

# Recreational water quality Annual monitoring summary

December 2012 to March 2013



## Key points

River water quality was suitable for swimming on all sampling occasions at three of the eight swimming spots monitored weekly during the 2012/13 bathing season.

Of the coastal sites monitored weekly during season, only the Waikouaiti at Wharf location was suitable for swimming on all sampling occasions.

Water quality was mostly unsuitable for swimming during and shortly after rain.

## How can you tell whether or not it's safe to swim?

ORC uses the national microbiological water quality guidelines to let people know whether water is suitable for swimming, surfing, and other recreational activities.

Freshwater (E.coli /100ml)	Marine water (Enterococci /100ml)
Result less than 260	Result less than 140
Result between 261 and 550	Result between 141 and 280
Result more than 550	Two consecutive samples more than 280

- **Green** for go – sampling indicates a low health risk.
- **Amber** for caution – sampling indicates the health risk has increased, but is still within an acceptable range.
- **Red** for stop – sampling indicates that the water poses an unacceptable health risk.

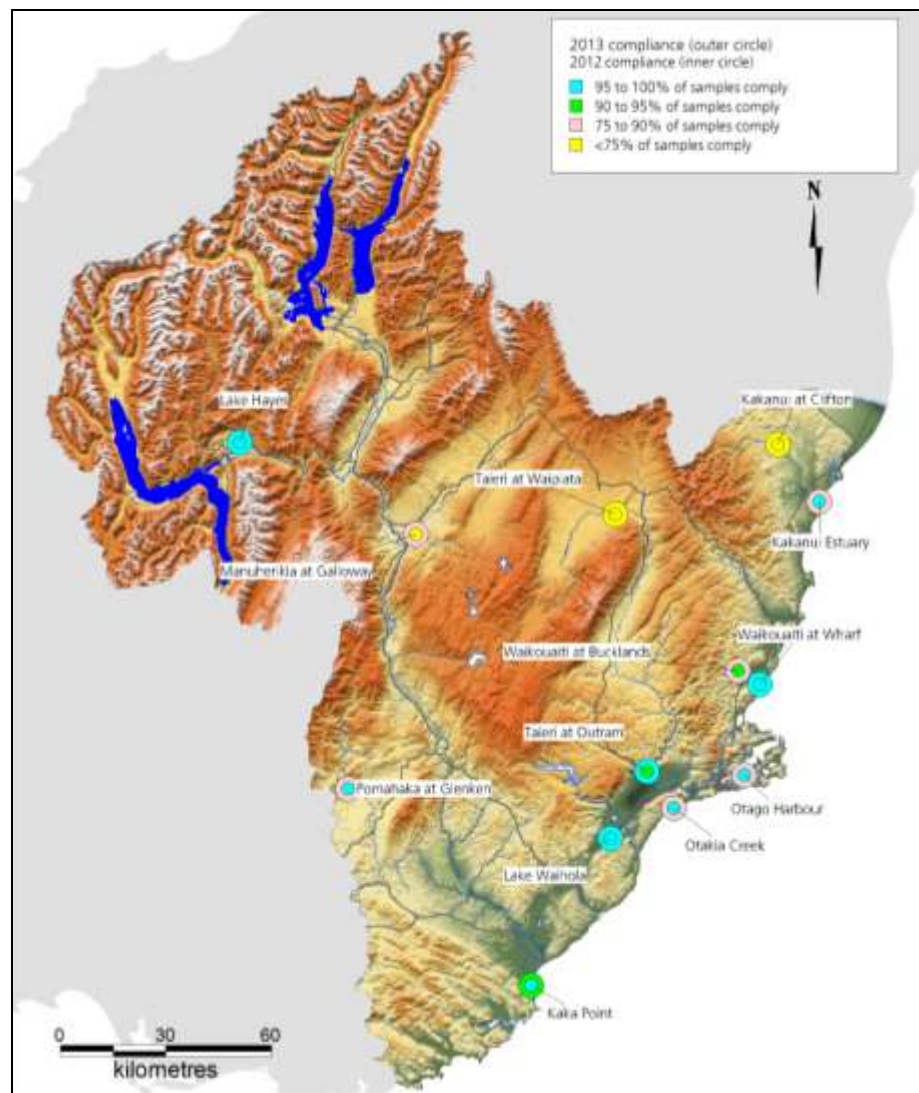


Waikouaiti estuary. This site was suitable for swimming on 100% of sampling occasions last summer.

## What happened in 2012/13

ORC monitors the water quality at popular marine and freshwater bathing sites each summer between December and March.

Water samples were taken once a week during the 2012-13 summer. A total of 132 samples were taken from the freshwater sites, and 84 from coastal sites. The samples were tested for the concentration of indicator bacteria (*Escherichia coli* in freshwater and *Enterococci* in salty water). These bacteria, while generally not harmful of themselves, indicate the presence of faecal material and disease-causing organisms.



Otago recreational water quality monitoring 2012/2013. The map shows the percentage compliance for each bathing site based on how often the sites exceeded the 'action' (red) level of the national microbiological water quality guidelines for coastal and freshwater recreational areas. For up-to-date results about bathing water quality, check our website ([www.orc.govt.nz](http://www.orc.govt.nz)) during summer.

## Coastal waters

Only the Waikouaiti estuary did not exceed the 'action' guideline of the national recreational water quality guidelines for indicator bacteria (280 enterococci/100 mL). Kaka Point had one exceedance, Kakanui estuary and Otokia Creek had two each and Otago Harbour had four.

Of the nine occasions on which marine sites exceeded the 'action' level, five results coincided with at least 10 mm of rainfall in the three days before sampling. Elevated bacteria concentrations unrelated to rainfall were found at Otago Harbour and Otokia Creek twice each. Compared to last summer, two sites were less compliant and three sites remained in the same category.

## Rivers

Five of the eight river sites monitored over the summer exceeded the 'action' level of the national recreational water quality guidelines for indicator bacteria (550 *E. coli*/100 mL). Of these sites, the Pomahaka River at Glenken, the Waikouaiti River at Bucklands and the Manuherikia River at Galloway exceeded the guideline on two sampling occasions each. Of the other sites, the Taieri River at Waipiata and the Kakanui at Clifton exceeded the guideline six times each.

Of the 18 occasions that freshwater sites that exceeded the 'action' level, 10 samples were taken when at least 10 mm of rainfall had fallen in the three days before sampling. Rainfall causes bacteria to be washed into rivers and streams via urban and agricultural runoff, and also stirs up bacteria attached to streambed sediment. There were eight elevated results unrelated to rainfall. Kakanui at Clifton had three elevated results relating to gull colonies nesting in the gorge upstream of the site. Of the other five unexplained results, one was from the Pomahaka River, one from the Waikouaiti River and three from the Taieri River at Waipiata. The Waipiata site is under investigation. Compared to last summer, one site was more compliant, three sites were less compliant and five sites remained in the same category.

## Why we monitor water quality

Micro-organisms such as viruses, bacteria, and protozoa, are present in all natural water bodies. Water contaminated by faecal micro-organisms may pose a human health hazard, particularly if swallowed. Everybody can be affected, but small children, the elderly, and people already weakened by illness or fatigue are more likely to become ill from exposure to contaminated water.

The most common illnesses arising from exposure to contaminated water occur in the gastric-intestinal system, leading to symptoms like diarrhoea or vomiting, and infections of the eye, ear, nose, and throat. However, there are other potentially more harmful diseases such as giardiasis, cryptosporidiosis, campylobacteriosis, and salmonellosis. Hepatitis A can be contracted from contaminants in the water and can lead to long-term health problems. Testing the water regularly for indicator bacteria and posting results on the ORC website helps the public make informed decisions about where it is safe to go swimming.

## Toxic algae

Although swimming spots in rivers were mostly safe from high levels of bacteria, some Otago rivers are affected during summer by widespread toxic algae (cyanobacteria) growth. Health warning signs were put up along the Silver Stream, Kakanui River, Shag River, and Waianakarua River.

## What is Otago Regional Council doing?

Together with the city and public health agencies, Otago Regional Council reports or advises on the suitability of water quality for recreation at eight freshwater sites and five coastal sites around the region.

Water is sampled weekly during the 'Otago bathing season' (from 1 December to the end of March) and the results are assessed against the national recreational water quality guidelines.

This helps the public make informed decisions about where it is safe to go swimming or participate in other forms of contact recreation (from a public health perspective).

## What can you do?

- Avoid swimming during and shortly after rain
- Don't let your dog foul rivers or beaches
- Keep stock, especially cattle and deer, out of rivers and streams to prevent them fouling the water.

## More Information

If you would like to know more about recreational water quality, monitoring visit our website at [www.orc.govt.nz](http://www.orc.govt.nz)



Kakanui River at Clifton Falls. This site is affected by gull colonies roosting upstream. It was suitable for swimming on 65% of sampling occasions last summer.