

## Population with Access to Safe Drinking-water

### BACKGROUND

Access to safe drinking-water is a fundamental tenet of public health, vital for human health. However, access to safe drinking-water is not equal across New Zealand. The majority of the New Zealand population is supplied water by a reticulated supply (piped water distribution). About half of New Zealand's drinking-water is pumped from the ground, and the other half comes from surface sources (Pricewaterhouse Cooper 2004). Treatment plants can be used to remove actual or potential contaminants from the water, such as bacteriological and protozoal contaminants.

Drinking-water supplies are not always safe, especially those that are untreated or insufficiently treated. These supplies often contain *E. coli*, an indicator bacterium that indicates the presence of faeces and hence an increased likelihood of water-borne pathogens. As a result, people can be exposed to contaminated drinking-water, which can lead to disease or death. Since 1996 the number of people in New Zealand on registered supplies that comply with the bacterial and protozoan requirements has steadily increased (Ministry of Health 2010).

This section estimates the number of people in New Zealand who have access to safe drinking-water. In particular, it examines the proportion of the New Zealand population serviced by registered reticulated drinking-water supplies known to comply with the Drinking-water Standards for New Zealand 2005 (Ministry of Health 2008), particularly with the *E. coli* and protozoal requirements.

The data on water quality were sourced from the 2008/09 Annual Review of Drinking-water Quality in New Zealand (Ministry of Health 2010). The report was prepared by ESR for the Ministry of Health and covered the 18-month period from January 2008 to June 2009.

The Annual Review contained results for the microbiological and chemical quality of drinking-water at supplies on the 2010 Register of Community Drinking-water Supplies in New Zealand. The drinking-water quality was assessed according to the standards in the Drinking-water Standards for New Zealand (for 2000, DWSNZ:2000 or 2005, DWSNZ:2005) (Ministry of Health 2008). Bacteriological compliance is best assessed at the distribution zone, while protozoan compliance is best assessed at the treatment plant. Data were supplied to ESR by public health units and/or DHBs. For the 2008/09 annual survey an alternative approach to counting the population in each distribution zone was used (Ministry of Health 2010), due to some previous issues with double-counting, but for the purposes of comparison, figures produced using the original method will be utilised in this report.

The Annual Review (Ministry of Health 2010) did not include water quality data for areas where:

- water suppliers could not be contacted or did not provide information
- supplies did not come from a registered supply.

#### References

- Ministry of Health. (2008). Drinking-water Standards for New Zealand 2005 (Revised 2008). Wellington: Ministry of Health.
- Ministry of Health. (2010). Annual Review of Drinking-Water Quality in New Zealand 2008/09. Wellington: Ministry of Health.
- Pricewaterhouse Cooper. (2004). Ministry of Economic Development Infrastructure Stocktake: Infrastructure Audit. Prepared for the Ministry of Economic Development.

