

Kawhia – Quarterly River Monitoring August

Sample Collection Day: 15th December 2025

North Kawhia

Water quality was **Excellent** at Oparau River (Site 31) and Awaroa River (Site 34), and **Fair** in Mangapapa stream (Site 32) and Te Kauri stream (Site 33).

E. coli concentrations were very low across three sites (≤ 190 cells per 100 mL), falling well within health guidelines for swimming (540 cells per 100 mL) and were elevated in Mangapapa stream (550 cells per 100 mL). No sites fell within guidelines for livestock drinking water (< 100 cells per 100 mL)¹.

Nitrogen: Nitrate concentrations were low in three out of four sites (≤ 0.29 mg/L), and moderate in Mangapapa stream (0.55 mg/L). All sites fell well below ecological toxicity levels (2.4 mg/L). Oparau river had the lowest nitrate concentration (0.02 mg/L) and Mangapapa stream had the highest concentration (0.55 mg/L). **Ammonia** concentrations were low across all sites (< 0.01 mg/L). **Dissolved inorganic nitrogen (DIN)** was low in three out of four sites (≤ 0.29 mg/L), but was slightly elevated in Mangapapa stream, exceeding the ecological impact threshold (0.5 mg/L).

Phosphorus: Dissolved reactive phosphorus (DRP) was low in all sites (< 0.004 mg/L).

Suspended sediment/Water Clarity was **Excellent** in Oparau river and Awaroa river (1.91-2.18 m), **Fair** in Mangapapa stream (1.48 m) and **Poor** in Te Kauri stream (1.19 m), relative to the national bottom line (1.34 m).

The results in the table below have been graded according to the National Policy Statement for Freshwater Management (NPS-FM, 2020).

¹ Drinking water for livestock should contain < 100 cfu/100 mL (median value) of E. coli. Livestock Drinking Water Guidelines (2023), Australian & New Zealand Guidelines for Fresh & Marine Water Quality.

North Kawhia Date: 15-Dec-25 Lab: Analytica	Ecosystem Health							
	Human Contact	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
31-Oparau R.	190	0.02	<0.01	0.02	<0.004	1.91	1.34	
32-Mangapapa Str	550	0.55	<0.01	0.55	<0.004	1.48	1.34	
33-Te Kauri Str	180	0.29	<0.01	0.29	<0.004	1.19	1.34	
34-Awaroa R.	110	0.001	<0.01	0.001	<0.004	2.18	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
B	
C	
D	
E	Human Contact only

South Kawhia

Water quality was **Excellent** in Oteke stream (Site 37) and Mangatangi stream (Site 38) and **Fair** in Ngahuinga stream (Site 35) and Puaroa stream (Site 36).

E. coli was low in Oteke stream and Mangatangi stream (≤ 250 cells per 100 mL), falling within health guidelines for swimming (540 cells per 100 mL). However, concentrations were very high in Ngahuinga stream and Puaroa stream (1,300-1,500 cells per 100 mL). No sites met guidelines for livestock drinking water (< 100 cells per 100 mL).

Nitrogen: Nitrate concentrations were low across all sites (≤ 0.24 mg/L). All sites fell well below the ecological toxicity threshold (2.4 mg/L). **Ammonia** concentrations were very low across all sites (≤ 0.017 mg/L). **Dissolved inorganic nitrogen (DIN)** concentrations were also low at all sites (≤ 0.24 mg/L), falling well below the ecological impact threshold (0.5 mg/L).

Phosphorus: Dissolved reactive phosphorus was very low in all sites (< 0.004 mg/L).

Suspended sediment/Water Clarity was **Excellent** in three sites (1.72-3.13 m) and **Good** in Puaroa stream (0.88 m), relative to the national bottom line (0.61 m).

The results in the table below have been graded according to the National Policy Statement for Freshwater Management (NPS-FM, 2020).

South Kawhia Date: 15-Dec-25 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
35-Ngahuinga Str	1,300	0.24	<0.01	0.24	<0.004	1.72	0.61
36-Puaroa Str (Owhiro valley)	1,500	0.11	0.017	0.13	<0.004	0.88	0.61
37-Oteke Str	140	0.07	<0.01	0.07	<0.004	3.13	0.61
38-Mangatangi Str	250	0.01	<0.01	0.01	<0.004	2.41	0.61

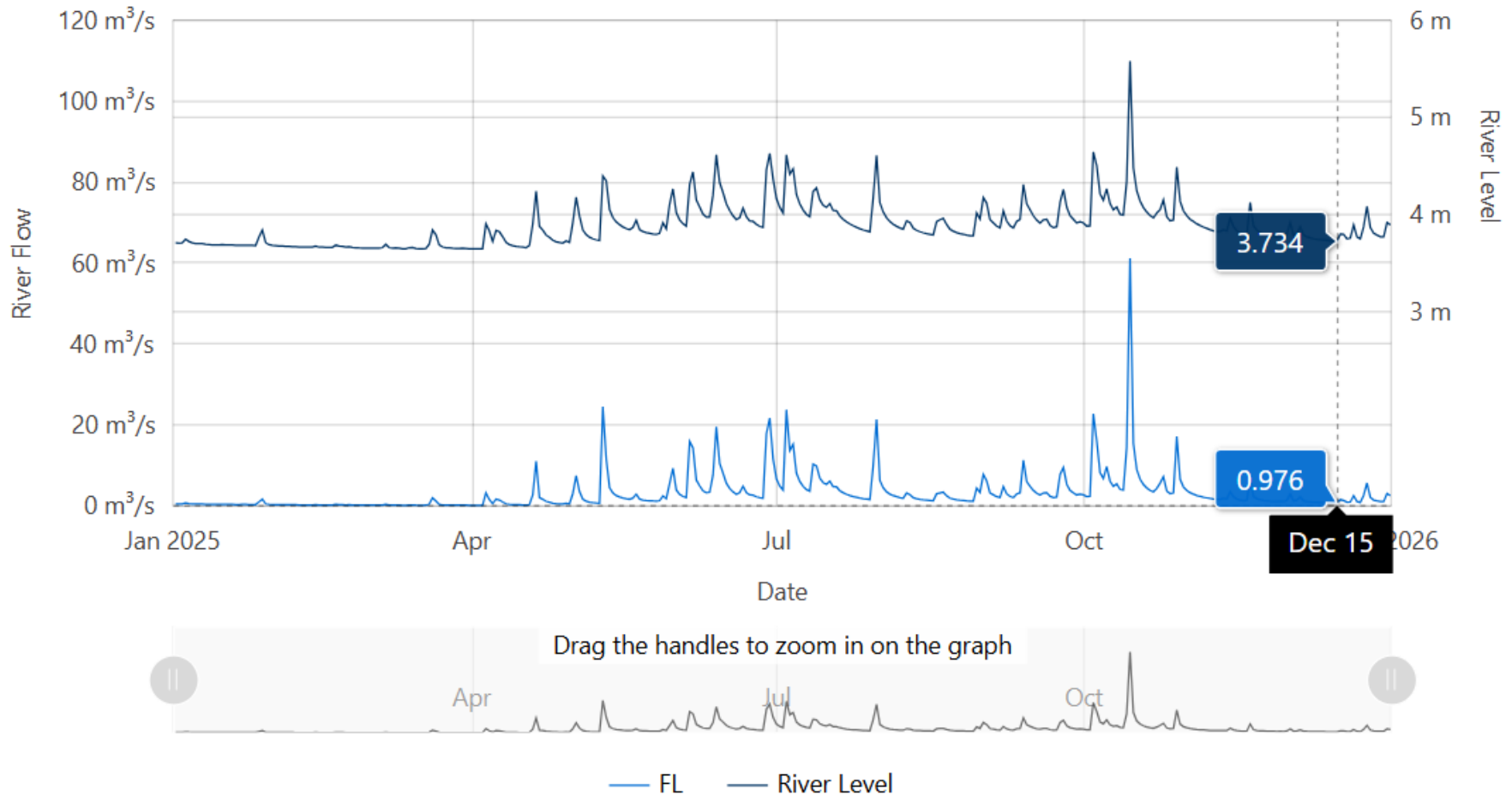
¹Water clarity has been converted from measured turbidity using the formular $\ln(\text{CLAR}) = 1.21 - 0.72 \ln(\text{TURB})$ (Franklin, Booker & Stoffels, 2020).

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
B	
C	
D	
E	Human Contact only

River Level and Flow Rate – Oparau River Langdon Rd (Off Okupata Rd)

The below chart presents continuous data collected by the Waikato Regional Council for Oparau river between 1st January and 31st December 2025. River Level and Flow Rate on the day of sampling (15-December) are highlighted.



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

Prepared by Freshwater Ecologist Merrin Whatley (PhD)