

TAPPED IN

Bringing you news, updates and information from Watercare



Want to know how we treat your drinking water? See inside.

Henry, who is in Room 3 at Bairds Mainfreight Primary School, enjoys a glass of 'Aa'-graded drinking water straight from the tap. Every day, 1.4 million other Aucklanders do the same.

The students at Bairds Mainfreight Primary School in Otara have been busy doing water experiments with our education co-ordinator Sally Smith. Each year, Sally delivers hands-on water and wastewater lessons to students at primary and intermediate schools around Auckland. To find out more about our education programme, or to book lessons at your school for next year, look for 'education programme' under the 'community' tab at www.watercare.co.nz.

'Aa' OK!

Every day, we work hard to deliver 'Aa'-graded drinking water to 1.4 million people throughout Auckland.

Fresh water is a vital resource, essential for the health and well-being of everyone. We collect Auckland's drinking water from a number of water sources throughout the region, including dams, rivers and underground aquifers. This raw water can contain contaminants ranging from large debris to micro-organisms. Therefore we treat the water in our water treatment plants to make sure it meets the requirements of the Ministry of Health's Drinking Water Standards for New Zealand 2005 (revised 2008). The result is safe water that you enjoy from your taps each day.

The Ministry of Health checks many different aspects of the water before it is given a two-letter grading. The first letter represents the

quality of the water leaving the treatment plants, and takes the quality of the source water into consideration. The second letter represents the quality of water received at your home or business. An 'Aa' grade means your drinking water is of the highest quality.

We constantly monitor the water as it goes through the treatment process. From 1 July 2015 to 30 June 2016 we carried out an average of 250 tests each day at various stages of the process, from raw water right through to treated water. In addition, our automated computer network analyses the water quality at our treatment plants 24 hours a day. We also have a number of safety measures in place to protect the water network if our monitoring finds anything unusual. You can be confident that the water flowing from your taps always meets drinking water standards.

In November 2010, we became responsible

for the end-to-end delivery of water and wastewater services for Auckland. We inherited water pipes, reservoirs and treatment plants from a number of different local suppliers. This meant there was a considerable amount of inconsistency in the quality of drinking water across the region.

"Improving the quality of the water to bring all of Auckland into line was our top priority at the time, so we began instigating a range of projects to address the problems we inherited," says chief executive Raveen Jaduram. "Since then we have continued to treat and deliver drinking water at a consistently high standard."

All of the money we receive from you goes back into your water and wastewater services. We do not pay our shareholder, Auckland Council, a dividend or receive ratepayer money.

How we treat your drinking water

Auckland's water supply comes from three different sources: dams, rivers and underground springs.

Most homes and businesses are connected to the metropolitan network, which extends as far south as Pukekohe and as far north as Waiwera.

This network is served by water storage dams in the Hunua and Waitakere ranges, an aquifer in Onehunga and by the Waikato River. Overall, about 98 per cent of the water we treat feeds into this network.

Some of our rural communities have a local source. For example, people living in Waiuku receive water that is sourced from an aquifer.

It is treated and distributed via the town's local network.

Because there is a wide variety of sources, a broad range of water treatment processes need to be used. For example, water from the dams in the Hunua and Waitakere ranges is sourced from catchment areas that are protected from farming and industry and largely comprise native bush. It is of a high quality naturally, so it requires less complex treatment for it to meet the Ministry of Health's Drinking Water Standards for New Zealand. Water from the Waikato River,

however, travels through a number of different environments on its journey to the water treatment plant at Tuakau, so it goes through additional treatment processes.

We operate 15 water treatment plants that supply drinking water to the Auckland region. Each plant is designed to deal with the characteristics of its particular sources of raw water. Typically, we use a combination of screening, coagulation, clarification, filtration and chlorine disinfection to treat and supply Auckland homes and businesses with high-quality, safe and reliable water.

Treating water from dams

1 Screening

Water passes through 'screens' that remove any large debris, such as leaves, branches, rubbish and dead insects.

2 Coagulation

Although large debris have now been removed, the water still contains dirt. To remove this, we typically add a compound known as aluminium sulphate (alum) to the water. The alum and dirt particles stick together (coagulate) into large, heavier particles called 'flocs'.

3 Clarification

The water is pumped into settling tanks, or clarifiers, where the majority of the floc settles on the bottom of the tank and is removed. The clarified water is collected from the top of the tank.

4 Filtration

The water is forced through sand filters. These trap any final particles that are in the water.

5 Chlorine disinfection

Chlorine is added to disinfect the water. This kills any germs (micro-organisms), such as E. coli and campylobacter, which might remain after filtration.

6 Fluoride

Fluoride is added to the Auckland metropolitan water supply, with the exception of Onehunga. This is at the request of Auckland's legacy councils (prior to Auckland Council integration). Fluoride is not added at rural and non-metropolitan treatment plants.

7 pH balancing

The final stage in the treatment process is to balance the pH of the water.



Samuel and Maya Perera check a sample of clarified water at an open day at the Ardmore Water Treatment Plant.

Summer activity!

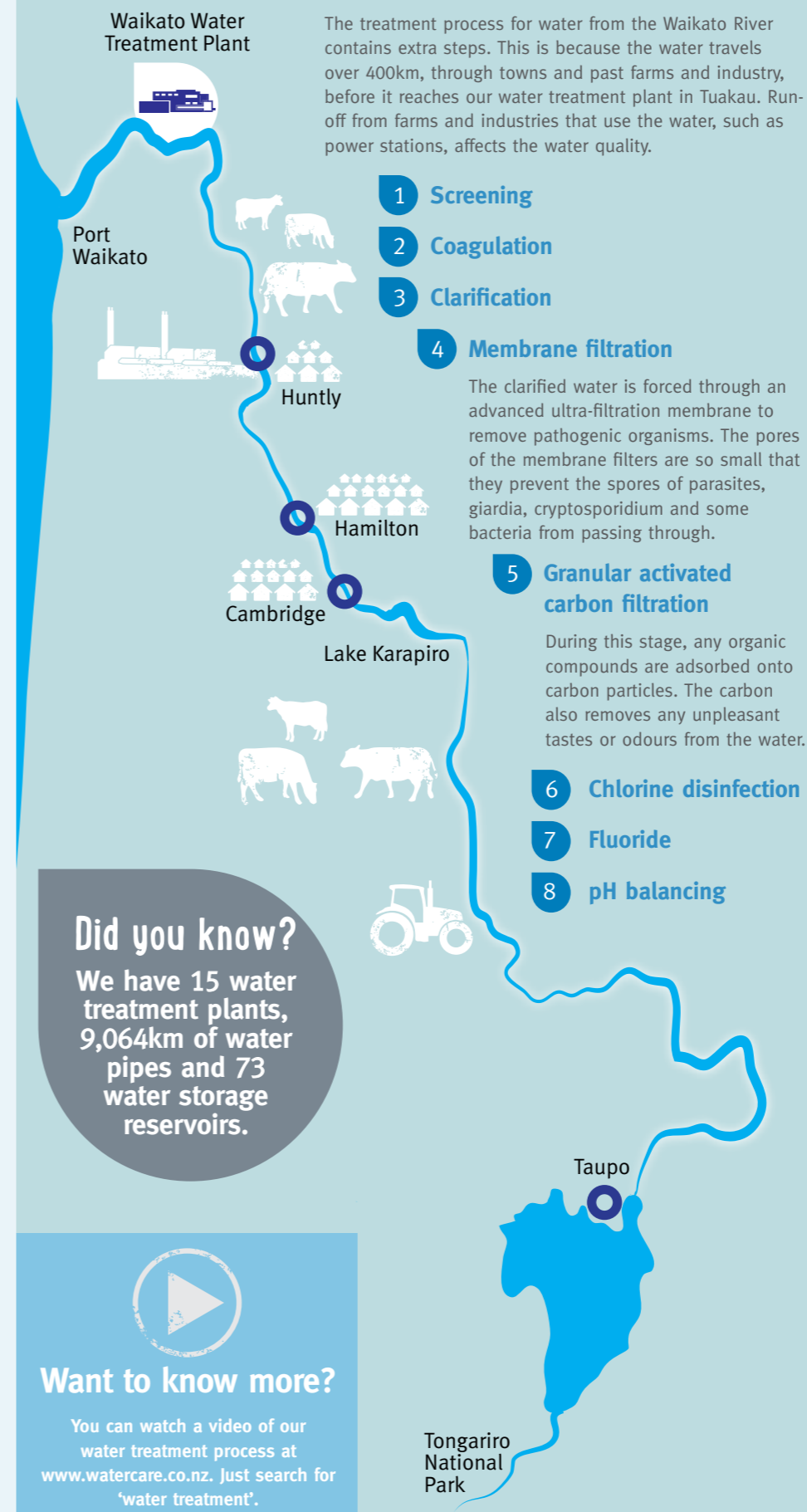


Wairoa Dam in the Hunua Ranges.

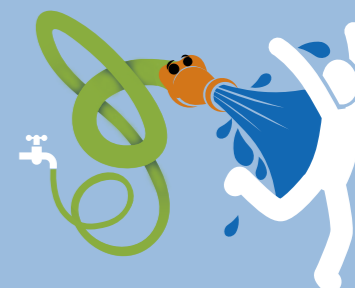
You can visit many of these dams! There are walking tracks around several of our dams in the Hunua and Waitakere ranges. They are a great – and free – way to spend a summer's day.

Visit regionalparks.aucklandcouncil.govt.nz to find out more.

Treating water from the Waikato River



Don't let your hose run wild this summer!



Kiwis love green lawns and clean cars. We do, too. But we also know it's easy for your hose to run wild and for thousands of litres of water to be wasted. Here are two tips to tame it...

- Let your hose off-leash on the lawn once a week. Your grass will stay greener if you give it a good soak once a week, rather than a light sprinkle every day.
- Train your hose to heel while you wash your car with a bucket and sponge. Reward it at the end by giving your car a quick splash.

We've got a lot more water-saving tips for summer at www.watercare.co.nz. Search for 'Be Waterwise'.



Leaks...

These can occur outside as well as inside your home. In summer, look for damp patches in the garden, lawn or driveway during dry weather. Check for dripping taps and fittings and listen for running water within your property when no taps, hoses or showers are turned on.

For more information on how to check for leaks, visit www.watercare.co.nz and search for 'check for leaks'.

Testing ensures top tap water

Testing is a vital part of ensuring that the drinking water we provide is safe and always meets the Ministry of Health's drinking water standards.

While it is very unlikely that contaminants will be introduced into the water supply network or that any bacterial growth will take place in the water, every day we carry out an average of 250 tests on water samples from a number of points throughout the network. Our lab is accredited by International Accreditation New Zealand to ISO 17025 (General requirements for the competence of testing and calibration laboratories).

Raw water from the various sources is tested for any contaminants that may be present, either naturally or from human activity, which would be harmful to your health. These include micro-organisms that can cause gastrointestinal illnesses, such as E. coli, giardia and cryptosporidium. Testing at this stage ensures we're using the correct treatment processes for the source's water quality. It also allows us to take actions like restricting the use of a particular source in the event of an unusual result.

We test the water leaving our water treatment plants as well, checking various chemical parameters and looking for any indicators of micro-organisms in the water. We also monitor the pH, water clarity and residual chlorine



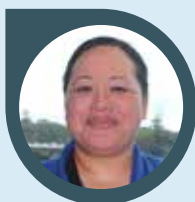
From 1 July 2015 through to 30 June 2016, we completed 91,522 tests on your drinking water before it reached your tap.

levels of water coming from all water treatment plants and at 108 other points across the water network. This ensures that the water flowing from your taps is of the highest 'Aa'-grade.

We have a number of plans in place should an unusual result be returned. This may include temporarily shutting off a particular supply, varying the treatment process, or isolating or flushing parts of the network. In the unlikely event of such an occurrence, we always advise the Medical Officer of Health, who is kept informed as we manage the situation, and carry out further testing during and after an investigation to identify the cause of the unusual result.

You can find our water quality reports at www.watercare.co.nz. Search for 'water quality' and then click on the 'reports and publications' link.

Ask Nisi



"Can I pay Watercare's contractors to fix my private issue?"

Our contractors cannot fix issues with private networks – even if you offer to pay for parts and labour. This is because they are under contract with us to work on the public networks.

We are responsible for maintaining the public water and wastewater networks, as well as for the water meter that serves your property. Fixing issues within private networks (which are usually defined as the pipes and fittings that are on a property) are the responsibility of that property's owner.

If you need to fix a private issue, we recommend that you contact a local registered plumber, who can assess the issue for you.

If there's something you've been wondering about in regard to our water or wastewater services, ask Nisi by emailing asknisi@water.co.nz.

We're excited to launch a new feature for our newsletter – Ask Nisi.

Nisi Hakeai leads our faults management team. She has been with us since 2010, when we became responsible for the entire region's water and wastewater services. Before that she managed the network service centre at Metrowater; so, it's fair to say Nisi knows her stuff when it comes to water, wastewater and customer service!

What does the faults management team do?

When you ring up to report a problem with your water, we're the ones you speak to.

The team acts as a bridge between customers and the operational areas of the business. It's important for us to collect as much information about the problem as we can, so that the teams in operations can get out and fix the problem – and get it right the first time. We also keep customers informed about the status of their problem and do any following up that needs to be done.

From 1 July 2015
to 30 June 2016

we carried out

**20,476
TESTS**

at our water sources,
i.e. dams, rivers & aquifers,



**31,605
TESTS**

on the water
as it passed through
our treatment plants



and

**39,441
TESTS**

on water samples
collected in our
distribution system.



KEEP IN TOUCH

Tapped In is your newsletter. If you would like to talk to us about any stories from this edition or your ideas for future issues, we'd love to hear from you. To get in touch, please phone our communications team on (09) 442 2222 or email info@water.co.nz. You can learn more about what we do at www.watercare.co.nz.