

Marokopa River – Quarterly River Monitoring

Sample Collection Day: 14th February 2024

Water quality was Excellent at 39-Mangaohuinga Stream and Good at all other sites, except for water clarity.

E. coli concentrations were low at all sites (≤ 220), falling within the recommended health limits for swimming (540). **Nitrate** concentrations were low at all sites, falling well below levels where ecological toxicity impacts can occur (2.4 mg/L). Nitrates were lowest at 42-Kiritehere Stream (< 0.01 mg/L) and highest at 40-Wairoa Stream (0.24 mg/L). **Ammonia** concentrations were exceptionally low at all 4 sites (≤ 0.005 mg/L). **Dissolved inorganic nitrogen** was low at all sites, falling below concentrations that can cause ecological impacts (0.5 mg/L), like problematic growth of algae and aquatic plants, and the loss of sensitive aquatic species. **Dissolved reactive phosphorus** concentrations were low at all sites (≤ 0.007). **Water clarity** was excellent at 39-Mangaohuinga Stream (1.84 m), slightly reduced at 41-Puaroa stream and 42-Kiritehere stream (≤ 1.52 m) and poor at 40-Wairoa stream (1.08 m), relative to the national bottom line (1.34 m).

Marokopa River Date: 14-Feb-24 Lab: Analytica	Human Contact	Ecosystem Health					
		Water Quality				Sediment	
	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
39-Mangaohuinga Str	70	0.11	<0.005	0.11	0.004	1.84	1.34
40-Wairoa Str	220	0.24	0.005	0.25	0.007	1.08	1.34
41-Puaroa Str (Marokopa Flats)	80	0.14	<0.005	0.14	0.006	1.52	1.34
42-Kiritehere Str	110	0.01	<0.005	0.01	0.004	1.36	1.34

¹Water clarity has been converted from measured turbidity using the formular $\ln(\text{CLAR}) = 1.21 - 0.72 \ln(\text{TURB})$ (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)

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