Ministry for the Environment
Manatū Mō Te Taiao

OUR WATER
Groundwater quality

As part of its National Environmental Reporting Programme, the Ministry for the Environment regularly reports on water quality in groundwater aquifers.

Data collected from over 900 groundwater sites throughout New Zealand between 1995 and 2008 was analysed for compliance with relevant guidelines and to identify national and regional trends.

Key findings

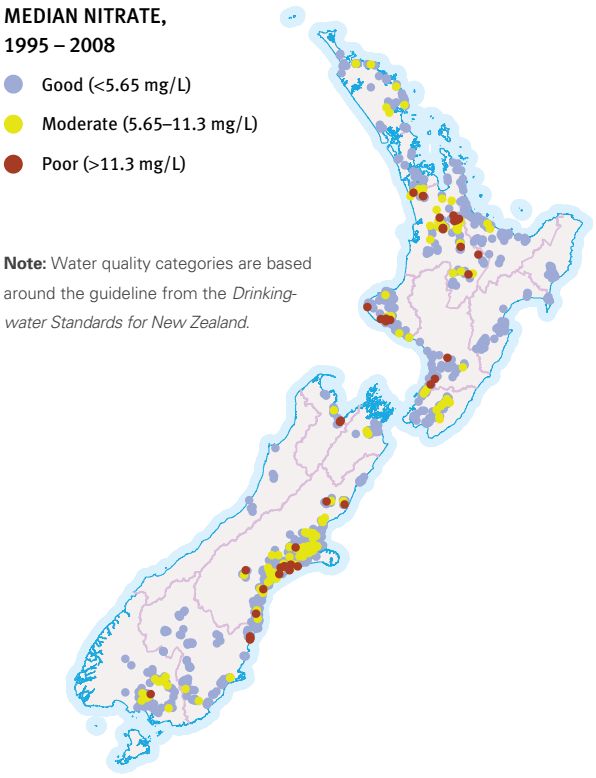
Nitrate and *Escherichia coli*

- Five per cent of sites had median concentrations of nitrate that exceeded the health-related drinking water guideline of 11.3 mg/L (although many sites will not be used for drinking water supply).
- Faecal contamination was indicated by the presence of *E. coli* at 23 per cent of monitoring sites. This may be more indicative of poor well-head protection than overall groundwater quality.
- Nitrate and *E. coli* contamination was especially common in shallow groundwater. Shallow groundwater is most vulnerable to the effects of human activities on the land.

Trends in groundwater quality

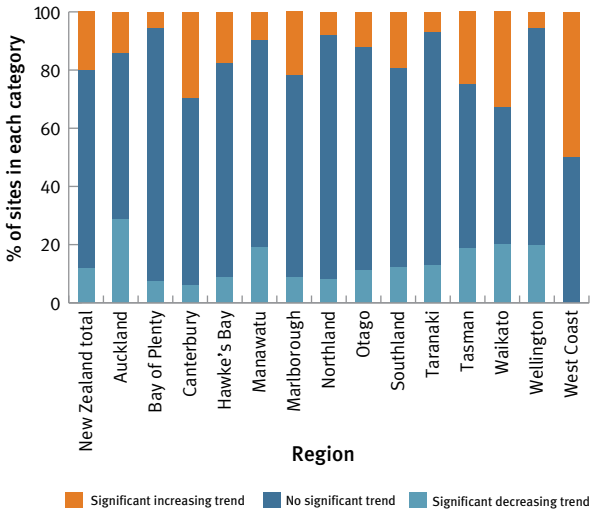
- Groundwater quality is stable or changing slowly (probably due to natural processes) at around three quarters of sites.
- About one third of sites showed significant changes in nitrate levels between 1995 and 2008. Of these, more have increasing (deteriorating) trends than decreasing (improving) trends.

MEDIAN NITRATE, 1995 – 2008



Note: Water quality categories are based around the guideline from the *Drinking-water Standards for New Zealand.*

REGIONAL TRENDS IN NITRATE, 1995 – 2008



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New Zealand Government

FOR MORE INFORMATION go to *National Groundwater Quality Indicators Update: State and Trends 1995-2008* at **www.mfe.govt.nz**

Photo source: Lloyd Homer, GNS Science.