Adaptive Environmental Consulting

Awakino & Tasman – Annual River Monitoring Summary - 2025

Catchment monitoring by King Country River Care commenced in 2021. Initially, monitoring by KCRC covered three monitoring sites, sampled on a quarterly basis. In 2023 the number of KCRC sites was decreased to one site at Mangaorongo Stream. In addition, the Waikato Regional Council (WRC) has three monitoring sites in the Awakino & Tasman sub-catchments, which are monitored monthly. A water quality baseline was calculated from the time the catchment group was formed using five years (Jan 2015 – Dec 2019) of monthly monitoring data, collected at the three WRC sites. The location of the 6 monitoring sites in Awakino & Tasman are shown on Map 1 (see page 2).

2025 represents the fifth consecutive year of catchment monitoring. Water samples were collected on 27 Feb, 15 May, 25 August and 12 November 2025, during stable weather to avoid any significant rainfall events. River flow strongly influences water quality and the river flow hydrograph for Awakino River is provided on page 5.

Key Resources Being Lost from the Land

Monitoring results show the key resource being lost from the Awakino and Tasman catchments in 2025 was *E. coli*. *E. coli* was slightly elevated at Gribbon Road and elevated at the other three sites. Elevated *E. coli* represents a loss of organic matter and nutrients as it is largely associated with animal manure in rural catchments.

The below water quality dials summarise the results collected in the Awakino & Tasman catchment. The dial on the left shows the baseline for the catchment, covering 5 years of regional council monitoring at three sites in the Awakino Catchment (off Manganui Road, Awakau Road junction and Gribbon Road). The dial on the right combines all data collected in 2025 at four sites, 35 samples in total. Arrows indicate either an increase or decrease in values compared to the sub-catchment baseline. An increase in water clarity is positive for river health while an increase in all other indicators may impair river health.

In 2025, nutrient indicators and water clarity/suspended sediment met national water quality limits while *E. coli* did not. Compared to the baseline – Water clarity and *E. coli* were higher in 2025, while the concentration of dissolved reactive phosphorus was slightly lower (see Figure 1).

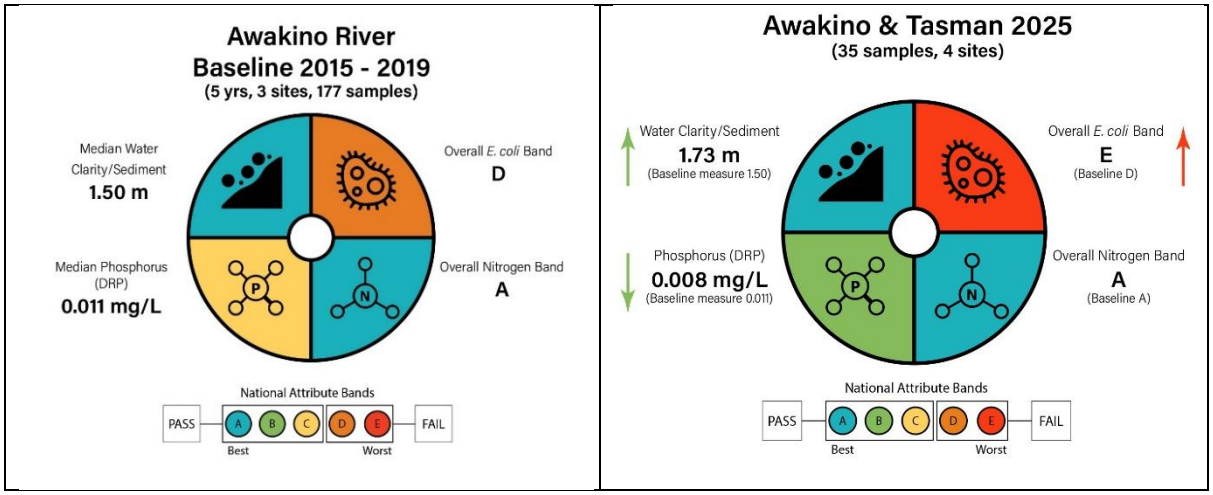
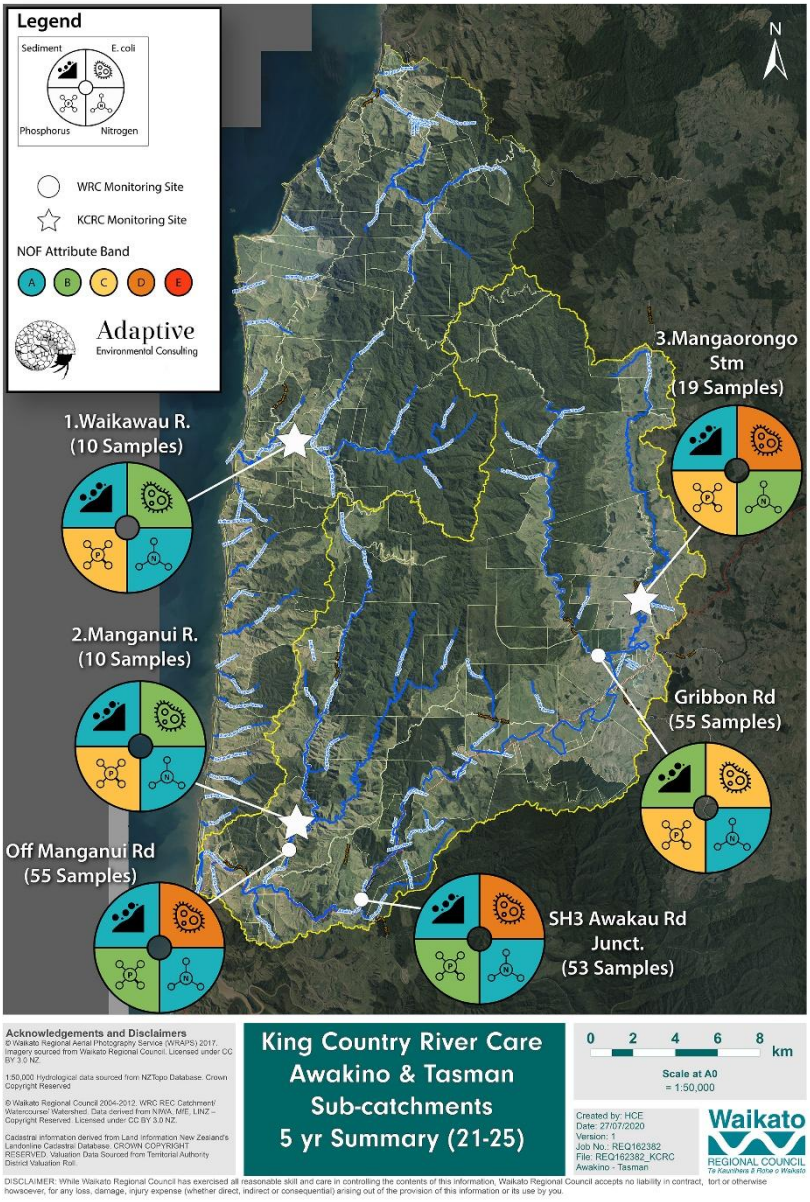


Figure 1. Water quality dials for the five sites in the Awakino & Tasman catchment. The dial on the left shows the sub-catchment baseline (2015-2019) and the dial on the right combines results collected in the 2025 monitoring period.

The dials on the map below show water quality data from six monitoring sites in the Awakino and Tasman catchments. Each dial reflects all data collected at the site since the KCRC monitoring programme commenced in 2021, see Map 1 below.



Map 1. Water quality monitoring results for 5 years of data at the three KCRC monitoring sites and the three WRC Sites in Awakino & Tasman

Water quality results have been assessed against the national freshwater attribute bands under the national policy statement for freshwater (NPS-FM 2020). The overall *E. coli* band is based on the following four measures, the percentage of samples exceeding 540 (CFU/100ml), the percentage of samples exceeding 260 (CFU/100ml), the median value and the 95th percentile (or upper 5% of *E. coli* concentrations). The overall nitrogen band is based on the following six measures, Nitrate Toxicity (median and 95th percentile), Ammonia Toxicity (median and maximum annual value) and Dissolved Inorganic Nitrogen (median and 95th percentile). .

Water Quality Tables

Table 1 on the following page presents detailed results for the four monitoring sites over the 2025 period (1 KCRC site and 3 WRC sites). The results of the five-year water quality baseline (2015 – 2019) are shown on the bottom row.

Which resources are being lost, and where is this occurring?

The key resources being lost from the catchment is *E. coli*. *E. coli* was slightly elevated at Gribbon Rd and was elevated at Mangaorongo Stream, Manganui Rd and SH3 Awakau Road Junction. All three elevated sites fail to meet national health limits for swimming.

Water quality results have been assessed under national (NPS-FM) water quality targets and have been colour coded as shown the adjacent key, Figure 4.

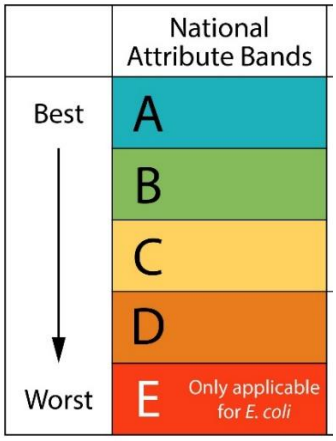


Figure 2 Key for grading shown in Tables 1 to 3

The overall *E. coli* band is based on the following four measures, the percentage of samples exceeding 540 and 260 (CFU/100ml), the median value and the 95th percentile (or upper 5% of *E. coli* concentrations).

The overall nitrogen band is based on the following six measures, Nitrate Toxicity (median and 95th percentile), Ammonia Toxicity (median and maximum annual value) and Dissolved Inorganic Nitrogen (median and 95th percentile).

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Table 1) Water quality indicators for individual sites in the Awakino & Tasman catchment recorded over the 2025 monitoring period. Measured values have been assessed against the National Attribute Bands (NPS-FM, 2020).

AWAKINO RIVER AND TASMAN Annual Summary 2025	Number of Samples	Human Health					Ecosystem Health										
							Water Quality									Sediment	
		E. coli /100 ml					Nitrate Toxicity (mg N/L)		Ammonia Toxicity (mg N/L)		Dissolved Inorganic Nitrogen-DIN (mg N/L)		Overall Nitrogen Band	Dissolved Reactive Phosphorus (mg/L)		Water Clarity Value[1]	National Bottom Line
KCRC SITES Lab: Analytica		% Exc. > 540	% Exc. > 260	Median	95th Percentile	Overall Band	Median	95th Percentile	Median	Annual Maximum	Median	95th Percentile		Median	95th Percentile	Median	
3-Mangaorongo Stm	4	50%	50%	370	926	D	0.35	0.54	0.006	0.009	0.36	0.54	A	0.005	0.014	1.71	0.61
WRC SITES Lab: Hills																	
Gribbon Road	11	27%	27%	100	2,100	C	0.05	0.17	0.002	0.003	0.09	0.17	A	0.010	0.016	2.50	2.22
SH3 Awakau Road Junction	10	30%	40%	195	3,285	D	0.22	0.43	0.004	0.015	0.15	0.47	A	0.0075	0.012	0.80	0.61
Off Manganui Road	10	30%	50%	275	2,180	E	0.01	0.29	0.003	0.01	0.06	0.30	A	0.007	0.016	1.48	0.61
Awakino R. Baseline (Jan-2015 to Dec-2019)	**177**	**14%**	**31%**	**140**	**2,050**	**3.75**	**0.13**	**0.40**	**0.009**	**0.057**	**0.14**	**0.42**	**A**	**0.011**	**0.018**	**1.50**	**0.61**

[1]*Water clarity has been converted from measured turbidity using the formular ln(CLAR) = 1.21 – 0.72 ln(TURB) (Franklin, Booker & Stoffels, 2020).*

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River Flow Graph

The graph below shows river flow recorded by Waikato Regional Council at Awakino River between 1 Jan 2025 and 31 Dec 2025. The black arrows indicate quarterly sampling days (Figure 2).

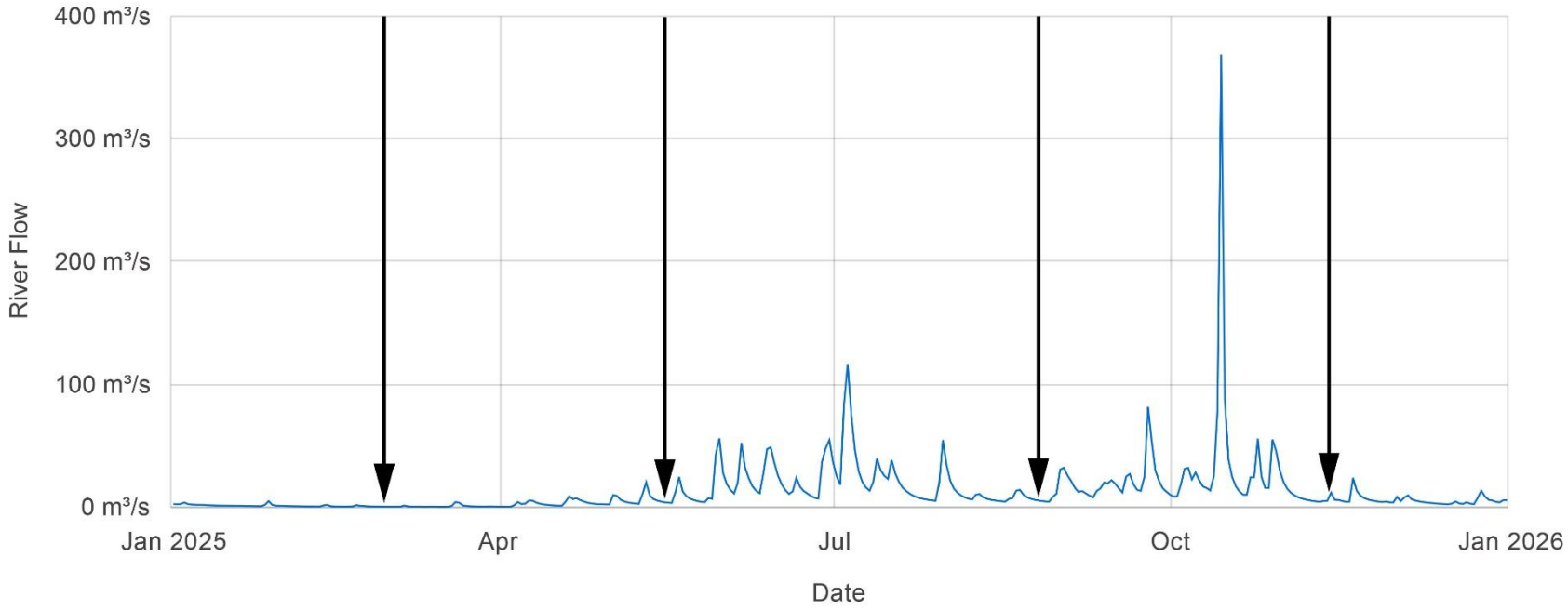

Figure 2. River flow recorded by Waikato Regional Council at Awakino River. The black arrows indicate catchment monitoring days.