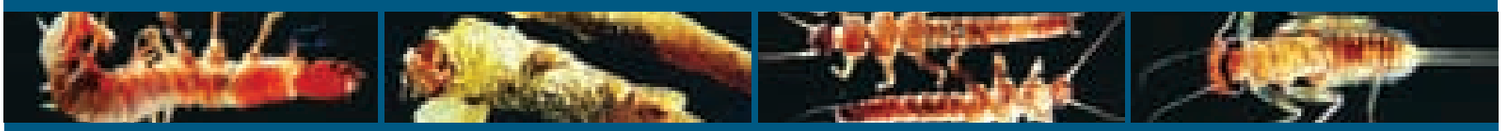


# Recreational water quality

## Annual monitoring (SOE) Summary 2007 - 2008

### Key points

- Open water marine sites generally comply with guideline values.
- Freshwater sites complied with guideline values in 80% of all samples.

### How do you know if it's safe to swim?

Before heading out, check the recreational water monitoring section of the ORC website **www.orc.govt.nz** This will tell you if the water was suitable for swimming the last time it was tested and the typical water quality of the site.

Avoid swimming and collecting shellfish during heavy rain and for up to two days afterwards. For information on the water quality of Dunedin city beaches, check out the Dunedin City Council website **www.dcc.govt.nz**

Otago Regional Council

## Why we monitor water quality

Each summer between December and March, Otago Regional Council (ORC) monitors the water quality at popular marine and freshwater bathing sites. The suitability of these areas for contact recreation can be compromised through contamination of the water by human and animal faecal matter. These may carry harmful pathogens that can cause illness. By testing the water regularly for indicator bacteria and posting results on the ORC website it is hoped the public are able to make informed decisions about whether to enter the water.

*Photos courtesy of Stephen Moore*

## Indicator bacteria and guidelines

### Bathing waters

Water quality safety is assessed and reported according to the Ministry for the Environment and Ministry of Health Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas, revised and issued in 2003.

The guidelines recommend a three-tier (traffic-light) management framework according to single sample results of *E. coli* (freshwater) and *enterococci* (marine water) bacterial counts. These categories are given below:

| Mode | Safe for swimming? | Freshwater (*E.coli*/100ml) | Marine (*enterococci*/100ml) |
|---|---|---|---|
| Surveillance/green | Should be very safe for swimming | No single sample greater than 260 | No single sample greater than 140 |
| Alert/amber | Should be satisfactory for swimming | One single sample between 261 and 550 | One single sample between 141 and 280 |
| Action/red | Could be a health-risk for swimming | One single sample greater than 550 | Two consecutive single samples greater than 280 |

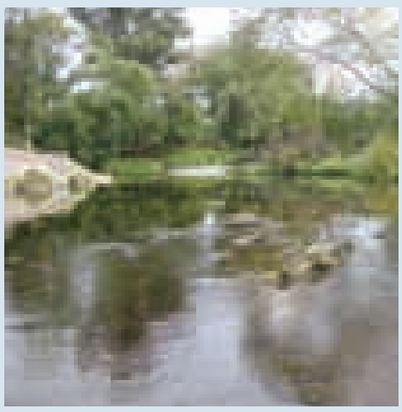
If the results from regional monitoring show levels elevated above the national guidelines, they are forwarded to the district and city councils, as well as to Public Health South for possible follow-up action.

### Recreational shellfish gathering

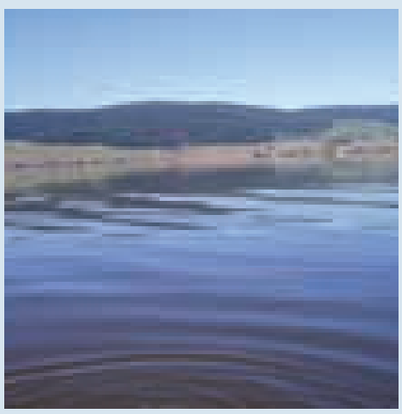
The guideline for water quality is that the median faecal coliform content of samples taken over the season shall not exceed 14/100ml and not more than 10% of samples should exceed 43/100ml.

**Water quality results for 2007 - 2008.**

Results for 2007 - 2008 are listed on the ORC website under recreational water monitoring.



Kakanui River at Clifton Falls



Lake Waihola

# Sites monitored in 2007 - 2008

Eleven sites were sampled between the beginning of December 2007 and the end of March 2008. Six of these were sampled on a weekly basis and the other five on a monthly basis. The sites and level of compliance with guideline values are detailed in the map below.

# Water quality results

## Marine waters

In the summer of 2007 – 2008, estuary/marine water quality was sampled a total of 36 times. Of these, three results (8.3 percent) did not meet guideline levels. Kaka Point showed a high level of compliance with recreational water quality guidelines apart from on 3 March, when sampling coincided with over 38mm rain. Bacterial numbers at Macandrew Bay in Otago Harbour generally complied with guideline values, apart from one slightly elevated level on 13 February, which appears to be unrelated to rainfall.

## Freshwater bathing sites

In freshwater, the MfE/MoH bathing guidelines were exceeded on 20 occasions (20 percent). Microbiological water quality in the freshwater sites shows higher variability, and water quality appears to be compromised at a number of sites in the days following heavy rainfall. Two of the monthly sites maintained a high level of water quality (Lake Hayes and Lake Waihola) while, of the sites sampled weekly, many only exceeded guideline levels on three or less occasions (Manuherikia at Galloway, Taieri at Waipiata and Waikouaiati at Bucklands). However, the Taieri River at Outram regularly breached guideline bacteria levels and, for most of the sampling period, the Kakanui River at Clifton Falls was close to breaching guideline levels. Some of the exceedances were unrelated to high rainfall events, occurring in periods of dry weather and in the absence of any obvious external sources. For example, the Kakanui at Clifton Falls had five exceedances of which two are unexplained, and the Taieri River at Outram had six exceedances, one of which occurred during a period of stable flow.

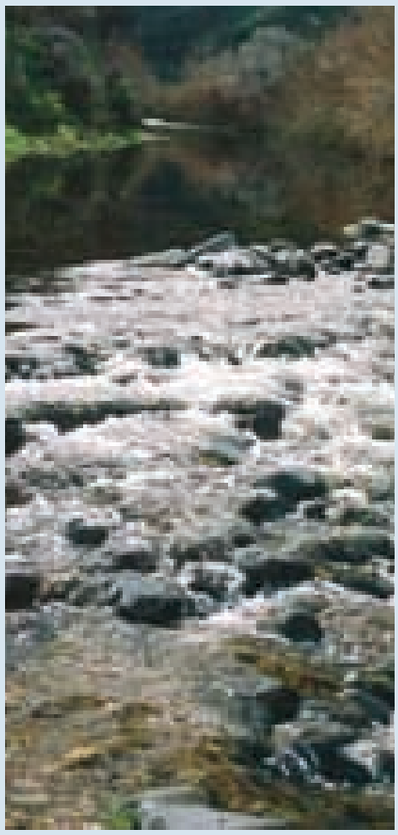
## Water quality for recreational shellfish gathering

In addition to the recreational bathing water sampling, the marine sites were monitored to assess their suitability for shellfish gathering. Macandrew Bay was unsuitable for shellfish gathering based on seasonal medians whereas the Pacific Ocean open water site at Kaka Point had low faecal coliform numbers.

| Site | Median faecal coliform result/100ml | Percent of results >43/100ml |
|---|---|---|
| Pacific Ocean: Kaka Point | 2 | 6.6 |
| Otago Harbour: Macandrew Bay | 10 | 23.5 |

## More information

Further information on recreational water monitoring is available on the ORC website
**www.orc.govt.nz**
under Quick Links
- Recreational Water Monitoring



Waikouaiti River at Bucklands Crossing

## Recently published ORC report

- State of Environment Report, Surface Water Quality in Otago (May 2007)

## Contact

Otago Regional Council
Ph: 0800 474 082

**www.orc.govt.nz**

Otago Regional Council