

Source Water Quality

The quality and quantity of drinking-water supplies depends on the management of point sources and non-point sources of contaminants in drinking water supply catchments and aquifers, land-use in the catchment and/or recharge area, and on the treatment provided by the local authority. Actions to protect drinking water differ for groundwater from a secure source and surface water sources. The percentage of the region’s population with access to safe drinking-water is high, but there are numerous smaller water supplies, supplying smaller communities, that are non-compliant.

Targets

From 2010:

Target 1: For those communities that currently have access to untreated and safe drinking water, implement actions to ensure the source water quality remains high enough to meet the current Drinking Water Standards for New Zealand without treatment.

Target 2: Prevent further decline in source water quality for those communities that currently have to treat drinking-water, such that this requires increased level of treatment or monitoring requirements.

Target 3: No new activities in a drinking water catchment that reduce access to sufficient quantities of drinking water supplies.

By 2020:

Target 4: A demonstrable decrease in nitrate concentrations in shallow groundwater in priority areas is achieved.

Target 5: There is an increase in the percentage of the population supplied with water that meets the New Zealand Drinking Water Standards for health based determinants.

Progress to 2020

	T2,4	T1,3	T5		
	Not started	Started	Progress	Good progress	Achieving
<ul style="list-style-type: none"> Target 1: Protecting sources of human drinking water is one of the key priorities identified by the CWMS and is addressed via the rules and Schedule 1 of the LWRP. It is also subject to the Resource Management (National Environmental Standards (NES) for Sources of Human Drinking Water) Regulations 2007. Target 2: Canterbury’s Territorial Authorities operate 165 treatment stations across 133 supplies. Microbiological contaminants are monitored for all supplies and are known as Priority 1 determinands. Priority 2 determinands, are specified for additional monitoring where supplies exceed half the maximum allowable value (MAV) for a particular health- 					
<ul style="list-style-type: none"> Target 3: A lot of work has been carried out over the past five years to improve the accuracy of the information on existing Community Drinking Water Supplies. Provisional drinking water protection zones for Community Drinking Water Supplies have been mapped. These provisions increase the level of protection for drinking water sources. Target 4: Territorial Authorities are undertaking actions to ensure source water quality remains high and distribution systems supply water that meets Drinking Water Standards for New Zealand (DWSNZ). As a key partner to the CWMS, Territorial authorities are prioritising their work to update infrastructure to ensure water quality remains of the highest standard through activity and assessment management planning. Target 5: The Canterbury Drinking Water Reference Group (CDWRG) has been established following the contamination incident in Havelock North. The CDWRG includes representatives from all councils, Environment Canterbury and the Canterbury District Health Board. The CDWRG was directed by the 					

Fig 11: Nitrate Concentration Trends

Mayoral Forum to report on public drinking water supplies in Canterbury, co-ordinate contingency planning and implement amendments to current practices.

- **Target 4:** Risk maps are produced and updated as part of a joint communication plan between Community & Public Health and Environment Canterbury to provide information to show risk of nitrate contamination in groundwater. The risk maps were last reviewed in 2015. For more information see www.cph.co.nz/your-health/drinking-water/
- Environment Canterbury monitors nitrate levels across groundwater in Canterbury annually. See fig 11 for the long-term trends in nitrate concentrations on data collected each spring from 2006 to 2015. From the 224 wells sampled in 2015, analysis shows that, nitrate concentrations have been increasing in 55 (about 25%) of those wells. The Selwyn Waihora and Ashburton CWMS zones have the highest proportions of wells with increasing nitrate trends. Overall, nine wells (4%) showed decreasing concentrations. 160 (71%) in the annual survey had no decreasing or increasing trend in nitrate concentrations.
- **Target 5:** Community Public Health assesses water suppliers compliance with the Drinking Water Standards for New Zealand across 133 registered Canterbury community water supplies. Each supply serves a different population size. Across Canterbury, of the supplies that were in place in 2012, there has been an increase in the number of compliant supplies by 37%, supplying to approximately 40,000 people (8% of the population).

Annual survey wells (2006 to 2015)

Each year in the spring, when groundwater levels tend to be highest, Environment Canterbury collects groundwater samples from wells across the region. The samples are analysed for a range of water quality parameters.

The survey provides data for evaluating long-term, regional-scale changes in groundwater quality. It also provides an annual snapshot of groundwater quality in the Canterbury region.

Data is forwarded to the Ministry for the Environment and is incorporated into national statistics on the state of the environment in New Zealand. For more information visit www.ecan.govt.nz.

