	0.00064
BB2	Term 5	1	15	1.56	2.27	2.12	0.71	0.56	0.15	30	36	0.00104	0.00028
BB2	Term 5	2	16	1.54	2.4	2.25	0.86	0.71	0.15	30	36	0.00123	0.00026
BB2	Term 5	3	16	1.55	2.61	2.42	1.06	0.87	0.19	30	36	0.00151	0.00033
SWB1	Term 5	1	12	1.53	2.16	2.01	0.63	0.48	0.15	30	36	0.00111	0.00035
SWB1	Term 5	2	16	1.55	2.02	1.86	0.47	0.31	0.16	30	36	0.00054	0.00028
SWB1	Term 5	3	16	1.53	2.38	2.17	0.85	0.64	0.21	30	36	0.00111	0.00036
SWB2	Term 5	1	16	1.54	3.46	3.35	1.92	1.81	0.11	30	36	0.00314	0.00019
SWB2	Term 5	2	15	1.55	4.73	4.59	3.18	3.04	0.14	30	36	0.00563	0.00026
SWB2	Term 5	3	16	1.56	4.03	3.88	2.47	2.32	0.15	30	36	0.00403	0.00026
SEB1	Term 5	1	16	1.55	4.67	4.23	3.12	2.68	0.44	30	36	0.00465	0.00076
SEB1	Term 5	2	16	1.55	6.84	6.5	5.29	4.95	0.34	30	36	0.00859	0.00059
SEB1	Term 5	3	16	1.56	3.39	3.03	1.83	1.47	0.36	30	36	0.00255	0.00063
SEB2	Term 5	1	16	1.57	3.2	2.93	1.63	1.36	0.27	30	36	0.00236	0.00047

SEB2	Term 5	2	16	1.56	4.32	3.9	2.76	2.34	0.42	30	36	0.00406	0.00073
SEB2	Term 5	3	16	1.54	4.79	4.3	3.25	2.76	0.49	30	36	0.00479	0.00085

APPENDIX E
BI-MONTHLY OYSTER MONITORING DATA

E1 WILD SRO CONDITION INDEX

E2 BACKGROUND OYSTER CONDITION INDEX

E3 OYSTER CONDITION INDEX

E4 WILD SRO FLESH MEAN METAL CONCENTRATIONS

E5 LABOROTRY ANALYSIS REPORTS

APPENDIX E1

Condition index results for wild SROs for the original wild oyster pilot study (S = shore, L = Lease).

Table E1 Pilot Study - Wild SRO Condition Index						
Site	**Sub-site**	**Oyster**	**Shell height**	**Total weight**	**Shell weight**	**Flesh weight**
Cup1	S	1	65	40.32	27.54	9.01
Cup1	S	2	70	51.06	38.55	9.96
Cup1	S	3	68	44.56	35.01	7.02
Cup1	S2	1	65	47.55	36.71	7.39
Cup1	S2	2	61	40.26	28.09	6.46
Cup1	S2	3	70	30.78	23.30	5.71
Cup2	S	1	44	13.33	10.12	2.10
Cup2	S	2	62	15.41	11.25	3.26
Cup2	S	3	44	9.56	7.34	1.50
Cup2	L	1	52	32.21	25.11	5.74
Cup2	L	2	56	29.11	21.20	6.25
Cup2	L	3	59	28.45	20.77	5.45
BB1	S	1	75	31.54	23.50	5.30
BB1	S	2	67	26.09	18.61	4.02
BB1	S	3	94	57.57	40.23	8.63
BB1	L	1	82	62.86	48.41	10.33
BB1	L	2	51	28.01	21.16	5.02
BB1	L	3	72	35.40	31.32	4.08
BB2	S	1	68	29.11	21.39	3.97
BB2	S	2	69	24.08	18.26	3.59
BB2	S	3	62	32.12	25.22	2.92
BB2	L	1	68	25.49	18.34	4.72
BB2	L	2	74	44.36	32.69	7.83
BB2	L	3	75	52.04	40.10	7.11
SWB1	S	1	60	31.22	24.74	3.35
SWB1	S	2	40	9.99	8.74	0.70
SWB1	S	3	46	11.04	8.81	1.40
SWB1	L	1	103	53.43	40.22	7.75
SWB1	L	2	75	42.62	30.92	7.30
SWB1	L	3	70	18.00	13.69	3.25
SWB2	S	1	56	24.34	18.65	3.30
SWB2	S	2	74	27.98	21.59	4.04
SWB2	S	3	46	14.37	12.17	2.01
SEB1	S	1	76	26.16	19.10	4.81
SEB1	S	2	60	32.83	25.21	5.73
SEB1	S	3	53	19.54	14.03	3.56

SEB1	L	1	55	24.88	19.54	3.92
SEB1	L	2	85	39.19	30.90	6.64
SEB1	L	3	74	57.42	45.18	9.20
SEB2	S	1	82	49.23	35.84	9.29
SEB2	S	2	100	64.70	47.05	12.57
SEB2	S	3	95	37.50	24.15	12.71
SEB2	S2	1	63	29.95	21.65	5.88
SEB2	S2	2	74	38.48	25.46	9.26
SEB2	S2	3	67	32.03	23.47	5.24
SWB2	L	1	60	35.66	28.60	5.03
SWB2	L	2	79	74.94	54.77	9.42
SWB2	L	3	53	20.51	16.33	2.32
NB1	S	1	50	11.28	8.62	1.57
NB1	S	2	60	25.55	20.76	2.07
NB1	S	3	68	23.51	18.86	3.60
NB1	L	1	79	35.17	27.45	4.69
NB1	L	2	57	17.09	14.01	2.90
NB1	L	3	69	26.80	20.40	4.05
NB2	S	1	70	21.33	16.14	3.35
NB2	S	2	54	10.51	8.39	1.80
NB2	S	3	70	26.63	18.52	2.75
NB2	L	1	61	32.55	25.40	4.23
NB2	L	2	80	38.72	25.75	8.47
NB2	L	3	64	19.89	16.64	1.98
CDN1	S	1	65	26.11	19.90	2.81
CDN1	S	2	60	18.51	12.89	1.82
CDN1	S	3	55	13.60	10.62	1.74
CDN1	L	1	60	18.24	13.92	3.09
CDN1	L	2	60	22.10	17.49	3.26
CDN1	L	3	50	19.36	14.57	2.79
CDN2	S	1	66	24.81	20.61	2.19
CDN2	S	2	67	20.68	16.36	1.76
CDN2	S	3	58	26.08	21.51	2.37
CDN2	L	1	54	18.70	15.61	1.95
CDN2	L	2	51	29.69	23.84	3.11
CDN2	L	3	69	16.01	14.66	1.35

APPENDIX E2

For Bimonthly Term 1 there were 12 oysters in each of the three batches Background replicated with six oysters for the Term 2, 3, 4 & 5 deployments.

Table E2 Background Oyster Condition Index

Batch	Species	Oyster	Term	Shell height	Total weight	Shell weight	Flesh weight
B1	SR	1	1	60	38.82	23.57	6.76
B1	SR	2	1	60	37.4	27.77	4.7
B1	SR	3	1	56	47.25	39.1	6.2
B1	SR	4	1	53	22.16	16.06	4.72
B1	SR	5	1	65	36.15	25.95	8.92
B1	SR	6	1	57	39.51	30.36	5.85
B1	SR	7	1	53	39.89	31.74	5.66
B1	SR	8	1	62	29.19	23.93	5.2
B1	SR	9	1	58	28.3	23.68	4.44
B1	SR	10	1	57	34.52	28.63	5.06
B1	SR	11	1	60	31.43	24.22	4.96
B1	SR	12	1	59	34.28	26.3	3.21
B2	SR	1	1	60	39.02	29.08	6.83
B2	SR	2	1	58	34.75	27.92	6.1
B2	SR	3	1	59	38.88	28.16	6.89
B2	SR	4	1	58	31.8	23.88	6.42
B2	SR	5	1	63	39.94	32.15	4.91
B2	SR	6	1	56	40.14	29.1	5.95
B2	SR	7	1	60	45.36	34.78	7.25
B2	SR	8	1	61	35.83	28.51	6.11
B2	SR	9	1	59	41.88	32.23	5.15
B2	SR	10	1	59	39.63	32.61	6.73
B2	SR	11	1	65	34.94	26.91	4.11
B2	SR	12	1	57	27	20.08	4.87
B3	SR	1	1	55	38.42	30.61	7.58
B3	SR	2	1	55	28.5	19.47	6.58
B3	SR	3	1	57	31.21	24.92	4.75
B3	SR	4	1	60	33.17	23.27	5.71
B3	SR	5	1	55	32.78	25.03	5.76
B3	SR	6	1	68	42.69	32.29	5.53

B3	SR	7	1	59	36.61	27.51	6.05
B3	SR	8	1	64	47.17	35.29	7.36
B3	SR	9	1	60	41.71	32.95	5.06
B3	SR	10	1	74	53.7	41.55	6.73
B3	SR	11	1	53	26.14	21.81	3.58
B3	SR	12	1	60	29.16	23.24	4.62
B1	P	1	1	75	45.62	27.37	9.77
B1	P	2	1	70	53.3	31.1	11.21
B1	P	3	1	83	72.65	42.56	20.57
B1	P	4	1	73	54.07	34.91	10.93
B1	P	5	1	83	82.4	52.36	18.97
B1	P	6	1	87	68.68	51.01	17.16
B1	P	7	1	100	89.94	54.52	19.17
B1	P	8	1	83	55.63	34.13	11.95
B1	P	9	1	67	42.2	31.04	10.33
B1	P	10	1	78	45.63	27.8	11.61
B1	P	11	1	76	59.44	36.45	12.66
B1	P	12	1	66	37.67	26.66	9.5
B2	P	1	1	74	54.51	35.14	12.21
B2	P	2	1	84	68.35	42.95	14.09
B2	P	3	1	80	66.42	40.77	16.16
B2	P	4	1	70	41.98	30.06	9.6
B2	P	5	1	75	51.98	35.33	11.12
B2	P	6	1	80	55.76	40.9	13.03
B2	P	7	1	77	47.04	30.45	8.91
B2	P	8	1	84	65.47	41.19	13.36
B2	P	9	1	90	78.53	49.94	13
B2	P	10	1	76	54.68	37.05	13.53
B2	P	11	1	69	49.88	30.36	11.73
B2	P	12	1	77	45.4	32.52	11.07
B3	P	1	1	80	59.39	33.17	13.93
B3	P	2	1	74	51.67	31.66	9.4
B3	P	3	1	74	66.36	39.21	15.74
B3	P	4	1	90	70.03	43.29	13.35
B3	P	5	1	75	48.97	32.4	10.14
B3	P	6	1	71	43.86	26.78	9.84
B3	P	7	1	79	49.55	39.14	10.29
B3	P	8	1	80	45.93	33.64	10.39
B3	P	9	1	79	77.79	48.32	20.8

B3	P	10	1	71	49.75	36.55	12.06
B3	P	11	1	77	57.2	35.52	15.04
B3	P	12	1	80	65.8	38.91	15.84
B1	SR	1	2	59	25.31	18.65	4.81
B1	SR	2	2	60	30.71	23.55	4.71
B1	SR	3	2	57	26.1	19.35	4.73
B1	SR	4	2	65	40.56	33.85	4.75
B1	SR	5	2	66	29.64	23.88	5.06
B1	SR	6	2	61	32.89	24.94	6.71
B2	SR	1	2	56	30.2	22.96	4.24
B2	SR	2	2	60	28.22	22.51	2.99
B2	SR	3	2	57	22.55	16.47	4.29
B2	SR	4	2	56	22.97	17.2	3.92
B2	SR	5	2	65	32.03	26.4	4.5
B2	SR	6	2	71	33.9	26.09	4.49
B3	SR	1	2	60	32.63	23.28	6.73
B3	SR	2	2	55	23.54	17.3	4.26
B3	SR	3	2	56	28.16	20.94	5.1
B3	SR	4	2	53	31.26	24	4.77
B3	SR	5	2	60	27.08	22.27	3.54
B3	SR	6	2	64	29.73	23.04	4.84
B1	P	1	2	100	124.33	72.1	23.12
B1	P	2	2	110	128.28	71.82	21.83
B1	P	3	2	77	67.97	38.52	12.71
B1	P	4	2	62	41.82	23	6.4
B1	P	5	2	103	139.07	86.52	24.95
B1	P	6	2	80	90.04	55.07	11.72
B2	P	1	2	105	135.75	89.9	17.65
B2	P	2	2	97	65.97	39.49	11.58
B2	P	3	2	102	87.75	52.59	11.24
B2	P	4	2	98	100.27	63.65	15.21
B2	P	5	2	88	85.61	48.8	13.49
B2	P	6	2	96	87.56	52.49	10.68
B3	P	1	2	104	104.83	60.04	15.32
B3	P	2	2	106	124.37	72.17	19.72
B3	P	3	2	111	113.58	70.52	17.93
B3	P	4	2	77	44.35	26.42	7.02
B3	P	5	2	100	127.53	77.55	16.09
B3	P	6	2	96	99.26	60.16	12.63

B1	SR	1	3	64	18.51	13.96	2.97
B1	SR	2	3	76	22.29	14.05	5.28
B1	SR	3	3	61	17.42	11.2	4.05
B1	SR	4	3	70	25.14	15.11	4.6
B1	SR	5	3	62	19.64	13.38	4.25
B1	SR	6	3	57	15.72	11.74	2.02
B2	SR	1	3	68	27.62	18.75	7.41
B2	SR	2	3	64	21.94	14.64	4.33
B2	SR	3	3	65	35.54	25.53	7.37
B2	SR	4	3	75	24.21	16.59	5.12
B2	SR	5	3	68	25.42	16.94	6
B2	SR	6	3	70	20.35	17.69	5.55
B3	SR	1	3	74	17.84	12.76	3.64
B3	SR	2	3	61	17.39	11.56	3.85
B3	SR	3	3	68	20.44	14.86	4.9
B3	SR	4	3	63	15.2	11.44	3.55
B3	SR	5	3	70	23.02	17.1	3.8
B3	SR	6	3	49	16.47	11.27	3.95
B1	P	1	3	76	55.31	37.51	15.04
B1	P	2	3	116	196.36	140.03	28.81
B1	P	3	3	70	47.9	26.15	11.2
B1	P	4	3	66	31.41	23.37	7.65
B1	P	5	3	102	126.54	81.82	20.55
B1	P	6	3	77	75.89	46.12	13.51
B2	P	1	3	79	61.23	39.55	14.35
B2	P	2	3	97	130.9	87.65	20.94
B2	P	3	3	83	62.72	47.71	14.1
B2	P	4	3	100	103.51	63.5	16.4
B2	P	5	3	71	46.47	35.67	10.53
B2	P	6	3	76	36.17	23.21	9.35
B3	P	1	3	64	35.88	24.99	5.72
B3	P	2	3	110	167.34	110.62	24.4
B3	P	3	3	98	156.88	103.14	26.95
B3	P	4	3	70	41.43	27.14	9.86
B3	P	5	3	63	34.62	26.35	6.6
B3	P	6	3	62	32.79	21.41	6.62
B1	SR	1	4	74	23.05	16.35	5.03
B1	SR	2	4	66	18.79	12.4	4.05
B1	SR	3	4	68	32.14	19.92	6.5

B1	SR	4	4	56	14.49	10.14	3.01
B1	SR	5	4	67	26.29	12.59	3.84
B1	SR	6	4	54	18.81	13.48	3.83
B2	SR	1	4	70	34.34	25.44	7.18
B2	SR	2	4	60	19.68	13.5	4.39
B2	SR	3	4	58	18.18	11.55	4.06
B2	SR	4	4	65	20.32	14.5	3.09
B2	SR	5	4	65	29.26	18.95	6.48
B2	SR	6	4	70	28.53	17.55	7.19
B3	SR	1	4	68	25.09	16.85	5.15
B3	SR	2	4	63	22.06	15.51	5.04
B3	SR	3	4	63	21.24	15.11	4.34
B3	SR	4	4	85	28.58	18.72	4.9
B3	SR	5	4	69	18.39	12.94	3.86
B3	SR	6	4	58	16.18	11.25	3.26
B1	P	1	4	79	69.64	57.18	11.8
B1	P	2	4	82	72.52	47.76	11.98
B1	P	3	4	75	80.06	58.02	10.91
B1	P	4	4	75	52.51	30.67	10.27
B1	P	5	4	87	98.18	65.51	17.77
B1	P	6	4	93	93.58	68.08	22.07
B2	P	1	4	86	61.63	48.54	12.09
B2	P	2	4	85	100.87	69.73	14.86
B2	P	3	4	97	82.2	58.37	13.56
B2	P	4	4	86	108.89	74.59	17.7
B2	P	5	4	94	110.09	89.29	19.95
B2	P	6	4	93	77.28	59.56	14.07
B3	P	1	4	84	74.21	49.65	12.27
B3	P	2	4	86	83.36	62.7	18.52
B3	P	3	4	75	60.1	43.84	13.38
B3	P	4	4	84	101.99	79.4	19.94
B3	P	5	4	80	79.7	46.96	16.82
B3	P	6	4	88	68.18	48.26	13.77
B1	SR	1	5	65	25.98	17.83	4.51
B1	SR	2	5	69	24.41	16.83	3.22
B1	SR	3	5	65	30.59	20.62	5.19
B1	SR	4	5	60	29.66	19.91	6.79
B1	SR	5	5	70	23.59	16.91	4.29
B1	SR	6	5	60	25.5	16.13	4.06

B2	SR	1	5	61	20.34	13.48	3.66
B2	SR	2	5	65	25.15	18.45	3.62
B2	SR	3	5	65	16.95	11.98	3.05
B2	SR	4	5	60	21.6	15.37	3.6
B2	SR	5	5	60	22.66	16.48	3.06
B2	SR	6	5	65	20.11	13.53	5.46
B3	SR	1	5	65	21.97	15.46	3.33
B3	SR	2	5	60	24.48	16.19	3.7
B3	SR	3	5	63	20.23	14.14	3.13
B3	SR	4	5	61	26.96	19.77	4.26
B3	SR	5	5	64	29.13	20.54	4.15
B3	SR	6	5	63	18.82	11.9	2.9
B1	P	1	5	102	201.3	128.26	36.59
B1	P	2	5	103	135.56	81.66	26.03
B1	P	3	5	102	156.15	96.61	21.08
B1	P	4	5	97	155.19	112.38	15.38
B1	P	5	5	90	133.31	95.86	22.09
B1	P	6	5	91	101.72	72.31	15.1
B2	P	1	5	86	86.22	58.64	12.06
B2	P	2	5	99	68.75	38.86	10.72
B2	P	3	5	108	203.91	130.19	29.81
B2	P	4	5	105	173.56	117.75	29.87
B2	P	5	5	106	177.91	118.88	28.71
B2	P	6	5	100	154.87	96.21	31.4
B3	P	1	5	110	106.72	65.68	15.41
B3	P	2	5	87	97.82	56.69	18.64
B3	P	3	5	100	88.99	72.73	12.28
B3	P	4	5	88	127.89	85.95	20.4
B3	P	5	5	100	197.74	125.19	26.4
B3	P	6	5	92	93.11	65.57	9.16
B1	SR	1	6	78	37.89	28.61	8.42
B1	SR	2	6	79	41.52	29.39	9
B1	SR	3	6	84	53.02	33.2	8.94
B1	SR	4	6	81	55.59	39.31	11.6
B1	SR	5	6	73	40.51	28.23	8.23
B1	SR	6	6	73	30.73	20.46	7.47
B2	SR	1	6	67	36.58	25.41	8.3
B2	SR	2	6	65	33.51	24.17	6
B2	SR	3	6	87	54.49	37.95	10.81

B2	SR	4	6	64	29.73	23.3	4.28
B2	SR	5	6	73	37.41	28.39	8.7
B2	SR	6	6	81	44.28	30.7	9.01
B3	SR	1	6	87	42.02	30.37	7.86
B3	SR	2	6	61	22.03	15.51	4.14
B3	SR	3	6	70	39.95	32.08	7.72
B3	SR	4	6	70	29.57	22.35	5.95
B3	SR	5	6	62	29.6	22.38	5.85
B3	SR	6	6	86	41.79	29.97	8.21
B1	P	1	6	96	89.18	54.87	22.61
B1	P	2	6	80	67.04	43.93	16.16
B1	P	3	6	85	100.15	58.9	21.26
B1	P	4	6	87	93.58	62.33	14.05
B1	P	5	6	85	79.9	45.87	16.87
B1	P	6	6	84	73.77	46.55	16.02
B2	P	1	6	86	86.03	51.24	20.72
B2	P	2	6	81	52.71	35.37	11.23
B2	P	3	6	81	72.36	48.44	14.07
B2	P	4	6	74	83.36	53.64	14.59
B2	P	5	6	86	79.11	48.26	16.8
B2	P	6	6	81	85.68	50.37	16.41
B3	P	1	6	80	87.71	39.05	11.67
B3	P	2	6	82	64.23	41.64	11.03
B3	P	3	6	94	102.6	85.94	18.47
B3	P	4	6	84	72.36	53.51	14.41
B3	P	5	6	74	67.6	37.96	17.32
B3	P	6	6	79	71.09	45.92	14.89

APPENDIX E3

Oyster monitoring condition index for Oysters deployed for Terms 1, 2, 3, 4 & 5.

Table: D2 Term 1, 2, 3, 4 & 5 Oyster Condition Index

Site	Species	Replicate	Term	Shell Height	Total Weight	Shell Weight	Flesh Weight
CUP1	SR	1	1	57.75	34.61	25.55	6.87
CUP1	SR	2	1	58.42	33.23	24.63	6.37
CUP2	SR	1	1	62.50	35.35	26.87	5.78
CUP2	SR	2	1	59.92	32.92	26.27	5.34
BB1	SR	1	1	57.00	31.54	22.78	6.07
BB1	SR	2	1	58.42	32.82	23.99	5.98
BB2	SR	1	1	60.33	33.53	28.63	6.03
BB2	SR	2	1	60.67	34.65	26.17	6.15
SWB1	SR	1	1	59.67	33.90	26.71	5.54
SWB1	SR	2	1	64.08	39.37	30.91	5.75
SWB2	SR	1	1	59.75	33.52	26.10	5.63
SWB2	SR	2	1	56.08	29.92	22.72	4.97
SEB1	SR	1	1	60.00	34.88	26.55	6.89
SEB1	SR	2	1	59.00	30.70	22.91	6.64
SEB2	SR	1	1	57.83	29.95	22.26	6.51
SEB2	SR	2	1	58.75	34.74	26.07	7.39
NB1	SR	1	1	59.25	31.22	23.63	5.24
NB1	SR	2	1	59.17	30.67	23.17	5.30
NB2	SR	1	1	59.58	31.93	23.47	6.03
NB2	SR	2	1	57.33	31.30	24.32	5.18
CDN1	SR	1	1	61.83	38.03	28.08	5.03
CDN1	SR	2	1	59.08	34.61	27.53	4.61
CDN2	SR	1	1	58.75	32.42	25.60	4.57
CDN2	SR	2	1	58.17	30.60	24.19	4.83
CUP1	P	1	1	84.17	73.12	44.35	17.20
CUP1	P	2	1	84.67	71.56	42.74	16.11
CUP2	P	1	1	86.17	82.04	50.97	15.68
CUP2	P	2	1	84.25	71.81	45.46	15.48
BB1	P	1	1	80.67	65.64	42.09	8.70
BB1	P	2	1	78.83	63.74	42.27	8.43
BB2	P	1	1	81.83	70.16	45.87	9.09
BB2	P	2	1	83.00	69.69	44.82	14.83
SWB1	P	1	1	84.00	73.42	44.72	13.80
SWB1	P	2	1	83.58	71.04	46.07	14.01
SWB2	P	1	1	78.75	71.09	44.66	12.89
SWB2	P	2	1	79.75	74.18	49.88	13.44
SEB1	P	1	1	78.17	68.85	43.54	13.03
SEB1	P	2	1	82.42	84.15	54.33	16.27
SEB2	P	1	1	78.00	74.17	47.04	14.59

SEB2	P	2	1	79.33	75.02	47.80	15.38
NB1	P	1	1	93.00	79.58	52.04	17.12
NB1	P	2	1	91.50	83.11	50.77	18.33
NB2	P	1	1	80.25	65.52	42.01	10.83
NB2	P	2	1	82.58	71.56	46.63	12.13
CDN1	P	1	1	79.73	63.15	41.78	11.81
CDN1	P	2	1	79.67	69.61	45.43	12.84
CDN2	P	1	1	76.08	62.24	42.49	10.85
CDN2	P	2	1	79.08	67.58	43.78	11.06
CUP1	SR	1	2	60.17	27.71	21.10	6.26
CUP1	SR	2	2	58.42	27.55	21.16	6.02
CUP2	SR	1	2	54.00	28.41	21.41	6.42
CUP2	SR	2	2	56.75	24.13	18.14	5.36
BB1	SR	1	2	56.67	26.41	19.50	4.85
BB1	SR	2	2	58.17	28.95	22.61	5.98
BB2	SR	1	2	59.58	27.30	20.67	5.94
BB2	SR	2	2	57.08	24.30	18.92	5.14
SWB1	SR	1	2	59.33	31.38	23.88	5.45
SWB1	SR	2	2	61.42	32.46	25.14	5.50
SWB2	SR	1	2	59.08	32.81	24.84	7.65
SWB2	SR	2	2	56.25	28.01	20.53	6.64
SEB1	SR	1	2	57.58	25.63	19.70	5.94
SEB1	SR	2	2	57.67	36.17	27.32	7.77
SEB2	SR	1	2	57.25	31.87	24.06	6.84
SEB2	SR	2	2	60.83	30.06	23.62	6.23
NB1	SR	1	2	61.83	29.11	22.98	5.26
NB1	SR	2	2	59.33	30.05	23.74	5.09
NB2	SR	1	2	58.92	26.11	19.67	5.16
NB2	SR	2	2	58.82	28.11	21.22	5.09
CDN1	SR	1	2	57.75	29.11	22.53	5.16
CDN1	SR	2	2	59.25	29.99	23.21	5.72
CDN2	SR	1	2	58.33	29.85	22.00	5.00
CDN2	SR	2	2	58.67	29.71	22.55	5.41
CUP1	P	1	2	97.83	121.82	77.10	21.78
CUP1	P	2	2	99.25	110.45	68.98	21.42
CUP2	P	1	2	94.00	105.10	66.36	18.70
CUP2	P	2	2	95.33	118.20	75.28	20.52
BB1	P	1	2	101.42	125.82	80.54	23.44
BB1	P	2	2	102.50	119.98	76.05	21.57
BB2	P	1	2	101.17	119.43	76.05	20.40
BB2	P	2	2	96.33	116.30	74.69	18.61
SWB1	P	1	2	78.00	65.03	38.73	12.84
SWB1	P	2	2	72.25	54.96	32.14	11.83
SWB2	P	1	2	71.17	52.55	34.62	9.49
SWB2	P	2	2	80.00	69.50	45.44	12.47
SEB1	P	1	2	70.50	59.35	38.68	11.47
SEB1	P	2	2	73.17	63.59	41.99	12.23
SEB2	P	1	2	73.92	70.27	45.48	13.51

SEB2	P	2	2	76.83	73.31	47.84	13.88
NB1	P	1	2	84.58	80.78	53.60	15.31
NB1	P	2	2	80.25	76.31	49.29	15.23
NB2	P	1	2	77.83	67.16	46.37	12.37
NB2	P	2	2	73.17	62.27	39.10	11.21
CDN1	P	1	2	72.42	61.78	39.83	11.45
CDN1	P	2	2	71.75	63.00	39.30	11.35
CDN2	P	1	2	76.08	74.74	50.22	12.57
CDN2	P	2	2	72.75	65.45	42.32	11.41
Cup1	SR	1	3	62.92	19.78	13.68	4.11
Cup1	SR	2	3	63.58	19.00	13.10	3.94
Cup2	SR	1	3	63.42	19.42	13.02	4.23
Cup2	SR	2	3	63.58	18.19	12.24	3.73
BB1	SR	1	3	58.50	16.40	11.29	3.56
BB1	SR	2	3	60.58	18.09	12.39	4.32
BB2	SR	1	3	60.58	17.98	11.99	3.99
BB2	SR	2	3	63.83	19.24	13.62	4.42
SWB1	SR	1	3	62.75	18.66	12.71	4.45
SWB1	SR	2	3	63.92	19.19	12.94	4.80
SWB2	SR	1	3	61.58	18.39	12.40	3.98
SWB2	SR	2	3	61.58	18.61	12.91	3.97
SEB1	SR	1	3	62.67	19.00	12.89	4.30
SEB1	SR	2	3	62.50	19.68	13.72	4.18
SEB2	SR	1	3	64.50	18.58	12.50	4.27
SEB2	SR	2	3	62.33	18.03	12.40	3.80
NB1	SR	1	3	62.08	20.26	14.00	4.25
NB1	SR	2	3	66.25	21.42	14.69	4.83
NB2	SR	1	3	67.17	19.67	13.58	4.16
NB2	SR	2	3	64.67	21.67	15.05	4.74
CDN1	SR	1	3	61.33	19.60	13.54	4.31
CDN1	SR	2	3	61.67	19.50	13.26	3.95
CDN2	SR	1	3	64.00	20.42	13.96	4.87
CDN2	SR	2	3	62.00	20.27	14.14	5.09
CUP1	P	1	3	85.08	93.80	62.22	15.07
CUP1	P	2	3	83.67	89.32	54.62	15.89
CUP2	P	1	3	83.42	90.81	58.41	15.22
CUP2	P	2	3	88.08	101.58	64.17	16.76
BB1	P	1	3	90.33	108.38	70.22	17.79
BB1	P	2	3	89.17	99.46	65.97	16.02
BB2	P	1	3	89.83	104.92	67.52	18.30
BB2	P	2	3	80.67	79.41	48.16	13.75
SWB1	P	1	3	89.00	101.48	61.77	17.37
SWB1	P	2	3	87.33	92.42	58.72	15.86
SWB2	P	1	3	94.92	122.58	78.54	20.16
SWB2	P	2	3	97.25	127.09	81.67	20.30
SEB1	P	1	3	88.42	110.63	72.20	17.89
SEB1	P	2	3	90.08	117.13	75.70	19.87
SEB2	P	1	3	82.17	88.96	57.51	13.86

SEB2	P	2	3	90.50	118.80	79.45	19.27
NB1	P	1	3	92.00	98.87	64.77	17.66
NB1	P	2	3	89.92	98.08	65.65	16.94
NB2	P	1	3	90.58	95.38	64.36	15.73
NB2	P	2	3	92.33	112.78	74.67	18.65
CDN1	P	1	3	92.50	129.57	85.15	21.62
CDN1	P	2	3	93.83	123.25	692.16	20.62
CDN2	P	1	3	90.08	110.15	69.06	19.09
CDN2	P	2	3	79.92	87.80	54.74	15.37
CUP1	SR	1	4	67.58	24.10	16.55	3.99
CUP1	SR	2	4	68.50	24.20	16.35	4.36
CUP2	SR	1	4	67.33	25.46	17.36	3.72
CUP2	SR	2	4	69.50	23.59	16.02	3.89
BB1	SR	1	4	68.08	25.34	17.37	4.30
BB1	SR	2	4	65.00	22.58	15.18	3.83
BB2	SR	1	4	72.33	26.23	17.92	4.84
BB2	SR	2	4	69.50	23.64	15.74	4.33
SWB1	SR	1	4	67.92	27.70	19.88	5.38
SWB1	SR	2	4	66.08	24.82	17.14	4.48
SWB2	SR	1	4	70.50	25.14	17.53	4.53
SWB2	SR	2	4	69.58	25.75	17.90	4.25
SEB1	SR	1	4	69.92	24.64	16.68	5.17
SEB1	SR	2	4	63.75	21.42	14.70	4.11
SEB2	SR	1	4	64.67	22.64	15.63	4.17
SEB2	SR	2	4	68.17	22.45	15.37	4.34
NB1	SR	1	4	68.25	24.36	16.57	4.76
NB1	SR	2	4	72.50	27.14	18.40	4.72
NB2	SR	1	4	69.08	24.66	17.34	3.82
NB2	SR	2	4	67.08	23.90	16.38	4.45
CDN1	SR	1	4	71.42	27.15	18.36	4.45
CDN1	SR	2	4	66.25	21.52	14.92	3.50
CDN2	SR	1	4	75.58	29.03	19.77	5.29
CDN2	SR	2	4	62.17	20.77	14.58	3.70
CUP1	P	1	4	80.67	88.66	56.37	12.49
CUP1	P	2	4	82.75	88.64	59.13	11.91
CUP2	P	1	4	82.67	86.36	58.13	12.07
CUP2	P	2	4	84.83	91.92	62.41	13.10
BB1	P	1	4	82.83	92.16	59.85	14.53
BB1	P	2	4	81.75	93.71	60.02	14.31
BB2	P	1	4	85.17	83.15	55.38	13.49
BB2	P	2	4	82.17	89.49	61.76	13.43
SWB1	P	1	4	85.67	97.73	64.84	15.00
SWB1	P	2	4	85.42	94.65	61.26	15.56
SWB2	P	1	4	80.67	92.08	60.33	14.55
SWB2	P	2	4	80.83	88.60	60.29	13.35
SEB1	P	1	4	83.75	90.53	59.76	14.36
SEB1	P	2	4	83.50	96.69	62.71	14.21
SEB2	P	1	4	83.25	95.38	62.30	14.69

SEB2	P	2	4	82.33	92.55	59.37	13.38
NB1	P	1	4	87.58	92.24	63.99	16.41
NB1	P	2	4	87.08	96.30	68.43	15.16
NB2	P	1	4	82.92	92.46	61.60	13.24
NB2	P	2	4	83.58	85.94	54.65	12.55
CDN1	P	1	4	82.55	99.21	65.93	15.42
CDN1	P	2	4	82.67	92.36	59.86	14.14
CDN2	P	1	4	84.67	91.23	62.31	14.34
CDN2	P	2	4	87.17	98.54	62.33	15.95
CUP1	SR	1	5	64.08	25.47	18.67	5.33
CUP1	SR	2	5	65.00	24.51	17.33	5.05
CUP2	SR	1	5	61.92	23.46	16.47	4.74
CUP2	SR	2	5	63.58	23.77	17.17	5.16
BB1	SR	1	5	63.42	25.16	17.60	5.60
BB1	SR	2	5	64.08	24.75	18.12	5.14
BB2	SR	1	5	64.33	23.99	17.01	5.32
BB2	SR	2	5	65.08	25.96	18.38	5.74
SWB1	SR	1	5	66.75	26.99	19.34	6.29
SWB1	SR	2	5	65.25	25.82	18.79	5.62
SWB2	SR	1	5	64.17	27.34	19.50	5.91
SWB2	SR	2	5	64.17	26.85	19.43	5.56
SEB1	SR	1	5	64.25	27.46	19.85	6.22
SEB1	SR	2	5	64.42	25.79	18.60	5.55
SEB2	SR	1	5	63.33	27.01	19.29	5.97
SEB2	SR	2	5	63.83	25.31	17.72	5.88
NB1	SR	1	5	68.83	29.84	20.45	7.27
NB1	SR	2	5	67.42	27.01	19.51	5.88
NB2	SR	1	5	66.00	27.17	19.56	6.28
NB2	SR	2	5	65.75	27.87	19.60	6.68
CDN1	SR	1	5	65.92	458.90	18.68	6.53
CDN1	SR	2	5	65.50	27.56	20.30	6.27
CDN2	SR	1	5	65.83	220.46	19.13	6.74
CDN2	SR	2	5	64.92	29.70	20.90	7.22
CUP1	P	1	5	91.83	101.03	71.91	15.91
CUP1	P	2	5	89.00	108.43	71.93	13.11
CUP2	P	1	5	93.60	117.86	67.61	17.72
CUP2	P	2	5	91.00	106.19	70.89	15.35
BB1	P	1	5	94.50	113.42	72.47	16.76
BB1	P	2	5	101.00	125.73	158.82	19.73
BB2	P	1	5	93.10	103.66	69.64	17.08
BB2	P	2	5	89.10	110.94	76.23	17.11
SWB1	P	1	5	98.00	127.37	175.90	20.62
SWB1	P	2	5	95.70	126.62	84.06	20.22
SWB2	P	1	5	89.20	99.73	66.23	16.76
SWB2	P	2	5	91.70	112.12	75.91	18.09
SEB1	P	1	5	92.60	115.83	77.57	19.21
SEB1	P	2	5	96.00	115.57	82.17	19.33
SEB2	P	1	5	100.30	116.05	79.62	18.46

SEB2	P	2	5	94.70	117.03	87.45	19.82
NB1	P	1	5	98.00	111.76	83.94	21.60
NB1	P	2	5	95.40	118.80	79.26	20.74
NB2	P	1	5	95.10	115.06	77.94	20.07
NB2	P	2	5	94.80	112.59	76.17	18.32
CDN1	P	1	5	95.60	115.91	78.51	20.22
CDN1	P	2	5	92.00	101.17	66.63	17.12
CDN2	P	1	5	96.90	109.86	76.29	21.22
CDN2	P	2	5	96.50	106.68	74.56	21.38

APPENDIX E4

Wild SRO Pilot Study Flesh Mean Metal Concentrations (2 replicate samples)

Oyster Pilot Study - Metal Concentrations								
		Arsenic	Chromium	Copper	Lead	Mercury	Selenium	Zinc
Site	Area	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Cup1-S	Shoreline	5	0.5	104.5	0.5	0.15	2	1800
Cup1-S2	Shoreline 2	5	0.5	56.5	0.5	0.2	2	1550
Cup2-S	Shoreline	5.5	5	109.5	1.25	0.3	2.25	2550
Cup2-L	Lease	3	0.75	89.5	0.5	0.125	1	1550
BB1-S	Shoreline	5	0.5	185	0.5	0.25	2	2800
BB1-L	Lease	4	0.5	109.5	0.5	0.1	1.5	1900
BB2-S	Shoreline	5.5	0.75	130.5	0.75	0.25	2.5	2950
BB2-L	Lease	3.5	0.5	140	0.5	0.125	1	2250
NB1-S	Shoreline	4	3	275	1.25	0.4	1.5	4600
NB1-L	Lease	6	0.5	131.5	0.5	0.15	2	2400
NB2-L	Shoreline	4.5	2.75	90.5	1	0.225	1.25	1475
Cdn1-S	Lease	8.5	3	126	1	0.25	3	2650
Cdn1-L	Shoreline	8	5.25	109.5	0.75	0.15	3	2150
Cdn2-S	Lease	5	3	150	0.75	0.25	2	2100
Cdn2-L	Shoreline	4	3	81	0.75	0.2	1	1225
NB2-S	Lease	9.5	5	505	1.5	0.6	6	6900

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CERTIFICATE OF ANALYSIS 323566

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	6 Oyster
Date samples received	19/05/2023
Date completed instructions received	19/05/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	26/05/2023
Date of Issue	26/05/2023

Results Approved By
Giovanni Agosti, Group Technical Manager
Kyle Gavrily, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biomass						
Our Reference		323566-1	323566-2	323566-3	323566-4	323566-5
Your Reference	UNITS	B1-SR	B2-SR	B3-SR	B1-P	B2-P
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	25/05/2023	25/05/2023	25/05/2023	25/05/2023	25/05/2023
Date analysed	-	26/05/2023	26/05/2023	26/05/2023	26/05/2023	26/05/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Total +ve PAH's	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene TEQ calc(half)	ug/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<5	<5	<5	<5	<5
Surrogate p-Terphenyl-d14	%	111	107	106	105	106

PAHs in Biomass		
Our Reference		323566-6
Your Reference	UNITS	B3-P
Type of sample		Oyster
Date extracted	-	25/05/2023
Date analysed	-	26/05/2023
Naphthalene	ug/kg	<1
Acenaphthylene	ug/kg	<1
Acenaphthene	ug/kg	<1
Fluorene	ug/kg	<1
Phenanthrene	ug/kg	<1
Anthracene	ug/kg	<1
Fluoranthene	ug/kg	<1
Pyrene	ug/kg	<1
Benzo(a)anthracene	ug/kg	<1
Chrysene	ug/kg	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2
Benzo(a)pyrene	ug/kg	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1
Dibenzo(a,h)anthracene	ug/kg	<1
Benzo(g,h,i)perylene	ug/kg	<1
Total +ve PAH's	ug/kg	<0.5
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<5
Benzo(a)pyrene TEQ calc(half)	ug/kg	<5
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<5
Surrogate p-Terphenyl-d14	%	108

Organochlorine Pesticides in Biomass						
Our Reference		323566-1	323566-2	323566-3	323566-4	323566-5
Your Reference	UNITS	B1-SR	B2-SR	B3-SR	B1-P	B2-P
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	25/05/2023	25/05/2023	25/05/2023	25/05/2023	25/05/2023
Date analysed	-	26/05/2023	26/05/2023	26/05/2023	26/05/2023	26/05/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	113	111	111	110	111

Organochlorine Pesticides in Biomass		
Our Reference		323566-6
Your Reference	UNITS	B3-P
Type of sample		Oyster
Date extracted	-	25/05/2023
Date analysed	-	26/05/2023
HCB	ug/kg	<1
alpha-BHC	ug/kg	<1
gamma-BHC	ug/kg	<1
beta-BHC	ug/kg	<1
Heptachlor	ug/kg	<1
delta-BHC	ug/kg	<1
Aldrin	ug/kg	<1
Heptachlor Epoxide	ug/kg	<1
gamma-Chlordane	ug/kg	<1
alpha-chlordane	ug/kg	<1
Endosulfan I	ug/kg	<1
pp-DDE	ug/kg	<1
Dieldrin	ug/kg	<1
Endrin	ug/kg	<1
pp-DDD	ug/kg	<1
Endosulfan II	ug/kg	<1
pp-DDT	ug/kg	<1
Endrin Aldehyde	ug/kg	<1
Endosulfan Sulphate	ug/kg	<1
Surrogate TCMX	%	112

Acid Extractable metals in biomass						
Our Reference		323566-1	323566-2	323566-3	323566-4	323566-5
Your Reference	UNITS	B1-SR	B2-SR	B3-SR	B1-P	B2-P
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	25/05/2023	25/05/2023	25/05/2023	25/05/2023	25/05/2023
Date analysed	-	25/05/2023	25/05/2023	25/05/2023	25/05/2023	25/05/2023
Arsenic	mg/kg	5	8	6	4	5
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	100	140	140	49	36
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Lead	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	2	2	<2	<2
Zinc	mg/kg	1,400	1,900	1,800	570	420

Acid Extractable metals in biomass			
Our Reference		323566-6	323566-7
Your Reference	UNITS	B3-P	B1-P - [TRIPLICATE]
Type of sample		Oyster	Oyster
Date prepared	-	25/05/2023	25/05/2023
Date analysed	-	25/05/2023	25/05/2023
Arsenic	mg/kg	<4	5
Chromium	mg/kg	<1	<1
Copper	mg/kg	18	35
Mercury	mg/kg	<0.1	<0.1
Lead	mg/kg	<1	<1
Selenium	mg/kg	<2	<2
Zinc	mg/kg	260	450

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			25/05/2023	[NT]	[NT]	[NT]	[NT]	25/05/2023	[NT]
Date analysed	-			25/05/2023	[NT]	[NT]	[NT]	[NT]	25/05/2023	[NT]
Naphthalene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Fluorene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Phenanthrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Pyrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			25/05/2023	[NT]	[NT]	[NT]	[NT]	25/05/2023	[NT]
Date analysed	-			25/05/2023	[NT]	[NT]	[NT]	[NT]	25/05/2023	[NT]
HCB	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
gamma-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Heptachlor	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
delta-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-Chlordane	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Dieldrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Endrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
pp-DDD	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Endosulfan II	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate TCMX	%		Org-021	113	[NT]	[NT]	[NT]	[NT]	113	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	323566-6
Date prepared	-			25/05/2023	4	25/05/2023	25/05/2023		25/05/2023	25/05/2023
Date analysed	-			25/05/2023	4	25/05/2023	25/05/2023		25/05/2023	25/05/2023
Arsenic	mg/kg	4	Metals-020	<4	4	4	<4	0	105	112
Chromium	mg/kg	1	Metals-020	<1	4	<1	<1	0	103	114
Copper	mg/kg	1	Metals-020	<1	4	49	24	68	101	119
Mercury	mg/kg	0.1	Metals-021	<0.1	4	<0.1	<0.1	0	112	79
Lead	mg/kg	1	Metals-020	<1	4	<1	<1	0	105	80
Selenium	mg/kg	2	Metals-020	<2	4	<2	<2	0	97	107
Zinc	mg/kg	1	Metals-020	<1	4	570	290	65	105	#

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Metals in biomass:
- The results are reported on the sample as received i.e. no moisture correction has been applied.
- The laboratory RPD acceptance criteria has been exceeded for 323566-4 for Cu and Zn. Therefore a triplicate result has been issued as laboratory sample number 323566-7.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 326882

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	48 Oyster
Date samples received	30/06/2023
Date completed instructions received	30/06/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	14/07/2023
Date of Issue	14/07/2023

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Results Approved By
Greta Petzold, Operation Manager
Liam Timmins, Organics Supervisor
Loren Bardwell, Development Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biomass						
Our Reference		326882-1	326882-2	326882-3	326882-4	326882-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50	<50	<50
Surrogate p-Terphenyl-d14	%	98	85	87	87	91

PAHs in Biomass						
Our Reference		326882-6	326882-7	326882-8	326882-9	326882-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<20	<20	<20	<20
Acenaphthylene	ug/kg	<10	<20	<20	<20	<20
Acenaphthene	ug/kg	<10	<20	<20	<20	<20
Fluorene	ug/kg	<10	<20	<20	<20	<20
Phenanthrene	ug/kg	<10	<20	<20	<20	<20
Anthracene	ug/kg	<10	<20	<20	<20	<20
Fluoranthene	ug/kg	<10	<20	<20	<20	<20
Pyrene	ug/kg	<10	<20	<20	<20	<20
Benzo(a)anthracene	ug/kg	<10	<20	<20	<20	<20
Chrysene	ug/kg	<10	<20	<20	<20	<20
Benzo(b,j+k)fluoranthene	ug/kg	<20	<40	<40	<40	<40
Benzo(a)pyrene	ug/kg	<5.0	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<20	<20	<20	<20
Dibenzo(a,h)anthracene	ug/kg	<10	<20	<20	<20	<20
Benzo(g,h,i)perylene	ug/kg	<10	<20	<20	<20	<20
Total +ve PAH's	ug/kg	<5.0	<10	<10	<10	<10
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<100	<100	<100	<100
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<100	<100	<100	<100
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<100	<100	<100	<100
Surrogate p-Terphenyl-d14	%	88	86	91	85	86

PAHs in Biomass						
Our Reference		326882-11	326882-12	326882-13	326882-14	326882-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Acenaphthylene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Acenaphthene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Fluorene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Phenanthrene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Anthracene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Fluoranthene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Pyrene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Benzo(a)anthracene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Chrysene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Benzo(b,j+k)fluoranthene	ug/kg	<6.0	<8.0	<10	<12	<8.0
Benzo(a)pyrene	ug/kg	<1.5	<2.0	<2.5	<3.0	<2.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Dibenzo(a,h)anthracene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Benzo(g,h,i)perylene	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Total +ve PAH's	ug/kg	<1.5	<2.0	<2.5	<3.0	<2.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<15	<20	<25	<30	<20
Benzo(a)pyrene TEQ calc(half)	ug/kg	<15	<20	<25	<30	<20
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<15	<20	<25	<30	<20
Surrogate p-Terphenyl-d14	%	87	86	88	85	92

PAHs in Biomass						
Our Reference		326882-16	326882-17	326882-18	326882-19	326882-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Acenaphthylene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Acenaphthene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Fluorene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Phenanthrene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Anthracene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Fluoranthene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Pyrene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Benzo(a)anthracene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Chrysene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Benzo(b,j+k)fluoranthene	ug/kg	<8.0	<10	<4.0	<6.0	<6.0
Benzo(a)pyrene	ug/kg	<2.0	<2.5	<1.0	<1.5	<1.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Dibenzo(a,h)anthracene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Benzo(g,h,i)perylene	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Total +ve PAH's	ug/kg	<2.0	<2.5	<1.0	<1.5	<1.5
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<20	<25	<10	<15	<15
Benzo(a)pyrene TEQ calc(half)	ug/kg	<20	<25	<10	<15	<15
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<20	<25	<10	<15	<15
Surrogate p-Terphenyl-d14	%	89	86	92	88	87

PAHs in Biomass						
Our Reference		326882-21	326882-22	326882-23	326882-24	326882-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Acenaphthylene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Acenaphthene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Fluorene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Phenanthrene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Anthracene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Fluoranthene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Pyrene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Benzo(a)anthracene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Chrysene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Benzo(b,j+k)fluoranthene	ug/kg	<6.0	<8.0	<6.0	<6.0	<20
Benzo(a)pyrene	ug/kg	<1.5	<2.0	<1.5	<1.5	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Dibenzo(a,h)anthracene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Benzo(g,h,i)perylene	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Total +ve PAH's	ug/kg	<1.5	<2.0	<1.5	<1.5	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<15	<20	<15	<15	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<15	<20	<15	<15	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<15	<20	<15	<15	<50
Surrogate p-Terphenyl-d14	%	86	91	86	91	91

PAHs in Biomass						
Our Reference		326882-26	326882-27	326882-28	326882-29	326882-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50	<50	<50
Surrogate p-Terphenyl-d14	%	92	93	95	92	93

PAHs in Biomass						
Our Reference		326882-31	326882-32	326882-33	326882-34	326882-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50	<50	<50
Surrogate p-Terphenyl-d14	%	93	90	88	89	87

PAHs in Biomass						
Our Reference		326882-36	326882-37	326882-38	326882-39	326882-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	NB1-P-1	NB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50	<50	<50
Surrogate p-Terphenyl-d14	%	89	105	85	86	85

PAHs in Biomass						
Our Reference	UNITS	326882-41	326882-42	326882-43	326882-44	326882-45
Your Reference		NB2-P-1	NB2-P-2	SEB2-P-1	SEB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50	<50	<50
Surrogate p-Terphenyl-d14	%	84	83	82	78	95

PAHs in Biomass				
Our Reference	UNITS	326882-46	326882-47	326882-48
Your Reference		CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10
Total +ve PAH's	ug/kg	<5.0	<5.0	<5.0
Benzo(a)pyrene TEQ calc (zero)	ug/kg	<50	<50	<50
Benzo(a)pyrene TEQ calc(half)	ug/kg	<50	<50	<50
Benzo(a)pyrene TEQ calc(PQL)	ug/kg	<50	<50	<50
Surrogate p-Terphenyl-d14	%	97	88	88

Organochlorine Pesticides in Biomass						
Our Reference		326882-1	326882-2	326882-3	326882-4	326882-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	99	104	103	102	104

Organochlorine Pesticides in Biomass						
Our Reference		326882-6	326882-7	326882-8	326882-9	326882-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<20	<20	<20	<20
alpha-BHC	ug/kg	<10	<20	<20	<20	<20
gamma-BHC	ug/kg	<10	<20	<20	<20	<20
beta-BHC	ug/kg	<10	<20	<20	<20	<20
Heptachlor	ug/kg	<10	<20	<20	<20	<20
delta-BHC	ug/kg	<10	<20	<20	<20	<20
Aldrin	ug/kg	<10	<20	<20	<20	<20
Heptachlor Epoxide	ug/kg	<10	<20	<20	<20	<20
gamma-Chlordane	ug/kg	<10	<20	<20	<20	<20
alpha-chlordane	ug/kg	<10	<20	<20	<20	<20
Endosulfan I	ug/kg	<10	<20	<20	<20	<20
pp-DDE	ug/kg	<10	<20	<20	<20	<20
Dieldrin	ug/kg	<10	<20	<20	<20	<20
Endrin	ug/kg	<10	<20	<20	<20	<20
pp-DDD	ug/kg	<10	<20	<20	<20	<20
Endosulfan II	ug/kg	<10	<20	<20	<20	<20
pp-DDT	ug/kg	<10	<20	<20	<20	<20
Endrin Aldehyde	ug/kg	<10	<20	<20	<20	<20
Endosulfan Sulphate	ug/kg	<10	<20	<20	<20	<20
Surrogate TCMX	%	105	101	102	98	100

Organochlorine Pesticides in Biomass						
Our Reference		326882-11	326882-12	326882-13	326882-14	326882-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
alpha-BHC	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
gamma-BHC	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
beta-BHC	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Heptachlor	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
delta-BHC	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Aldrin	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Heptachlor Epoxide	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
gamma-Chlordane	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
alpha-chlordane	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Endosulfan I	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
pp-DDE	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Dieldrin	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Endrin	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
pp-DDD	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Endosulfan II	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
pp-DDT	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Endrin Aldehyde	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Endosulfan Sulphate	ug/kg	<3.0	<4.0	<5.0	<6.0	<4.0
Surrogate TCMX	%	101	100	101	96	80

Organochlorine Pesticides in Biomass						
Our Reference		326882-16	326882-17	326882-18	326882-19	326882-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
alpha-BHC	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
gamma-BHC	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
beta-BHC	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Heptachlor	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
delta-BHC	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Aldrin	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Heptachlor Epoxide	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
gamma-Chlordane	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
alpha-chlordane	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Endosulfan I	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
pp-DDE	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Dieldrin	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Endrin	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
pp-DDD	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Endosulfan II	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
pp-DDT	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Endrin Aldehyde	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Endosulfan Sulphate	ug/kg	<4.0	<5.0	<2.0	<3.0	<3.0
Surrogate TCMX	%	97	94	94	97	95

Organochlorine Pesticides in Biomass						
Our Reference		326882-21	326882-22	326882-23	326882-24	326882-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
alpha-BHC	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
gamma-BHC	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
beta-BHC	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Heptachlor	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
delta-BHC	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Aldrin	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Heptachlor Epoxide	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
gamma-Chlordane	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
alpha-chlordane	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Endosulfan I	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
pp-DDE	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Dieldrin	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Endrin	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
pp-DDD	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Endosulfan II	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
pp-DDT	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Endrin Aldehyde	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Endosulfan Sulphate	ug/kg	<3.0	<4.0	<3.0	<3.0	<10
Surrogate TCMX	%	95	96	95	95	94

Organochlorine Pesticides in Biomass						
Our Reference		326882-26	326882-27	326882-28	326882-29	326882-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	92	92	92	89	90

Organochlorine Pesticides in Biomass						
Our Reference		326882-31	326882-32	326882-33	326882-34	326882-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	90	94	91	91	84

Organochlorine Pesticides in Biomass						
Our Reference		326882-36	326882-37	326882-38	326882-39	326882-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	NB1-P-1	NB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	89	105	86	89	90

Organochlorine Pesticides in Biomass						
Our Reference		326882-41	326882-42	326882-43	326882-44	326882-45
Your Reference	UNITS	NB2-P-1	NB2-P-2	SEB2-P-1	SEB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	90	89	90	90	99

Organochlorine Pesticides in Biomass				
Our Reference		326882-46	326882-47	326882-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	10/07/2023	10/07/2023	10/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10
Endrin	ug/kg	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10
Surrogate TCMX	%	102	96	94

Acid Extractable metals in biomass						
Our Reference		326882-1	326882-2	326882-3	326882-4	326882-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	7	7	7	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	180	160	150	140	150
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	0.2	0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	3	3	2	2	<2
Zinc	mg/kg	2,000	1,800	1,700	1,600	1,600

Acid Extractable metals in biomass						
Our Reference		326882-6	326882-7	326882-8	326882-9	326882-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	7	8	8	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	170	160	180	170	150
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Selenium	mg/kg	3	2	3	3	3
Zinc	mg/kg	1,800	1,500	2,100	1,700	1,900

Acid Extractable metals in biomass						
Our Reference		326882-11	326882-12	326882-13	326882-14	326882-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	7	7	8	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	66	130	160	120	150
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	2	2	3	2
Zinc	mg/kg	1,000	1,200	1,300	1,400	1,400

Acid Extractable metals in biomass						
Our Reference		326882-16	326882-17	326882-18	326882-19	326882-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	9	6	9	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	170	160	120	120	120
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	3	2	3	2
Zinc	mg/kg	2,000	1,900	1,500	1,400	1,400

Acid Extractable metals in biomass						
Our Reference		326882-21	326882-22	326882-23	326882-24	326882-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	9	7	8	6	5
Chromium	mg/kg	<1	3	1	<1	<1
Copper	mg/kg	150	140	120	110	42
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	3	2	2	<2	<2
Zinc	mg/kg	1,600	1,600	1,200	1,200	540

Acid Extractable metals in biomass						
Our Reference		326882-26	326882-27	326882-28	326882-29	326882-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	6	7	6	6	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	85	110	110	78	40
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	<2	<2	<2	<2
Zinc	mg/kg	800	1,300	1,000	580	380

Acid Extractable metals in biomass						
Our Reference		326882-31	326882-32	326882-33	326882-34	326882-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	8	6	7	6
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	100	64	62	57	58
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	0.1	<0.1	0.1	<0.1
Selenium	mg/kg	2	3	<2	3	<2
Zinc	mg/kg	820	730	490	510	460

Acid Extractable metals in biomass						
Our Reference		326882-36	326882-37	326882-38	326882-39	326882-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	NB1-P-1	NB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	6	7	6	7	<4
Chromium	mg/kg	<1	<1	1	<1	<1
Copper	mg/kg	70	65	84	65	20
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	<2	2	2	<2
Zinc	mg/kg	580	520	650	470	180

Acid Extractable metals in biomass						
Our Reference		326882-41	326882-42	326882-43	326882-44	326882-45
Your Reference	UNITS	NB2-P-1	NB2-P-2	SEB2-P-1	SEB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	7	<4	6	6	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	49	16	56	71	51
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	<2	<2	2	<2
Zinc	mg/kg	420	130	440	550	500

Acid Extractable metals in biomass					
Our Reference		326882-46	326882-47	326882-48	326882-49
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2	CUP1-P-1 - [TRIPLICATE]
Type of sample		Oyster	Oyster	Oyster	Oyster
Date prepared	-	11/07/2023	11/07/2023	11/07/2023	11/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Arsenic	mg/kg	6	8	5	6
Chromium	mg/kg	<1	<1	<1	<1
Copper	mg/kg	56	64	39	69
Lead	mg/kg	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	2	<2	<2
Zinc	mg/kg	470	580	400	780

Microbiologocal Testing						
Our Reference		326882-1	326882-2	326882-3	326882-4	326882-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	<1	1A	<1

Microbiologocal Testing						
Our Reference		326882-6	326882-7	326882-8	326882-9	326882-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	7A	22	1A	<1

Microbiologocal Testing						
Our Reference		326882-11	326882-12	326882-13	326882-14	326882-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		326882-16	326882-17	326882-18	326882-19	326882-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	1A	<1	1A	1A

Microbiologocal Testing						
Our Reference		326882-21	326882-22	326882-23	326882-24	326882-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		326882-26	326882-27	326882-28	326882-29	326882-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		326882-31	326882-32	326882-33	326882-34	326882-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	52	21	2A	<1	<1

Microbiologocal Testing						
Our Reference		326882-36	326882-37	326882-38	326882-39	326882-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	NB1-P-1	NB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		326882-41	326882-42	326882-43	326882-44	326882-45
Your Reference	UNITS	NB2-P-1	NB2-P-2	SEB2-P-1	SEB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	<1	<1	1A	<1	1A

Microbiologocal Testing				
Our Reference		326882-46	326882-47	326882-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date of testing	-	01/07/2023	01/07/2023	01/07/2023
E. coli	cfu/g	3A	2A	1A

Method ID	Methodology Summary
Ext-008	Subcontracted to Sonic Food & Water Testing. NATA Accreditation No. 4034.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	326882-13
Date extracted	-			10/07/2023	6	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			12/07/2023	6	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Naphthalene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	80	80
Acenaphthylene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	81	81
Fluorene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	74	76
Phenanthrene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	80	79
Anthracene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	82	71
Pyrene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	79	71
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	83	85
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	6	<20	<40	67	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	6	<5.0	<10	67	80	92
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	6	<10	<20	67	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	85	6	88	89	1	95	79

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	326882-37
Date extracted	-			[NT]	14	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			[NT]	14	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	78	78
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	79	73
Fluorene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	74	76
Phenanthrene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	79	79
Anthracene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	74	74
Pyrene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	75	79
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	83	79
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	14	<12	<12	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	14	<3.0	<3.0	0	88	84
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	14	85	85	0	83	81

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	326882-46
Date extracted	-			[NT]	25	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			[NT]	25	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	78	93
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	75	91
Fluorene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	72	86
Phenanthrene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	79	88
Anthracene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	71	86
Pyrene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	71	89
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	83	99
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	25	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	25	<5.0	<5.0	0	88	92
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	25	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	25	91	90	1	77	94

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	33	10/07/2023	10/07/2023		[NT]	[NT]
Date analysed	-			[NT]	33	12/07/2023	12/07/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	33	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	33	<5.0	<5.0	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	33	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	33	88	86	2	[NT]	[NT]

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	10/07/2023	10/07/2023		[NT]	[NT]
Date analysed	-			[NT]	44	12/07/2023	12/07/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	44	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	44	<5.0	<5.0	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	44	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	44	78	85	9	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	326882-13
Date extracted	-			10/07/2023	6	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			12/07/2023	6	12/07/2023	12/07/2023		12/07/2023	12/07/2023
HCB	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	6	<10	<10	0	74	80
gamma-BHC	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	6	<10	<10	0	72	86
Heptachlor	ug/kg	1	Org-021	<1	6	<10	<10	0	85	91
delta-BHC	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	6	<10	<10	0	81	81
Heptachlor Epoxide	ug/kg	1	Org-021	<1	6	<10	<10	0	78	76
gamma-Chlordane	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	6	<10	<10	0	88	80
Dieldrin	ug/kg	1	Org-021	<1	6	<10	<10	0	88	90
Endrin	ug/kg	1	Org-021	<1	6	<10	<10	0	64	100
pp-DDD	ug/kg	1	Org-021	<1	6	<10	<10	0	70	62
Endosulfan II	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	6	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	6	<10	<10	0	74	#
Surrogate TCMX	%		Org-021	92	6	105	104	1	90	92

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	326882-37
Date extracted	-			[NT]	14	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			[NT]	14	12/07/2023	12/07/2023		12/07/2023	12/07/2023
HCB	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	92	74
gamma-BHC	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	86	76
Heptachlor	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	85	85
delta-BHC	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	83	77
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	76	72
gamma-Chlordane	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	86	86
Dieldrin	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	88	137
Endrin	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	78	78
pp-DDD	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	70	63
Endosulfan II	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	14	<6.0	<6.0	0	78	#
Surrogate TCMX	%		Org-021	[NT]	14	96	96	0	87	82

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	326882-46
Date extracted	-			[NT]	25	10/07/2023	10/07/2023		10/07/2023	10/07/2023
Date analysed	-			[NT]	25	12/07/2023	12/07/2023		12/07/2023	12/07/2023
HCB	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	25	<10	<10	0	84	82
gamma-BHC	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	25	<10	<10	0	78	72
Heptachlor	ug/kg	1	Org-021	[NT]	25	<10	<10	0	93	67
delta-BHC	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	25	<10	<10	0	89	95
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	25	<10	<10	0	84	84
gamma-Chlordane	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	25	<10	<10	0	94	98
Dieldrin	ug/kg	1	Org-021	[NT]	25	<10	<10	0	94	88
Endrin	ug/kg	1	Org-021	[NT]	25	<10	<10	0	82	69
pp-DDD	ug/kg	1	Org-021	[NT]	25	<10	<10	0	76	69
Endosulfan II	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	25	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	25	<10	<10	0	89	#
Surrogate TCMX	%		Org-021	[NT]	25	94	93	1	97	96

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	33	10/07/2023	10/07/2023		[NT]	[NT]
Date analysed	-			[NT]	33	12/07/2023	12/07/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	33	<10	<10	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	33	91	93	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	44	10/07/2023	10/07/2023		[NT]	[NT]
Date analysed	-			[NT]	44	12/07/2023	12/07/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	44	<10	<10	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	44	90	94	4	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	326882-10
Date prepared	-			11/07/2023	9	11/07/2023	11/07/2023		11/07/2023	11/07/2023
Date analysed	-			12/07/2023	9	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Arsenic	mg/kg	4	Metals-020	<4	9	8	10	22	95	113
Chromium	mg/kg	1	Metals-020	<1	9	<1	<1	0	90	103
Copper	mg/kg	1	Metals-020	<1	9	170	130	27	112	111
Lead	mg/kg	1	Metals-020	<1	9	<1	<1	0	100	99
Mercury	mg/kg	0.1	Metals-021	<0.1	9	0.1	<0.1	0	106	74
Selenium	mg/kg	2	Metals-020	<2	9	3	3	0	97	105
Zinc	mg/kg	1	Metals-020	<1	9	1700	1500	12	103	##

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	326882-32
Date prepared	-			[NT]	17	11/07/2023	11/07/2023		11/07/2023	11/07/2023
Date analysed	-			[NT]	17	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	17	9	9	0	90	89
Chromium	mg/kg	1	Metals-020	[NT]	17	<1	<1	0	83	83
Copper	mg/kg	1	Metals-020	[NT]	17	160	130	21	103	81
Lead	mg/kg	1	Metals-020	[NT]	17	<1	<1	0	90	83
Mercury	mg/kg	0.1	Metals-021	[NT]	17	<0.1	<0.1	0	84	84
Selenium	mg/kg	2	Metals-020	[NT]	17	3	3	0	90	88
Zinc	mg/kg	1	Metals-020	[NT]	17	1900	1900	0	95	#

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	326882-34
Date prepared	-			[NT]	25	11/07/2023	11/07/2023		11/07/2023	11/07/2023
Date analysed	-			[NT]	25	12/07/2023	12/07/2023		12/07/2023	12/07/2023
Arsenic	mg/kg	4	Metals-020	[NT]	25	5	7	33	88	92
Chromium	mg/kg	1	Metals-020	[NT]	25	<1	<1	0	84	87
Copper	mg/kg	1	Metals-020	[NT]	25	42	66	44	105	103
Lead	mg/kg	1	Metals-020	[NT]	25	<1	<1	0	93	88
Mercury	mg/kg	0.1	Metals-021	[NT]	25	<0.1	<0.1	0	88	93
Selenium	mg/kg	2	Metals-020	[NT]	25	<2	2	0	92	89
Zinc	mg/kg	1	Metals-020	[NT]	25	540	780	36	99	#

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	33	11/07/2023	11/07/2023		[NT]	[NT]
Date analysed	-			[NT]	33	12/07/2023	12/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	33	6	7	15	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	33	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	33	62	73	16	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	33	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	33	<2	2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	33	490	640	27	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	44	11/07/2023	11/07/2023		[NT]	[NT]
Date analysed	-			[NT]	44	12/07/2023	12/07/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	44	6	7	15	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	44	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	44	71	71	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	44	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	44	2	<2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	44	550	670	20	[NT]	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Microbiology analysed by Sonic Food & Water Testing. Report No. W2315348 & W2315349 & W2315350 & W2315351 & W2315352
The time between collection and the commencement of testing should not exceed 24 hours. Samples tested outside this time may have their results compromised
A: Approximate

PAH_S:
Sample/s 326882-1-48 has been reported on an "as received" basis, i.e. moisture content not included in the calculation.
The PQL has been raised due to the light weight nature of sample/s 326882-1-48, which results in a higher than routine dilution factor.

OCP_BIOMASS:Sample/s 326882-1-48 has been reported on an "as received" basis, i.e. moisture content not included in the calculation.
The PQL has been raised due to the light weight nature of sample/s 326882-1-48, which results in a higher than routine dilution factor.

Metals in biomass:
- The results are reported on the sample as received i.e. no moisture correction has been applied.
- The laboratory RPD acceptance criteria has been exceeded for 326882-25 for Cu. Therefore a triplicate result has been issued as laboratory sample number 326882-49.
- # Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 327299

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	6 Oyster
Date samples received	06/07/2023
Date completed instructions received	06/07/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	13/07/2023
Date of Issue	13/07/2023

Results Approved By
Liam Timmins, Organics Supervisor
Loren Bardwell, Development Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biomass						
Our Reference		327299-1	327299-2	327299-3	327299-4	327299-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Date Sampled		05/07/23	05/07/23	05/07/23	05/07/23	05/07/23
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	94	89	103	107	95

PAHs in Biomass		
Our Reference		327299-6
Your Reference	UNITS	B3-P-3
Date Sampled		05/07/23
Type of sample		Oyster
Date extracted	-	12/07/2023
Date analysed	-	12/07/2023
Naphthalene	ug/kg	<10
Acenaphthylene	ug/kg	<10
Acenaphthene	ug/kg	<10
Fluorene	ug/kg	<10
Phenanthrene	ug/kg	<10
Anthracene	ug/kg	<10
Fluoranthene	ug/kg	<10
Pyrene	ug/kg	<10
Benzo(a)anthracene	ug/kg	<10
Chrysene	ug/kg	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20
Benzo(a)pyrene	ug/kg	<5.0
Indeno(1,2,3-c,d)pyrene	ug/kg	<10
Dibenzo(a,h)anthracene	ug/kg	<10
Benzo(g,h,i)perylene	ug/kg	<10
Surrogate p-Terphenyl-d14	%	107

Organochlorine Pesticides in Biomass						
Our Reference		327299-1	327299-2	327299-3	327299-4	327299-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Date Sampled		05/07/23	05/07/23	05/07/23	05/07/23	05/07/23
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
Date analysed	-	12/07/2023	12/07/2023	12/07/2023	12/07/2023	12/07/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	101	94	101	104	96

Organochlorine Pesticides in Biomass		
Our Reference		327299-6
Your Reference	UNITS	B3-P-3
Date Sampled		05/07/23
Type of sample		Oyster
Date extracted	-	12/07/2023
Date analysed	-	12/07/2023
HCB	ug/kg	<10
alpha-BHC	ug/kg	<10
gamma-BHC	ug/kg	<10
beta-BHC	ug/kg	<10
Heptachlor	ug/kg	<10
delta-BHC	ug/kg	<10
Aldrin	ug/kg	<10
Heptachlor Epoxide	ug/kg	<10
gamma-Chlordane	ug/kg	<10
alpha-chlordane	ug/kg	<10
Endosulfan I	ug/kg	<10
pp-DDE	ug/kg	<10
Dieldrin	ug/kg	<10
Endrin	ug/kg	<10
pp-DDD	ug/kg	<10
Endosulfan II	ug/kg	<10
pp-DDT	ug/kg	<10
Endrin Aldehyde	ug/kg	<10
Endosulfan Sulphate	ug/kg	<10
Surrogate TCMX	%	103

Acid Extractable metals in biomass						
Our Reference		327299-1	327299-2	327299-3	327299-4	327299-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Date Sampled		05/07/23	05/07/23	05/07/23	05/07/23	05/07/23
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	13/07/2023	13/07/2023	13/07/2023	13/07/2023	13/07/2023
Date analysed	-	13/07/2023	13/07/2023	13/07/2023	13/07/2023	13/07/2023
Arsenic	mg/kg	8	7	8	6	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	120	96	100	63	53
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	2	2	2	<2	<2
Zinc	mg/kg	1,500	1,100	1,100	600	430

Acid Extractable metals in biomass		
Our Reference		327299-6
Your Reference	UNITS	B3-P-3
Date Sampled		05/07/23
Type of sample		Oyster
Date prepared	-	13/07/2023
Date analysed	-	13/07/2023
Arsenic	mg/kg	8
Chromium	mg/kg	<1
Copper	mg/kg	85
Mercury	mg/kg	<0.1
Lead	mg/kg	<1
Selenium	mg/kg	2
Zinc	mg/kg	650

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			12/07/2023	[NT]	[NT]	[NT]	[NT]	12/07/2023	[NT]
Date analysed	-			12/07/2023	[NT]	[NT]	[NT]	[NT]	12/07/2023	[NT]
Naphthalene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Fluorene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Phenanthrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Pyrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	79	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	[NT]	[NT]	[NT]	[NT]	88	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	89	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			12/07/2023	[NT]	[NT]	[NT]	[NT]	12/07/2023	[NT]
Date analysed	-			12/07/2023	[NT]	[NT]	[NT]	[NT]	12/07/2023	[NT]
HCB	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Heptachlor	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
delta-BHC	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
gamma-Chlordane	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Dieldrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Endrin	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	68	[NT]
pp-DDD	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	70	[NT]
Endosulfan II	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Surrogate TCMX	%		Org-021	100	[NT]	[NT]	[NT]	[NT]	112	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	327299-5
Date prepared	-			13/07/2023	4	13/07/2023	13/07/2023		13/07/2023	13/07/2023
Date analysed	-			13/07/2023	4	13/07/2023	13/07/2023		13/07/2023	13/07/2023
Arsenic	mg/kg	4	Metals-020	<4	4	6	8	29	104	94
Chromium	mg/kg	1	Metals-020	<1	4	<1	<1	0	106	101
Copper	mg/kg	1	Metals-020	<1	4	63	81	25	107	102
Mercury	mg/kg	0.1	Metals-021	<0.1	4	<0.1	<0.1	0	101	77
Lead	mg/kg	1	Metals-020	<1	4	<1	<1	0	99	84
Selenium	mg/kg	2	Metals-020	<2	4	<2	2	0	99	89
Zinc	mg/kg	1	Metals-020	<1	4	600	670	11	88	#

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

OC/PAH in Biomass - The PQL has been raised due to interferences from analytes (other than those being tested) in samples 327299-1 to 6.

The results are reported on the sample as received i.e. no moisture correction has been applied.

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CERTIFICATE OF ANALYSIS 330234

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	6 Oyster
Date samples received	11/08/2023
Date completed instructions received	11/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	22/08/2023
Date of Issue	22/08/2023

Results Approved By
Diana Korniewicz, Chemist
Steven Luong, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biota*						
Our Reference		330234-1	330234-2	330234-3	330234-4	330234-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<20	<20	<10	<10
Phenanthrene	ug/kg	62	50	30	10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	20	30	20	<10	<10
Pyrene	ug/kg	10	20	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	123	115	114	115	116

PAHs in Biota*		
Our Reference		330234-6
Your Reference	UNITS	B3-P-3
Type of sample		Oyster
Date extracted	-	21/08/2023
Date analysed	-	21/08/2023
Naphthalene	ug/kg	<10
Acenaphthylene	ug/kg	<10
Acenaphthene	ug/kg	<10
Fluorene	ug/kg	<10
Phenanthrene	ug/kg	10
Anthracene	ug/kg	<10
Fluoranthene	ug/kg	<10
Pyrene	ug/kg	<10
Benzo(a)anthracene	ug/kg	<10
Chrysene	ug/kg	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20
Benzo(a)pyrene	ug/kg	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10
Dibenzo(a,h)anthracene	ug/kg	<10
Benzo(g,h,i)perylene	ug/kg	<10
Surrogate p-Terphenyl-d14	%	111

Organochlorine Pesticides in Biota*						
Our Reference		330234-1	330234-2	330234-3	330234-4	330234-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	117	112	104	102	107

Organochlorine Pesticides in Biota*		
Our Reference		330234-6
Your Reference	UNITS	B3-P-3
Type of sample		Oyster
Date extracted	-	21/08/2023
Date analysed	-	21/08/2023
HCB	ug/kg	<10
alpha-BHC	ug/kg	<10
gamma-BHC	ug/kg	<10
beta-BHC	ug/kg	<10
Heptachlor	ug/kg	<10
delta-BHC	ug/kg	<10
Aldrin	ug/kg	<10
Heptachlor Epoxide	ug/kg	<10
gamma-Chlordane	ug/kg	<10
alpha-chlordane	ug/kg	<10
Endosulfan I	ug/kg	<10
pp-DDE	ug/kg	<10
Dieldrin	ug/kg	<10
Endrin	ug/kg	<10
pp-DDD	ug/kg	<10
Endosulfan II	ug/kg	<10
pp-DDT	ug/kg	<10
Endrin Aldehyde	ug/kg	<10
Endosulfan Sulphate	ug/kg	<10
Surrogate TCMX	%	105

Acid Extractable metals in biomass*						
Our Reference		330234-1	330234-2	330234-3	330234-4	330234-5
Your Reference	UNITS	B1-SR-1	B2-SR-2	B3-SR-3	B1-P-1	B2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	17/08/2023	17/08/2023	17/08/2023	17/08/2023	17/08/2023
Date analysed	-	17/08/2023	17/08/2023	17/08/2023	17/08/2023	17/08/2023
Arsenic	mg/kg	5	5	6	5	4
Chromium	mg/kg	<1	<1	<1	<1	<2
Copper	mg/kg	57	56	76	27	42
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.2
Lead	mg/kg	<1	<1	<1	<1	<2
Selenium	mg/kg	<2	<2	<2	<2	<4
Zinc	mg/kg	640	620	850	260	390

Acid Extractable metals in biomass*		
Our Reference		330234-6
Your Reference	UNITS	B3-P-3
Type of sample		Oyster
Date prepared	-	17/08/2023
Date analysed	-	17/08/2023
Arsenic	mg/kg	5
Chromium	mg/kg	<1
Copper	mg/kg	36
Mercury	mg/kg	<0.1
Lead	mg/kg	<1
Selenium	mg/kg	<2
Zinc	mg/kg	340

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biota*						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-23	330234-5
Date extracted	-			21/08/2023	4	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			21/08/2023	4	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Naphthalene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	100	96
Acenaphthylene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	106	106
Fluorene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	96	98
Phenanthrene	ug/kg	1	Org-022/025	<1	4	10	<10	0	94	96
Anthracene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	100	92
Pyrene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	96	88
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	88	90
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	4	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	4	<5	<5	0	76	#
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	4	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	110	4	115	118	3	92	100

QUALITY CONTROL: Organochlorine Pesticides in Biota*						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-23	330234-5
Date extracted	-			21/08/2023	4	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			21/08/2023	4	21/08/2023	21/08/2023		21/08/2023	21/08/2023
HCB	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	4	<10	<10	0	104	78
gamma-BHC	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	4	<10	<10	0	98	72
Heptachlor	ug/kg	1	Org-021	<1	4	<10	<10	0	104	#
delta-BHC	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	4	<10	<10	0	100	80
Heptachlor Epoxide	ug/kg	1	Org-021	<1	4	<10	<10	0	96	78
gamma-Chlordane	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	4	<10	<10	0	106	96
Dieldrin	ug/kg	1	Org-021	<1	4	<10	<10	0	118	#
Endrin	ug/kg	1	Org-021	<1	4	<10	<10	0	106	#
pp-DDD	ug/kg	1	Org-021	<1	4	<10	<10	0	88	72
Endosulfan II	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	4	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	4	<10	<10	0	98	#
Surrogate TCMX	%		Org-021	130	4	102	108	6	116	112

QUALITY CONTROL: Acid Extractable metals in biomass*					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	330234-5
Date prepared	-			17/08/2023	4	17/08/2023	17/08/2023		17/08/2023	17/08/2023
Date analysed	-			17/08/2023	4	17/08/2023	17/08/2023		17/08/2023	17/08/2023
Arsenic	mg/kg	4	Metals-020	<4	4	5	5	0	99	75
Chromium	mg/kg	1	Metals-020	<1	4	<1	<1	0	98	#
Copper	mg/kg	1	Metals-020	<1	4	27	39	36	98	81
Mercury	mg/kg	0.1	Metals-021	<0.1	4	<0.1	<0.1	0	93	#
Lead	mg/kg	1	Metals-020	<1	4	<1	<1	0	96	#
Selenium	mg/kg	2	Metals-020	<2	4	<2	<2	0	88	#
Zinc	mg/kg	1	Metals-020	<1	4	260	370	35	98	111

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Metals in biomass*:
- The results are reported on the sample as received i.e. no moisture correction has been applied.
- # Low spike recovery was obtained for this sample. Insufficient samples were available for re-extraction. However, an acceptable recovery was obtained for the LCS. The PQL(s) for 330234-5 has been raised for Cr, Hg, Se and Pb. This may reflect other samples where similar in matrix and similar analytical interferences occur.

PAHs in Biomass - Samples 330234-1-6 have been reported on an "as received" basis, i.e. moisture content not included in the calculation.
The PQL has been raised due to interferences from analytes (other than those being tested) in samples 330234-1-6.
Percent recovery for the matrix spike is not possible to report due to interference from analytes (other than those being tested) in sample 330234-5.

OC Pesticides in Biomass - Samples 330234-1-6 have been reported on an "as received" basis, i.e. moisture content not included in the calculation.
The PQL has been raised due to interferences from analytes (other than those being tested) in samples 330234-1-6.
Percent recovery for the matrix spike is not possible to report due to interference from analytes (other than those being tested) in sample 330234-5.

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CERTIFICATE OF ANALYSIS 330240

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	48 Oyster
Date samples received	11/08/2023
Date completed instructions received	11/08/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	24/08/2023
Date of Issue	24/08/2023

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Results Approved By
Greta Petzold, Operation Manager
Hannah Nguyen, Metals Supervisor
Steven Luong, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biomass						
Our Reference		330240-1	330240-2	330240-3	330240-4	330240-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	70	68	104	85	72

PAHs in Biomass						
Our Reference		330240-6	330240-7	330240-8	330240-9	330240-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	93	65	77	125	118

PAHs in Biomass						
Our Reference		330240-11	330240-12	330240-13	330240-14	330240-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	119	107	110	113	90

PAHs in Biomass						
Our Reference		330240-16	330240-17	330240-18	330240-19	330240-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	70	70	103	83	109

PAHs in Biomass						
Our Reference		330240-21	330240-22	330240-23	330240-24	330240-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	108	106	108	104	123

PAHs in Biomass						
Our Reference		330240-26	330240-27	330240-28	330240-29	330240-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	<10	<10	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	122	89	99	103	86

PAHs in Biomass						
Our Reference		330240-31	330240-32	330240-33	330240-34	330240-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	11	<10	<20
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	103	86	87	71	78

PAHs in Biomass						
Our Reference		330240-36	330240-37	330240-38	330240-39	330240-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<10	11	<10	11
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	78	80	68	73	70

PAHs in Biomass						
Our Reference		330240-41	330240-42	330240-43	330240-44	330240-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<10	<20	10	12	<10
Acenaphthylene	ug/kg	<10	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10	<10	<10
Surrogate p-Terphenyl-d14	%	66	112	115	110	110

PAHs in Biomass				
Our Reference		330240-46	330240-47	330240-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023
Naphthalene	ug/kg	<20	12	11
Acenaphthylene	ug/kg	<10	<10	<10
Acenaphthene	ug/kg	<10	<10	<10
Fluorene	ug/kg	<10	<10	<10
Phenanthrene	ug/kg	<10	<10	<10
Anthracene	ug/kg	<10	<10	<10
Fluoranthene	ug/kg	<10	<10	<10
Pyrene	ug/kg	<10	<10	<10
Benzo(a)anthracene	ug/kg	<10	<10	<10
Chrysene	ug/kg	<10	<10	<10
Benzo(b,j+k)fluoranthene	ug/kg	<20	<20	<20
Benzo(a)pyrene	ug/kg	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	ug/kg	<10	<10	<10
Dibenzo(a,h)anthracene	ug/kg	<10	<10	<10
Benzo(g,h,i)perylene	ug/kg	<10	<10	<10
Surrogate p-Terphenyl-d14	%	107	91	97

Organochlorine Pesticides in Biomass						
Our Reference		330240-1	330240-2	330240-3	330240-4	330240-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	135	133	128	126	127

Organochlorine Pesticides in Biomass						
Our Reference		330240-6	330240-7	330240-8	330240-9	330240-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	117	125	129	125	139

Organochlorine Pesticides in Biomass						
Our Reference		330240-11	330240-12	330240-13	330240-14	330240-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	135	130	122	125	117

Organochlorine Pesticides in Biomass						
Our Reference		330240-16	330240-17	330240-18	330240-19	330240-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	116	115	119	120	124

Organochlorine Pesticides in Biomass						
Our Reference		330240-21	330240-22	330240-23	330240-24	330240-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	95	124	123	119	125

Organochlorine Pesticides in Biomass						
Our Reference		330240-26	330240-27	330240-28	330240-29	330240-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	117	124	100	129	117

Organochlorine Pesticides in Biomass						
Our Reference		330240-31	330240-32	330240-33	330240-34	330240-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	121	113	113	114	110

Organochlorine Pesticides in Biomass						
Our Reference		330240-36	330240-37	330240-38	330240-39	330240-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	111	110	116	114	115

Organochlorine Pesticides in Biomass						
Our Reference	UNITS	330240-41	330240-42	330240-43	330240-44	330240-45
Your Reference		NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10	<10	<10
Endrin	ug/kg	<10	<10	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10	<10	<10
Surrogate TCMX	%	111	127	127	126	117

Organochlorine Pesticides in Biomass				
Our Reference		330240-46	330240-47	330240-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	21/08/2023	21/08/2023	21/08/2023
Date analysed	-	23/08/2023	23/08/2023	23/08/2023
HCB	ug/kg	<10	<10	<10
alpha-BHC	ug/kg	<10	<10	<10
gamma-BHC	ug/kg	<10	<10	<10
beta-BHC	ug/kg	<10	<10	<10
Heptachlor	ug/kg	<10	<10	<10
delta-BHC	ug/kg	<10	<10	<10
Aldrin	ug/kg	<10	<10	<10
Heptachlor Epoxide	ug/kg	<10	<10	<10
gamma-Chlordane	ug/kg	<10	<10	<10
alpha-chlordane	ug/kg	<10	<10	<10
Endosulfan I	ug/kg	<10	<10	<10
pp-DDE	ug/kg	<10	<10	<10
Dieldrin	ug/kg	<10	<10	<10
Endrin	ug/kg	<10	<10	<10
pp-DDD	ug/kg	<10	<10	<10
Endosulfan II	ug/kg	<10	<10	<10
pp-DDT	ug/kg	<10	<10	<10
Endrin Aldehyde	ug/kg	<10	<10	<10
Endosulfan Sulphate	ug/kg	<10	<10	<10
Surrogate TCMX	%	101	125	111

Acid Extractable metals in biomass						
Our Reference		330240-1	330240-2	330240-3	330240-4	330240-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	7	8	8	6	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	130	150	150	98	96
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	1,400	1,500	1,600	970	930

Acid Extractable metals in biomass						
Our Reference		330240-6	330240-7	330240-8	330240-9	330240-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	8	7	7	5	6
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	110	100	90	61	81
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	1,100	1,100	790	620	650

Acid Extractable metals in biomass						
Our Reference		330240-11	330240-12	330240-13	330240-14	330240-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	8	8	7	5	9
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	120	110	92	90	170
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	920	890	700	710	1,500

Acid Extractable metals in biomass						
Our Reference		330240-16	330240-17	330240-18	330240-19	330240-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	7	7	6	7	8
Chromium	mg/kg	<1	<1	<1	<1	1
Copper	mg/kg	120	100	78	84	91
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	1,200	1,100	730	970	700

Acid Extractable metals in biomass						
Our Reference		330240-21	330240-22	330240-23	330240-24	330240-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	9	9	9	10	10
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	120	150	100	110	140
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	1,000	1,100	870	920	870

Acid Extractable metals in biomass						
Our Reference		330240-26	330240-27	330240-28	330240-29	330240-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	10	10	9	10	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	160	120	110	67	64
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	1,500	930	890	540	510

Acid Extractable metals in biomass						
Our Reference		330240-31	330240-32	330240-33	330240-34	330240-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	9	9	9	9	9
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	61	100	66	61	57
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	460	730	550	460	530

Acid Extractable metals in biomass						
Our Reference		330240-36	330240-37	330240-38	330240-39	330240-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	10	9	9	8	10
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	130	79	63	63	87
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	880	600	510	510	680

Acid Extractable metals in biomass						
Our Reference		330240-41	330240-42	330240-43	330240-44	330240-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	9	11	11	12	11
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	85	84	91	93	92
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.2	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	660	600	660	670	720

Acid Extractable metals in biomass						
Our Reference		330240-46	330240-47	330240-48	330240-49	330240-50
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2	BB2-P-1 - [TRIPLICATE]	NB1-P-1 - [TRIPLICATE]
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Date analysed	-	22/08/2023	22/08/2023	22/08/2023	22/08/2023	22/08/2023
Arsenic	mg/kg	10	10	11	10	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	70	62	67	88	48
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<4	<4	<4	<4	<4
Zinc	mg/kg	530	540	510	650	500

Acid Extractable metals in biomass		
Our Reference		330240-51
Your Reference	UNITS	CDN1-P-1 - [TRIPLICATE]
Type of sample		Oyster
Date prepared	-	22/08/2023
Date analysed	-	22/08/2023
Arsenic	mg/kg	10
Chromium	mg/kg	<1
Copper	mg/kg	79
Lead	mg/kg	<1
Mercury	mg/kg	<0.1
Selenium	mg/kg	<4
Zinc	mg/kg	640

Microbiologocal Testing						
Our Reference		330240-1	330240-2	330240-3	330240-4	330240-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	10 A	<1	<1

Microbiologocal Testing						
Our Reference		330240-6	330240-7	330240-8	330240-9	330240-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	4 A	1 A	2 A

Microbiologocal Testing						
Our Reference		330240-11	330240-12	330240-13	330240-14	330240-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		330240-16	330240-17	330240-18	330240-19	330240-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		330240-21	330240-22	330240-23	330240-24	330240-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	<1	1 A	<1

Microbiologocal Testing						
Our Reference		330240-26	330240-27	330240-28	330240-29	330240-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	4 A	<1	<1	<1

Microbiologocal Testing						
Our Reference		330240-31	330240-32	330240-33	330240-34	330240-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	1 A	2 A	<1	<1	<1

Microbiologocal Testing						
Our Reference		330240-36	330240-37	330240-38	330240-39	330240-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		330240-41	330240-42	330240-43	330240-44	330240-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	1 A	1 A	1 A	<1	<1

Microbiologocal Testing				
Our Reference		330240-46	330240-47	330240-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date of testing	-	12/08/2023	12/08/2023	12/08/2023
E. coli	cfu/g	<1	<1	<1

Method ID	Methodology Summary
Ext-008	Subcontracted to Sonic Food & Water Testing. NATA Accreditation No. 4034.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-23	330240-42
Date extracted	-			21/08/2023	11	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			23/08/2023	11	23/08/2023	23/08/2023		23/08/2023	23/08/2023
Naphthalene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	108	99
Acenaphthylene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	104	98
Fluorene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	106	96
Phenanthrene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	104	100
Anthracene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	106	97
Pyrene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	108	98
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	102	95
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	11	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	11	<5	<5	0	104	98
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	11	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	125	11	119	118	1	106	107

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-24	330240-43
Date extracted	-			[NT]	19	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			[NT]	19	23/08/2023	23/08/2023		23/08/2023	23/08/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	108	116
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	104	120
Fluorene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	104	120
Phenanthrene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	106	120
Anthracene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	106	114
Pyrene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	108	122
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	102	114
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	19	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	19	<5	<5	0	104	116
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	19	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	19	83	66	23	107	106

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-25	330240-44
Date extracted	-			[NT]	31	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			[NT]	31	23/08/2023	23/08/2023		23/08/2023	23/08/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	110	108
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	110	108
Fluorene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	110	108
Phenanthrene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	112	106
Anthracene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	114	106
Pyrene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	116	106
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	110	110
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	31	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	31	<5	<5	0	114	108
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	31	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	31	103	86	18	108	107

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	41	21/08/2023	21/08/2023		[NT]	[NT]
Date analysed	-			[NT]	41	23/08/2023	23/08/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	41	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	41	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	41	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	41	66	99	40	[NT]	[NT]

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	45	21/08/2023	21/08/2023		[NT]	[NT]
Date analysed	-			[NT]	45	23/08/2023	23/08/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	45	<10	11	10	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	45	<20	<20	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	45	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	45	<10	<10	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	45	110	106	4	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-23	330240-42
Date extracted	-			21/08/2023	11	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			23/08/2023	11	23/08/2023	23/08/2023		23/08/2023	23/08/2023
HCB	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	11	<10	<10	0	110	100
gamma-BHC	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	11	<10	<10	0	120	#
Heptachlor	ug/kg	1	Org-021	<1	11	<10	<10	0	116	116
delta-BHC	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	11	<10	<10	0	96	89
Heptachlor Epoxide	ug/kg	1	Org-021	<1	11	<10	<10	0	104	93
gamma-Chlordane	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	11	<10	<10	0	118	109
Dieldrin	ug/kg	1	Org-021	<1	11	<10	<10	0	128	#
Endrin	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	<1	11	<10	<10	0	82	75
Endosulfan II	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	11	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	11	<10	<10	0	110	67
Surrogate TCMX	%		Org-021	125	11	135	136	1	123	106

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-24	330240-43
Date extracted	-			[NT]	19	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			[NT]	19	23/08/2023	23/08/2023		23/08/2023	23/08/2023
HCB	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	19	<10	<10	0	108	112
gamma-BHC	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	19	<10	<10	0	120	#
Heptachlor	ug/kg	1	Org-021	[NT]	19	<10	<10	0	116	128
delta-BHC	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	19	<10	<10	0	98	108
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	19	<10	<10	0	104	108
gamma-Chlordane	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	19	<10	<10	0	118	130
Dieldrin	ug/kg	1	Org-021	[NT]	19	<10	<10	0	128	#
Endrin	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	19	<10	<10	0	82	88
Endosulfan II	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	19	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	19	<10	<10	0	110	84
Surrogate TCMX	%		Org-021	[NT]	19	120	111	8	123	102

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-25	330240-44
Date extracted	-			[NT]	31	21/08/2023	21/08/2023		21/08/2023	21/08/2023
Date analysed	-			[NT]	31	23/08/2023	23/08/2023		23/08/2023	23/08/2023
HCB	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	31	<10	<10	0	118	108
gamma-BHC	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	31	<10	<10	0	120	#
Heptachlor	ug/kg	1	Org-021	[NT]	31	<10	<10	0	124	116
delta-BHC	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	31	<10	<10	0	102	100
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	31	<10	<10	0	112	102
gamma-Chlordane	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	31	<10	<10	0	126	120
Dieldrin	ug/kg	1	Org-021	[NT]	31	<10	<10	0	136	#
Endrin	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	31	<10	<10	0	88	84
Endosulfan II	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	31	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	31	<10	<10	0	120	84
Surrogate TCMX	%		Org-021	[NT]	31	121	113	7	126	103

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	41	21/08/2023	21/08/2023		[NT]	[NT]
Date analysed	-			[NT]	41	23/08/2023	23/08/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	41	<10	<10	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	41	111	111	0	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	45	21/08/2023	21/08/2023		[NT]	[NT]
Date analysed	-			[NT]	45	23/08/2023	23/08/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	45	<10	<10	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	45	117	108	8	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-23	330240-42
Date prepared	-			22/08/2023	27	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Date analysed	-			22/08/2023	27	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Arsenic	mg/kg	4	Metals-020	<4	27	10	11	10	103	102
Chromium	mg/kg	1	Metals-020	<1	27	<1	2	67	112	93
Copper	mg/kg	1	Metals-020	<1	27	120	130	8	110	97
Lead	mg/kg	1	Metals-020	<1	27	<1	<1	0	110	85
Mercury	mg/kg	0.1	Metals-021	<0.1	27	<0.1	<0.1	0	104	##
Selenium	mg/kg	2	Metals-020	<2	27	<4	<4	0	89	102
Zinc	mg/kg	1	Metals-020	<1	27	930	1000	7	106	#

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-24	330240-43
Date prepared	-			[NT]	31	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Date analysed	-			[NT]	31	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Arsenic	mg/kg	4	Metals-020	[NT]	31	9	11	20	105	112
Chromium	mg/kg	1	Metals-020	[NT]	31	<1	<1	0	124	101
Copper	mg/kg	1	Metals-020	[NT]	31	61	100	48	107	112
Lead	mg/kg	1	Metals-020	[NT]	31	<1	<1	0	126	94
Mercury	mg/kg	0.1	Metals-021	[NT]	31	<0.1	<0.1	0	99	73
Selenium	mg/kg	2	Metals-020	[NT]	31	<4	<4	0	84	115
Zinc	mg/kg	1	Metals-020	[NT]	31	460	600	26	107	85

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-25	330240-44
Date prepared	-			[NT]	41	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Date analysed	-			[NT]	41	22/08/2023	22/08/2023		22/08/2023	22/08/2023
Arsenic	mg/kg	4	Metals-020	[NT]	41	9	9	0	106	111
Chromium	mg/kg	1	Metals-020	[NT]	41	<1	<1	0	119	100
Copper	mg/kg	1	Metals-020	[NT]	41	85	50	52	108	115
Lead	mg/kg	1	Metals-020	[NT]	41	<1	<1	0	116	93
Mercury	mg/kg	0.1	Metals-021	[NT]	41	<0.1	<0.1	0	102	73
Selenium	mg/kg	2	Metals-020	[NT]	41	<4	<4	0	90	114
Zinc	mg/kg	1	Metals-020	[NT]	41	660	520	24	105	#

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	45	22/08/2023	22/08/2023		[NT]	[NT]
Date analysed	-			[NT]	45	22/08/2023	22/08/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	45	11	8	32	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	45	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	45	92	57	47	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	45	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	45	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	45	<4	<4	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	45	720	530	30	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	46	22/08/2023	22/08/2023		[NT]	[NT]
Date analysed	-			[NT]	46	22/08/2023	22/08/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	46	10	12	18	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	46	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	46	70	88	23	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	46	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	46	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	46	<4	<4	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	46	530	650	20	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Microbiology analysed by Sonic Food & Water Testing. Report No. W2318947

A: Approximate

The time between collection and the commencement of testing should not exceed 24 hours. Samples tested outside this time may have their results compromised

Acid Extractable Metals in Biomass:

- The results are reported on the sample as received i.e. no moisture correction has been applied.
- The laboratory RPD acceptance criteria has been exceeded for 330240-31 for Cu. Therefore a triplicate result has been issued as laboratory sample number 330240-49.
- The laboratory RPD acceptance criteria has been exceeded for 330240-41 for Cu. Therefore a triplicate result has been issued as laboratory sample number 330240-50.
- The laboratory RPD acceptance criteria has been exceeded for 330240-45 for Cu. Therefore a triplicate result has been issued as laboratory sample number 330240-51.
- # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Low spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the low recovery was confirmed. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.
- The PQL for 330240-42 has been raised for Hg due to the low spike recovery. This may reflect other samples where similar in matrix and similar analytical interferences occur.
- The PQL has been raised for Se due to interferences from analytes (other than those being tested) in all samples.

PAHs in Soil - The PQL has been raised due to interferences from analytes (other than those being tested) in samples 330240-1-48.

OC Pesticides in Biomass - The PQL has been raised due to interferences from analytes (other than those being tested) in samples 330240-1-48.

Percent recovery for the matrix spike is not possible to report due to interference from analytes (other than those being tested) in samples 330240-1-48.

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CERTIFICATE OF ANALYSIS 333695

Client Details

Client	MARINE POLLUTION RESEARCH PTY LTD
Attention	Jacob Broom
Address	25 RICHARD ROAD, SCOTLAND ISLAND, NSW, 2105

Sample Details

Your Reference	**Marine Pollution Research - West Culburra**
Number of Samples	48 Oyster
Date samples received	22/09/2023
Date completed instructions received	22/09/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	09/10/2023
Date of Issue	09/10/2023

Results Approved By
Greta Petzold, Operation Manager
Loren Bardwell, Development Chemist
Steven Luong, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

PAHs in Biomass						
Our Reference		333695-1	333695-2	333695-3	333695-4	333695-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-6	333695-7	333695-8	333695-9	333695-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<2	<2	<2
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-11	333695-12	333695-13	333695-14	333695-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<4	<2	<3	<1	<2
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-16	333695-17	333695-18	333695-19	333695-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<2	<1	<1	<2	<2
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-21	333695-22	333695-23	333695-24	333695-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-26	333695-27	333695-28	333695-29	333695-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-31	333695-32	333695-33	333695-34	333695-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<2	<1	<2
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-36	333695-37	333695-38	333695-39	333695-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass						
Our Reference		333695-41	333695-42	333695-43	333695-44	333695-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#	#	#

PAHs in Biomass				
Our Reference		333695-46	333695-47	333695-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023
Naphthalene	ug/kg	<1	<1	<1
Acenaphthylene	ug/kg	<1	<1	<1
Acenaphthene	ug/kg	<1	<1	<1
Fluorene	ug/kg	<1	<1	<1
Phenanthrene	ug/kg	<1	<1	<1
Anthracene	ug/kg	<1	<1	<1
Fluoranthene	ug/kg	<1	<1	<1
Pyrene	ug/kg	<1	<1	<1
Benzo(a)anthracene	ug/kg	<1	<1	<1
Chrysene	ug/kg	<1	<1	<1
Benzo(b,j+k)fluoranthene	ug/kg	<2	<2	<2
Benzo(a)pyrene	ug/kg	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	ug/kg	<1	<1	<1
Dibenzo(a,h)anthracene	ug/kg	<1	<1	<1
Benzo(g,h,i)perylene	ug/kg	<1	<1	<1
Surrogate p-Terphenyl-d14	%	#	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-1	333695-2	333695-3	333695-4	333695-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	86	65	61	64	60

Organochlorine Pesticides in Biomass						
Our Reference		333695-6	333695-7	333695-8	333695-9	333695-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	61	#	#	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-11	333695-12	333695-13	333695-14	333695-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	#	#	#	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-16	333695-17	333695-18	333695-19	333695-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	#	95	84	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-21	333695-22	333695-23	333695-24	333695-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	86	82	102	81	66

Organochlorine Pesticides in Biomass						
Our Reference		333695-26	333695-27	333695-28	333695-29	333695-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	63	68	67	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-31	333695-32	333695-33	333695-34	333695-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	62	#	#	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-36	333695-37	333695-38	333695-39	333695-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	#	#	#	#	#

Organochlorine Pesticides in Biomass						
Our Reference		333695-41	333695-42	333695-43	333695-44	333695-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1	<1	<1
Endrin	ug/kg	<1	<1	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1	<1	<1
Surrogate TCMX	%	#	#	#	#	#

Organochlorine Pesticides in Biomass				
Our Reference	UNITS	333695-46	333695-47	333695-48
Your Reference		CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date extracted	-	26/09/2023	26/09/2023	26/09/2023
Date analysed	-	04/10/2023	04/10/2023	04/10/2023
HCB	ug/kg	<1	<1	<1
alpha-BHC	ug/kg	<1	<1	<1
gamma-BHC	ug/kg	<1	<1	<1
beta-BHC	ug/kg	<1	<1	<1
Heptachlor	ug/kg	<1	<1	<1
delta-BHC	ug/kg	<1	<1	<1
Aldrin	ug/kg	<1	<1	<1
Heptachlor Epoxide	ug/kg	<1	<1	<1
gamma-Chlordane	ug/kg	<1	<1	<1
alpha-chlordane	ug/kg	<1	<1	<1
Endosulfan I	ug/kg	<1	<1	<1
pp-DDE	ug/kg	<1	<1	<1
Dieldrin	ug/kg	<1	<1	<1
Endrin	ug/kg	<1	<1	<1
pp-DDD	ug/kg	<1	<1	<1
Endosulfan II	ug/kg	<1	<1	<1
pp-DDT	ug/kg	<1	<1	<1
Endrin Aldehyde	ug/kg	<1	<1	<1
Endosulfan Sulphate	ug/kg	<1	<1	<1
Surrogate TCMX	%	#	#	#

Acid Extractable metals in biomass						
Our Reference		333695-1	333695-2	333695-3	333695-4	333695-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	7	6	8	7	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	95	79	120	88	100
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	<2	2	<2	<2
Zinc	mg/kg	1,300	940	1,300	1,100	1,300

Acid Extractable metals in biomass						
Our Reference		333695-6	333695-7	333695-8	333695-9	333695-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	8	8	8	8	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	130	110	94	66	95
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	3	3	<2	2	2
Zinc	mg/kg	1,700	1,300	1,200	1,000	1,100

Acid Extractable metals in biomass						
Our Reference		333695-11	333695-12	333695-13	333695-14	333695-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	8	8	10	8	7
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	100	100	110	80	100
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	2	3	3	2
Zinc	mg/kg	1,400	1,300	1,300	910	1,400

Acid Extractable metals in biomass						
Our Reference		333695-16	333695-17	333695-18	333695-19	333695-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	8	9	7	8	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	91	73	79	70	95
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	2	<2	2	2
Zinc	mg/kg	1,200	1,000	1,000	870	1,100

Acid Extractable metals in biomass						
Our Reference		333695-21	333695-22	333695-23	333695-24	333695-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	7	8	6	6	6
Chromium	mg/kg	1	2	<1	<1	<1
Copper	mg/kg	72	87	45	77	68
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	3	<2	<2	<2
Zinc	mg/kg	1,100	1,000	670	910	860

Acid Extractable metals in biomass						
Our Reference		333695-26	333695-27	333695-28	333695-29	333695-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	9	7	8	8	10
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	76	45	42	54	54
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	3	<2	<2	<2	2
Zinc	mg/kg	630	410	520	530	620

Acid Extractable metals in biomass						
Our Reference		333695-31	333695-32	333695-33	333695-34	333695-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	9	11	9	9	6
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	50	94	56	48	22
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	3	2	2	<2
Zinc	mg/kg	510	1,000	600	550	310

Acid Extractable metals in biomass						
Our Reference		333695-36	333695-37	333695-38	333695-39	333695-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	8	7	7	7	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	32	41	66	60	42
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	<2	<2	2	<2
Zinc	mg/kg	400	440	710	540	530

Acid Extractable metals in biomass						
Our Reference		333695-41	333695-42	333695-43	333695-44	333695-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	7	9	8	9	8
Chromium	mg/kg	<1	<1	<1	<1	<1
Copper	mg/kg	61	70	52	76	51
Lead	mg/kg	<1	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	<2	2	2	2	<2
Zinc	mg/kg	680	770	530	930	470

Acid Extractable metals in biomass					
Our Reference		333695-46	333695-47	333695-48	333695-49
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2	SEB2-P-1 - [TRIPLICATE]
Type of sample		Oyster	Oyster	Oyster	Oyster
Date prepared	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Date analysed	-	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Arsenic	mg/kg	9	9	10	9
Chromium	mg/kg	<1	<1	<1	<1
Copper	mg/kg	40	47	62	76
Lead	mg/kg	<1	<1	<1	<1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Selenium	mg/kg	2	2	2	2
Zinc	mg/kg	410	520	650	690

Microbiologocal Testing						
Our Reference		333695-1	333695-2	333695-3	333695-4	333695-5
Your Reference	UNITS	CUP1-SR-1	CUP1-SR-2	CUP2-SR-1	CUP2-SR-2	BB1-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-6	333695-7	333695-8	333695-9	333695-10
Your Reference	UNITS	BB1-SR-2	BB2-SR-1	BB2-SR-2	SWB1-SR-1	SWB1-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-11	333695-12	333695-13	333695-14	333695-15
Your Reference	UNITS	SWB2-SR-1	SWB2-SR-2	SEB1-SR-1	SEB1-SR-2	SEB2-SR-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	2 A	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-16	333695-17	333695-18	333695-19	333695-20
Your Reference	UNITS	SEB2-SR-2	NB1-SR-1	NB1-SR-2	NB2-SR-1	NB2-SR-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-21	333695-22	333695-23	333695-24	333695-25
Your Reference	UNITS	CDN1-SR-1	CDN1-SR-2	CDN2-SR-1	CDN2-SR-2	CUP1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	1 A

Microbiologocal Testing						
Our Reference		333695-26	333695-27	333695-28	333695-29	333695-30
Your Reference	UNITS	CUP1-P-2	CUP2-P-1	CUP2-P-2	BB1-P-1	BB1-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-31	333695-32	333695-33	333695-34	333695-35
Your Reference	UNITS	BB2-P-1	BB2-P-2	SWB1-P-1	SWB1-P-2	SWB2-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-36	333695-37	333695-38	333695-39	333695-40
Your Reference	UNITS	SWB2-P-2	SEB1-P-1	SEB1-P-2	SEB2-P-1	SEB2-P-2
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing						
Our Reference		333695-41	333695-42	333695-43	333695-44	333695-45
Your Reference	UNITS	NB1-P-1	NB1-P-2	NB2-P-1	NB2-P-2	CDN1-P-1
Type of sample		Oyster	Oyster	Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1	<1	<1

Microbiologocal Testing				
Our Reference		333695-46	333695-47	333695-48
Your Reference	UNITS	CDN1-P-2	CDN2-P-1	CDN2-P-2
Type of sample		Oyster	Oyster	Oyster
Date of testing	-	23/09/2023	23/09/2023	23/09/2023
E. coli	cfu/g	<1	<1	<1

Method ID	Methodology Summary
Ext-008	Subcontracted to Sonic Food & Water Testing. NATA Accreditation No. 4034.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	333695-6
Date extracted	-			26/09/2023	8	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			04/10/2023	8	04/10/2023	04/10/2023		04/10/2023	04/10/2023
Naphthalene	ug/kg	1	Org-022/025	<1	8	<2	<2	0	98	#
Acenaphthylene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	102	#
Fluorene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	97	#
Phenanthrene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	100	#
Anthracene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	60	#
Pyrene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	89	#
Benzo(a)anthracene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	76	#
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	<2	8	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	<0.5	8	<0.5	<0.5	0	95	#
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	<1	8	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	65	8	#	#		64	#

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	333695-25
Date extracted	-			[NT]	13	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			[NT]	13	04/10/2023	04/10/2023		04/10/2023	04/10/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	13	<3	<2	40	63	#
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	63	#
Fluorene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	65	#
Phenanthrene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	75	#
Anthracene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	78	#
Pyrene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	69	#
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	65	#
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	13	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	13	<0.5	<0.5	0	68	#
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	13	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	13	#	#		65	#

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	333695-30
Date extracted	-			[NT]	22	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			[NT]	22	04/10/2023	04/10/2023		04/10/2023	04/10/2023
Naphthalene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	121	#
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	129	#
Fluorene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	122	#
Phenanthrene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	124	#
Anthracene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	125	#
Pyrene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	130	#
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	95	#
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	22	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	22	<0.5	<0.5	0	131	#
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	22	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	22	#	#		122	#

QUALITY CONTROL: PAHs in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	29	26/09/2023	26/09/2023		[NT]	[NT]
Date analysed	-			[NT]	29	04/10/2023	04/10/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	29	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	29	<0.5	<0.5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	29	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	29	#	#		[NT]	[NT]

QUALITY CONTROL: PAHs in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	39	26/09/2023	26/09/2023		[NT]	[NT]
Date analysed	-			[NT]	39	04/10/2023	04/10/2023		[NT]	[NT]
Naphthalene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Acenaphthylene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Acenaphthene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Fluorene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Phenanthrene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Anthracene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Fluoranthene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Pyrene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Chrysene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	ug/kg	2	Org-022/025	[NT]	39	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	ug/kg	0.5	Org-022/025	[NT]	39	<0.5	<0.5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	ug/kg	1	Org-022/025	[NT]	39	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	39	#	#		[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	333695-6
Date extracted	-			26/09/2023	8	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			04/10/2023	8	04/10/2023	04/10/2023		04/10/2023	04/10/2023
HCB	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	<1	8	<1	<1	0	104	#
gamma-BHC	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	<1	8	<1	<1	0	96	#
Heptachlor	ug/kg	1	Org-021	<1	8	<1	<1	0	95	#
delta-BHC	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	<1	8	<1	<1	0	95	#
Heptachlor Epoxide	ug/kg	1	Org-021	<1	8	<1	<1	0	104	#
gamma-Chlordane	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	<1	8	<1	<1	0	90	#
Dieldrin	ug/kg	1	Org-021	<1	8	<1	<1	0	66	#
Endrin	ug/kg	1	Org-021	<1	8	<1	<1	0	88	#
pp-DDD	ug/kg	1	Org-021	<1	8	<1	<1	0	94	#
Endosulfan II	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	<1	8	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	<1	8	<1	<1	0	140	#
Surrogate TCMX	%		Org-021	71	8	#	#		96	#

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	333695-25
Date extracted	-			[NT]	13	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			[NT]	13	04/10/2023	04/10/2023		04/10/2023	04/10/2023
HCB	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	13	<1	<1	0	72	#
gamma-BHC	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	13	<1	<1	0	60	#
Heptachlor	ug/kg	1	Org-021	[NT]	13	<1	<1	0	67	#
delta-BHC	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	13	<1	<1	0	65	#
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	13	<1	<1	0	70	#
gamma-Chlordane	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	13	<1	<1	0	78	#
Dieldrin	ug/kg	1	Org-021	[NT]	13	<1	<1	0	82	#
Endrin	ug/kg	1	Org-021	[NT]	13	<1	<1	0	70	#
pp-DDD	ug/kg	1	Org-021	[NT]	13	<1	<1	0	68	#
Endosulfan II	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	13	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	13	<1	<1	0	100	#
Surrogate TCMX	%		Org-021	[NT]	13	#	#		72	118

QUALITY CONTROL: Organochlorine Pesticides in Biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	333695-30
Date extracted	-			[NT]	22	26/09/2023	26/09/2023		26/09/2023	26/09/2023
Date analysed	-			[NT]	22	04/10/2023	04/10/2023		04/10/2023	04/10/2023
HCB	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	22	<1	<1	0	128	#
gamma-BHC	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	22	<1	<1	0	130	#
Heptachlor	ug/kg	1	Org-021	[NT]	22	<1	<1	0	118	#
delta-BHC	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	22	<1	<1	0	131	#
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	22	<1	<1	0	129	#
gamma-Chlordane	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	22	<1	<1	0	114	#
Dieldrin	ug/kg	1	Org-021	[NT]	22	<1	<1	0	118	#
Endrin	ug/kg	1	Org-021	[NT]	22	<1	<1	0	124	#
pp-DDD	ug/kg	1	Org-021	[NT]	22	<1	<1	0	78	#
Endosulfan II	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	22	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	22	<1	<1	0	116	#
Surrogate TCMX	%		Org-021	[NT]	22	82	91	10	128	#

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	29	26/09/2023	26/09/2023		[NT]	[NT]
Date analysed	-			[NT]	29	04/10/2023	04/10/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	29	<1	<1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	29	#	#		[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	39	26/09/2023	26/09/2023		[NT]	[NT]
Date analysed	-			[NT]	39	04/10/2023	04/10/2023		[NT]	[NT]
HCB	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
alpha-BHC	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
gamma-BHC	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
beta-BHC	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Heptachlor	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
delta-BHC	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Aldrin	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Heptachlor Epoxide	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
gamma-Chlordane	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
alpha-chlordane	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Endosulfan I	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
pp-DDE	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Dieldrin	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Endrin	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
pp-DDD	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Endosulfan II	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
pp-DDT	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Endrin Aldehyde	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	ug/kg	1	Org-021	[NT]	39	<1	<1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	39	#	#		[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	333695-6
Date prepared	-			28/09/2023	8	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Date analysed	-			28/09/2023	8	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Arsenic	mg/kg	4	Metals-020	<4	8	8	7	13	122	117
Chromium	mg/kg	1	Metals-020	<1	8	<1	<1	0	96	116
Copper	mg/kg	1	Metals-020	<1	8	94	78	19	119	93
Lead	mg/kg	1	Metals-020	<1	8	<1	<1	0	127	100
Mercury	mg/kg	0.1	Metals-021	<0.1	8	<0.1	<0.1	0	107	101
Selenium	mg/kg	2	Metals-020	<2	8	<2	<2	0	108	107
Zinc	mg/kg	1	Metals-020	<1	8	1200	1000	18	126	#

QUALITY CONTROL: Acid Extractable metals in biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	333695-25
Date prepared	-			[NT]	13	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Date analysed	-			[NT]	13	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Arsenic	mg/kg	4	Metals-020	[NT]	13	10	9	11	107	108
Chromium	mg/kg	1	Metals-020	[NT]	13	<1	<1	0	103	100
Copper	mg/kg	1	Metals-020	[NT]	13	110	87	23	104	89
Lead	mg/kg	1	Metals-020	[NT]	13	<1	<1	0	127	87
Mercury	mg/kg	0.1	Metals-021	[NT]	13	<0.1	<0.1	0	106	90
Selenium	mg/kg	2	Metals-020	[NT]	13	3	3	0	118	100
Zinc	mg/kg	1	Metals-020	[NT]	13	1300	1000	26	105	#

QUALITY CONTROL: Acid Extractable metals in biomass						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	333695-29
Date prepared	-			[NT]	22	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Date analysed	-			[NT]	22	28/09/2023	28/09/2023		28/09/2023	28/09/2023
Arsenic	mg/kg	4	Metals-020	[NT]	22	8	6	29	116	103
Chromium	mg/kg	1	Metals-020	[NT]	22	2	<1	67	101	97
Copper	mg/kg	1	Metals-020	[NT]	22	87	66	27	113	93
Lead	mg/kg	1	Metals-020	[NT]	22	<1	<1	0	122	84
Mercury	mg/kg	0.1	Metals-021	[NT]	22	<0.1	<0.1	0	110	95
Selenium	mg/kg	2	Metals-020	[NT]	22	3	<2	40	97	94
Zinc	mg/kg	1	Metals-020	[NT]	22	1000	860	15	116	##

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	30	28/09/2023	28/09/2023		[NT]	[NT]
Date analysed	-			[NT]	30	28/09/2023	28/09/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	30	10	10	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	30	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	30	54	58	7	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	30	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	30	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	30	2	2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	30	620	690	11	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in biomass					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	39	28/09/2023	28/09/2023		[NT]	[NT]
Date analysed	-			[NT]	39	28/09/2023	28/09/2023		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	39	7	8	13	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	39	<1	<1	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	39	60	94	44	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	39	<1	<1	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	39	<0.1	<0.1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	39	2	<2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	39	540	860	46	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Microbiology analysed by Sonic Food & Water Testing. Report No. W2322335-339
A: Approximate
The time between collection and the commencement of testing should not exceed 24 hours. Samples tested outside this time may have their results compromised

The results are reported on the sample as received i.e. no moisture correction has been applied.

Metals in biomass:
- # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- The laboratory RPD acceptance criteria has been exceeded for 333695-39 for Cu and Zn. Therefore a triplicate result has been issued as laboratory sample number 333695-49.

PAHs in Biomass - The PQL has been raised due to interferences from analytes (other than those being tested) in sample/s 33695-8,8d,9,10,11,12,113,13d,15,16,19,20,31,35.
Percent recovery for the surrogate/matrix spike is not possible to report due to interference from analytes (other than those being tested) in samples 333695-1-48.

OC Pesticides in Biomass - # Percent recovery for the surrogate/matrix spike is not possible to report due to interference from analytes (other than those being tested) in samples 333695-7-16,19,20,29,30,32-48.
Percent recovery for the matrix spike is not possible to report due to interference from analytes (other than those being tested) in samples 333695-6 and 25.

APPENDIX F

FRESHWATER MONITORING DATA

F-1.1 WATTLE CREEK WATER QUALITY DATA

F-1.2 DOWNS CREEK WATER QUALITY DATA

F-1.3 SOUTH CREEK WATER QUALITY DATA

F-1.4 SITE WATER LEVEL LOG

F-2.1 ASU MACROINVERTEBRATE RESULTS Season 1 Summer 22/23

F-2.2 ASU MACROINVERTEBRATE RESULTS Season 2 Autumn 23

F3 ELECTROFISHING FISH CATCH RESULTS Seasons 1 to 4 Summer 22/23 to Spring 23

Appendix Table F1.1 Wattle Creek Water Quality Profiling Results December 2022 to December 2023													
Creek	Site	Date	Time	Depth	Temp	Cond	Sal	DO	DO	pH	Turb	MGA 56	
				M	°C	µS/cm	ppt	%sat	mg/l	Units	ntu	Easting	Northing
Wattle Creek	WCUp	6/12/22	13:26	0.1	28.35	400	0.19	119.4	9.27	6.59	4.9	294632	6131715
Wattle Creek	WCUp	23/3/23	09:00	0.1	18.69	482	0.23	42.6	3.97	5.74	0.1	294632	6131715
Wattle Creek	WCUp	23/3/23	09:00	0.2	18.69	482	0.23	40.0	3.73	5.78	0.2	294632	6131715
Wattle Creek	WCUp	28/3/23	08:02	0.1	20.31	503	0.24	41.9	3.78	5.87	0.2	294632	6131715
Wattle Creek	WCUp	28/3/23	08:02	0.2	20.32	504	0.24	41.5	3.74	5.88	1.0	294632	6131715
Wattle Creek	WCUp	9/6/23	11:33	0.1	12.51	435	0.32	88.0	9.37	5.66	2.1	294632	6131715
Wattle Creek	WCUP	28/11/23	17:33	0.3	19.61	428	0.19	58	5.31	5.19	2.7	294632	6131715
Wattle Creek	WCDn	6/12/22	14:10	0.1	23.79	1589	0.77	21.9	1.84	6.25	60.4	294760	6131659
Wattle Creek	WCDn	6/12/22	14:10	0.3	21.47	1633	0.80	37.4	3.29	6.22	64.9	294760	6131659
Wattle Creek	WCDn	6/12/22	14:11	0.7	19.23	1758	0.87	26.1	2.40	6.19	38.9	294760	6131659
Wattle Creek	WCDn	24/1/23	09:38	0.1	27.43	1988	1.01	43.6	3.42	6.44	27.3	294760	6131659
Wattle Creek	WCDn	24/1/23	09:38	0.2	23.92	1965	1.00	31.3	2.63	6.52	29.0	294760	6131659
Wattle Creek	WCDn	24/1/23	09:38	0.3	23.12	1960	1.00	23.4	1.99	6.54	61.1	294760	6131659
Wattle Creek	WCDn	23/3/23	08:52	0.1	19.22	1426	0.72	14.4	1.32	5.80	12.7	294760	6131659
Wattle Creek	WCDn	23/3/23	08:52	0.2	19.23	1438	0.72	13.3	1.22	5.82	16.3	294760	6131659
Wattle Creek	WCDn	23/3/23	08:53	0.3	19.33	1528	0.77	12.2	1.12	5.91	19.5	294760	6131659
Wattle Creek	WCDn	23/3/23	08:53	0.4	19.80	1924	0.98	9.3	0.85	6.06	19.4	294760	6131659
Wattle Creek	WCDn	28/3/23	08:42	0.1	20.13	1261	0.63	41.1	3.71	5.97	0.5	294760	6131659
Wattle Creek	WCDn	28/3/23	08:42	0.1	20.13	1267	0.63	37.3	3.37	6.00	0.6	294760	6131659
Wattle Creek	WCDn	28/3/23	08:44	0.2	19.92	1708	0.88	13.5	1.22	6.10	16.6	294760	6131659
Wattle Creek	WCDn	28/3/23	08:44	0.4	19.76	2181	1.13	11.1	1.01	6.19	23.5	294760	6131659
Wattle Creek	WCDn	28/3/23	08:45	0.5	19.67	2609	1.30	10.0	0.91	6.28	25.6	294760	6131659
Wattle Creek	WCDn	9/6/23	11:22	0.1	12.48	844	0.54	65.8	7.00	5.95	44.4	294760	6131659
Wattle Creek	WCDn	9/6/23	11:23	0.2	12.44	842	0.54	53.5	5.70	5.90	44.0	294760	6131659
Wattle Creek	WCDn	9/6/23	11:23	0.3	12.35	842	0.54	49.4	5.27	5.89	43.2	294760	6131659
Wattle Creek	WCDn	9/6/23	11:23	0.4	12.29	849	0.54	46.0	4.92	5.88	41.9	294760	6131659
Wattle Creek	WCDn	9/6/23	11:23	0.5	12.25	862	0.55	42.8	4.58	5.86	42.8	294760	6131659
Wattle Creek	WCDn	9/6/23	11:23	0.6	12.24	872	0.55	40.0	4.28	5.84	43.5	294760	6131659
Wattle Creek	WCDn	9/6/23	11:24	0.7	12.25	871	0.55	35.2	3.76	5.80	42.1	294760	6131659

Wattle Creek	WCDn	5/7/23	11:59	0.1	11.45	943	0.59	30.7	3.34	5.72	10.8	294760	6131659
Wattle Creek	WCDn	5/7/23	11:59	0.2	11.42	945	0.59	28.9	3.15	5.72	10.7	294760	6131659
Wattle Creek	WCDn	5/7/23	11:59	0.3	11.25	957	0.59	28.4	3.10	5.73	10.9	294760	6131659
Wattle Creek	WCDn	5/7/23	11:59	0.4	11.03	988	0.61	27.8	3.06	5.78	10.9	294760	6131659
Wattle Creek	WCDn	5/7/23	11:59	0.5	11.07	1094	0.67	26.2	2.87	5.85	20.0	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	12.7	1433	0.7	31	3.28	6.36	26.6	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	13.05	1436	0.7	26.9	2.82	6.35	26.4	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	12.65	1440	0.7	26.4	2.79	6.37	23.6	294760	6131659
Wattle Creek	WCDN	27/11/23	19:45	0.3	26.57	2311	1.17	96.2	7.67	6.68	18.3	294760	6131659
Wattle Creek	WCDN	27/11/23	19:45	0.3	26.59	2310	1.16	94	7.49	6.69	18.3	294760	6131659
Wattle Creek	WCDN	27/11/23	19:45	0.3	26.75	2315	1.17	98.9	7.86	6.72	21.3	294760	6131659
Wattle creek	WCDN	28/11/23	17:43	0.3	19.17	355	0.15	57.8	5.34	5.12	5.3	294760	6131659
Wattle creek	WCDN	28/11/23	17:43	0.6	19.17	355	0.15	57.7	5.33	5.12	5.2	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	12.7	1433	0.7	31	3.28	6.36	26.6	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	13.05	1436	0.7	26.9	2.82	6.35	26.4	294760	6131659
Wattle Creek	WCDN	11/09/23	17:08	0.4	12.65	1440	0.7	26.4	2.79	6.37	23.6	294760	6131659
Wattle Creek	WCDN	27/11/23	19:45	0.3	26.57	2311	1.17	96.2	7.67	6.68	18.3	294760	6131659

Appendix Table F1.2 Downs Creek Water Quality Profiling Results December 2022 to December 2023													
Creek	Site	Date	Time	Depth	Temp	Cond	Sal	DO	DO	pH	Turb	MGA 56	
				M	°C	µS/cm	ppt	%sat	mg/l	Units	ntu	Easting	Northing
Downs Creek	DCUp	6/12/22	16:58	0.1	22.07	935	0.47	52.3	4.55	7.05	7.4	293653	6131705
Downs Creek	DCUp	6/12/22	16:58	0.2	21.99	936	0.47	52.5	4.58	7.05	7.4	293653	6131705
Downs Creek	DCUp	6/12/22	16:58	0.3	20.61	935	0.47	50.5	4.52	6.99	9.0	293653	6131705
Downs Creek	DCUp	6/12/22	16:59	0.6	19.97	958	0.48	40.1	3.64	6.94	17.3	293653	6131705
Downs Creek	DCUp	6/12/22	16:59	0.8	19.13	1176	0.59	26.6	2.45	6.72	22.9	293653	6131705
Downs Creek	DCUp	24/1/23	10:14	0.1	23.40	548	0.27	40.6	3.45	6.80	14.6	293653	6131705
Downs Creek	DCUp	24/1/23	10:15	0.2	20.96	534	0.26	35.1	3.13	6.85	16.5	293653	6131705
Downs Creek	DCUp	24/1/23	10:15	0.3	20.60	528	0.26	30.6	2.75	6.85	15.4	293653	6131705
Downs Creek	DCUp	24/1/23	10:15	0.4	20.60	778	0.38	23.7	2.12	6.88	23.7	293653	6131705
Downs Creek	DCUp	24/1/23	10:16	0.5	20.63	1128	0.57	16.0	1.43	6.95	37.5	293653	6131705
Downs Creek	DCUp	24/1/23	10:16	0.6	19.88	1784	0.91	12.2	1.11	6.97	9.2	293653	6131705
Downs Creek	DCUp	23/3/23	09:22	0.1	19.55	743	0.36	34.7	3.18	7.05	1.3	293653	6131705
Downs Creek	DCUp	23/3/23	09:23	0.2	19.55	741	0.36	32.7	3.00	7.07	0.7	293653	6131705
Downs Creek	DCUp	23/3/23	09:23	0.3	19.54	739	0.35	32.2	2.95	7.08	0.6	293653	6131705
Downs Creek	DCUp	23/3/23	09:23	0.4	19.54	762	0.37	30.1	2.76	7.08	1.4	293653	6131705
Downs Creek	DCUp	27/3/23	13:26	0.1	22.27	411	0.21	73.8	6.41	6.92	1.8	293653	6131705
Downs Creek	DCUp	27/3/23	13:27	0.2	21.33	616	0.30	68.2	6.03	6.99	2.5	293653	6131705
Downs Creek	DCUp	27/3/23	13:27	0.3	20.73	651	0.32	62.8	5.62	7.04	1.2	293653	6131705
Downs Creek	DCUp	27/3/23	13:27	0.4	20.71	651	0.32	57.1	5.11	7.07	0.7	293653	6131705
Downs Creek	DCUp	27/3/23	13:28	0.5	20.58	657	0.32	55.1	4.94	7.08	0.7	293653	6131705
Downs Creek	DCUp	27/3/23	13:28	0.6	20.41	684	0.34	45.5	4.10	7.06	1.9	293653	6131705
Downs Creek	DCUp	27/3/23	13:28	0.7	20.36	698	0.34	34.9	3.15	7.04	3.0	293653	6131705
Downs Creek	DCUp	9/6/23	10:59	0.1	12.71	837	0.54	50.4	5.34	6.90	4.0	293653	6131705
Downs Creek	DCUp	9/6/23	11:00	0.2	12.69	837	0.53	48.4	5.12	6.93	4.0	293653	6131705
Downs Creek	DCUp	9/6/23	11:00	0.3	12.68	838	0.53	48.1	5.10	6.93	4.2	293653	6131705
Downs Creek	DCUp	9/6/23	11:00	0.4	12.67	848	0.54	48.0	5.09	6.93	4.2	293653	6131705
Downs Creek	DCUp	9/6/23	11:01	0.5	12.66	858	0.54	47.8	5.07	6.93	4.2	293653	6131705
Downs Creek	DCUp	9/6/23	11:01	0.6	12.65	868	0.55	47.8	5.07	6.93	4.2	293653	6131705
Downs Creek	DCUp	9/6/23	11:01	0.7	12.65	875	0.55	47.5	5.04	6.93	4.0	293653	6131705
Downs Creek	DCUP	4/7/23	11:50	0.1	11.36	1133	0.67	99.1	10.81	7.73	8.7	293653	6131705

Downs Creek	DCUP	4/7/23	11:50	0.2	11.34	1135	0.67	93.3	10.18	7.7	8.4	293653	6131705
Downs Creek	DCUP	4/7/23	11:50	0.3	11.13	1138	0.68	92.3	10.12	7.69	8.8	293653	6131705
Downs Creek	DCUP	4/7/23	11:50	0.4	10.98	1142	0.68	90.9	10	7.67	9.1	293653	6131705
Downs Creek	DCUP	11/09/23	14:57	0.3	13.44	1331	0.64	70.7	7.36	7.19	6.3	293653	6131705
Downs Creek	DCUP	11/09/23	14:58	0.5	12.88	1330	0.64	69.7	7.34	7.18	3.8	293653	6131705
Downs Creek	DCUP	11/09/23	14:58	0.7	12.63	1328	0.64	69	7.32	7.19	3.2	293653	6131705
Downs Creek	DCUP	11/09/23	14:58	0.8	12.41	1332	0.65	68	7.25	7.2	3.3	293653	6131705
Downs Creek	DCUP	11/09/23	14:59	1.0	12.31	1333	0.64	66.4	7.09	7.21	3	293653	6131705
Downs Creek	DCUP	11/09/23	14:59	0.8	12.27	1335	0.52	64.3	6.87	7.22	3.5	293653	6131705
Downs Creek	DCUP	27/11/23	16:10	0.3	24.49	854	0.4	70.5	5.86	6.72	9.3	293653	6131705
Downs Creek	DCUP	27/11/23	16:11	0.5	22.72	842	0.4	70	6.02	6.78	5.3	293653	6131705
Downs Creek	DCUP	27/11/23	16:11	0.6	22.12	840	0.4	59.6	5.19	6.81	4.6	293653	6131705
Downs Creek	DCUP	27/11/23	16:11	0.9	21.57	843	0.4	49.8	4.38	6.81	8.6	293653	6131705
Downs Creek	DCUP	28/11/23	17:22	0.4	20.09	337	0.14	74.9	6.8	5.83	17.7	293653	6131705
Downs Creek	DCUP	28/11/23	17:22	0.6	19.57	332	0.14	77.5	7.1	5.86	16.1	293653	6131705
Downs Creek	DCUP	28/11/23	17:23	1.0	19.31	338	0.14	79.4	7.31	5.85	18	293653	6131705

Downs Creek	DCDn	6/12/22	16:27	0.2	20.19	438	0.22	35.7	3.23	6.43	14.8	293770	6131386
Downs Creek	DCDn	6/12/22	16:27	0.3	18.64	480	0.24	19.3	1.80	6.43	13.0	293770	6131386
Downs Creek	DCDn	6/12/22	16:27	0.6	16.86	648	0.33	10.5	1.02	6.58	11.9	293770	6131386
Downs Creek	DCDn	24/1/23	10:04	0.1	19.90	791	0.39	52.0	4.73	5.21	8.6	293770	6131386
Downs Creek	DCDn	24/1/23	10:04	0.2	19.12	800	0.40	53.3	4.92	5.25	5.7	293770	6131386
Downs Creek	DCDn	24/1/23	10:05	0.3	18.78	800	0.40	51.6	4.80	5.29	5.1	293770	6131386
Downs Creek	DCDn	24/1/23	10:05	0.4	18.60	802	0.40	49.1	4.58	5.32	4.7	293770	6131386
Downs Creek	DCDn	24/1/23	10:05	0.5	18.51	807	0.40	46.4	4.34	5.52	18.5	293770	6131386
Downs Creek	DCDn	23/3/23	09:14	0.1	18.41	271	0.12	19.8	1.86	5.98	20.6	293770	6131386
Downs Creek	DCDn	23/3/23	09:15	0.2	18.40	270	0.12	15.5	1.46	6.01	19.0	293770	6131386
Downs Creek	DCDn	23/3/23	09:15	0.3	18.40	271	0.12	12.9	1.21	6.03	18.8	293770	6131386
Downs Creek	DCDn	23/3/23	09:16	0.4	18.52	376	0.17	10.2	0.96	6.65	18.3	293770	6131386
Downs Creek	DCDn	27/3/23	15:22	0.1	20.30	338	0.17	12.7	1.15	6.12	22.0	293770	6131386
Downs Creek	DCDn	27/3/23	15:22	0.2	19.45	342	0.17	10.0	0.92	6.31	12.9	293770	6131386
Downs Creek	DCDn	27/3/23	15:23	0.3	19.09	346	0.17	8.2	0.76	6.52	12.8	293770	6131386
Downs Creek	DCDn	27/3/23	15:23	0.4	18.83	377	0.18	7.4	0.69	6.67	17.3	293770	6131386

Downs Creek	DCDn	27/3/23	15:24	0.5	18.70	420	0.21	6.8	0.63	6.76	19.2	293770	6131386
Downs Creek	DCDn	27/3/23	15:24	0.6	18.61	483	0.24	6.2	0.58	6.82	24.3	293770	6131386
Downs Creek	DCDn	9/6/23	11:47	0.1	12.27	375	0.28	80.3	8.60	5.95	13.1	293770	6131386
Downs Creek	DCDn	9/6/23	11:47	0.2	12.16	374	0.28	67.9	7.29	5.93	13.5	293770	6131386
Downs Creek	DCDn	9/6/23	11:48	0.3	12.11	376	0.28	61.1	6.56	5.89	13.0	293770	6131386
Downs Creek	DCDn	9/6/23	11:48	0.4	12.05	382	0.28	56.9	6.13	5.84	12.5	293770	6131386
Downs Creek	DCDn	9/6/23	11:48	0.5	12.23	417	0.30	49.8	5.33	5.94	19.0	293770	6131386
Downs Creek	DCDn	9/6/23	11:48	0.6	12.44	457	0.32	45.6	4.86	6.08	18.5	293770	6131386
Downs Creek	DCDn	9/6/23	11:49	0.7	12.51	477	0.33	43.0	4.58	6.15	17.9	293770	6131386
Downs Creek	DCDn	4/7/23	14:29	0.1	11.85	449	0.30	69.0	7.46	6.01	8.8	293770	6131386
Downs Creek	DCDn	4/7/23	14:29	0.2	11.55	441	0.30	69.2	7.54	5.96	8.7	293770	6131386
Downs Creek	DCDn	4/7/23	14:29	0.3	10.97	438	0.30	70.0	7.72	5.93	8.9	293770	6131386
Downs Creek	DCDn	4/7/23	14:29	0.4	10.78	449	0.31	69.5	7.70	5.91	8.8	293770	6131386
Downs Creek	DCDN	11/09/23	16:32	0.2	11.65	454	0.2	39.1	4.25	6.67	69.2	293770	6131386
Downs Creek	DCDN	11/09/23	16:32	0.2	11.64	455	0.2	38.3	4.17	6.65	68.8	293770	6131386
Downs Creek	DCDN	28/11/23	17:13	0.4	19.31	293	0.12	52.1	4.8	4.89	19.5	293770	6131386
Downs Creek	DCDN	28/11/23	17:13	0.5	19.28	293	0.12	51.7	4.76	4.89	18.7	293770	6131386
Downs Creek	DCDN	28/11/23	17:13	0.6	19.27	292	0.12	51.3	4.73	4.9	18.3	293770	6131386

Appendix Table F1.3 South Creek Water Quality Profiling Results December 2022 to December 2023

Creek	Site	Date	Time	Depth	Temp	Cond	Sal	DO	DO	pH	Turb	MGA 56	
				M	°C	µS/cm	ppt	%sat	mg/l	Units	ntu	Easting	Northing
South Creek	SCUp	7/12/22	16:34	0.1	20.63	211	0.12	25.9	2.32	5.72	31.2	293479	6130734
South Creek	SCUp	7/12/22	16:35	0.2	20.11	258	0.14	18.3	1.66	5.69	30.2	293479	6130734
South Creek	SCUp	24/1/23	08:50	0.1	24.09	216	0.10	32.8	2.76	5.84	75.8	293479	6130734
South Creek	SCUp	23/3/23	09:55	0.1	18.00	289	0.13	16.9	1.60	5.80	10.4	293479	6130734
South Creek	SCUp	23/3/23	09:55	0.2	17.96	289	0.14	15.1	1.43	5.81	10.0	293479	6130734
South Creek	SCUp	28/3/23	10:45	0.1	19.45	291	0.14	31.1	2.86	5.76	49.0	293479	6130734
South Creek	SCUp	28/3/23	10:45	0.3	19.42	297	0.11	27.0	2.49	5.77	24.2	293479	6130734
South Creek	SCUp	9/6/23	10:07	0.1	10.96	238	0.22	21.9	2.42	5.36	14.8	293479	6130734
South Creek	SCUp	5/7/23	08:26	0.1	10.40	327	0.27	47.3	5.29	5.52	17.7	293479	6130734

South Creek	SCUp	5/7/23	08:27	0.2	10.40	342	0.28	50.1	5.61	5.48	12.9	293479	6130734
South Creek	SCUp	5/7/23	08:27	0.3	10.40	342	0.28	50.6	5.66	5.47	12.4	293479	6130734
South Creek	SCUp	5/7/23	08:27	0.4	10.40	342	0.28	51.0	5.70	5.47	12.3	293479	6130734
South Creek	SCDn	7/12/22	15:00	0.1	22.69	2014	1.02	58.7	5.04	4.74	11.3	293784	6130827
South Creek	SCDn	7/12/22	15:00	0.2	21.70	2116	1.06	64.6	5.65	4.66	32.6	293784	6130827
South Creek	SCDn	7/12/22	15:01	0.4	20.50	2754	1.41	57.5	5.14	4.42	10.8	293784	6130827
South Creek	SCDn	7/12/22	15:01	0.5	20.57	2871	1.47	52.4	4.67	4.38	19.4	293784	6130827
South Creek	SCDn	24/1/23	09:04	0.1	21.65	3408	1.80	63.1	5.50	5.75	14.9	293784	6130827
South Creek	SCDn	24/1/23	09:04	0.2	21.00	3378	1.78	59.8	5.27	5.76	11.0	293784	6130827
South Creek	SCDn	24/1/23	09:04	0.3	20.78	3380	1.78	55.4	4.91	5.75	4.5	293784	6130827
South Creek	SCDn	24/1/23	09:05	0.4	20.63	3487	1.85	52.1	4.63	5.73	9.0	293784	6130827
South Creek	SCDn	23/3/23	09:44	0.1	18.78	1213	0.60	47.0	4.37	5.51	1.3	293784	6130827
South Creek	SCDn	23/3/23	09:44	0.2	18.76	1208	0.60	44.4	4.12	5.54	0.8	293784	6130827
South Creek	SCDn	23/3/23	09:45	0.3	19.12	1413	0.71	27.9	2.58	5.80	11.1	293784	6130827
South Creek	SCDn	28/3/23	11:56	0.1	20.72	911	0.31	46.4	4.15	5.39	61.3	293784	6130827
South Creek	SCDn	28/3/23	11:55	0.2	21.55	1461	0.74	59.5	5.22	5.39	1.6	293784	6130827
South Creek	SCDn	28/3/23	11:55	0.3	20.87	1487	0.75	57.6	5.13	5.36	1.8	293784	6130827
South Creek	SCDn	9/6/23	09:53	0.1	11.63	989	0.62	63.1	6.84	5.10	3.3	293784	6130827
South Creek	SCDn	9/6/23	09:53	0.2	11.56	986	0.61	61.8	6.71	5.07	3.0	293784	6130827

South Creek	SCDn	5/7/23	09:40	0.1	11.09	1283	0.79	76.4	8.38	4.95	1.3	293784	6130827
South Creek	SCDn	5/7/23	09:40	0.2	11.09	1304	0.80	75.9	8.32	4.92	1.3	293784	6130827
South Creek	SCDn	5/7/23	09:40	0.3	11.09	1325	0.81	75.6	8.29	4.89	1.5	293784	6130827
South Creek	SCDn	5/7/23	09:41	0.4	11.18	1397	0.85	70.4	7.71	4.79	24.2	293784	6130827
South Creek	SCDN	28/11/23	16:38	0.3	19.76	479	0.22	69.7	6.36	5.09	53.5	293784	6130827
South Creek	SCDN	28/11/23	16:38	0.4	19.73	479	0.21	69.6	6.36	5.07	55.5	293784	6130827
South Creek	SCDN	28/11/23	16:38	0.5	19.67	481	0.21	69.5	6.36	5.06	53.7	293784	6130827
South Creek	SCDN	28/11/23	16:39	0.7	19.66	2821	1.44	58.8	5.34	4.44	44.9	293784	6130827

Appendix table F1.4 – Site Water Level Log												
Site	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
	Deployment 21/12/2022	Collection 17/01/2023	Deployment 1/03/2023	Collection 26/04/2023	Deployment 9/06/2023	Collection 28/08/2023	Deployment 28/08/2023	Collection 27/11/2023	Deployment 27/11/2023	Collection	Deployment	Collection
WCDN	Wet	Wet	Wet	Wet	Wet - low	Wet - low	Wet - low	Wet - low				
WCUP	Wet	Wet	Wet	Dry	Wet	Dry	Dry	Dry				
DCDN	Wet	Wet	Wet	Wet	Wet - low	Wet	Wet - low	Wet - low				
DCUP	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet				
SCDN	Wet	Wet	Wet	Wet	Wet	Wet	Wet - low	Wet - low				
SCUP	Wet	Wet	Wet	Dry	Wet - low	Dry	Dry	Dry				

Appendix Table F2-1

West Culburra Articifial Sampling Unit Macroinvertebrate Results Term 1

Term 1

Phylum	Class	Order	Sub-Order	Family	Sub-Family	Genus/spp	Common Name	WCDn-S			WCDn-B			DCUp-S			DCUp-B			DCDn-S			DCDn-B			SCUp-S			SCDn-S			SCDn-B			Abundance	Occurrence
								1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
Arthropoda	Insecta	Coleoptera		Dytiscidae			Diving Beetles																			1									1	1
Arthropoda	Insecta	Coleoptera		Hydrochidae			Scavenger Water Beetles						1													1									2	2
Arthropoda	Insecta	Coleoptera		Scirtidae			Marsh Beetles													1		1	2												4	3
Arthropoda	Insecta	Diptera		Ceratopogonidae			Biting Midges																						2	4	1				7	3
Arthropoda	Insecta	Diptera		Chironomidae	Chironominae		Bloodworms	376	170	215	138	105	35	116	98	104	1			28	23	79	2		1	31	24	25	15	53	41	13	7	15	1715	24
Arthropoda	Insecta	Diptera		Chironomidae	Tanypodinae		Bloodworms				1			2	9	3				1		2					1	2	4	6	4	3	6	1	45	14
Arthropoda	Insecta	Ephemeroptera		Leptophlebiidae			Mayflies																						1						1	1
Arthropoda	Insecta	Odonata	Epiproctophor	Corduliidae			Dragonflies															1				1					1			2	5	4
Arthropoda	Insecta	Trichoptera		Leptoceridae			Caddisflies																						2	3	2	2			9	4
Arthropoda	Arachnida	Acarina	Hydracarina				Freshwater Mites																			1									1	1
Arthropoda	Branchiopoda		Cladocera				Water Fleas									1																			1	1
Arthropoda	Collembola						Springtails																			1		1			2				4	3
Arthropoda	Copepoda	Cyclopoida		Cyclopidae			Copepods		1	1	1					1													1						5	5
Arthropoda	Ostracoda						Seed Shrimps			1					1	1																			3	3
Annelida	Oligochaeta						Worms			2	1			1		2				2	2	5				4	5								24	9
Chordata	Osteichthyes			Eleotridae		*Gobiomorphus australis*	Striped Gudgeon																								1				1	1
							Total invertebrate abundance per site:	376	171	219	141	105	36	119	108	112	1	0	0	32	25	88	4	0	1	40	30	28	25	66	51	18	13	18	1827	
							Total number of invertebrate taxa per site:	1	2	4	4	1	2	3	3	6	1	0	0	4	2	5	2	0	1	7	3	3	6	4	6	3	2	3	16	

Appendix Table F2-2

West Culburra Articifial Sampling Unit Macroinvertebrate Results Term 2

Term 2

Phylum	Class	Order	Sub-Order	Family	Sub-Family	Genus/spp	Common Name	WCUp-S			WCDn-S			WCDn-B			DCUp-S			DCUp-B			DCDn-S			DCDn-B			SCUp-S			SCDn-S			SCDn-B			Abundance	Occurrence
								1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
Arthropoda	Insecta	Coleoptera		Dytiscidae			Diving Beetles																															0	0
Arthropoda	Insecta	Coleoptera		Hydrochidae			Scavenger Water Beetles																															0	0
Arthropoda	Insecta	Coleoptera		Scirtidae			Marsh Beetles																															0	0
Arthropoda	Insecta	Diptera		Ceratopogonidae			Biting Midges																															0	0
Arthropoda	Insecta	Diptera		Chironomidae	Chironominae		Bloodworms	14	14	4	9	6	7	6	4	6	8	5	10	28	27	40	1	2	3	2	6	3	3	7	10	3	11	7	5	1		252	29
Arthropoda	Insecta	Diptera		Chironomidae	Tanypodinae		Bloodworms	2	5	4	18	8	19	2		1	6	1	3	20	10	35		2			4				8	6	1	6	1			162	21
Arthropoda	Insecta	Ephemeroptera		Leptophlebiidae			Mayflies																															0	0
Arthropoda	Insecta	Odonata	Epiproctophor	Corduliidae			Dragonflies					1																										1	1
Arthropoda	Insecta	Trichoptera		Leptoceridae			Caddisflies	1															1															2	2
Arthropoda	Arachnida	Acarina	Hydracarina				Freshwater Mites																															0	0
Arthropoda	Branchiopoda		Cladocera				Water Fleas																															0	0
Arthropoda	Collembola						Springtails								2								1															3	2
Arthropoda	Copepoda	Cyclopoida		Cyclopidae			Copepods																															0	0
Arthropoda	Ostracoda						Seed Shrimps																															0	0
Annelida	Oligochaeta						Worms																															0	0
Chordata	Osteichthyes			Eleotridae		*Gobiomorphus australis*	Striped Gudgeon																															0	0
							Total invertebrate abundance per site:	17	19	8	27	15	26	8	6	7	14	6	13	48	37	75	3	4	3	2	10	3	3	7	18	9	12	13	6	1	0	420	
							Total number of invertebrate taxa per site:	3	2	2	2	3	2	2	2	2	2	2	2	2	2	2	3	2	1	1	2	1	1	1	2	2	2	2	2	1	0	5	

Appendix Table F3 Electrofishing Survey Results								
Term	Site	Rep	Empire Gudgeon *Hypseleotris compressa*	Striped Gudgeon *Giobiomorphus australis*	Common Jollytail *Galaxias maculatus*	Plague Minnow *Gambusia holbrooki*	Short-Finned Eel *Anguilla australis*	Tadpole
1	DCDn	1		47				
1	DCDn	1		55				
1	DCDn	1		54				
1	DCDn	1	33					
1	DCDn	1	35					
1	DCDn	1	34					
1	DCDn	1		47				
1	DCDn	1		12				
1	DCDn	1	35					
1	DCDn	1	48					
1	DCDn	1	44					
1	DCDn	1	31					
1	DCDn	1					110	
1	DCDn	2		120				
1	DCDn	2			90			
1	DCDn	2		25				
1	DCDn	2	52					
1	DCDn	2	34					
1	DCDn	2	39					
1	DCDn	2	38					
1	DCDn	2		40				
1	DCDn	2	42					
1	DCDn	2	40					
1	DCDn	2	40					
1	DCDn	2	38					
1	DCDn	2	38					
1	DCDn	2	30					
1	DCDn	2	28					
1	DCDn	2		60				
1	DCDn	2		50				
1	DCDn	2	50					
1	DCDn	2	45					
1	DCDn	2	38					
1	DCDn	2		45				
1	DCDn	3		128				

1	DCDn	3	42					
1	DCDn	3		50				
1	DCDn	3	32					
1	DCDn	3		144				
1	DCDn	3	34					
1	DCDn	3	50					
1	DCDn	3		41				
1	DCDn	3	44					
1	DCDn	3	36					
1	DCDn	3	38					
1	DCDn	3		42				
1	DCDn	3		55				
1	DCDn	3	39					
1	DCDn	3	40					
1	DCDn	3	47					
1	DCDn	3	40					
1	DCDn	3	38					
1	DCDn	3	35					
1	DCDn	3		40				
1	DCUp		50					
1	DCUp					42		
1	DCUp			58				
1	DCUp			51				
1	DCUp			41				
1	DCUp			55				
1	DCUp			36				
1	DCUp			47				
1	DCUp		41					
1	DCUp		37					
1	DCUp		52					
1	DCUp		37					
1	DCUp		40					
1	DCUp		42					
1	DCUp		28					
1	DCUp		28					
1	DCUp		47					
1	DCUp					48		
1	DCUp			40				
1	DCUp			48				
1	DCUp		47					
1	DCUp			45				
1	DCUp		48					
1	DCUp			43				
1	DCUp		25					
1	DCUp		25					

1	DCUp		38					
1	DCUp		30					
1	DCUp		28					
1	DCUp				71			
1	DCUp				76			
1	DCUp			41				
1	DCUp			42				
1	DCUp		46					
1	DCUp			35				
1	DCUp		35					
1	DCUp		32					
1	DCUp		29					
1	DCUp			50				
1	DCUp			53				
1	DCUp		36					
1	DCUp		47					
1	DCUp				70			
1	DCUp				78			
1	DCUp			46				
1	DCUp		25					
1	DCUp					45		
1	DCUp		40					
1	DCUp		40					
1	DCUp		36					
1	DCUp		43					
1	DCUp		41					
1	DCUp		37					
1	DCUp		34					
1	DCUp		24					
1	DCUp		24					
1	DCUp		24					
1	DCUp		31					
1	DCUp		42					
1	DCUp		37					
1	DCUp		47					
1	DCUp			126				
1	DCUp			37				
1	DCUp			134				
1	DCUp			114				
1	DCUp					25		
1	DCUp						250	
1	DCUp		48					
1	DCUp		50					
1	DCUp		50					
1	DCUp		51					

1	DCUp			51				
1	DCUp		52					
1	DCUp			45				
1	DCUp		40					
1	DCUp			42				
1	DCUp			36				
1	DCUp		39					
1	DCUp			50				
1	DCUp			50				
1	DCUp		38					
1	DCUp		26					
1	DCUp		36					
1	DCUp		36					
1	DCUp		31					
1	DCUp		31					
1	DCUp			43				
1	WCUp	1	0	0	0	0	0	
1	WCUp	2			90			
1	WCUp	2			86			
1	WCUp	3				40		
1	WCUp	3			91			
1	WCDn	1			60			
1	WCDn	1		75				
1	WCDn	1	60					
1	WCDn	2		70				
1	WCDn	2			90			
1	WCDn	2		75				
1	WCDn	2	65					
1	WCDn	2			70			
1	WCDn	2				50		
1	WCDn	2					120	
1	WCDn	2	55					
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