

Recreational water quality Annual monitoring summary

December 2013 to March 2014



Key points

Of the swimming spots monitored weekly during the 2013/14 bathing season, river water quality was suitable for swimming on all sampling occasions at Lake Hayes, Lake Wanaka and the Manuherikia River at Shaky Bridge.

Of the coastal sites monitored weekly the Waikouaiti Estuary, Kaka Point and Hampden beach were 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.

Table 1

	Freshwater (E.coli /100ml)	Marine water (Enterococci /100ml)
A	Result less than 260	Result less than 140
B	Result between 261 and 550	Result between 141 and 280
C	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 River. Last summer this site was suitable for swimming on 14 of 17 sampling occasions.

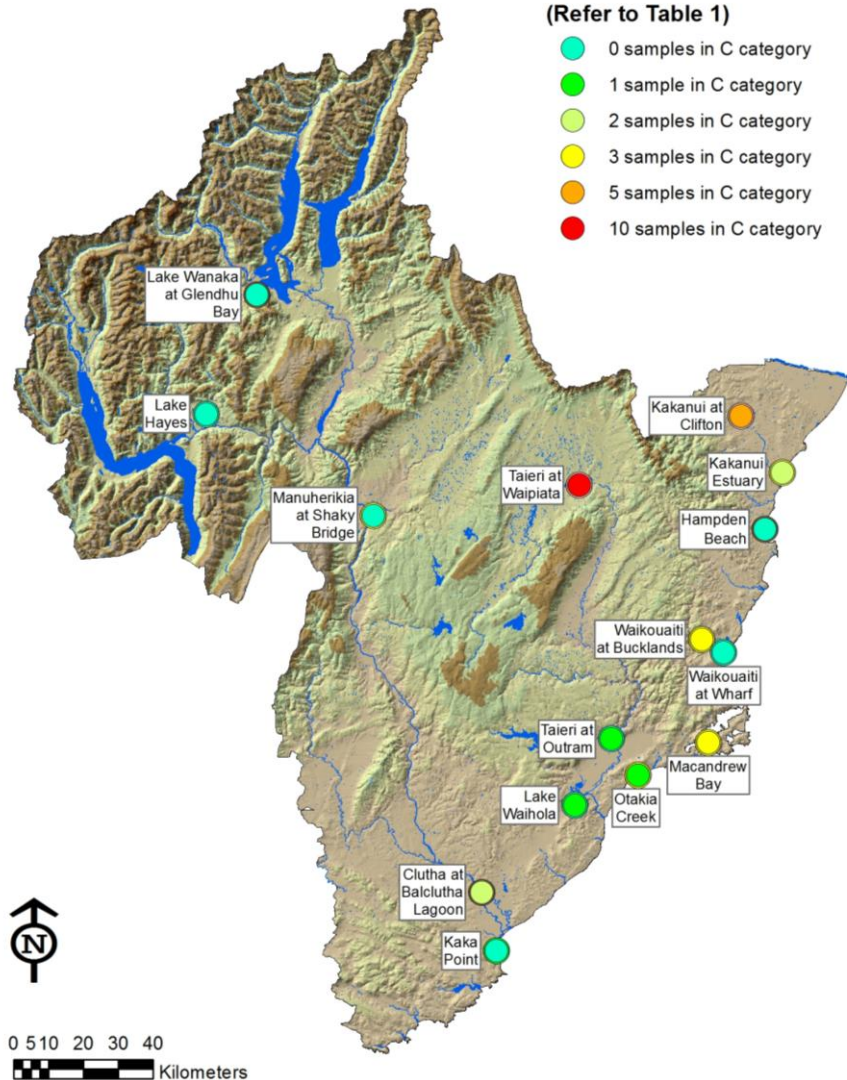
What happened in 2013/14

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 2013-14 summer. A total of 154 samples were taken from the freshwater sites, and 102 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 in themselves, indicate the presence of faecal material and disease-causing organisms.

2014 water quality results (Refer to Table 1)

- 0 samples in C category
- 1 sample in C category
- 2 samples in C category
- 3 samples in C category
- 5 samples in C category
- 10 samples in C category



Otago recreational water quality monitoring 2014/2013. The map shows how many times each bathing site exceeded the 'action' (red) level of the national microbiological water quality guidelines for coastal and freshwater recreational areas.

Coastal waters

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

Of the six occasions on which marine sites exceeded the 'action' level, four results coincided with at least 10 mm of rainfall in the three days before sampling. Elevated bacteria concentrations unrelated to rainfall were found at Otokia Creek and Kakanui estuary once each. Compared to last summer all the coastal monitoring sites were more compliant. Hampden Beach was not sampled in 2013.

Rivers

The Manuherikia at Shaky Bridge, Lake Hayes and Lake Wanaka did not exceed the 'action' level of the national recreational water quality guidelines for indicator bacteria (550 *E. coli*/100 mL). Of the other sites the following exceedances occurred: The Taieri at Outram (once), Lake Waihola (once), the Clutha at Balclutha lagoon (twice), the Waikouaiti at Bucklands (three times) and the Kakanui at Clifton (five times) and the Taieri at Waipiata (ten times).

Of the 22 occasions that freshwater sites that exceeded the 'action' level, 13 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 nine elevated results unrelated to rainfall. The Taieri at Waipiata had five elevated results (the area upstream of Waipiata is subject of ongoing investigation), Kakanui at Clifton had three elevated results (upstream gull colonies) and the Clutha at Balclutha had one unexplained elevated result. Compared to last summer, two sites (Manuherikia and Kakanui) were more compliant, four sites were less compliant (Taieri at Outram, Lake Waihola, Taieri at Waipiata and Waikouaiti at Bucklands) and one site remained in the same category (Lake Hayes). Lake Wanaka and Clutha at Balclutha Lagoon were not sampled in 2013.

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, Waianakarua River and Manuherikia 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



Hampden Beach. This site was suitable for swimming on all sampling occasions last summer.