

Paraparaumu Wastewater Treatment Plant – Community Liaison Group (CLG) Meeting: Q3, FY24

Tuesday 28 May 2024, 10:30AM-12PM
EOC Briefing Room, Fyfield Place, Paraparaumu.



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Welcome / Apologies



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Today's Agenda

1. Welcome / Apologies
2. Agenda Overview
3. Matters arising since previous meeting
4. Review of Quarterly Report – Q3, FY24
5. Work undertaken in Q3 and ongoing projects
6. CLG feedback on Quarterly Report
7. Any other CLG/Community Feedback
8. Other matters
9. Next meeting



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Matters arising since previous meeting



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Biosolids

- GIS team investigating potential sites for biosolid treatment – expected in July.
- Recent Testing reconfirms the sludge is of high quality and suitable for composting and any other land applications.



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RC / BPO update

- GWRC has indicated to KCDC that they are likely to publicly notify resource consent application. An official advice is expected in June.
- Decision is based on ecological effects, as opposed to cultural effects.
- GWRC has assessed the ecology effects as likely to be more than minor under s95D of the RMA.
- Next steps:
 - Notification of consent
 - Submissions period
 - Officer's Reporting
 - Hearing



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Quarterly Report – Q3, FY2024

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Resource consents assessed

WGN970255 [34837], [27633], [2656] – Paraparaumu WWTP – Discharges

To discharge treated wastewater from the plant to land (unlined storage area) and the Mazengarb Drain and to discharge contaminants to air from all facilities.

WGN030149 [22566] – Paraparaumu WWTP – Overflow basin

To discharge screened, diluted wastewater as overflow from the overflow basin at the WWTP to the Mazengarb Drain in an emergency.

WGN130218 [32196] – Paraparaumu WWTP – Sludge drying

To discharge to air from the boiler and biofilter associated with sludge handling.

WGN040098 [34794] – Paraparaumu WWTP – Sludge lagoons

To discharge contaminants to land from the decommissioned sludge lagoons.

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Compliance Summary

- Discharge parameters:

	Monthly Rain			Paraparaumu	Paraparaumu
	Paraparaumu	Otaki		Effluent	Inlet
January 2024	55.5		Avg	9,737	9,181
			Max	10,823	10,562
February 2024	31.5		Avg	9,926	8,898
			Max	10,762	9,817
March 2024	46.5		Avg	9,252	8,923
			Max	10,968	10,542

- Consent limits: 18,600m³/day

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Compliance Summary

- Fully compliant with consent conditions in Q3.
- The Council held CLG meeting in February 2022.
- No storm storage pond use since last CLG.
- Council still identifying suitable soil to decommission lagoons.

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Capex Activities – Q3

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Works undertaken in Q3

- Upgrading the RAS Pump Station 2 is now complete.
- The storage pond upgrade work is complete except minor works pertaining to ballasting the liner material; the pond is now lined and fully operational. We have not had high rainfall in Q3 requiring use of the storm storage pond.
- For pH dosing plant: Plant Commissioned on 23 May 2024.
- A-Recycling system upgrade: Order placed for large pumps; upgrade work expected to be complete by July - August 2024.
- Design progressing for UV upgrade.

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CLG Feedback on Quarterly Report

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Other CLG Feedback

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Other matters

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eDNA testing

- eDNA = Environmental DNA testing
- Involves collecting a sample and sequencing the DNA within the sample.
- 6 replicate syringe samples provide the optimal species detection rates = best practice.

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eDNA testing

Intercouncil high replicate eDNA trial

Summer 2020/2021



During the Summer of 2020/2021, Aotearoa New Zealand's regional councils collaborated on a high replicate, nation-wide eDNA trial. The primary goals for this trial were to determine the optimal sample replication number and filtration volume for monitoring fish and macroinvertebrate populations as a means to explore the potential application of eDNA alongside regular biomonitoring activities. This study also aimed to explore how eDNA could be used to gain a wider understanding of biological communities as a way to better contribute to the current knowledge of ecological health in riverways.

Each council contributed between 1-5 well known monitoring sites, resulting in 51 rivers being sampled across the country (see Figure 1). These sites spanned a wide range of habitats and hydrological characteristics. At each site, 16 replicate eDNA syringe samples were collected at a single time point using Wilderlab's eDNA mini kits. Eight of these were 'standard' 1L filtered samples and the other 8 were comprised of 2 x 1L samples pooled to produce a single 'boosted' sample.

The samples were processed with Wilderlab's comprehensive freshwater assay panel comprising 11 metabarcoding assays. This study resulted in a comprehensive national eDNA dataset with 816 samples detecting 153,492 unique sequences and identifying 2,364 unique species.

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eDNA testing

Table 1: Mean species proportional richness for fish and macroinvertebrate taxa across all sites (total), stream order (small 1-3 and large 4-8), and elevation (high >100m and low <100m).

Group	Total		Stream order				Elevation			
	n = 51		1-3 n = 23		4-8 n = 23		>100m n = 13		<100m n = 38	
	1 rep	6 repts	1 rep	6 repts	1 rep	6 repts	1 rep	6 repts	1 rep	6 repts
Fish	64.0	89.5	65.3	90.6	64.1	89.5	70.4	91.6	61.9	88.8
Macroinvertebrates	46.7	80.4	45.8	81.0	47.5	79.9	47.0	79.7	47.0	80.6

These results were discussed during a large intercouncil and interagency online meeting (Aug 25th, 2021), which later led to the establishment of the standardised 6-replicate, 1L syringe-filtered sampling protocol to characterise local riverine fish and macroinvertebrate communities (see Table 1). This study is currently in preparation for publication authored by researchers from the Hawkes Bay, Waikato, and Bay of Plenty regional councils, also the Department of Conservation, the Ministry for the Environment, University of Waikato, and Wilderlab NZ Ltd. The 6-replicate method is now widely considered as best practice for riverine eDNA monitoring.

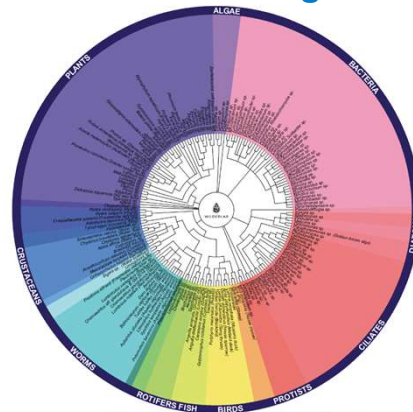
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eDNA testing

- Wilderlab NZ:
<https://www.wilderlab.co.nz/explore>
- \$290 per test (x6 for gold standard)

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eDNA testing



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Landfill discharge

- KCDC is engaging a consultant to design the onsite leachate treatment before discharging to WWTP.

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Next Meeting

- August 2024 – Q4 reporting.
- Topics to discuss at next meeting?

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