# Water Quality Summary for Awakino River and Tasman Sub-catchments (SC)– 2021

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| **Site Names** | **Frequency of sampling** | **Number of samples** |
| **KCRC Sites:**   1. Waikawau R. 2. Manganui R. 3. Mangaorango Stm | Quarterly sampling | 12 |
| **WRC Sites:**   * Gribbon Rd. * SH3 Awakau Rd Junction * Manganui Rd. | Monthly sampling | 36 |
| **Total number of samples in 2021** | | **48** |

***Explanatory notes provided below the Table***

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| **Annual summary** | **Deviation from SC Baselines and National Bottom Lines (NBL) *Ŧ*** | **Seasonal & Geographic Patterns** |
| *E. coli***˥**and DRP**˧** are the main contaminants of concern.  Sediment appears to be elevated in the upper Awakino River, reflected by measurements taken at Gribbon Road.  Overall, those sites monitored by WRC exhibited higher *E. coli* concentrations compared to KCRC sites☸. This may relate to the greater number of samples collected at WRC sites, capturing seasonal peaks in more detail.  Over all sites in Awakino River and Tasman – **Manganui River is the cleanest site and Gribbon Road is the poorest performing site**. | ***E. coli -*** The SC baseline is 2,070 cells/100ml water; this greatly exceeds the National Bottom Line limit for swimming which is 540 cells/100ml. Concentrations exceed SC baselines in 2 out of 6 sites and exceed NBL in 3 out of 6 sites.  **DRP –** The baseline is 0.011 mg P/L. There is no NBL for DRP. Concentrations exceed SC baselines in 2 out of 6 sites. | ***E. coli* –** Peaks during the hotter, dryer seasons -summer & autumn.Lowest concentrations were recorded in spring and are comparable across all sites at that time. Highest readings were recorded at Awakau Rd Junction and Manganui Rd, both of which are WRC sites. The lowest readings were recorded at the 3 KCRC sites.  **DRP –** Highest concentrations were recorded during the wetter months of winter, followed by spring. Lowest concentrations were recorded in summer. The KCRC site 1 - Waikawau River had the highest concentrations, while the WRC site - SH3 Awakau Rd Junction had the lowest. All three KCRC sites recorded higher concentrations than WRC sites☸. |

**Explanatory Notes**

***Ŧ*** Baselines were determined for each sub-catchment from data collected by Waikato Regional Council (WRC) between Jan 2015 up to and including Aug 2020. National Bottom Lines (NBL) and attribute bands have been defined under the National Policy Statement for Freshwater Management (2020). Attribute bands for sediment and dissolved reactive phosphorus (DRP) have been assigned on the basis of ecological impacts to communities. NBL has been set for DRP.

**˥***E. coli* is an indicator for pathogens which represent a human health risk, *E. coli* is not a risk to ecological health.

**˧**Phosphorus is an essential nutrient for plant and animal life. Total phosphorus (TP) includes all concentrations in a sample, whether dissolved, in solid form or bound to sediment in the river. Dissolved reactive phosphorus (DRP) is the portion which is dissolved and can immediately support plant and algae growth. Excess phosphorus in our rivers can cause large amounts of (sometimes toxic) algae to grow, which can harm river health and reduce the recreational and aesthetic value of rivers. DRP can be influenced by external factors like fertilizer application as well as intrinsic catchment qualities like geology.

☸In some cases, differences in readings may be associated with the use of different laboratories by KCRC and WRC to analyse samples.

**˩**Attribute bands and NBL for nitrate and ammonia have been assigned on the basis of toxic effects to species, measured as negative effects on the growth of native fish and invertebrate species.