# Awakino River & Tasman - Water Quality Summary 2022

Sampling occurred between January and December 2022

Water quality over 2022 was generally good. Results indicate that *E. coli* is the main contaminate to be aware of. Dissolved reactive phosphorus (DRP) was also elevated at most sites. Analysis of all samples collected over 2021 and 2022 indicate that the concentration of *E. coli* peaked during the warmer months and were lower over winter, while all other contaminants were generally higher during winter and lower during summer.

* ***E. coli*** concentrations were lowest at 2-Manganui River and 3-Mangaorango stream (174 and 191, 95th percentile values). *E. coli* was elevated at all other sites with the highest concentrations at the site off Manganui Road (2,135), where concentrations were also above the sub-catchment (SC) baseline (5yr baseline = 2,070). Concentrations peaked in summer and autumn and were at their lowest in winter.
* **Nitrate** concentrations were below toxicity levels at all sites and were exceptionally low at 3 out of 4 sites (median ≤ 0.11 mg/L; 95th percentile ≤ 0.27 mg/L). Concentrations were lowest at 1-Waikawau River and Gribbon Road (median 0.05 mg/L; 95th percentile ≤ 0.17 mg/L) and highest at 3-Mangaorango Stream (median 0.54 mg/L; 95th percentile 0.71 mg/L). Two sites (3-Mangaorango Stream and SH3 Awakau Road Junction) had annual nitrate concentrations above SC baselines (5yr baseline = median 0.13 mg/L; 95th percentile ≤ 0.40 mg/L). Concentrations peaked in winter and were lowest in summer.
* **Ammonia** concentrations were exceptionally low at all sites (median < 0.01 mg/L; 95th percentile ≤ 0.019 mg/L). One site (SH3 Awakau Road Junction) had 95th percentile for ammonia above the SC baseline (5yr baseline = 95th percentile ≤ 0.016 mg/L).
* **The combined concentration of Nitrate and Ammonia** exceeded 0.5 mg/L at 3-Mangaorango Stream. Ecological impacts, including problematic growth of algae and/or aquatic plants and loss of sensitive aquatic species are likely when the combined concentration of nitrate and ammonia regularly exceed 0.5 mg/L.
* **Dissolved reactive phosphorus (DRP)** concentrations were lowest at 2-Manganui River (median 0.010 mg/L; 95th percentile ≤ 0.015 mg/L). Median DRP concentrations were elevated at all other sites (between 0.011 - 0.014 mg/L), while 95th percentiles were low at all sites (≤ 0.018). Three sites (1-Waikawau River, Gribbon Road and off Manganui Road) had median annual DRP concentrations above SC baselines (5yr SC baseline = median 0.11 mg/L). Concentrations peaked in winter and were lowest in summer.
* **Water clarity** was good at all sites (between 0.79 m – 3.50 m), relative to the national bottom line (0.61 m – most sites or 2.22 m – Gribbon Road). The highest water clarity was recorded at Gribbon Road (3.50 m) and the lowest was recorded at SH3 Awakau Road Junction (0.79 m). Water clarity was lowest in winter and highest in summer, indicating a higher suspended sediment load during winter and a lower suspended sediment load in summer.



