

Mokauiti-Aria – Quarterly River Monitoring

Sample Collection Day: 13th September 2023

Overall, water quality was generally good at all sites on 13th September with the exception of one elevated attribute, either *E. coli*, DIN or suspended sediment, at several sites.

E. coli concentrations were very low at 3 out of 4 sites (≤ 32) and elevated at 22-Huioteko Stream (1,100). **Nitrate** concentrations were below toxicity levels at all sites being lowest at 23-Whareroa Stream (0.19 mg/L) and highest at 27-Ramaroa Stream (0.55 mg/L). **Ammonia** concentrations were low at all sites (≤ 0.09 mg/L). 27-Ramaroa Stream had slightly elevated concentration of **dissolved inorganic nitrogen** (0.55 mg/L) potentially impacting the health of the river. **Dissolved reactive phosphorus** concentrations were low at all sites (≤ 0.009 mg/L). **Water clarity** was good at 3 out 4 sites (between 0.93 m and 1.85 m) and poor at 28-Mokauiti stream (1.05 m), relative to the national bottom line (NBL). The NBL is 1.34 m at 28-Mokauiti Stream and 0.61 m at all other sites.

Mokauiti-Aria	Human Contact	Ecosystem Health					
		Water Quality				Sediment	
		Nitrates Toxicity (mg N/L)	Ammonia Toxicity (mg N/L)	Dissolved Inorganic Nitrogen (mg N/L) ²	Dissolved Reactive Phosphorus (mg/L)	Water Clarity (m) ¹	National Bottom Line
Sample Date: 13-Sep-23 Lab: Analytica	E. coli/100 ml						
22-Huioteko Stm-248	1100	0.40	0.09	0.49	0.003	0.93	0.61
23-Whareroa Stm-231	32	0.19	0.02	0.21	<0.002	1.50	0.61
27-Ramaroa stream	12	0.55	<0.005	0.55	0.009	1.85	0.61
28-Mokauiti stream	20	0.21	0.03	0.24	0.005	1.05	1.34

Attribute Band	Ecosystem Health	Human Contact
A		
B		
C		
D		
E	Human Contact only	

¹Water clarity has been converted from measured turbidity using the formula $\ln(\text{CLAR}) = 1.21 - 0.72 \ln(\text{TURB})$ (Franklin, Booker & Stoffels, 2020).

²Guideline values to assess ecological impacts of nitrogen on freshwater life. Attribute band limits are from the NPS-FM consultation draft (2019)

Mokau River – All sites in all sub-catchments

Summary of water quality collected at 16 sites located across the Mokau River catchment sampled on 12th or 13th of September.

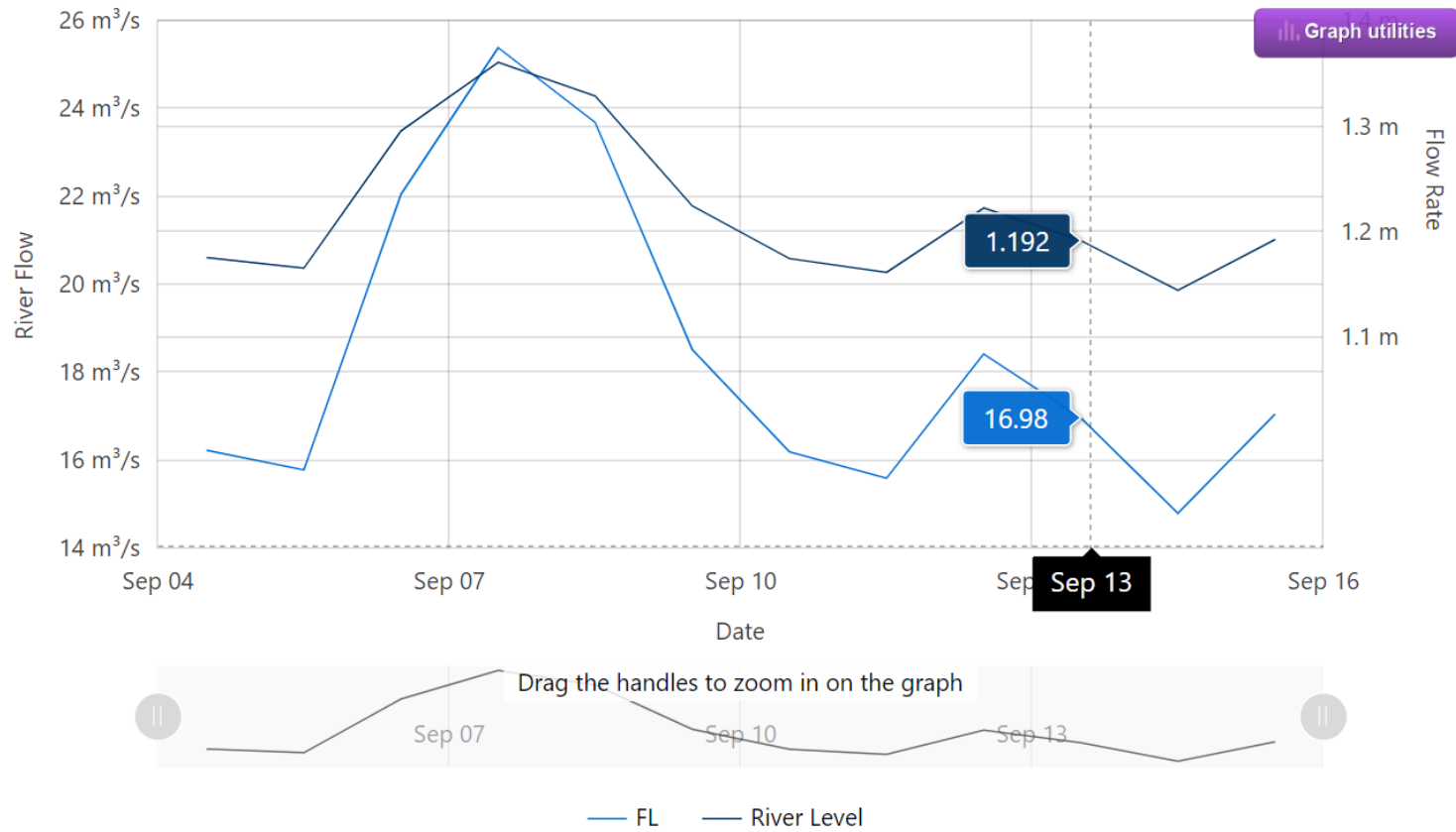
E. coli: 63% of all sites had low concentrations (≤ 220), 25% had slightly elevated concentrations (between 270 - 380) and 13% of sites had elevated concentrations (> 550). **Nitrate and Ammonia**: 100% of sites had concentrations below toxicity levels (Nitrate ≤ 0.79 mg/L; Ammonia ≤ 0.09). However, 50% of sites had Dissolved Inorganic Nitrogen (DIN) concentrations over 0.5 mg/L. Ecological impacts, including problematic growth of algae and/or aquatic plants and loss of sensitive aquatic species are likely when the combined concentration of DIN regularly exceed 0.5 mg/L.

Dissolved reactive phosphorus: 94% of sites had low concentrations (≤ 0.009 mg/L) and one site (16%) had an elevated concentration (0.011 mg/L).

Water clarity: 56% of sites had good water clarity (A or B band) and 44% of sites had poor clarity (D band). Bands for each site relate to the national bottom line for water clarity, which is either 1.34 m or 0.61 m, and is dependent on the local geology, climate and elevation.

Scale:

- Logarithmic Scale Display River Level



Data source: Waikato Regional Council [envirohub website](#) for environmental data.