



KAPITI

GREATER WELLINGTON
REGIONAL COUNCIL
ENVIRONMENT REPORT CARDS
2016/17



GROUNDWATER QUALITY



Why do we monitor groundwater quality?

Groundwater in the Wellington Region is highly valued, especially for drinking water supply and irrigation.

In many areas, groundwater is linked to surface water bodies including rivers, lakes and wetlands. The successful protection of these waterbodies also requires careful management of our groundwater resources.

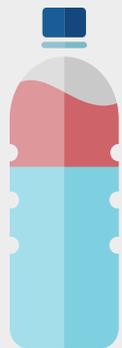
What did the 2016/17 results show?

2016/17 groundwater quality results

This year we monitored 11 bores on the Kapiti Coast. Groundwater quality in this area is generally quite good, particularly from a drinking water perspective.

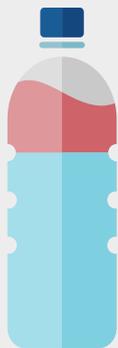
The key indicators of groundwater contamination are Nitrate and *E. coli*.

NITRATE



Three of eleven bores (27%) have elevated nitrate concentrations

E. COLI



Two of nine bores (22%) tested positive for *E. coli*

Nitrate concentrations are low (<3mg/L) in eight of the monitored bores. One bore has nitrate concentrations in the highly elevated range (but still below the drinking water standard of 11.3mg/L). This bore is in an area of intensive horticultural use and has had high nitrate concentrations for a number of years.

Two bores tested positive for *E. coli*. One of the bores (R26/6587) is uncovered providing a direct pathway for contaminants to enter – it tested positive for *E. coli* on two out of three occasions. The other bore (S25/5125) is quite shallow and located in a paddock which often has stock in it – it tested positive on only one occasion in November and is likely a result of the sample being collected soon after a significant rainfall event.

Neither bore is used for drinking water supply. However if *E. coli* is detected in a bore that is used for drinking water supply, the residents are informed so they can take precautionary measures such as boiling the water.



Excessive levels of nitrate in drinking water is bad because it interferes with the transport of oxygen in your blood

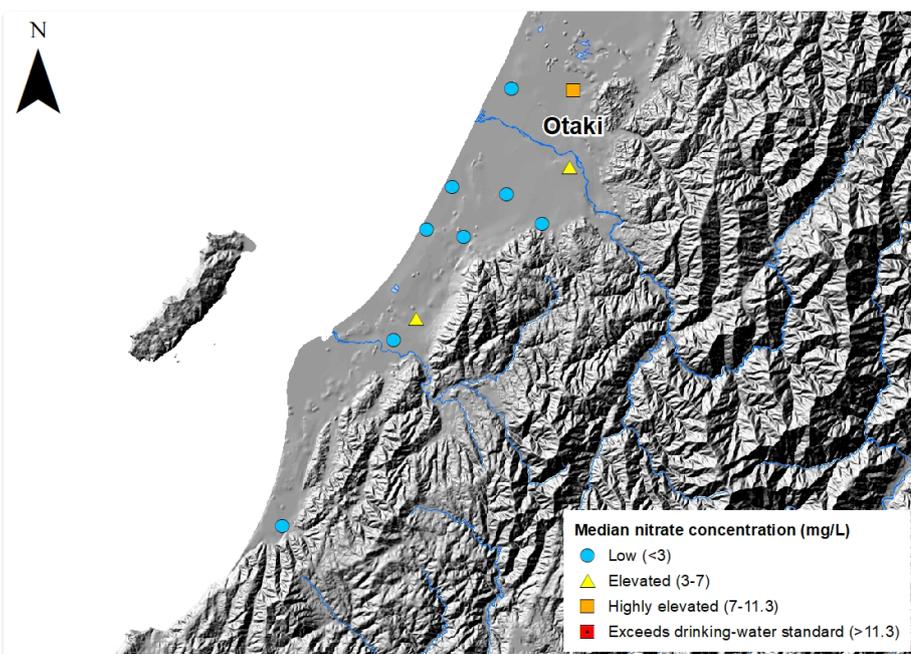
Did you know...

Rainwater can wash nitrates from fertilisers and animal manure into streams and rivers or seep into the groundwater. It can also seep into groundwater from leaky sewage pipes or septic tanks

2016/17 groundwater quality monitoring results

Bore	Groundwater zone	Bore use	<i>E. coli</i> detected	Median nitrate	Nitrate trend*
S25/5125	Otaki	Irrigation	YES	3.450	None
R25/5233	Otaki	Dairy use	NO	1.730	None
S25/5322	Otaki	Irrigation	NO	9.200	None
R25/5100	Te Horo	Irrigation	NO	0.001	NA
R25/5135	Te Horo	Irrigation	NA	0.010	NA
R25/5165	Te Horo	Domestic	NO	0.002	None
R25/5190	Te Horo	Drinking water, domestic and stock	NO	2.700	▼
S25/5200	Te Horo	Irrigation	NO	0.001	NA
R26/6587	Waikanae	Irrigation	YES	1.040	None
R26/6624	Waikanae	Irrigation	NO	3.000	None
R26/6503	Raumati	Irrigation	NA	0.023	None

*From 2017 analysis of 2003-2016 data



Nitrate concentrations are low in eight of the eleven bores monitored in 2016/17

KEY

For *E. coli*:

YES = Counts ≥ 1 cfu/100mL

NO = Counts < 1 cfu/100mL

NA = Not assessed

For median nitrate:

Low = < 3 mg/L

Elevated = 3-7mg/L

Highly elevated = 7-11.3mg/L

For nitrate trends:

▼ = Meaningful decrease in nitrate concentration

None = No meaningful trend

NA = Not assessed

Did you know nitrate is toxic to aquatic life at much lower levels than for humans?



Toxic to aquatic life



NZ drinking water standard

For further information:

Full details of the 2016/17 monitoring results can be found in our Groundwater Quality Annual Data Report published online at www.gw.govt.nz/Annual-monitoring-reports

To view or download environmental monitoring data go to <http://graphs.gw.govt.nz>