



STEWART STREAM, ŌPITO BAY

WATER SUITABILITY FOR SWIMMING HE PAI RĀNEI TE WAI MŌ TE KAUKAU

The Waikato region has many small streams that flow out to beaches. These stream mouths are often popular swimming locations, particularly for children and young families. We investigated streams and stream mouths across the region to assess a range of water quality aspects, including whether they were suitable for swimming.

Water levels and water quality at stream mouths change frequently in response to rainfall, tides and wind. For this reason, there are a wide range of 'normal' conditions for water at a stream mouth. Some stream mouths, for example, may be clear one day and highly coloured and dirty looking the next, even though the water quality is high. As a result of natural processes, scums and foams may also appear.

Many of the small streams in the Coromandel drain large catchments, and this means the different land uses and activities happening upstream affect the water quality at the stream mouth. Rainfall washes accumulated faecal bacteria and other material from the land into streams. As a result, contaminant levels are typically highest following rainfall – even more so if there has been a long dry period before rain.

After rainfall, natural flushing of a stream mouth helps return the water to its original state. Sometimes this can take up to 48 hours or more. During recovery time, water may not be suitable for swimming.

SUITABILITY FOR SWIMMING

We assessed the suitability for swimming from a public health perspective. We did this by measuring faecal bacteria to indicate the risk of getting sick after swimming. Water is considered 'suitable for swimming' when faecal bacteria do not exceed national guidelines.

FAECAL BACTERIA

Faecal bacteria typically come from the intestines of warm blooded animals (e.g. cows, sheep and humans). High levels of bacteria indicate an increased risk of getting sick after swimming.



The naturally coloured waters of Stewart Stream.

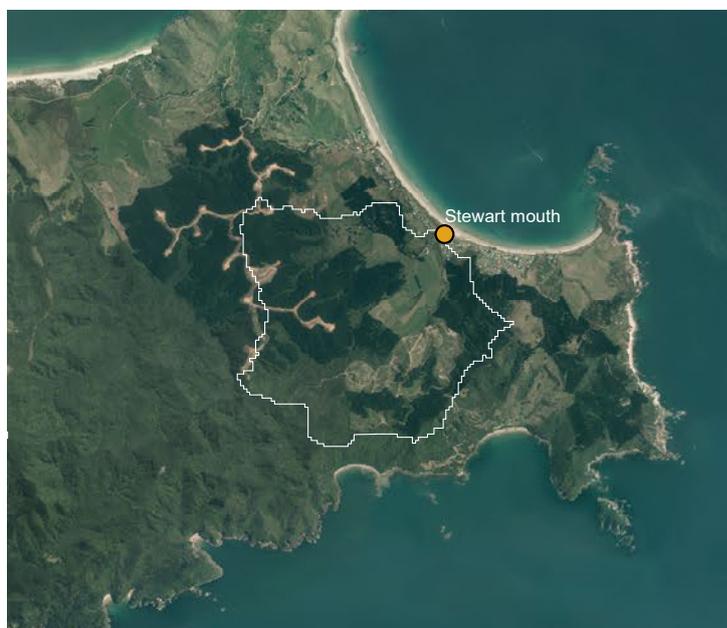


Foam naturally occurring on the beach at the mouth of Stewart Stream.

STEWART STREAM

We investigated Stewart Stream in January and February 2017. We tested water samples for faecal bacteria and, if they were present, whether they came from humans, cattle, sheep, birds or possums. We found that the stream mouth was always suitable for swimming when we sampled during dry weather. As is typical of these types of streams, water quality degraded following heavy rainfall and faecal bacteria levels exceeded the national guidelines. This meant that, at those times, there was an increased risk of getting sick from swimming in the water.

To a lesser extent than rainfall, large tides (spring tides) also caused water at the stream mouth to degrade. The main reason for this was that the surrounding land was flooded and additional faecal bacteria and other material were washed into the water.



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|----------------------------|---------------------------|---|---|---|---|---|
| DRY WEATHER | Suitable for swimming | × | ✓ | × | ✓ | × |
| WET WEATHER | Not suitable for swimming | × | ✓ | × | × | × |
| NEAP TIDE (SMALL) | Suitable for swimming | × | × | × | × | × |
| SPRING TIDE (LARGE) | Not suitable for swimming | ? | ? | ? | ? | ? |

Overview of the investigation results at Stewart Stream mouth. Ticks, crosses, and question marks indicate whether we detected faecal bacteria from that particular source ✓ or not ✗, or if the tests were inconclusive ?.

You can read more about what we found in our report at waikatoregion.govt.nz/TR201725

OUR RECOMMENDATIONS

- Be cautious when swimming after rainfall – water quality may take up to 48 hours to improve. If you do decide to swim, keep your head out of the water.
- If you have concerns about your health after swimming, contact Healthline (0800 611 116) or your local GP.
- If you have concerns about anything that does not seem ‘normal’, such as spills or strong odours, get in touch with Waikato Regional Council (0800 800 401).



Colourful sheen from an oil spill.