9.9 CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Information Only - No Decision Required

Report To:	Operations Committee
Meeting Date:	23 June 2022
Report Author:	Trevor James, Senior Resource Scientist Freshwater & Estuarine Ecology
Report Number:	ROC22-06-10

1 Summary

1.1 Tasman District Council has monitored swimming holes and coastal beaches since the mid-1990s in accordance with national guidelines and responsibilities under Section 35 of the Resource Management Act and the National Policy Statement for Freshwater Management (NPS-FM 2020). Councils around New Zealand report this data along with recreation site grades annually to the Ministry for the Environment. A total of 5136 samples have been collected and analysed as part of this programme since November 2004.

1.2 A total of 20 sites (seven freshwater, eleven coastal and two tidal river) were sampled for faecal indicator bacteria between mid-November 2021 and March 2022.

1.3 Out of a total of 446 samples taken there were **39** ("Alarm/Red") exceedances of water quality standards/guidelines at nine swimming sites. Of the 39 exceedances, **13** "Alarm/Red" level were **during a fine weather period**. Over all samples in all weather conditions, approximately 91.3% of samples meet (alarm level) guidelines. This rate of compliance is well outside the Long Term Plan (stretch) target of 98%. However, given the proportion of sites this season that had high-risk of faecal discharges, this result is not too bad. The dry weather compliance rate was over 96.3%, only slightly below the average for the last 10 years of 97.9%.

Statistics for the 2021-22 Season (November to March)

Total number of samples	446
Total number of exceedances – all weather (alarm only)	39
Overall rate of compliance with guidelines – all weather (alarm only)	91.3% (39/446)
Exceedances – Freshwater	29/191
Exceedances – Coastal	32/255
Rate of compliance in fine weather (alarm and alert)	92.6% (26/352)
Rate of compliance in fine weather (alarm only)	96.3% (13/352)

1.4 For **marine sites:** The highest number of fine weather non-compliance ('Alarm'-level) results were recorded for **Port Riuwaka** (4), **Collingwood Boat Ramp** (2) and **Rototai Beach at Motupipi Mouth** (2). If swimmers use any of these sites, they would be advisable to do so on the incoming tide only and not during rain, or within 48 hours after the rain has stopped. One alarm-level non-compliance was recorded at each of: Marahau

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Beach, Kaiteriteri Beach, Motueka River at SH60, Roding River at Twin Bridges, and Tata Beach. The exceedance at Marahau, Kaiteriteri and Tata beaches all occurred close to the time of particularly high tides. The alarm exceedance at Tata Beach was unusual – only the second alarm exceedance in 220 samples taken at the site since records began.

1.5 Using the Ministry for the Environment "Suitability for Recreation Grade" criteria including rainfall-affected samples, Rabbit Island Main Beach continues to be graded "Very Good". Mapua Leisure Park Beach was again graded "Good". Kaiteriteri fell a grade into "Fair" and Pohara Beach improved a grade to "Fair".

1.6 For **freshwater sites**: The highest number of exceedances was for the Motueka River and another one-off very high result on the Roding River.

1.7 Using the NPS-FM standards including rainfall-affected samples over the season, the following sites were all in the 'Blue/Excellent' category: Takaka at Paynes Ford, Takaka at Waitapu Bridge, Wairoa at WEIS Weir (Max's Bush) and Lee Reserve. Roding at Twin Bridges, Motueka at Alexander Bridge and Motueka at SH60 were in the 'Green/Good' category.

1.8 Sand samples collected along **Pōhara Beach** to compare faecal indicator bacteria concentrations in sand rinsate. Relatively low concentrations were found, but the highest concentrations were at each end of the beach i.e. near the Winter Creek mouth and Rototai (290 and 240 *Entercocci*/100ml respectively).

1.9 **Toxic algae** levels got close to exceeding interim guidelines at the Wai-iti at Waimea West Road and Takaka at Paynes Ford sites, but no other monitored sites over the 2021-22 season. No dog deaths have been recorded since 2010 that were likely to be due to toxic algae. Casual observations of the Aorere River show that it may exceed the interim guidelines. However, the risk is low as few dogs would be walked there as public access to the lower Aorere upstream of the tidal influence is not provided. We will try to sample the Aorere near Rockville next season.

2 Draft Resolution

That the Operations Committee receives the Contact Recreation Water Quality - 2021-22 Season Report

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

3 Background

3.1 The purpose of this report is to present information from the regular Contact Recreation Water Quality Monitoring Programme over the 2021-22 season, toxic algae issues and any other related investigations or issues.

Sampling for Faecal Indicator Bacteria at Contact Recreation Sites

3.2 Water contaminated with human, farm animal, feral animal or bird faeces may contain a range of disease-causing organisms and when even small amounts are consumed by mouth, or through ears or nose, can cause gastro-enteritis and respiratory health effects, as well as a small chance of more serious diseases such as hepatitis A, cryptosporidiosis, campylobacteriosis and salmonellosis. The health risk from contact recreation in natural waters increases as the concentration of disease-causing organisms increase. The National Policy Statement for Freshwater or Microbiologic Water Quality Guidelines for coastal water used in New Zealand effectively allow for a low rate of illness risk (2-3% infection rate per contact recreation event). Contact recreation involves full immersion of a person's head and includes activities such as swimming, water skiing and whitewater kayaking.

3.3 Monitoring of waters used for contact recreation in Tasman District has been ongoing since the mid-1990s. During that time seven of the sampling sites in the programme have been sampled consistently since 2000, with three of those sites being sampled every year (Māpua Leisure Park Beach, Kaiteriteri Beach and Rabbit Island at Main Beach). The other four sites are: Takaka at Paynes Ford, Pōhara Beach, Roding at Twin Bridges and Lee at Reserve; and have been sampled annually since 2010. The more popular swimming sites were visited more often: twice weekly during December to January and weekly for the rest of the season. The locations of the contact recreation water quality monitoring sites sampled this season are shown in Figure 1.

3.4 A further 60+ at-risk sites have been sampled intermittently over the last 15 years. This sampling regime ensures we get greater regional coverage and increases our chances of finding pollution issues. Sampling is generally less frequent at sites with consistently good water quality and/or relatively low popularity. Sites with poorer water quality but lower popularity have been sampled more often. These additional sites are brought into the programme almost every year if we think there is reasonable risk (possible contamination and contact recreation use) or concern has been raised by the public. Monitoring at these sites continues until such time as we are confident there is no significant issue, or that it has been resolved. Additional short-term investigations are usually required to identify the contamination source and resolve it. It is hoped that more resources will become available to allow this to happen across more catchments.

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

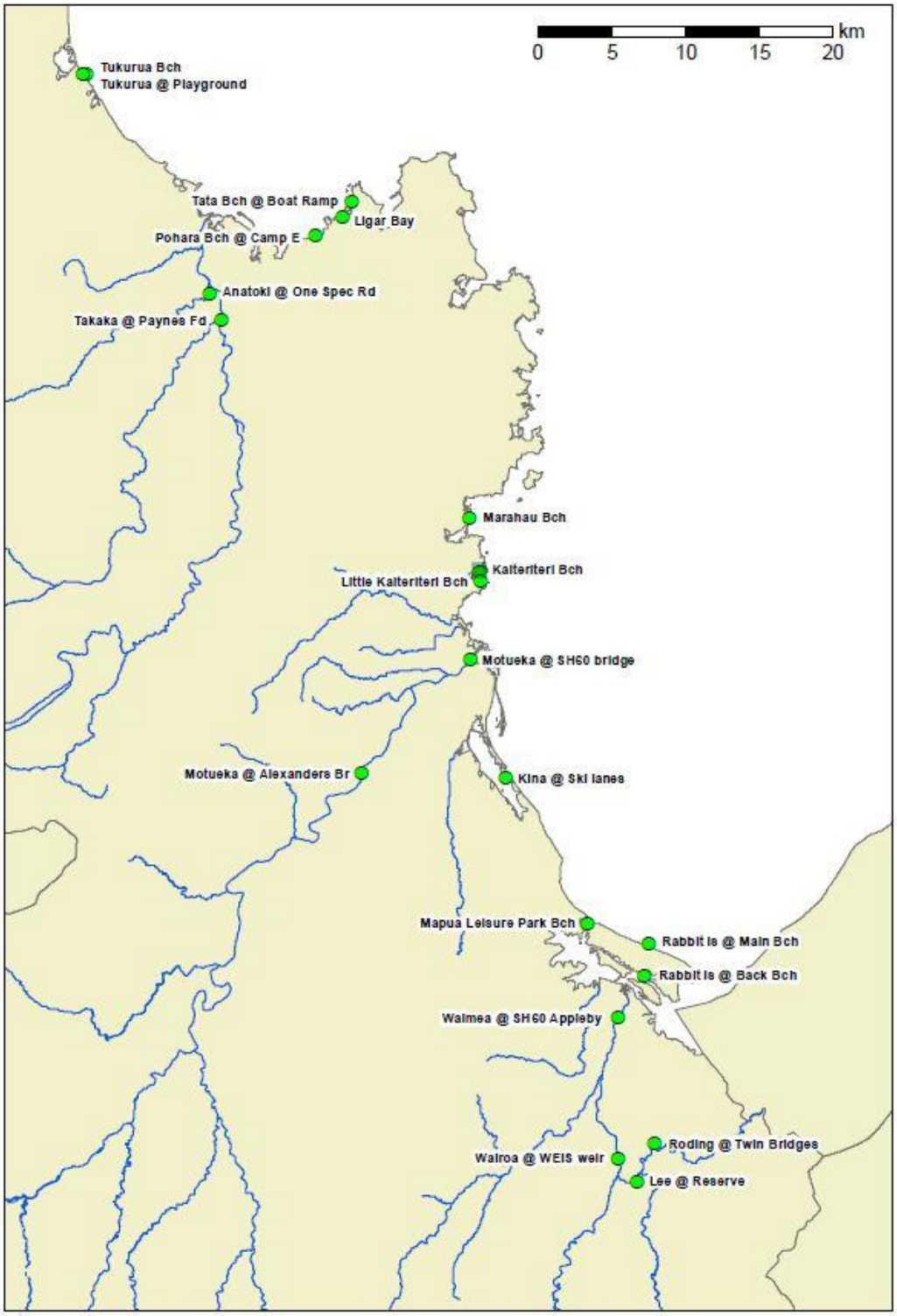


Figure 1: Contact recreation water quality monitoring sites in Tasman District.

3.5 Sampling in the Buller catchment is undertaken at four sites near Murchison monthly as part of the River Water Quality Monitoring Programme. *E.coli* concentrations at all these sites are generally very low (median concentration: 20 *E.coli*/100ml) except after rain. Contact recreation at Kerr Bay at Lake Rotoiti is moderately popular but sampling has not been

undertaken for many years and regular sampling ceased at Black Valley Stream (the main at-risk waterway feeding the lake at Kerr Bay) in 2016. Sampling at this site is being considered for the 2022/23 season.

3.6 The contact recreation water quality sampling season begins in mid-November and ends in March. While generally few people swim in November, we start sampling then because knowing about faecal contamination a few weeks out from the Christmas holidays means that we are more likely to be able to address any problems in time, for the very high use swimming spots.

3.7 Sampling follows accepted best practice guidelines and results of the contact recreation water quality sampling were posted on the Council website at http://www.tasman.govt.nz/environment/water/swimming-water-quality/ and Land, Air, Water Aotearoa (LAWA) - Can I swim here? There is also information on the Council's website about the sampling sites and background to the monitoring programme. To enable a swift response after an exceedance of the microbiological water quality guidelines, all staff involved in the sampling programme are sent a text message alert from the lab as soon as the data becomes available.

3.8 Freshwater sample results are analysed with respect to the National Policy Statement for Freshwater Management 2020 | Ministry for the Environment. Coastal sample results are analysed with respect to Microbiological water quality guidelines for marine and freshwater recreational areas | Ministry for the Environment.

3.9 For most sites, particularly freshwater sites, an exceedance of the standards or guidelines is likely during rain and within 36-48 hours after more than 20mm of rainfall in 24 hours. For a few sites, more than 10mm of rainfall within 48 hours can be enough to produce an exceedance, particularly if there is intensive farming or urban land use in the upstream catchment (e.g. Rototai and Pōhara Beach). To keep the public aware of this risk, the Council issues standard guidance for people to avoid swimming within 48 hours of rain. Usually there is at least one newspaper article about this around December. Standard warning signs are only installed after two consecutive samples are found over alarm levels, or at the instruction of the Public Health Office of the District Health Board. These signs are taken down as soon as there are two consecutive samples under alarm levels. Sampling frequency is very high in these situations.

Toxic Algae (cyanobacteria)

3.10 In New Zealand, cyanobacteria have been implicated in numerous dog deaths. Cyanobacteria in the genus *Microcoleus* (previously *Phomidium*) are the main toxin-producing algae in New Zealand rivers. The toxins produced by *Microcoleus* are some of the most toxic in the natural world. The toxins produced are diverse and can cause liver, nerve and skin damage, as well as nausea, diarrhoea, gastroenteritis and possibly cancer. *Microcoleus* is native and is found in many of our district's pristine rivers such as the upper Wangapeka. Fortunately, there have been very few reported health effects of *Microcoleus* in humans in New Zealand, most likely because people rarely consume water directly from rivers. There remains, however, a reasonable risk for unsupervised toddlers due to their habit of exploring their environment by putting things in their mouth.

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

3.11 Toxic algae coverage was also sampled at all freshwater contact recreation sites weekly from November to February. In addition, we regularly surveyed using the national protocol for assessing algal coverage in the lower Waimea River at River Road and Wai-iti River at Brightwater Bridge. Toxic algal coverage information was posted within three days of sampling on the following webpage: http://tasman.govt.nz/environment/water/rivers/river-water-quality/monitoring-toxic-algae/ Very low cover of toxic algae was present this season.

3.12 We acknowledge Jon McCallum (Environmental Monitoring Officer) for working up the statistics for this report.

4 Results and Discussion

Sampling for Faecal Indicator Bacteria at Contact Recreation Sites

4.1 A total of 20 sites (seven freshwater, eleven marine and two river mouth) were sampled for faecal indicator bacteria between mid-November 2021 and early March 2022. All sites were sampled weekly, except during the peak season (December to mid-February) when they were sampled twice weekly.

4.2 Out of a total of 446 samples taken there were a total of 39 ("Alarm/Red") exceedances of national standards/ guidelines at 9 swimming sites (see Table 1 for summary statistics). Thirteen exceeded "Alarm/Red" levels microbiological guidelines (the level we are required to meet) **during fine weather.**

Table 1: Bathing Season Statistics 2021-22 (November to March)

	Number of samples exceeding	% Compliance
Total number of samples	446	-
Total number and % of exceedances in **all** weather (alarm only)	39	91.3%
Total number and % of exceedances in **dry** weather (alarm only)	13[1]	96.3%
Exceedances – Freshwater (all weather)	29/191	85%
Exceedances – Coastal (all weather)	32/255	87.5%

4.3 The rate of compliance of 96.3%. This is not far below the average dry weather compliance rate of 97% over the last 10 years and the Long Term Plan (stretch) target of 98%. See Figure 2 for compliance rate from November 2009- March 2022 which is based on a total of 3949 samples. The compliance was categorised for samples collected during all weather or just dry weather and including and excluding the 'Alert' level exceedances. While this is the second worst year for compliance, there is a relatively high percentage of high-risk sites sampled this year.

[1] 4 were related to high tide

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

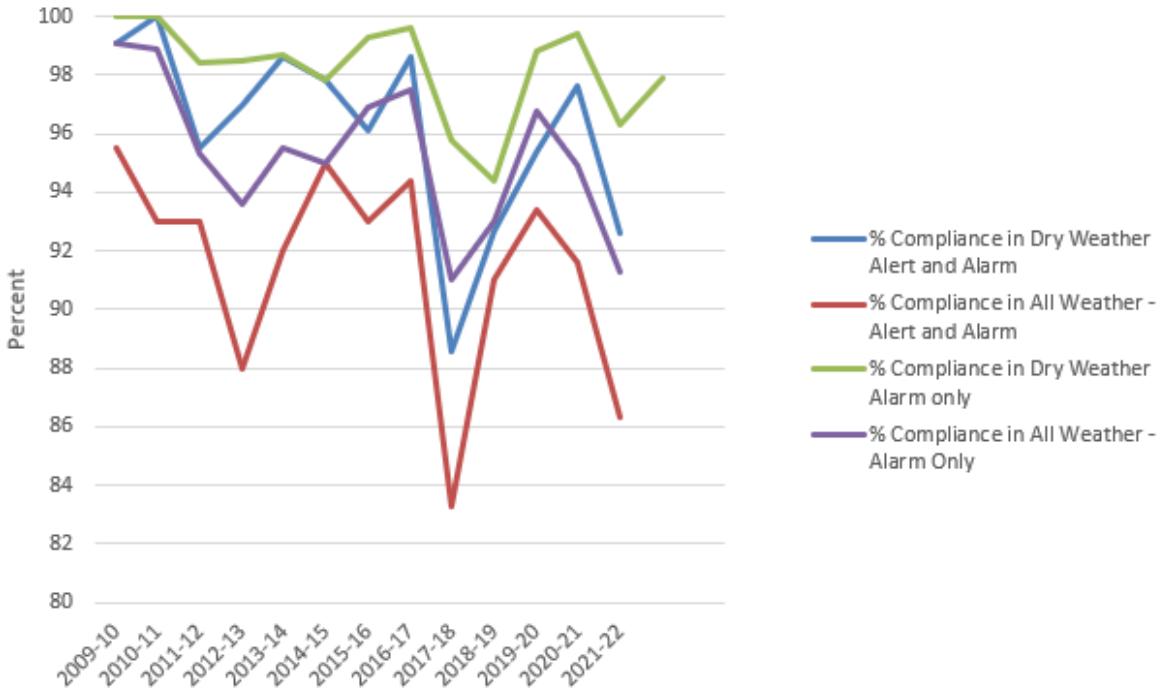


Figure 2: Percent compliance with national guidelines/ standards across all sites since 2009-10

4.4 This season the Rabbit Island Main Beach and the Wairoa River at WEIS Weir were the only fully-compliant sites in all weather (see Figure 3).

4.5 Across the sites this season, two-thirds of the ‘alarm’ exceedances (26 of 39) were related to rainfall.

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Marine Sites. Data for all **coastal** beaches monitoring programme for the 2021-22 season are presented in Figure 3 below.

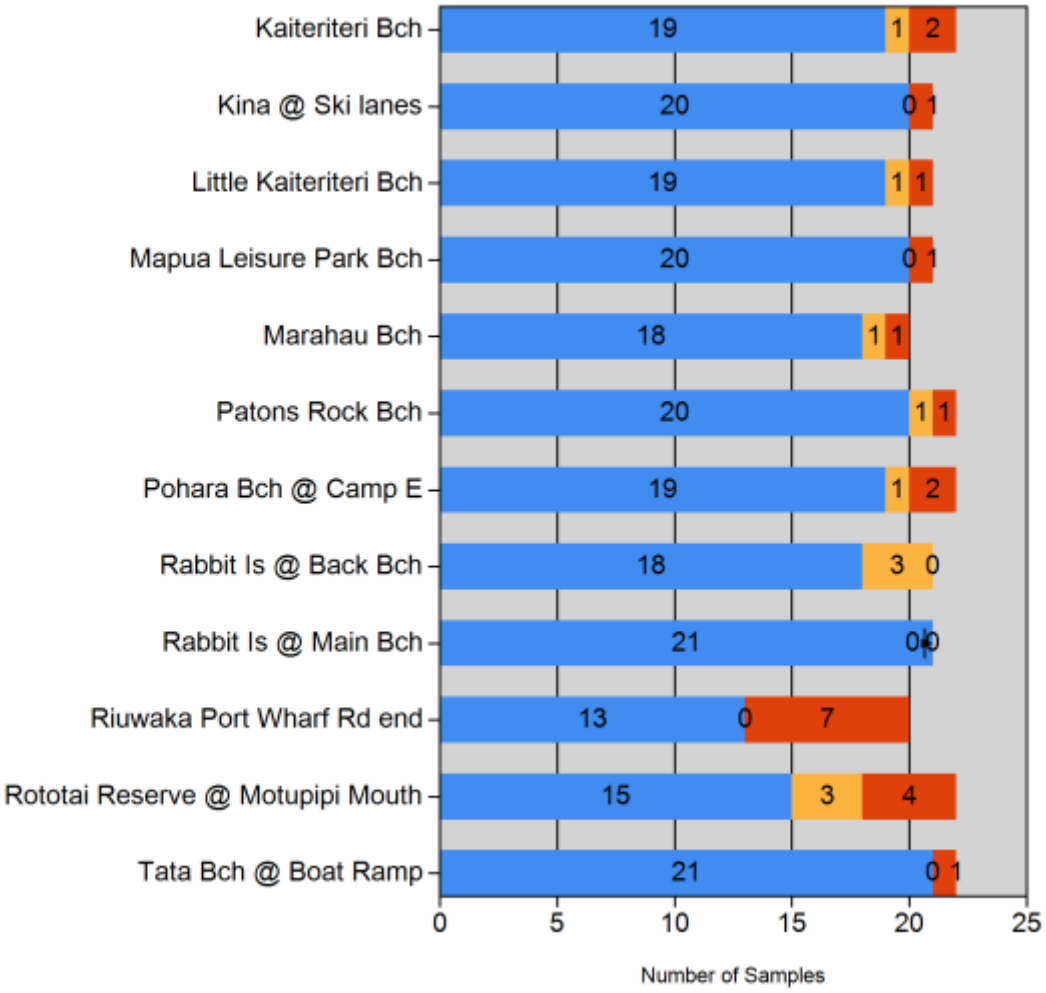


Figure 3: Number of samples exceeding national guidelines for contact recreation water quality at coastal beaches for the 2021-2022 season. **Red** results are over alarm levels (>280 *Enterococci*/100ml) and **orange** results are in the alert range (140-280 *Enterococci*/100ml).

4.6 **Port Riuwaka:** Out of the seven samples that exceeded the 'Alarm' guidelines at this site, three were affected by rain. This site has been sampled for the last four seasons and it continues to have the poorest compliance with guidelines and therefore the riskiest to swim at (followed by Rototai and Collingwood boat ramp). Now we know this site as consistently high-risk, staff will be providing information to households in the area and asking them to check their septic tanks to ensure they are not leaking to the coast. If swimmers use any of these sites, they would be best to do so on the incoming tide only and not during or within 48 hours after rain.

4.7 **Rototai Beach** near the mouth of the Motupipi River and Inlet exceeded 'alarm' guidelines four times, but only twice in fine weather. On 13 December the sample was taken two hours prior to low tide so is likely to contain a higher proportion of Motupipi River water. The

sample on 5 January was taken 45 minutes prior to a very high tide (4.4m). Exceedances are well known to be associated with large high tides.

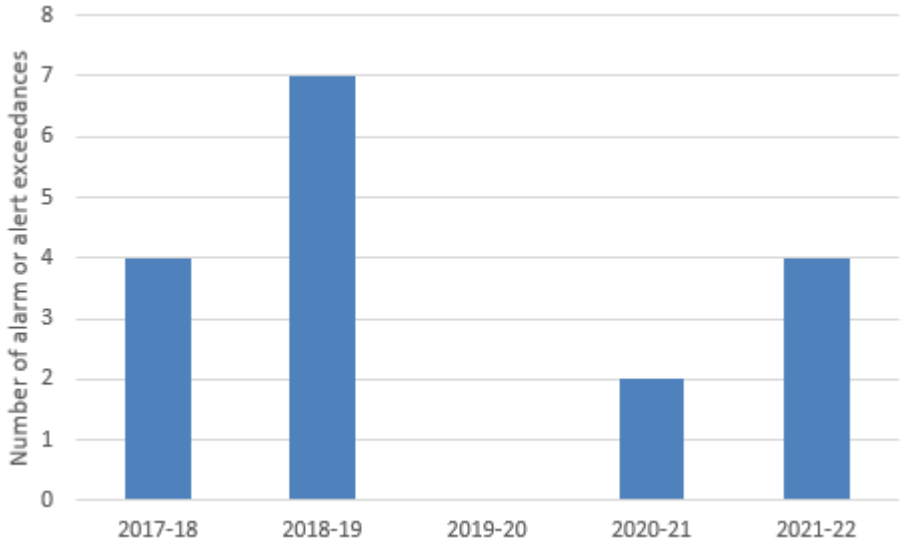


Figure 4: Number of exceedances of alarm or alert levels in all weather at Rototai Beach from 2017-2022

4.8 This site is affected by water quality in the intensively-farmed Motupipi catchment (Motupipi at 1.2km upstream Abel Tasman Drive 95th percentile: 9540 E.coli/100ml for monthly sampling over the period of July 2016 to February 2020). A reasonable amount of work aimed at reducing faecal contamination of waterways (including fencing of creeks smaller than the requirement in the TRMP) has been completed by farmers over the last decade or so. Nearly all waterways in the catchment have stock access prevented. Another wetland was installed in the catchment to filter pasture runoff. A major project to reduce faecal contamination is gaining momentum in this catchment. It is supported by most farmers, as well as funding from the Catchment Enhancement Fund, Tasman Environmental Trust and NZ Landcare Trust. However, not all farmers are on board and it may take more rules to ensure good practice over the whole catchment.

4.9 **Collingwood Boat Ramp**. This site has been monitored for eight seasons since 2004 and has a relatively high rate of exceedance compared to the majority of sites. It is affected by the Burton Ale Creek and the Aorere River. Over the last few years staff have observed a lot more swimming further towards the sea from the boat ramp and so we are planning to sample at both the boat ramp and about 150m seaward of the site (near the tennis courts in the campground) with the view to dropping the boat ramp site once we have two years of data to compare the two sites.

4.10 **Pōhara Beach**. There were no fine-weather exceedances (either ‘alert’ or ‘alarm’) at the Pōhara Beach site this season. It is positive news that this site has improved from a ‘poor’ to ‘fair’ grading (see Table 2 below). A permanent warning sign exists at the outfall of Pōhara Creek onto Pōhara Beach due to the prevalence of high faecal bacteria

concentrations in that creek. However, the flow in this creek is very low during base flows and so the disease risk is very localised. No sickness has been reported for a few years. Analysis of samples from the Motupipi River mouth by ESR found the following pathogens (disease-causing organisms): Campylobacter jejuni and Campylobacter coli. These were found to be from ruminant and avian pollution sources. Campylobacter was not detected in these creek samples. Additional investigations may target whether these elevated FIB are due to naturalised sources of FIB persisting in the creek and related to historical faecal inputs to this waterway or whether the river outflow is the main contributor.

4.11 For the first time we investigated the concentrations of faecal indicator bacteria in sand samples collected along a transect of nine sites along Pōhara Beach from Winter Creek mouth to Rototai, and three sites on a seaward transect out from Pohara Creek. Sand samples were rinsed and then the rinsate sampled and analysed for E. coli and Enterococci. Results showed lower than expected concentrations. The highest concentrations were found at each end of the beach, near the Winter Creek mouth and Rototai (290 and 240 Entercocci/100ml respectively) – see Figure 5.

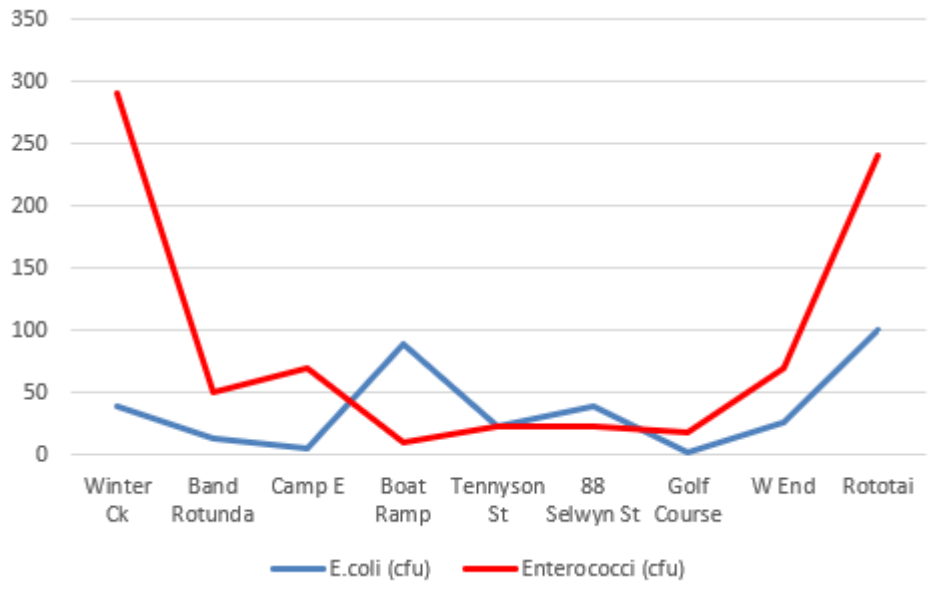


Figure 5: Faecal Indicator Bacteria Concentrations in Pohara Beach Sand (sites shown from East to West). Concentrations in CFU/100ml (membrane filtration method).

4.12 Results for a vertical transect from 5m seaward of Pōhara Creek to 200m seaward showed that Enterococci concentrations were below 30/100ml beyond 100m seaward of Pōhara Creek mouth (see Figure 6). These results are not included in the analysis of the results of the main programme because people are not swimming in such rinsate water and therefore there are no guidelines for sand rinsate samples.

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

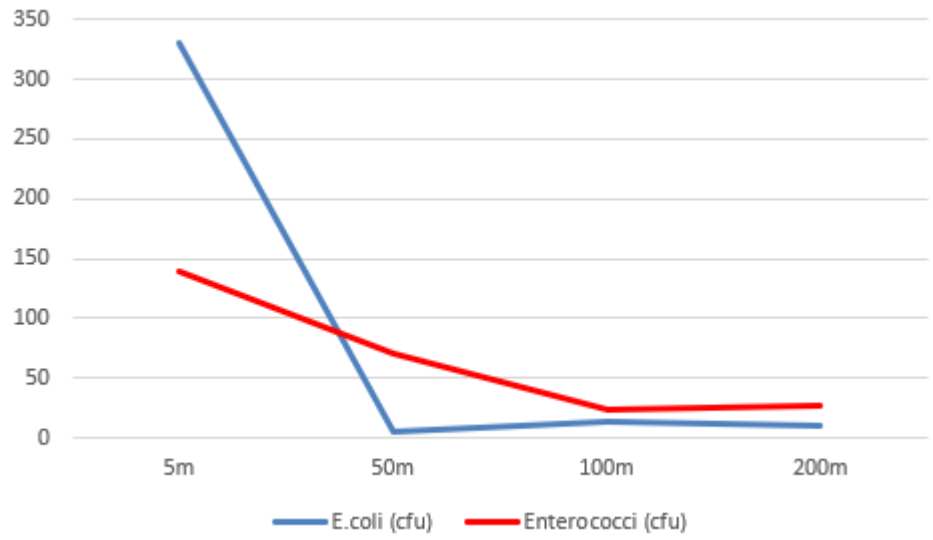


Figure 6: Faecal Indicator Bacteria Concentrations in Pohara Beach Sand (sites shown from landward to Seaward)

4.13 We plan to repeat this sampling programme twice more next season as faecal indicator bacteria concentrations are likely to vary considerably. Any samples with faecal indicator bacteria concentrations over 250 Enterococci/100ml will be analysed for pathogens.

4.14 **Kaiteriteri Beach.** There was only one exceedance ('alarm' or 'alert') during fine weather at this site (2 Feb). This was a concern as the result was almost five times the guidelines (1314 Enterococci/100ml with the 'alarm' level of 280 Enterococci/100ml). On this occasion there was a particularly big tide (4.4m at 11:30am) and sampling occurred 50 minutes prior to high tide. The Little Kaiteriteri site also had elevated faecal indicator bacteria on that same day (156 Enterococci/100ml just above 'alert' level of 140 Enterococci/100ml). It is concerning that the Kaiteriteri Beach site has slipped into the 'fair' grade (see Table 2 below). Next season we will sample the stormwater drain and analyse samples to try to determine whether the source is of human sewage or wildfowl origin (there is no farming in the catchment so we will not use any of the livestock markers). There was only one other 'Alarm' exceedance (14 Feb) that was related to a rain event of over 100mm in the 48 hours prior to sampling.

4.15 We continue to get very high faecal indicator bacteria results from samples taken from the stormwater outlets at Kaiteriteri near the boat ramp (288, 780 and 1445 Enterococci/100ml for Jan 10, Feb 9 and Feb 23 respectively) and Little Kaiteriteri Creek (573 and almost 5,500 Enterococci/100ml for Dec 8 and Jan 7 respectively). Faecal source tracking will be carried out next season, particularly to determine if there is a human faecal source.

4.16 The dry weather 'alarm' exceedance at **Marahau Beach** was from a sample taken 70 minutes prior to a 4.4m high tide, and the dry weather 'alarm' exceedance at Tata Beach was from a sample 80 minutes prior to a 4.4m high tide.

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

4.17 With the exception of the permanent warning signs at Tukurua and the stormwater outlets on Kaiteriteri and Pōhara Beaches, no temporary warning signs were erected this season. Unfortunately, due to the timing of getting sample results and staff availability outside of normal working hours we did not re-sample as we should after high results. We are looking at sampling Mon-Wed-Fri to cover ourselves. To ensure budget neutrality we will not sample for such a long season.

4.18 **Beach Grades.** In the absence of a National Policy Statement for coastal water, we use the Ministry for the Environment "Suitability for Recreation Grade" (2003) criteria and have assessed this using data over the last five years. The Māpua site oscillates between "Good" to "Very Good". This season it held at "Good". Rabbit Island Main Beach continues to be graded "Very Good", Kaiteriteri as dropped from "Good" to "Fair" and Pōhara Beach improved from "Poor" to "Fair" (see Table 4). For the other beach sites only interim gradings are available as there were fewer than the recommended 100 sample results collected over five years.

Table 2. Assessment of Suitability for Recreation Grade (**all samples in all weather**) for the **Marine sites** in the contact recreation bathing water quality programme. 'NC' = no change.

***** Indicate interim gradings.

Hazen 95th percentiles for coastal sites, all samples:

Site	From	To	N	Hazen 95th Percentile	Microbiological Assessment Category	Sanitary Inspection Category	Suitability for Recreation Grade	Change since 2021-22
Pohara Bch @ Camp E	2017-11-28	2022-03-02	113	381	C	Moderate	**Fair**	↑
Kaiteriteri Bch	2017-12-05	2022-02-23	113	303	C	Low	**Fair**	↓
Mapua Leisure Park Bch	2017-12-05	2022-02-23	113	226	B	Moderate	**Good**	NC
Rabbit Is @ Main Bch	2017-12-05	2022-02-23	106	41	A	Very Low	**Very Good**	NC

4.19 **Sewage spill to Stephens Bay/ Anarewa.** This area is of high significance to several iwi. A sewer overflow occurred about 200m upstream of Cook Crescent spilling raw sewage into the wetland on 16 March 2022. This led to elevated levels of feacal indicator bacteria but not above 'alarm' levels at Stephens Bay (samples taken on 17 and 22 March produce results of 185 and 175 Enterococci/100ml). These levels were 'alert' level (below 280 Enterococci/100ml) which according to guidelines (MfE, 2003) means that the focus is on sampling and source tracking rather than warning the public. This had reduced to 41

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

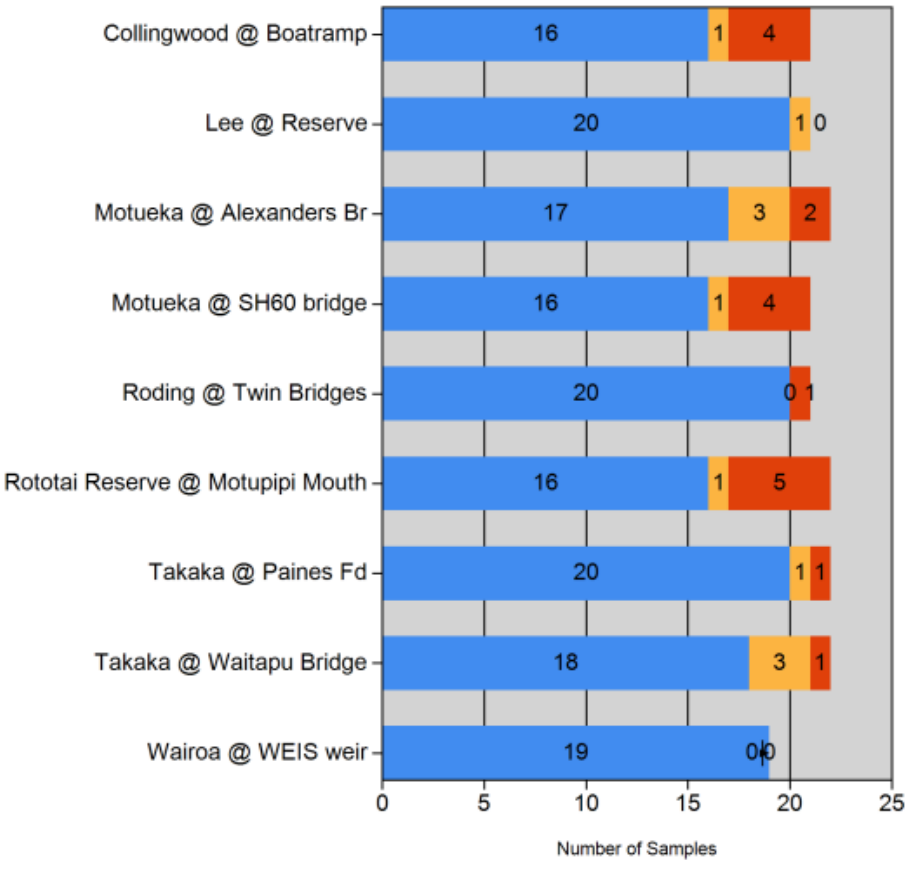
Enterococci/100ml on 4 April. Warning signs were in place for just under three weeks. A similar sewer overflow occurred in late April 2020.

4.20 The cause of the March 22 overflow appeared to be a blockage from build-up of fat in the wastewater line, whereas the cause of the April 2020 overflow was tree roots getting into pipework. Other potential reasons for overflows are customers disposing of clothing, wet wipes and nappies down the drains and connections that are made incorrectly (ie wastewater connections plumbed into the stormwater system) or pipe breakages. In 2020 a walking track was cut around the wetland. The track was routed alongside the wastewater pipe which means that track users can notify council of an overflow more quickly. The only viable way to pro-actively monitor pipes for these risks before an overflow occurs is by doing CCTV inspections. This monitoring has recently been completed at this site. This monitoring is expensive, resource hungry and time consuming to do on a regular basis. The Council has a regular CCTV programme but it does not include Stephens Bay.

4.21 While we have sampled Stephens Bay in the past, it has always had low faecal indicator bacteria concentrations and is therefore only sampled for one season every 5-10 years. Given the risk at this site and its popularity, we are looking to sample at the lagoon and beach next season (full 20 samples).

4.22 Freshwater Sites

4.23 Data for the freshwater and river mouth (Collingwood and Rototai) sites in the monitoring programme for the 2021-22 season are presented in Figure 4 below.



CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Figure 5: Number of samples exceeding national guidelines for contact recreation water quality at freshwater swimming holes for the 2021-22 season. **Red** results are over alarm levels (>550 *E.coli*/100ml) and **orange** results are in the alert range (260-550 *E.coli*/100ml).

4.24 Two of the freshwater sites were 100% 'alarm-level' compliant (Wairoa at Max's Bush and Lee Reserve).

4.25 The only fine weather exceedance in the Roding River was particularly high (2,421 E.coli/100ml; 12/1/2022). Like after similar events in previous years, investigations upstream of Twin Bridges 2-3 days later (as soon as we can after getting the sample result) failed to find any reason for the peak. The fine weather 'alarm-level' exceedance on the Motueka River at SH60 is unexplained (866 E.coli/ 100ml on 29/11/21 taken close to the time of low tide. Unfortunately no investigation was undertaken, but the sample result at Alexander Bridge was also elevated (365 E.coli/100ml which is below 'alarm levels), so it is likely that the source was upstream.

At the Motueka at SH60, we collect 12 samples per year as part of the State of the Environment River Water Quality Monitoring Programme, in addition to the 20 samples.

5.17 Swimmability Categorisation.

4.26 Based on data over the last five years against the criteria shown in Table 3, all of our core monitored freshwater swimming sites are very suitable for contact recreation. The predicted average infection risk of 1% (Blue category), except for the Roding and lower Motueka Rivers which were 2% (Green category) (see Table 4). The Roding River was very close to being in the Blue category. For freshwater sites it is the 95th percentile that is the most likely statistic to cause a site to fail. Most of the other statistics are highly correlated and all have relevance to assessing suitability for swimming.

Table 3: Ministry for the Environment proposed *E.coli* "swimming categories" (attribute states).

CATEGORY	PERCENTAGE OF EXCEEDANCES OVER 540: E. COLI PER 100 ML	MEDIAN: E. COLI PER 100 ML	95TH PERCENTILE: E. COLI PER 100 ML	PERCENTAGE OF SAMPLES ABOVE 260: E. COLI PER 100 ML
Blue	< 5 per cent	⩽ 130	⩽ 540	< 20 per cent
Green	5-10 per cent	⩽ 130	⩽ 1000	20-30 per cent
Yellow	10-20 per cent	⩽ 130	⩽ 1200	20-34 per cent
Orange	20-30 per cent	>130	>1200	>34 per cent
Red	> 30 per cent	>260	>1200	>50 per cent

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Table 4. **Analysis of *E.coli* at Council's core freshwater monitoring sites against the swimming categories in the National Policy Statement for Freshwater Management 2017**. Statistics over five sampling seasons (November 2017 to March 2022 inclusive). This is for samples taken in all-weather including wet weather.

Freshwater sites classified into MfE (2020) *E. coli* swimming categories:

Site	From	To	N	Percentage of samples over 260 E.coli/ 100ml	Percentage of samples over 540 E.coli/100mL	Median E.coli/ 100mL	95th percentile E.coli/100 mL	Category	Change since 2017-18
Collingwood @ Boatramp	2018-12-04	2022-03-02	89	23.6	14.6	77	1,497	D	
Lee @ Reserve	2017-12-05	2022-02-23	104	5.8	3.8	28	309	A	NC
Motueka @ Alexanders Br	2017-12-05	2022-02-23	57	15.8	7.0	52	698	B	↓
Motueka @ SH60 bridge	2017-12-05	2022-02-23	55	14.5	10.9	44	699	B	NC
Roding @ Twin Bridges	2017-12-05	2022-02-23	114	10.5	6.1	50	668	B	NC
Rototai Reserve @ Motupipi Mouth	2017-11-28	2022-03-02	90	23.3	12.2	41	1,647	D	
Takaka @ Paines Fd	2017-11-28	2022-03-02	111	6.3	3.6	28	356	A	NC
Takaka @ Waitapu Bridge	2018-12-04	2022-03-02	90	11.1	4.4	49	400	A	
Wairoa @ WEIS weir	2017-12-05	2022-03-03	55	1.8	1.8	40	170	A	NC

Toxic Algae in Rivers

4.27 Toxic algae levels were near below interim guidelines (>20% bed coverage) the whole season at all the monitored freshwater sides. There has not been a reported dog death suspected as being caused by toxic algae since 2010 (although there have been instances of dogs close to dying in 2014). It appears that the coverage of toxic algae in the lower

CONTACT RECREATION WATER QUALITY - 2021-22 SEASON REPORT

Wai-iti River has reduced in recent years. However, our monitoring, while according to the guidelines is very limited due to the small area sampled. We are looking into the use of drones for this assessment to cover a much larger area to provide a much more accurate result. It is mainly the staff resource that is limiting this extension to our work.

For further information check Council website.

http://www.tasman.govt.nz/environment/water/rivers/river-water-quality/monitoring-toxic-algae/toxic-algae-in-our-waterways-faqs/

5 Conclusion

5.1 Over all-weather conditions approximately 91.3% of samples meet the regulations or guidelines. When only dry weather conditions are considered, the rate of compliance for both marine and freshwater sites over the past summer was almost 96.3%. This rate of compliance is below the Long Term Plan (stretch) target of 98%. The average dry weather compliance rate of 97.9% over the last 10 years.

5.2 Toxic algae coverage was low for most of the season at all monitored sites but did get close to guidelines in January 2022.

6 Next Steps/ Timeline

6.1 Next season the sampling will occur at the seven core bathing water quality sites with the addition of a second site at Collingwood as well as sampling at Stephens Bay (beach and lagoon) and Anchorage lagoon (east end of the bay).

6.2 Given the length of time since we last sampled at Lake Rotoiti at Kerr Bay or Black Valley Stream (which flows into Kerr Bay near the main swimming area) or Anchorage Bay in Abel Tasman adjacent to the creek near the camping area, we should undertake sampling for at least one season (for efficiency we will probably use a contractor in St Arnaud and our harbourmaster for Anchorage). Kerr Bay and Black Valley Stream have a reasonable urban area upstream so could be subject to breakages in the sewer system or mistaken connections of the sewer to the stormwater system. The Anchorage site was observed several times over recent years to have an anaerobic smell which could indicate contamination from septic tanks in the creek catchment (although this was not the case when we last sampled at the site over a decade ago).

6.3 Samples will be taken from the stormwater drains at Kaiteriteri and Little Kaiteriteri to attempt to determine the source of faecal indicator bacteria.

6.4 Two more sampling events of beach sand rinsate from Pohara are planned for the 2022-23 season.

Attachments

Nil