

Upper Mangaokewa – Quarterly River Monitoring

Sample Collection Day: 8th May 2023

E. coli concentrations were low at five sites (≤ 240) and elevated at 6-Waiteti Stream-viaduct (470). **Nitrate** concentrations were below toxicity levels at all sites but exceeded regional PC1 targets (0.525 mg/L) at 4 out of 6 sites (between 0.53 – 0.93 mg/L). Nitrate concentrations were lowest at 46-Waiteti Stream-Upper (0.25 mg/L) and highest at 5-Mangawhauwhi Stream (0.93 mg/L). **Ammonia** concentrations were exceptionally low at 3 out of 6 sites (≤ 0.005 mg/L) and exceeded PC1 targets (0.005 mg/L) at the other 3 sites being highest at 6-Waiteti Stream-viaduct (0.05 mg/L). Four out of six sites had a **dissolved inorganic nitrogen** concentration exceeding 0.5 mg/L, potentially impacting the health of the river. **Dissolved reactive phosphorus** concentrations were low at 3 sites (≤ 0.008 mg/L) and elevated at 3 sites being highest at 4-Mangaokewa Stream (viaduct) and 45-Mangaokewa Stream (0.013 mg/L). **Water clarity** was poor at all six sites (between 0.56 m - 1.20 m), relative to the national bottom line (1.34 m).

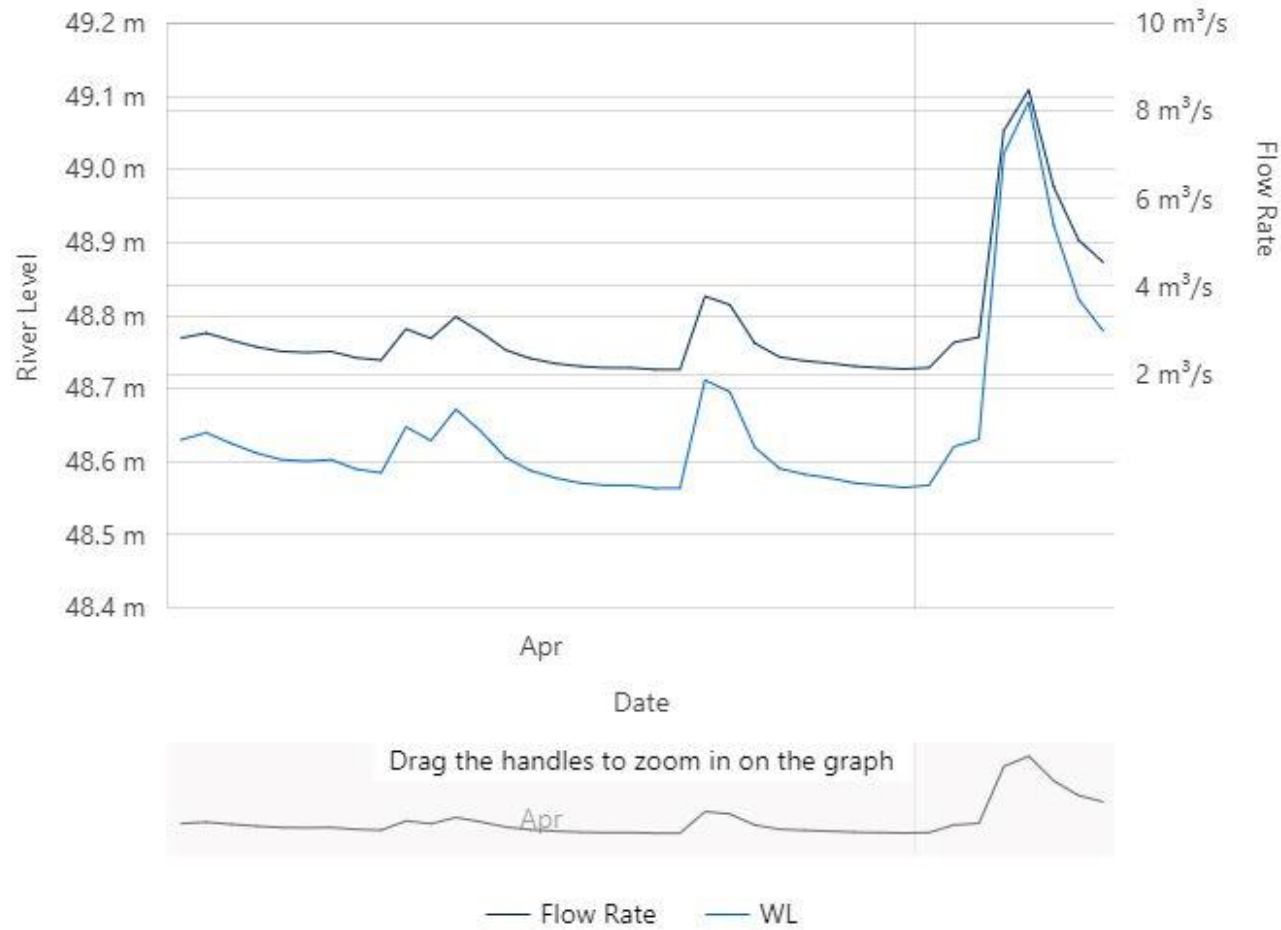
Upper Mangaokewa ¹	Human Contact	Ecosystem Health						Attribute Band
		Water Quality				Sediment		
	E. coli/100 ml	Nitrates (mg N/L)	Ammonia (mg N/L)	Dissolved Inorganic Nitrogen (mg N/L) ³	Dissolved Reactive Phosphorus (mg/L)	Water Clarity (m) ²	National Bottom Line	
4-Mangaokewa Stm (viaduct)	240	0.60	<0.005	0.60	0.013	1.07	1.34	A
5-Mangawhauwhi Stm 071	210	0.93	0.007	0.93	0.002	1.20	1.34	B
45-Mangaokewa stream	110	0.53	<0.005	0.53	0.013	0.88	1.34	C
6-Waiteti Stm (viaduct)	470	0.55	0.05	0.60	0.012	0.56	1.34	D
47-Waiteti stream (Middle)	160	0.42	0.005	0.43	0.008	0.75	1.34	E
46-Waiteti stream (Upper)	100	0.25	0.006	0.25	0.006	1.05	1.34	

¹Assessed against Short-term PC1 targets & NPS-FM National Bottom Lines - where the most stringent measures apply.

²Water clarity has been converted from measured turbidity using the formula $\ln(\text{CLAR}) = 1.21 - 0.72 \ln(\text{TURB})$ (Franklin, Booker & Stoffels, 2020).

³Guideline values to assess ecological impacts of nitrogen on freshwater life. Attribute band limits are from the NPS-FM consultation draft (2019)

River Level: Mangaokewa Stm - Te Kuiti Pumping Station



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

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