

## **New Drinking-Water Standards released today**

New Drinking-Water Standards released today are part of ongoing work to ensure all New Zealanders have access to good quality drinking water.

The standards, released by the Ministry of Health, come into effect on 31 December 2005. They apply to public and private supplies, but not bottled water.

The new Standards (DWSNZ2005) replace the current 2000 drinking water Standards (DWSNZ2000). They detail how to assess the quality and safety of drinking-water. The characteristics that define whether water is safe to drink have changed very little from earlier editions. However the criteria for demonstrating compliance have been refined.

The quality of drinking-water in New Zealand has steadily improved since the Ministry's drinking-water quality management programme was introduced in 1993.

"Most New Zealanders now have access to safe drinking-water, because the larger supplies are almost all entirely satisfactory" says Dr Michael Taylor, Senior Advisor, Public Health. "However, some communities, particularly small rural ones, do not have access to drinking-water of sufficient quality, while others receive drinking water that is either inadequately monitored or not monitored at all."

The key changes from the 2000 Standards are:

- A new section specifically dealing with small water suppliers (ie: those serving populations under 500 people)
- A new section specifically covering tankered water suppliers
- A new section dealing with cyanobacteria (previously known as 'blue-green algae')
- Amendments to the compliance criteria for *Cryptosporidium*
- Minor changes to bacteriological compliance
- Inclusion of a section on disinfection using ultra-violet light.

The revised Standards draw heavily on the recent third edition of the WHO Guidelines for Drinking-Water Quality and the United States Environmental Protection Agency Surface and Groundwater rules.

The new Standards continue to adopt a cautious approach to the potential risk from heavy metals that are sometimes dissolved out of metal plumbing fittings. The types of water that have the ability to dissolve lead (usually soft waters) are known as 'plumbosolvent' because of their ability to dissolve lead (from the Latin *plumbum*). Most New Zealand waters are plumbosolvent.

The Ministry of Health has identified a simple remedy to the problem of lead in domestic supplies. "Our advice to all consumers is to discard about a mugful of water from the

drinking taps each morning before use to flush out any traces of metals that might have accumulated within plumbing fittings overnight” says Dr Michael Taylor.

It is important to note that the lead is usually not coming from the water supplies themselves, but primarily from metals in some household fittings that may be dissolved from the fittings into the water. The amount of lead that will dissolve from a fitting depends on how plumbosolvent the water is; the temperature of the water; the composition of the plumbing fittings and how long the water has been in contact with it.

Most New Zealand waters are soft and of very good quality. They contain little dissolved substances such as calcium and magnesium salts. This contributes to their plumbosolvency, which is widespread in New Zealand. The largest concentrations of lead in domestic water supplies occur in water that has been standing in the pipes for a long time, e.g. overnight.

The Standards require all water suppliers, servicing populations over 500 persons, to notify consumers twice yearly about the potential health risks posed by minute traces of heavy metals that could be in their drinking-water.

The Ministry will work closely with Standards New Zealand and the plumbing industry in New Zealand in promoting quality standards for plumbing materials that will reduce the dissolved lead problem over the course of time.

Proposed new legislation, the Health (Drinking Water) Amendment Bill, is currently being drafted. The proposed new Act will require suppliers to take all practicable steps to comply with the Standards. The Standards will operate in conjunction with Public Health Risk Management Plans (PHRMPs) for each water supply. The PHRMPs will identify:

- public health risks to a water supply
- relative importance of these risks
- how the risks could be managed
- what the water supplier’s plans are to manage the risks
- any cases where the risks cannot be managed within existing resources and what further assistance may be required.

The water supplier’s PHRMP will assist in demonstrating whether all practical steps have been taken to try to comply with the Standards.

The Government has set up a \$150 million (GST incl) Drinking-Water Assistance Programme (DWAP) to provide technical support and funding for water suppliers that need help to improve their drinking-water treatment systems. This assistance comes in two forms: the Technical Assistance Programme (TAP), which came into effect on 1 July 2005 and, if the TAP shows that there is a case for funding, through the Capital Assistance programme (CAP) which will be funded from 1 July 2006 in response to information gathered during the TAP.

"Almost all of the larger suppliers will be capable of meeting the Standards with existing facilities. In many cases improved management of facilities is all that is required to enable a supplier to comply," says Dr Taylor.

Drinking-water assessors, attached to the Public Health Units of District Health Boards, have been specially trained to a high level of competency in assessing how well a water supply is being operated. The assessors will be able to provide technical assistance to small water suppliers.

Drinking-water suppliers that wish to implement the new standards may do so earlier than 31 December provided they advise their local drinking-water assessor first.

The Standards will be complemented by a companion document, the *Guidelines for Drinking Water Quality Management for New Zealand*, which provides information on how the Standards are determined and explanations and guidance to assist in the management of drinking-water supplies.

Details of the new Standards, the recently announced Drinking Water Assistance Programme, and procedures for developing Public Health Risk Management Plans, are available on the Ministry's website: [www.moh.govt.nz/water](http://www.moh.govt.nz/water)

For more information contact:  
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<http://www.moh.govt.nz/media.html>

## **Background Material**

In New Zealand great progress has been made in the last 40 years in improving the quality of human waste discharges from sewage treatment plants. However changes in farming have greatly increased the reservoir of potentially waterborne human pathogens carried by animals. Added to this are disease vectors such as possums and birds that, in particular, can contaminate roof water. There are now few surface water sources free from risk due to water-borne disease organisms, and ground water sources are also increasingly coming under threat.

Although several waterborne disease outbreaks occur in New Zealand each year, we have been lucky in that, since the Queenstown episode in 1984 when 3,500 people became sick because of contaminated drinking-water, these have been small and, so far, have not involved susceptible populations being exposed to the more virulent waterborne pathogens.

### **Proposed amendment to the Health Act**

A Health (Drinking Water) Amendment Bill is currently being drafted. This proposed new legislation will address issues relating to the safety and quality of drinking-water, once the raw water has been abstracted from the catchment. It covers all water supplies that are not subject to the Building Act 2004 or to legislation administered by the New Zealand Food Safety Authority.

### **The need for a law change**

The law is being changed because NZ law as it relates to drinking-water is virtually unchanged from the UK public health legislation of the 1870s when water was untreated and sourced directly from unprotected streams and wells. It is fragmented and outdated and does not meet modern day needs.

### **Plumbosolvency**

Traces of metals - in particular lead - are of concern because over time they pose a potential health risk, especially if consumed from childhood. Research carried out by the Institute of Environmental Science and Research for the Ministry has shown some New Zealand supplies contain minute traces of lead that are near to or exceed the maximum acceptable level specified in the Drinking-water Standards.

It is important to note that the lead is not coming from the water supplies themselves, but primarily from metals in some household fittings that may be dissolved into the water. The amount of lead that will dissolve from a fitting depends on how plumbosolvent the water is; the temperature of the water; the composition of the plumbing fittings and how long the water has been in contact with it.

The fact that most New Zealand waters are of very good quality and contain little dissolved substances such as calcium and magnesium salts contributes to their plumbosolvency, which is widespread in New Zealand. The Ministry of Health therefore recommends that people do not drink the first mugful of water if their tap has not been used for several hours ie: overnight for instance. Instead, people should run the tap for a second or so, which will quickly flush-away any water that has become contaminated with lead or any other metals from the plumbing fittings. The Ministry will work closely with the Standards New Zealand and the plumbing industry in New Zealand in developing quality standards for plumbing fittings. Additional details on this issue can be sourced from the Ministry's website.

## **QUESTIONS AND ANSWERS**

### **Why is the Ministry of Health so concerned about drinking-water quality?**

The microbiological quality of drinking-water is an important factor in maintaining public health. Failure to maintain high microbiological standards by not managing bacteria and viruses leads to the potential for outbreaks of disease, if the water becomes contaminated by pathogens that the community has not become immune to. Although

the local community may become acclimatised to the presence of micro-organisms that are regularly present in the water, and develop a resistance to them, visitors to the area may be affected and contamination by new micro-organisms which are evolving all the time (e.g. SARS) could negate the community's acquired immunity.

### **How clean is our drinking-water now?**

According to the Drinking-Water Survey 2003, released in March this year, water supplies provided to 71 percent of New Zealanders, in 2003, complied with bacteriological standards. This represents a two percent improvement since 2002.

About 1.1 million New Zealanders were supplied with drinking-water during 2003 that failed to comply with the current DWS2000 Standards.

Many of the causes for this non-compliance centred on levels of *E. coli* or a failure by suppliers to take proper action, including monitoring, after it was found. Some didn't use accredited labs, or supplied water from an unregistered source.

This did not necessarily mean 1.1 million people received unsafe drinking-water during 2003. It simply meant water suppliers did not demonstrate the water was safe. Most of the supplies that didn't comply were from private domestic supplies or small rural supplies that were either not monitored or were monitored inadequately. In general, large metropolitan areas and provincial cities are served by supplies that comply with microbiological standards.

While water quality Standards are the same throughout New Zealand, monitoring requirements are stricter for supplies serving large populations than those for smaller populations.

### **What other activities have been underway to improve the quality of drinking-water?**

The Annual Review of the Microbiological and Chemical Quality of Drinking-Water in New Zealand is published by the Ministry as part of an organised campaign that started in 1992 to improve the quality of the country's drinking-water.

Other tools used to develop the safety of the nation's drinking-water since 1993 are:

- The Drinking-Water Standards for New Zealand 1995 and 2000
- The development of the Drinking-Water Standards for New Zealand 2005
- External surveillance by Health Protection Officers
- A register of Community Drinking Water Supplies
- Public Health Grading of Community Water Supplies
- An Annual Report on the Microbiological Quality of Drinking Water Supplies in New Zealand
- Guidelines for Drinking-Water Quality Management in New Zealand

Register of Ministry of Health Recognised Laboratories for drinking-water compliance testing  
Laboratory accreditation requirements for all testing laboratories  
National electronic water quality database (WINZ)  
Public Health Risk Management Plans for drinking-water supplies.

These activities have been very successful in improving the safety of public water supplies but the Ministry now believes it has reached the limit of what can be achieved with non-regulatory intervention.

### **What action is the Ministry for the Environment taking?**

The Ministry for the Environment is complementing the Ministry of Health's proposed drinking-water legislation by developing a national environmental standard (NES) under the Resource Management Act for source water to be used for drinking water purposes. The proposed NES will ensure that the quality of water entering water treatment plants is managed under the Resource Management Act.

### **What is a registered water supplier?**

The Ministry of Health maintains a register of all water suppliers that serve 25 people or more for at least 60 days each year that it is aware of. Water suppliers fall into two groups: local authorities, and private organisations or communities responsible for the operation of their own drinking-water supplies. The current register of suppliers includes town and rural water supplies, food outlets, schools, marae, sports clubs, hospitals, hotels, motels and camping grounds.

In 2003 the register contained 2,223 distribution zones and 2,169 water treatment plants and covered an estimated 87 percent of the New Zealand population. The microbiological and chemical quality of drinking water was assessed against the DWSNZ2000 Standards, using a survey of all treatment plants and distribution zones.

For more information please contact the Public Health Unit of the local District Health Board and ask to speak to a Drinking-Water Assessor.

**People wanting more information are advised to call the Public Health Unit of their DHB and ask to speak to a Drinking-Water Assessor:**

Northland	(09) 430 4100	Wellington, Hutt, Wairarapa	(04) 570 9002
Auckland, Manukau, Waitemata	(09) 623 4600	Nelson	(03) 546 1537
Waikato	(07) 838 2569	Blenheim	(03) 520 9892
Whakatane	(07) 306 0847	Canterbury	(03) 379 9480
Tauranga	(07) 577 3317	South Canterbury	(03) 688 6019
Rotorua, Taupo	(07) 349 3520	West Coast	(03) 768 1160
Tairāwhiti, Gisborne, East Coast	(04) 570 9002	Otago, Dunedin, Queenstown, Central Otago	(03) 474 1700
Taranaki, New Plymouth	(06) 753 7798	Invercargill, Southland	(03) 211 0900
Hawkes Bay and Chatham Islands	(06) 834 1815		
Manawatu, Wanganui, Palmerston North	(06) 834 1815		

**More information can be sourced from:**

Ministry of Health

[www.moh.govt.nz](http://www.moh.govt.nz)

Drinking Water for New Zealand

[www.drinkingwater.org.nz](http://www.drinkingwater.org.nz)

Ministry for the Environment

[www.mfe.govt.nz/issues/water.htm](http://www.mfe.govt.nz/issues/water.htm)

New Zealand Water and Wastes Association

[www.nzwwa.org.nz](http://www.nzwwa.org.nz)