Recreational Water Quality Annual Monitoring Summary

December 2011 to March 2012

Otago Regional Council

Key points

Coastal water quality was suitable for swimming on all sampling occasions at five beach sites monitored weekly during the 2011/12 bathing season.

River water quality was suitable for swimming on all sampling occasions at three of the eight swimming spots monitored weekly during the 2011/12 bathing season.

Most of the occasions when water quality was unsuitable for swimming were during and shortly after rain.

How do you tell if it is safe to swim?

Otago Regional Council 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 >260	Result >140
Result between 261 and 550	Result between 141 and 280
Result >550	Two consecutive samples >280

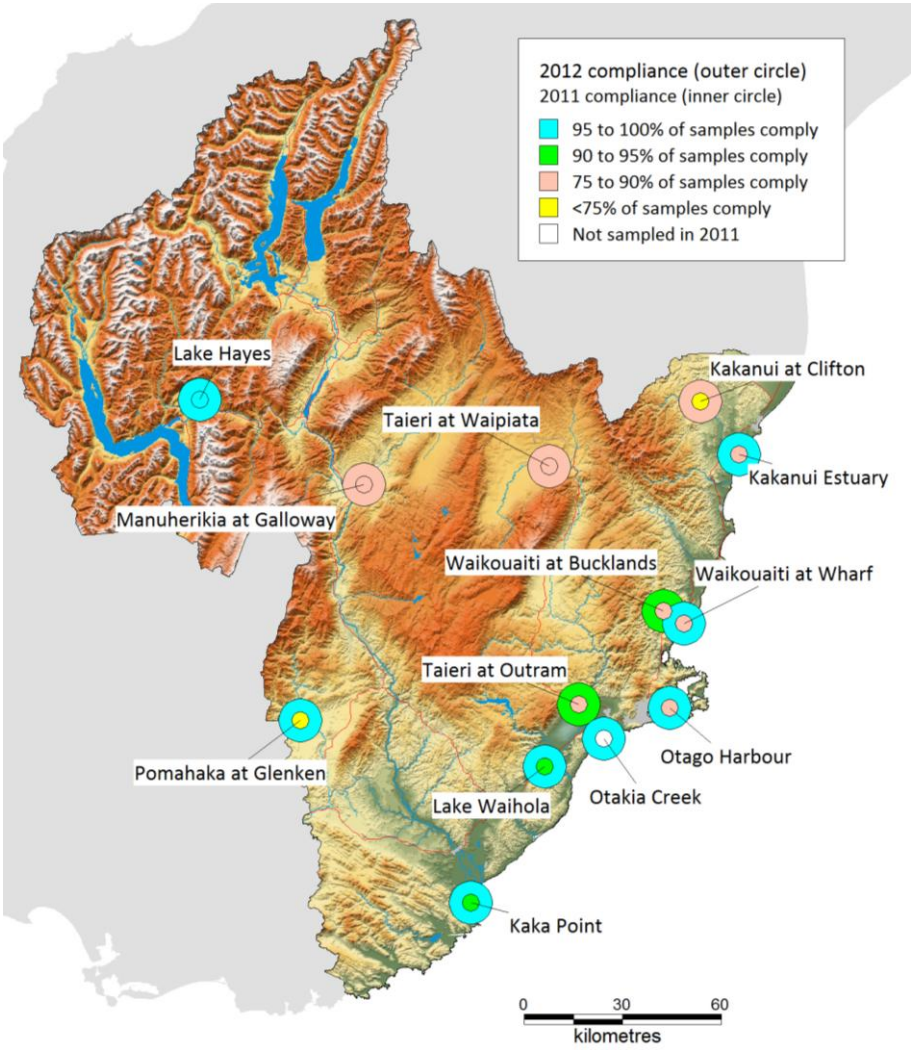
- **Green** (surveillance) for go – sampling indicates a low health risk.
- **Amber** (alert) for caution – sampling indicates the health risk has increased, but is still within an acceptable range.
- **Red** (action) for stop – sampling indicates the water poses an unacceptable health risk.

Waikouaiti Estuary

What happened in 2011/12

Each summer between December and March, Otago Regional Council (ORC) monitors the water quality at popular marine and freshwater bathing sites.

Water samples are typically taken once a week over the summer and tested for the concentration of indicator bacteria (*Escherichia coli* in freshwater and *Enterococci* in salty water). These bacteria, while generally not harmful themselves, indicate the presence of faecal material and disease-causing organisms.



Otago recreational water quality monitoring 2011/2012. 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 during summer.

Coastal waters

Recreational water quality was good at most beaches throughout the region over the summer. None of the five sites monitored weekly exceeded the 'action' guideline of the national recreational water quality guidelines for indicator bacteria (280 enterococci/100 mL). Last summer all of the sites monitored failed the guideline on at least one occasion.

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 Waikouaiti River at Bucklands and Taieri River at Outram exceeded the guideline on only one sampling occasion. Of the other sites, the Taieri River at Waipiata exceeded the guideline five times and the Manuherikia River at Galloway and Kakanui at Clifton exceeded the guideline four times each.

Of the 27 occasions that freshwater sites that exceeded the 'action' level, 12 results coincided with at least 8 mm of rainfall 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.

Compared to last summer, eight sites were more compliant, one site was less compliant and three 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.

In most cases the health effects of exposure to contaminated water are minor and short-lived. The most common illnesses are those of 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, during the summer months some Otago Rivers are affected by widespread growth of toxic algae (cyanobacteria). Health warning signs were put up along the Silver Stream, Kakanui River, Shag River and Waianakarua River, but unfortunately a dog died after coming into contact with the toxic algae (it is likely the algae was caught up in debris instream). A good source of information on toxic algae is www.gw.govt.nz/toxic-algae.

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**

Kakanui River at Clifton Falls. This monitoring site was suitable for swimming on 58% of sampling occasions last summer.

Otago Regional Council 70 Stafford St, Private Bag 1954 Dunedin p 03 474 0827 or 0800 474 082
www.orc.govt.nz