Mokauiti-Aria – Quarterly River Monitoring

Sample Collection Day: 14th May 2024

Overall, water quality was Good, only E. coli was slightly elevated at one site and water clarity was poor at another site.

E. coli concentrations were very low at 3 sites (≤ 120) and slightly elevated at 22-Huioteko stream (510). All sites fell (just) within recommend health limits for swimming (540). **Nitrate** concentrations were very low at all sites, and well below ecological toxicity levels (2.4 mg/L). Nitrates were lowest at 28-Mokauiti stream (0.15 mg/L) and highest 22-Huioteko stream (0.26 mg/L). **Ammonia** concentrations were low at all sites (≤ 0.01 mg/L). **Dissolved inorganic nitrogen** was low at all sites (≤ 0.27 mg/L). **Dissolved reactive phosphorus** concentrations were low at all sites (≤ 0.008 mg/L). **Water clarity** was excellent at 3 sites (≥ 1.36 m), but was poor at 28-Mokauiti stream (1.05 m), relative to the national bottom line (NBL). Note 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	
Sample Date: 14-May-24 Lab: Analytica	E. coli/100 ml	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
22-Huioteko Stm-248	510	0.26	0.01	0.27	<0.002	1.36	0.61
23-Whareroa Stm-231	30	0.16	0.009	0.16	<0.002	1.45	0.61
27-Ramaroa stream	62	0.20	<0.005	0.20	0.008	1.79	0.61
28-Mokauiti stream	120	0.15	0.008	0.16	<0.002	1.05	1.34

[1]Water clarity has been converted from measured turbidity using the formular ln(CLAR) = 1.21 – 0.72 ln(TURB) (Franklin, Booker & Stoffels, 2020).
[2]Guideline values to assess ecological impacts of nitrogen on freshwater life. Attribute band limits are from the NPS-FM consultation draft (2019)

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

Mokau River – *Summary of water quality collected at 15 sites across the Mokau River catchment May 2024*

E. coli and Nutrients (nitrate, ammonia and dissolved reactive phosphorus) were low at most sites. The key contaminant was suspended sediment.

***E. coli*:** 93% of all sites had low concentrations (≤240) and 7% (1 site) had elevated concentrations (510). **Nitrate and Ammonia:** 100% of sites were well below toxicity levels. Nitrate range (0.15 – 0.79 mg/L); Ammonia range (<0.005 - 0.02). **Dissolved inorganic nitrogen:** 73% of sites had low concentrations (≤0.44 mg/L) and 27% (4 sites) fell above the ecological impact threshold of 0.5 mg/L with the highest concentration being 0.79 mg/L. **Dissolved reactive phosphorus**: 100% of sites had low concentrations (between <0.002 - 0.008 mg/L). **Water clarity:** 60% of sites had good water clarity (A or B band), 20% (3 sites) had reduced water clarity (C band) and the remaining 20% had poor water clarity (D band). Bands for each site relate to the national bottom line (NBL) for water clarity and are dependent on landscape characteristics including geology, climate and elevation. The NBL for Mokau River's monitoring sites are either 1.34 m or 0.61 m, dependant the local landscape characteristics.

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