



RECREATIONAL BATHING WATER QUALITY

Annual Monitoring Summary 2011/12

Why we monitor recreational bathing water quality



Photo: Martin Bennett - 3rd-eye.co.nz

Tahunanui Beach sea swimmers

Nelson's swimming holes and beaches are regularly used by locals and visitors over the summer months. Bacteria levels are monitored at our recreational bathing water sites over summer months to minimise the risk of contact with harmful water borne bacteria and viruses, causing illness.

Bathing water quality in Nelson is generally very good. However, elevated bacteria levels can occur naturally, from various sources such as wild birds and animals and indirectly as pollution from human sources such as sewerage and from land uses, such as farming livestock. An increase in bacteria often occurs after periods of rainfall, when river flow increases from land run-off and storm water.

Nelson City Council reports weekly bacteria results to the Nelson Marlborough District Health Board. Sites with elevated Red Alert bacteria counts are re-sampled within 24 hours. The NMDHB is consulted on the potential sources of bacteria, to identify the risk to public health and to determine what appropriate action is required, including public health warnings.

The bacteria measured for freshwater (counts of *Escherichia coli*) and marine (*Enterococci*) are not harmful but indicate the potential for other harmful bugs present and the increased human health risk.

Recreation bathing grades are based on the bacteria levels from 20 samples at each site over the summer and their suitability for recreation, which includes an assessment of the bacteria sources for each site. The 2011/12 recreation grade is compared to the historic grade from 2007/08 when results are available for all routine monitoring sites, summarised in Table 1.

Key Results

Nelson's beaches monitored at Nelson Haven (Atawhai), Cable Bay, Tahunanui Beach and Monaco (Wharf) all have Good recreation grades, which have not changed. Occasional exceedences have been associated with rainfall events and high spring tides re-suspending washed up debris from the beach. The occurrence of exceedences for each site are summarised in Figure 1 (see next page).

The Maitai River at Maitai Camp has improved bacteria counts, upgrading from a C to B and Good recreation grade. Sunday Hole and Girlies Hole

both have Fair recreation grades. There was no change in the recreation grade for Collingwood St, which remains at Very Poor due to contamination from sewerage and other sources such as wildfowl.

There was an improvement in bathing water at Wakapuaka River at Paremata and Hira Reserve with no red alert bacteria exceedences. However, overall the bacteria grade has remained at Very Poor as a result of previous exceedences at these sites. The elevated bacteria are from livestock, with unrestricted access to waterways along the Lud and Wakapuaka Rivers and also from numerous wildfowl that congregate on the Paremata flats.

A health warning remains in place for the lower Maitai below Collingwood Street Bridge and for the Wakapuaka River at Paremata Flats Reserve warning people not to swim at these sites.

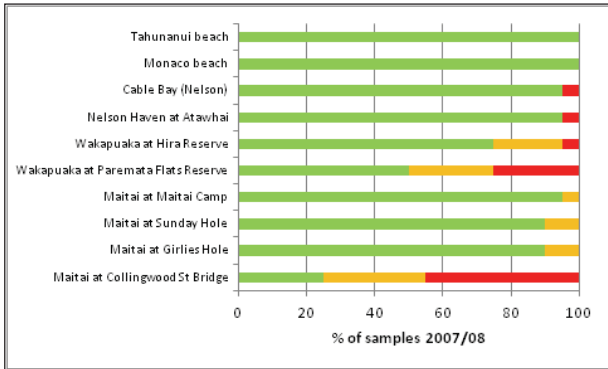
Tab. 1. Recreational Bathing Water Quality Results

Site Name	Bacteria grade 2007/08	Recreation grade	Bacteria grade 2011/12	Recreation grade
Tahunanui Beach	B	Good	B	Good
Monaco Beach	B	Good	B	Good
Cable Bay	B	Good	B*	Good
Atawhai	C	Fair	B	Good
Hira Reserve	D	Very Poor	D	Very Poor
Paremata Flats	D	Very Poor	D	Very Poor
Maitai Camp	C	Fair	B	Good
Sunday Hole	D	Poor	C	Fair
Girlies Hole	C	Fair	C	Fair
Collingwood St Bridge	D	Very Poor	D	Very Poor

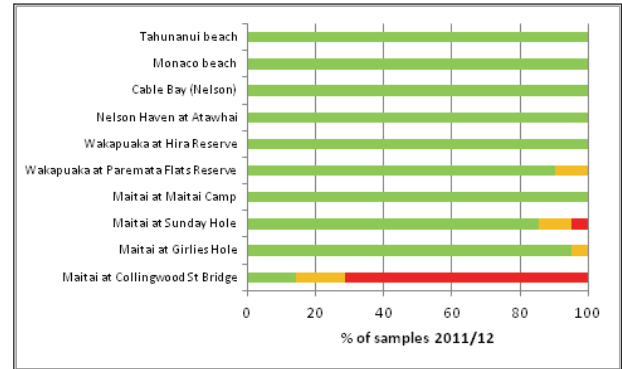
*The Cable Bay bacteria grade is based on 13 samples; the B grade was an improvement on 2010/11 and 2007/08 results with no bacteria exceedences.



Fig. 1. The percentage of samples for each site with Green, Amber Alert and Red Action exceedences in 2007/08 and 2011/12.



Green, Amber and Red Alert levels for bacteria counts per 100ml



Red alert action exceedences occur when samples exceed 550 *E coli* for freshwater and 280 *Enterococci* for marine sites.

Freshwater	< 260	260 - 550	> 550
Marine	< 140	140 - 280	> 280

Initiatives to improve recreational bathing water quality

Working with land owners

The Nelson City Council Land Management Adviser provides free advice for land owners and financial assistance towards fencing and native plants for riparian planting and biodiversity enhancement. Improving water quality in the Lud is a key focus. Residents are being visited to discuss the water quality results and provided advice on best practice land management and related issues including maintenance of septic tanks. If you are interested in receiving further advice please contact Lynne Hall, Land Management Adviser 546 0308.

Nelson City Council work in progress

- Council has undertaken a considerable amount of work to replace old leaking sewerage pipes and cross-connections with storm water along Collingwood and Nile Street. Intensive bacteria sampling along the lower Maitai in February 2012 confirmed that elevated bacteria levels were present downstream of Collingwood Street bridge. Council is undertaking further testing of sewer and stormwater pipes to isolate potential bacteria sources.
- Microbial source tracking in the Wakapuaka and Lud River has identified bacteria sources from livestock animals and birds, and not from septic tanks. Discussions are ongoing with landowners to manage livestock more sensitively by restricting access to waterways, to protect rivers and enhance biodiversity with riparian planting.
- For further information about environmental monitoring please visit www.nelsoncitycouncil.co.nz/environment.



Maitai River



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te kaunihera o whakatū

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