

Te Kaitiaki Wai

Wellington Water's official magazine | Summer 2018/19

Passionate about water

Wellington water lovers
on looking after our most
precious taonga

The Battle for Waterloo

How we protected
the health of
our customers

Partnering with Plunket

Helping parents
avoid bills after
'poonamis'



**Wellington
Water**

Our water, our future.

Cooling off after a walk in Upper Hutt.





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a demanding business

Sometimes it seems Mother Nature loves nothing better than to keep us on our toes.

Summer really leapt out of the blocks last year. After months of typical Wellington rain, November 2017 was the third driest on record. This caught us on the hop, because at the same time as water demand shot up to over 180 million litres a day (from an average around 150MLD) we were also working on important upgrades to two of our three main drinking-water treatment facilities, at Waterloo and Te Marua. Our chief advisor for potable water reviews the Battle for Waterloo in this issue's feature.

All things being equal, Wellington has a well-balanced supply and demand dynamic. We have a couple of storage lakes to get us through when our river levels drop, and traditionally, we don't need to use residential sprinkler bans (if at all) until late January or February, when summer really kicks in.

We want Wellingtonians to enjoy the water we supply, but we do need to encourage the responsible use of water during hot summer months, and supplying safe drinking water trumps manicured lawns. At the same time, the region is growing. We need to consider the impacts of population growth on our region's infrastructure, and for us that means being able to supply and treat enough drinking water, as

well as ensure wastewater is fully treated before it re-enters the environment.

We've identified that if per capita demand for drinking water is not reduced we will need to consider bolstering our storage capacity by the year 2040. Which, given the lead-in time to develop and build a new source, means we have to think about this now. Future service studies for drinking-water and resilient networks are getting under way; in the meantime, helping make the public more aware of what they can do to help themselves and the environment is a key role for Wellington Water.

It isn't easy to effectively communicate the need for water restrictions and bans when we live in a region that is perceived as a bit wet and wild. Many of our customers don't even think about where their water is coming from, let alone how it's treated or delivered to their homes or what happens to it next.

Raising awareness about our region's unique source-to-tap and back again story will help our customers understand how much time, money, and love goes into making sure the drinking-water we provide is safe, and hopefully

He wai, he wai
He wai herenga tāngata
He wai herenga whenua
He wairua
He waiora

Tis water, tis water
Water that joins us
Water that necessitates the land
Soul of life
Life forever

encourage them to adopt water conservation behaviours at home and in the garden.

To help us with this, we're asking water lovers to share their stories; and we've entered a partnership with Plunket to help spread the word on the 3Ps (Pee, Poo and Paper).

Speaking of stories, we've embarked on an internal programme to find out more about what good customer service looks like for the different teams within Wellington Water. This will be particularly important as our new service delivery alliance takes shape. We want to be good at customer service, so that people will be willing to work with us on achieving our customer outcomes: safe and healthy water; respect for the environment; and resilient networks that support the economy. Let's hope this summer that nature helps us all enjoy the taonga that is water safely and with the love and respect it deserves. ■



in brief

A look at what's been happening at Wellington Water, and the wider three waters' sector.

Checking up on next generation of engineers

Wellington Water's Chief Executive Colin Crampton went along to the Weltec engineering graduation day, to check out some of their projects and talk to the next generation of infrastructure managers, designers and project managers.

Colin encouraged the new graduates to remember the true purpose of their work as future professionals, and the importance of being able to tell their story to the people they are doing the work for.

"At the heart of what we do as engineers is making things work for the benefit of people, communities or the environment. Whatever we do we must be able to effectively communicate with the people we provide service to." ■



Colin Crampton (left) finds out more about Weltec engineering student projects with Michael Thomson, final year BEngTech student at Weltec, and Kennie Tsui, Engineering New Zealand Wellington Branch Chair.

Tell us what you think

We're now seeking community feedback on ways to improve the health of Porirua Harbour and the catchment, by upgrading the wastewater system that serves Porirua and northern Wellington suburbs.

This work is one of Porirua City Council's four long term strategic priorities.

"Te Awarua-o-Porirua Harbour is the heart of our city and community," says Councillor Ross Leggett. "It is taonga for Ngāti Toa Rangātira and it is one of our community's greatest ambitions to improve its health."

Read more about the project on **page 44**. ■



Te Awarua-o-Porirua

New Chief Financial Officer, Mark Ford



Mark Ford starts with Wellington Water in December, stepping in for Audrey Scheurich, who is taking up a Chief Financial Officer role with The Lines Company, in the King Country.

Mark is an experienced finance and operational management professional with over 20 years experience as a senior manager within the media/publishing, financial services, transport and government sectors. Mark is currently leading the finance team at Greater Wellington Regional Council.

You can often see him running, mountain biking or tramping the many great trails around Wellington. ■

Council engagement key to three waters overhaul

Noting that New Zealand's "three waters system faces critical funding and capability challenges" Local Government Minister Nanaia Mahuta has announced plans to hold a "strategic conversation" with local government about community wellbeing and proposals to overhaul the regulation of water.

"It's important to initiate the conversation about how Central and Local Government can contribute, enhance and support the types of expectations that communities seek around environmental stewardship, urban planning and place-making, public services and amenities, housing and community development and intergenerational wellbeing," the Minister said.

Already facing critical capability and funding challenges, "pressures such as aging infrastructure, population changes, increased tourism numbers and the need to build in resilience against climate change and natural events" will only make matters worse if nothing is done, Minister Mahuta said.

The multi-agency review will report back to Cabinet in June 2019 with proposals for water regulation, and at the end of next year with further proposals relating to service delivery. ■



Nanaia Mahuta, Minister of Local Government, visiting the newly installed ultraviolet (UV) unit at Waterloo Drinking Water Treatment Plant in March 2018. This work was part of establishing a multi-barrier approach to ensure safe drinking water for our customers.

INTERVIEW

Graeme Johnson Chief Executive, Fulton Hogan



We sat down with Fulton Hogan's Chief Executive, Graeme Johnson, to learn more about his company and discuss the upcoming alliance and what it means for Wellington Water and the region.

Tell us a bit about yourself – how did you get to be CE of Fulton Hogan?

I started with Fulton Hogan about 15 years ago, based out of our Wellington branch, on the front-line working in construction, civil and maintenance teams.

I received some great support from Fulton Hogan and was able to undertake my Diploma in Civil Engineering locally at Weltec and then moved into a range of engineering roles locally for the company.

In 2006 I joined our heavy civil and projects division, and completed a Bachelor of Engineering at the University of Canterbury at the same time.

After a few years seconded away as a structural engineer with a design firm I returned to Fulton Hogan to take on a management role looking after the delivery of a number of large structures in various projects, before my family and I moved back north to Auckland to run our heavy civil business across the North Island and up into the South Pacific. Four years ago we moved back to Canterbury where I looked after our South Island business, and then last year I was given the opportunity to take on the CE role.

Fulton Hogan has provided me with some great support and opportunities over the years, and I'm honoured to help lead the business forward. We have an awesome team.

What do you think are the big water issues for New Zealand?

I think there are three really big issues for water in New Zealand:

1. Need for a simplified regulatory framework.
2. Fragmented industry with lack of scale. Scale is impacting on investment capability and this could potentially get worse as New Zealand enters a period where we start replacing the original underground assets in our communities.
3. Attracting young people into the industry at all levels.

'Alliance' is a pretty generic word for working together. How do you see the Wellington Water alliance as unique? What will customers see?

Alliancing gives you a framework to bring the best from the client and the contractor resources together and through collaboration, get the very best outcomes for the customer. What is unique about the Wellington Water alliance is that Wellington Water have over 50 people going into the alliance – more often than not clients are not able to front with a level of resource like this and in this case, will ensure a strong Wellington Water flavour and that institutional knowledge is embedded in the alliance. This alliance will also be 'hard wired' into Wellington Water whereas a number of alliances are set up as project entities outside the client and contractor organisations. The alliance will ensure that customers see no drop in service through the transition period and that over time, service is enhanced for the same or lower cost.

What's your favourite memory of water?

I like getting out into the bush and high-country around the South Island, so one of my favourite memories of water would have to be coming back down off the hill on a hot day and diving straight into a fresh, cool river for a swim, even better if you've got your family and some mates with you.

We're very lucky in this country with our access to water, but it is under pressure and we can't take it for granted. We must do our best to respect, honour and preserve this wonderful resource for future generations.

We're currently progressing contract negotiations with Fulton Hogan and are setting up an interim agreement that will help oversee the implementation of the alliance leading up to the handover in July 2019.

Read more about the alliance process on **page 8**. ■

passionate about water

Looking after water is part of being a Wellingtonian – that way there'll always be enough water to enjoy all summer long.



We've launched a water lovers campaign and over the coming months, we'll be profiling Wellingtonians who love and appreciate our most precious and essential taonga – water.

From the exotic wilderness of the

Zoo in Newtown to the Splash Pad in Porirua, we'll be asking everyday Wellingtonians about what they're up to with Wellington water, their tips on responsible water use, and why they love it so much.

Visit loveeverydrop.nz and you'll be able to hear New Zealand Junior

and U23 Rowing representative Ruby Willis' thoughts about water after her experience in Rio de Janeiro, and meet Richard and Red, who made their own sustainable water pond using recycled rainwater, to learn more about its benefits and why it makes their backyard look really cool. ►

Why do we need to conserve water?

We need to look after our water all year round, because it is a precious taonga, or treasure. During the summer months, conserving water is especially important because we see a significant increase in the demand for drinking water. This is because more and more people head outdoors – watering the garden, washing windows, filling swimming pools, and playing in sprinklers all contribute to an increase in demand.

On average, we supply 145 million litres of treated drinking water per day to the residents of the metropolitan Wellington region. This can soar to over 180 million litres on hot days. High demand is not sustainable, as we are limited as a region to the amount of water we are able to take from our three

catchments, and deliver through our pipes. We're also a growing region. It's predicted by 2040 that if we don't reduce our demand, and our population continues to grow, we will need to find an alternative water source or build more storage facilities (either of which will come at a significant cost to ratepayers). To meet future service challenges we plan 30-50 years in advance, and over the coming three years we will complete a strategic business case on sustainable water supply. This will help us to better understand the issues, challenges and possible solutions.

Reducing residential outdoor water use

To make sure there's enough water to last all summer long, every year garden watering restrictions are put in place during daylight

saving months (30 September 2018 – 7 April 2019) in Lower Hutt, Porirua, and Wellington. Garden watering restrictions are in place all year-round for Upper Hutt.

These restrictions are council bylaws and are base-level restrictions, meaning they can be increased depending on demand and supply around the region. They allow for the use of a single watering system (sprinkler, irrigation system, soaker hose, or unattended hose) between 6-8am and 7-9pm, on allocated watering days:

- even-numbered houses on even dates of the month (2nd, 4th, 16th, etc.)
- odd-numbered houses on odd dates of the month (1st, 3rd, 11th, etc.)

To promote these restrictions we distribute flyers and place



digital, newspaper, and radio advertisements throughout the region. We also spread the word at events and community days such as the Go Green and Home and Garden expos to promote the restrictions.

To read more about garden watering restrictions, visit wellingtonwater.co.nz/your-water/drinking-water/looking-after-your-water

The importance of loving every drop

Safe, reliable drinking water costs a lot of money to extract, treat, and deliver to people's homes.

We want our customers to look after the treated drinking water delivered to them. To help do this we are promoting our Love Every Drop message.

Love Every Drop is about enjoying

and using water all summer long, rather than running out and having to introduce water restrictions like sprinkler bans or outdoor water use bans.

We all have a responsibility to help make sure our water can be enjoyed all summer long.

Water is a big part of what it means to be a Wellingtonian, and we want people to feel like they are part of a community of like-minded water lovers that all care about this precious taonga and our amazing region.

Love Every Drop runs from October 2018 to March 2019 – so when you're out and about keep your eyes peeled and see if you can spot the Water Lovers around your region.

To read more about conserving water and for helpful tips visit loveeverydrop.co.nz ■

2018-21 Statement of Intent DELIVERING ON OUR PROMISES

Our customers will reduce the amount of water they are using at home because they have the information they need to be able to make informed decisions and change their behaviours (SOI measure 5).

UPDATE: In quarter one we have run marketing campaigns targeted at our customers that provide important water conservation messages. We will measure the success of these campaigns as the year progresses.

We will understand our future service needs by completing the following three studies (carbon reduction; smart services; and resilient networks) and progressing the following strategic and business cases: sustainable water supply; receiving water quality; stormwater – flooding; sludge management; and supporting growth (SOI measure 15).

UPDATE: In quarter one we have completed the sustainable water supply strategic case and the sludge strategic case is well underway. We have yet to commence the resilient networks study.



game changer

Creating value for money through an innovative alliance approach.

To improve the quality of our services, and provide value for money to our client councils' ratepayers, we're introducing an innovative alliance approach to maintaining our three water networks.

Over a year ago we started to actively engage possible alliance partners and other stakeholders to design an alliance model that will help us achieve all this and also continue to incentivise our partner to deliver ongoing benefits and value for our customers and client councils over the longer term.

We landed on a model that sees a contractor embedding themselves within Wellington Water and providing resources, systems and expert know-how to supplement our existing network maintenance capabilities and strengths. It's a new way of working that is something of a game changer in the industry and one we're really excited about.

To find the ideal alliance partner we have undertaken a multi-stage procurement process that saw us identify three possible partners from an initial registration of interest process. We then spent three months undertaking a competitive dialogue process to allow us to refine our needs and understand these possible partners further. We had ten workshops with these companies discussing our needs around a range of topics, including service delivery, health and safety, customer service, and technology.

Using what we learned from these discussions we developed a request for proposal and got some really great responses from the three companies. After rigorous evaluation and due diligence we were pleased to choose Fulton



Implementation and change workshop.



Implementation and change workshop.



Customer focus workshop.

Hogan to be our alliance partner. As well as demonstrating some great capabilities through the process, the Fulton Hogan team consistently showed the best understanding of what we are trying to achieve through the process – to find ways to really drive better value and services for our customers.

Our alliance preparation and implementation planning work has started and we've already made some great progress with the Fulton Hogan team. Formal work on the network by the alliance team won't start until July next year, but we're giving ourselves time to get things fully developed so we can start to deliver on our promises to our customers.

Keep an eye out for further updates on the alliance in future issues of Te Kaitiaki Wai, and find out a little more about Fulton Hogan's Chief Executive in our interview with Graeme Johnson on [page 4](#). ■



Commercial workshop.

2018-21 Statement of Intent DELIVERING ON OUR PROMISES

We will deliver our service delivery strategy by implementing the alliance, implementing the contractor panel, and introducing a regional approach across all wastewater treatment plants (SOI measure 43).

UPDATE: In quarter one we have progressed the alliance partnership and have announced Fulton Hogan as the preferred supplier, we are now working on the Interim Alliance Agreement.

you can't beat Wellington on a good day!

With the support of our consultancy panel, we sent a dynamic duo off to the UK to scout out promising talent, to help address a shortfall in water sector professionals.



Wellington is a vibrant, growing region and our developing water sector has a number of exciting opportunities for motivated and innovative three waters professionals. We're always interested in working with smart people to help us make a difference to our region's stormwater, wastewater and drinking water networks.

Over the past decade water sector capability in New Zealand has generally been under-invested. We've made great strides to reverse this trend, but we can't do this alone and we need the sector to collaborate to make sure we are attracting the best people. To do this we are working with our consultancy panel (GHD, Stantec, WSP Opus, Beca, Mott MacDonald and Calibre), our newly formed contractor panel, and our alliance partner to promote the Wellington region as a great place to work, and look to appoint people from a 'best for the sector' mentality.

That's the message we gave potential recruits when Tonia Haskell (Group Manager Network Development and Delivery) and Ian McSherry (Chief Advisor, Service Delivery) headed to the United Kingdom and Ireland to attend recruitment expos and meet capable people keen to support our fast growing teams.

Over the two expos, Tonia and Ian met a diverse range of people, with all sorts of qualifications and aspirations, and interviewed a number of people with the right water or construction expertise.

Overall, the recruitment push resulted in over ten résumés of potential candidates, most of whom we have referred to our suppliers. While we met a couple of excellent candidates for Wellington Water, they're not yet ready to make the big move to beautiful New Zealand, but we have their details and will stay in touch. ■



Ian McSherry showing off our Live Downunder expo stall.

2018-21 Statement of Intent DELIVERING ON OUR PROMISES

We will grow the water sector's capability by increasing technical capability in our region (SOI measure 32).

UPDATE: In quarter one we have established a working group (with our consultant panel) with the goals of implementing United Kingdom recruitment push and regional graduate programme.

sub-harbour pipeline to strengthen region's water supply resilience

Greater Wellington Regional Council has approved a major project aimed at improving water supply resilience for the metropolitan region: a submarine water supply pipeline that will cross Wellington Harbour.

Wellington City's water is piped through bulk water mains from the Hutt Valley along State Highways 1 and 2, and crosses known earthquake fault-lines multiple times. If damaged in a large earthquake, these pipes could take months to repair. That could leave parts of the city, particularly the eastern and southern suburbs, without water for up to 100 days.

"Getting the water back on as soon as possible after a major earthquake will be critical to the region's recovery and is a major focus for us as water suppliers," said Chris Laidlaw, Greater Wellington Regional Council's Chair. "We've seen recently how the four cities have worked together to develop an emergency water supply system for the days after a major quake. This pipeline project to improve bulk water supply is vital to making sure there's enough water to keep Wellington going in the months following that."

The pipeline will carry water from the Waiwhetu Aquifer, in Lower Hutt, through a resilient pipe nestled into the harbour floor, coming ashore in Evans Bay. The next stage of the project is to determine the best locations for the supporting infrastructure and pipeline itself, and then finalise designs and costings.

All this work will be carried out with key stakeholders involved along the way, says Wellington Water's group manager of network design and delivery, Tonia Haskell.

"It's important we bring people along with us on what will be a pretty big project for the region. It's vital we get across the need for this work; we are limited with our bulk water supply options into Wellington at the moment."

"It's not just about coping better after an earthquake, this pipeline will give us an alternative supply line to Wellington in the event

we need to carry out some major repairs or maintenance work on our existing pipes and reservoirs."

The confirmation of the pipeline comes after two exploratory bores were drilled into the harbour floor showed that water quality and quantity from the aquifer closer to Wellington was not suitable for the resilience goals the councils were seeking.

"We needed the water to be available in sufficient volume to meet our expected needs," Ms Haskell said. "Unfortunately, both bores came up short in that respect. In addition, there were quality issues that meant we would have had to invest more money in treating the water from the bores. So unfortunately the bores option didn't stack up." (See box, page 11).

The cross-harbour pipeline is only one part of a comprehensive regional response to resilience challenges. ▶



valuable lessons from harbour bores

As a part of the cross-harbour pipeline project, and a potential value for money alternative, we investigated the option of offshore harbour bores. The reason for this investigation was to ensure that we are well informed on all potential options. The harbour bores option, if successful, could have potentially reduced the cost of the project by as much as 50 per cent whilst still achieving the resilience outcome.

Two exploratory bores were drilled in the harbour. Following completion of the exploratory drilling, assessment of the probable yield and water quality from the bores was completed by hydrogeological specialists with Waiwhetu Aquifer expertise.

While potable water was found at both locations, the quality and quantity were not as good as expected. The investigations completed indicate that the first bore site is likely to have produced between 2.5 and 3 million litres per day (MLD), and the second bore site between 10 and 20 MLD. Further (Stage 2) investigations would be required to confirm these figures.

The water from both sites contains manganese, ammonia, and iron requiring treatment to meet New Zealand drinking water standards. The second bore drilled also identified traces of arsenic, within treatable limits. These results confirm that additional treatment is required for the harbour bores option to be viable.

The water quality and quantity found in the harbour is different to that taken from the aquifer and treated at the Waterloo and Gear Island water treatment plants, which requires little treatment by comparison.

“If we had found a sufficient flow of water of acceptable quality, extracting water from beneath the harbour could have made significant cost savings,” Greater Wellington Regional Council chair Chris Laidlaw said. “What we now have, however, is the confidence to get on with planning the cross-harbour pipeline in the knowledge that all alternative options have been adequately explored and considered.”

We have been working with Wellington Regional Emergency Management Office (WREMO) and Regional Public Health (RPH) and a key aspect of our approach to building resilience is the concept of people and businesses being self-sufficient for at least the first seven days following a significant earthquake.

We recommend our customers store 20 litres of water per person per day for at least seven days to make sure their household is self-sufficient. We are also working to raise awareness of the need for households to have a plan for the safe disposal of their wastewater (ones and twos).

From day eight onwards we will be able to provide water through our community water stations – an above ground emergency water network of bores and surface water treatment stations and desalination plants, supported by a mobile distribution network out to communities.

We are also building new reservoirs to increase the amount of water that is stored, and replacing or strengthening existing reservoirs that are aging.

You can read more about the resilience work we are doing, and how you can get prepared, by visiting wellingtonwater.co.nz/your-water/emergency-water ■

2018-21 Statement of Intent DELIVERING ON OUR PROMISES

Our customers will be resilient in the event of a natural disaster because we will improve the number of households that have drinking water stored and have a plan for the safe disposal of their wastewater (SOI Measure 9).

UPDATE: In quarter one our surveyed customers' shows a 2% increase of water stored against a target of 5% (about a million litres).

We will complete major drinking water projects by 2021: Omāroro; Bell road; Aotea; and Silverstream (SOI measure 29).

UPDATE: In quarter one we have obtained consents for Omāroro, and detailed design is under way. Bell Road (Moe I te Ra) consenting is under way. The consultation phase for the Silverstream bridge pipe replacement is progressing well.

We will look for alternative water sources by completing the Harbour Bore investigation project (SOI measure 30).

UPDATE: In quarter one we completed the harbour bores investigation and the Greater Wellington Regional Council endorsed our cross-harbour pipeline proposal.

Wellington Water

Get your water storage sorted now!

Have you stored enough water for your family for 7 days?

Please don't forget about me!

CURRENT AVERAGE WATER USAGE PER DAY PER PERSON

220 Litres

21L	Taps
38L	Toilet
38L	Other*
48L	Washing machine
65L	Shower

* Such as gardening, dishwashing, sinks, and baths.

* Based on average of "Water Use in Auckland Households" (2012/13), 2014/15, 2016/17.

HOW MUCH WATER DO YOU NEED AFTER AN EARTHQUAKE?

20 Litres per day for 1 person

If you store 20 litres of water (for one person for one day), you should be able to do the following:

✓ Drinking	✓ Sponge bath
✓ Cooking	✓ Clean wastewater buckets
✓ Wash hands	✓ First Aid
✓ Pets	✗ Shower
✓ Brush teeth	✗ Laundry
✓ Dishes	

3 Litres per day for 1 person

If you store 3 litres of water (for one person for one day), you should be able to do the following:

✓ Drinking	✗ Sponge bath
✓ Cooking	✗ Clean wastewater buckets
✓ Wash hands	✗ First Aid
✗ Pets	✗ Shower
✗ Brush teeth	✗ Laundry
✗ Dishes	

We recommend that you store enough water for your family for 7 days.

STEP UP & BE A **WATER HERO**



GET YOUR WATER STORAGE SORTED NOW FOR YOUR FAMILY

In the days following a large earthquake, will you have enough water for your family? And a plan for what to do with your ones and twos?

Be a Water Hero. Get sorted now.

Go to www.wellingtonwater.co.nz/your-water/emergency-water/household-supply to find out how.



the Battle for Waterloo

One of our three service goals is to provide safe and healthy water. So when we detected contamination in samples of water taken from the Waiwhetu Aquifer, we knew we needed to act swiftly and effectively to upgrade the Waterloo Drinking Water Treatment Plant and protect the health of our customers.

– **Chief Advisor Potable Water, Laurence Edwards.**

Our water sources

The Wellington metropolitan region is supplied with water from three main sources: the top of the Hutt River/Te Awa Kairangi at Kaitoke; the combined flow from the Wainuiomata and Orongorongo rivers; and the Waiwhetu Aquifer, which extends underground beneath Lower Hutt and the Wellington Harbour.

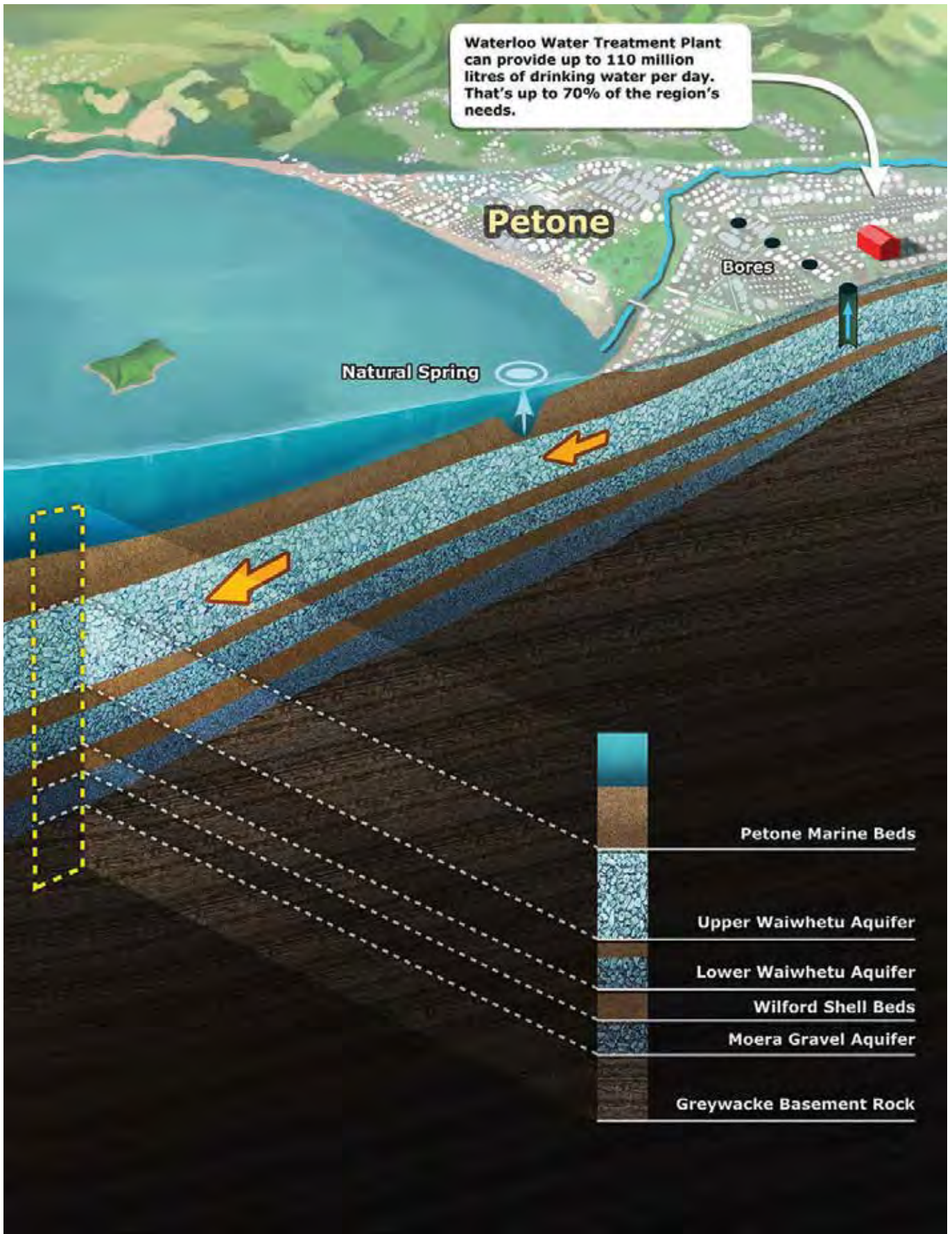
The Waiwhetu Aquifer is one of the Wellington region's key sources of fresh water. It can supply up to 70 per cent of the region's drinking water and is a key source

during summer when the availability of water supplied from the rivers is reduced.

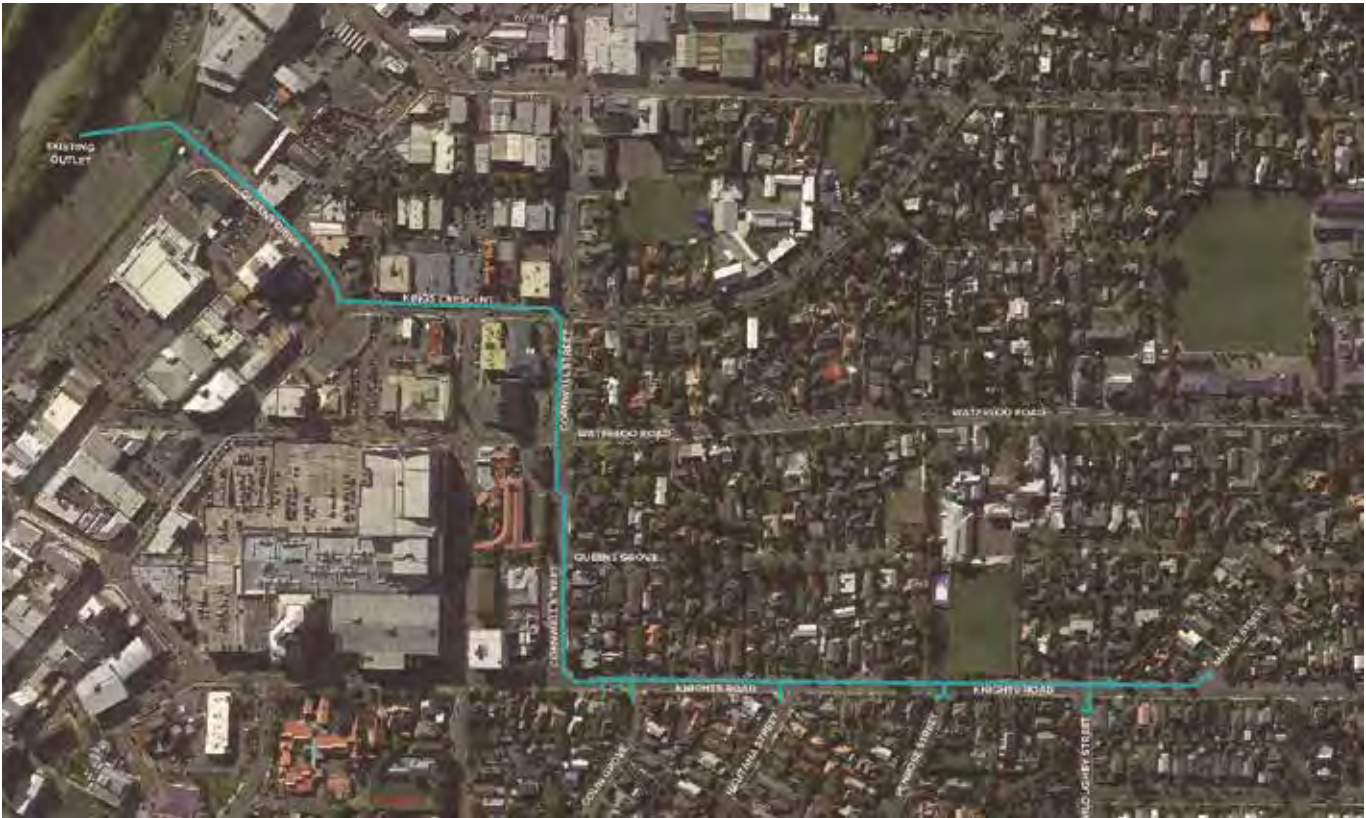
The water drawn from the aquifer is treated at Waterloo Drinking Water Treatment Plant in Lower Hutt (and occasionally Gear Island Drinking Water Treatment Plant), and under normal operating conditions is distributed to approximately 155,000 people across Lower Hutt and Wellington. ▶



Water drawn from the Waiwhetu Aquifer flows into the Hutt River/Te Awa Kairangi from this pipe outfall. This water is unable to be treated by UV at the Waterloo Drinking Water Treatment Plant.



Cross-section of the Waiwhetu Aquifer, which extends underground beneath Lower Hutt, and the Wellington Harbour.



Pipeline route along Knights Road, Lower Hutt, which diverts water that cannot be treated at the Waterloo Drinking Water Treatment Plant, and discharges it into the Hutt River/Te Awa Kairangi.

The contamination

There are eight wells underground that draw water up from the Waiwhetu Aquifer. They form a 'wellfield' along Knights Road in Lower Hutt.

Around two weeks after the Kaikoura earthquake in November 2016, a routine water sample taken from one of the wells returned a positive E.coli and total coliform result (bacteria in drinking water that may indicate a possible presence of harmful, disease-causing organisms). This positive E.coli result was the first received from water taken from the wellfield since the bores were established in 1980.

Then, in February 2017, a routine water quality sample taken from the Naenae reservoir returned positive for E.coli. This result was significant as it was taken from water that's supplied immediately downstream of Waterloo Drinking Water Treatment Plant. In April 2017, a further E.coli result from a sample taken from another aquifer bore was the third positive result from water drawn from the Waiwhetu Aquifer within a five month period.

These results, together with increasing total coliform results at the bores along Knights Road, as well as the untreated public supply bores at Buick Street and The Dowse on Laings Road, were cause for concern. These results indicated clearly that the water sourced from the aquifer is at risk from contamination, and without treatment, could cause widespread illness due to waterborne disease, and possibly multiple deaths.

In August 2016, a water contamination incident in Havelock North was estimated to have caused around 5,500 of the town's 14,000 residents to become ill with campylobacteriosis. This led to 45 hospitalisations, and contributed towards five deaths and ongoing health complications for many residents. If this type of incident had occurred in Wellington the number of people affected could have been significantly greater.

Safe and healthy water

To ensure we adopted a high standard of care and could continue to provide safe water to our customers, we immediately chlorinated the normally unchlorinated water drawn from the Waiwhetu Aquifer following the first E.coli results.

We then isolated the problematic wells that supply the Waterloo Drinking Water Treatment Plant, and reduced the amount of supply from the treatment plant as much as possible until we completed investigations into the cause of the contamination. We also shut down the untreated supply wells at Buick Street and Laings Road.

Despite significant investigation and studies, we could not determine the likely source of the contamination. That only made it more apparent that to protect public health, we needed to put multiple treatment processes in place to act as barriers against contamination.

To achieve this, and after considering available options with subject matter experts, it was decided that we would chlorinate the water supplied from Waterloo

Drinking Water Treatment Plant on a permanent basis, as well as installing ultra-violet (UV) treatment. The Drinking Water Standards in New Zealand recognise three classes of microorganisms that may cause disease: bacteria, viruses, and protozoa. Chlorine manages bacteriological and viral risks, and UV treatment manages the protozoa risk.

Together these two barriers will provide adequate protection to any contaminated water that may be drawn from the aquifer. Chlorine also has the added benefit of providing further protection as the water is carried throughout the piped distribution network, as it provides a disinfection residual in case of post-treatment contamination.

In your community

Once these two barrier approaches were approved, we installed a UV treatment unit at Waterloo Drinking Water Treatment Plant.

Part of this work also involved building a new pipeline along Knights Road to an outfall at the Hutt River/Te Awa Kairangi. This is because when well pumps are first switched on to draw the water from the aquifer, the water has a spike in turbidity.

This initial spike of 'misty' water is not suitable for UV treatment at the treatment plant, so it needs to be diverted away from the treatment plant to an outfall at the Hutt River/Te Awa Kairangi.

The pipeline had to be completed prior to the peak summer demand period to restore the treatment plant to full capacity, so unfortunately this meant significant disruption for the community in the months leading up to Christmas 2017.

UV and filtration treatment units were also installed at the previously untreated bores at Buick Street and Laings Road. These units make sure safe water is provided without the need for chlorine, as there is no distribution network requiring a disinfection residual.

Looking forward

This contamination, and the Havelock North example, highlight the importance of the ongoing need to work together with local authorities, the regional council, public health, and other stakeholders to investigate changes in water quality, improve our knowledge of water sources, and recommend potential improvements to decision making and resource management to protect this critical resource.

Challenges experienced in other countries can be expected here, for example chemical contamination and contaminants of emerging concern such as pharmaceuticals and endocrine disruptors. We need to monitor for these and be prepared to take action if necessary. As part of aquifer investigations into the E.coli incidents, we have detected low levels of



Ultra Violet (UV) kit installed at Waterloo Drinking Water Treatment Plant.

Bisphenol-A, or BPA, a chemical found in plastics. This is one example of a contaminant of emerging concern, for which no maximum acceptable values have yet been identified for drinking water standards in New Zealand. BPA levels found here are well below acceptable levels adopted overseas –but regardless of this we need to consider why it is there, where it might be coming from, and what we can do to avoid further deterioration of the quality of the water.

Protection of the source of our drinking water provides the first, and most significant, barrier against drinking water contamination and illness. It is of paramount importance that the risks to our aquifer are understood, managed and addressed appropriately to protect the health of our community and that of our future generations.

To read more about our source to tap story and where your drinking water comes from and how it's treated visit wellingtonwater.co.nz/your-water/drinking-water

2018-21 Statement of Intent

DELIVERING ON OUR PROMISES

Our customers will feel confident the drinking water we provide is safe because we will maintain 100% compliance with the Drinking Water Standards New Zealand and we will monitor the treated water to make sure there have been no transgressions (SOI measure 1).

UPDATE: In quarter one we have reported 100% compliance and no transgressions.

We will safeguard our drinking water by completing our Regional Water Safety Plan (SOI measure 20).

UPDATE: In quarter one our regional Water Safety Plan is 95% complete and initial discussions with the regulator has taken place. The improvement plan will be finalised through our Water Safety Committee.

good behaviour

We're on a journey to find out how to deliver a great customer experience. To help us do that, we've been talking to our own people and learning more about what good customer service looks and feels like to them.



Royce Haxton, Contracts Officer, Network & Customer Operations, checking a customer's water pressure.

Our customer service journey has started with a group of people from across our business, the customer champions. Their first order of business has been to help identify the core behaviours that will help our whole team deliver great service when dealing with customers.

The three behaviours that the group identified are:

- *honest*
- *caring*
- *authentic.*

Over the past few months, our customer champions have been leading conversations in their work groups about what these behaviours mean to them and the work they do.

Through these conversations we've really started to connect the behaviours to our work, and we've uncovered some great stories. Keep reading for some examples of our people demonstrating the three behaviours: honest, caring, and authentic.

Caring: we work with our customers

Royle Haxton – Contracts Officer

I was dealing with a water leak in Crofton Downs, where the resident had just finished laying a beautiful long aggregate driveway and concrete ramp to his newly built house. The issue was a leak on his service pipe that was between his house and the toby, right beneath his new driveway. Obviously the homeowner wasn't too happy about the idea of cutting up his new driveway, so we came up with a solution to change his connection layout. For him, this meant he got to keep his beautiful driveway intact, and he actually got a more efficient service connection on top of that. Seeing the issue from the customer's perspective, and

understanding what's important to them, helps inform the approach we'll take and is critical in my day-to-day work.

Honest: we say what we'll do and we do what we say

Samir Hermiz – Engineer Land Development

I was contacted by a surveyor wanting to subdivide his property. He had found a manhole that wasn't on any plans and wasn't clear as to where it came from. I told him I would help out and find the source for him by the end of the week. After going through many old plans and drawings, and asking the data team about old plans, there was still no sign of what this maintenance hole was! I then worked with our CCTV team to use a camera to inspect the network, and found the old unrecorded sections where it came from. I then went back to the developer and told him the good news myself as I said I would. We solved the mystery for him and he was happy to be able to get on with his work. We've built relationships with these developers where they can trust us to be true to our word and go above and beyond to help where we can.

Authentic: we build and maintain genuine relationships

DJ Kee-Sue-Tairea and Jordan Bevan – Porirua Water Reticulation Crew

We were allocated a job to check out a water leak on a property in Porirua. On arrival we had a quick check around the site and put a meter on the property's toby. This confirmed that the leak was not council-related but coming from the owner's property. Instead of just leaving a leak notice for the owner telling her to get it fixed, we knocked on the door and asked if

she would like to see what we had actually done. We then explained what the issue was, how it could be fixed, and that it was her responsibility to get the leak fixed.

After seeing the meter and toby she was very pleased that we had taken the time to talk and explain the problem and process. We felt pretty good that we made contact with her personally to explain things.

We'll be looking for and reporting more stories like these to help bring these behaviours to life, and to get feedback on how to improve our customer interaction processes. Our customer champions are also finding out where additional support is needed. Changes in processes will require some level of training, so we're working to understand what might be needed to ensure our people are supported in becoming customer champions themselves, in our journey to putting the customer at the heart of everything we do. ■

2018-21 Statement of Intent
DELIVERING ON OUR PROMISES

We will own our customer calls end-to-end (including council call centres) and manage customers' expectations by embedding our customer behaviours throughout our business (SOI measure 23).

UPDATE: In quarter one we took clear ownership of our customer calls end-to-end; 99.5% of customer enquiries were responded to within 60 minutes.

We will build a customer culture by developing consistent customer behaviours and embedding these behaviours in our company and alliance (SOI measure 33).

UPDATE: In quarter one we have developed customer behaviours for the company. These have been finalised and presented to all staff. Our People and Capability team have included customer competency in recruitment processes.

community connections

Getting out and about in our communities.



During a fundraiser for Raroa Intermediate School in Johnsonville, we set up some of our emergency supply equipment.

Helping students look after our water networks through virtual field trips

An important part of the services we deliver to our customers and communities is making sure they are informed about our three water networks. People can overlook or simply be unaware of how their actions can have both positive and negative impacts on network outcomes. To help improve awareness, we talk to people at their front gate and in their communities, including at events and schools.

Students often study some or all of the water cycle at some stage during the year. This can lead to a number of requests to visit our water treatment plants. As these are staffed by a busy team, we've worked out a schedule where we'll make the first Tuesday of each month available for group visits to the water treatment plant at either Te Marua, or Wainuiomata, on a first come first served basis.

For members of the public there's other options such as a visit to the Stuart Macaskill storage lakes, or the old reservoir at the entrance to the Wainuiomata Drinking Water Treatment Plant, where information boards tell some of our regions unique source to tap story.

Another option is to use the videos from the LearNZ team. LearNZ is a virtual field-trip forum for schools. Using videos and live video-conferencing, the LearNZ team travels to remote or difficult to access places, records technical specialists talking about their subjects, and hosts question and answer sessions for participating classes.

In May 2017, we hosted the LearNZ team while they spent three days filming various water related activities around Wellington.

The three days consisted of a live interview in the morning with water related experts, where students could call in to ask our experts questions and take part in the discussion.

Various members of our staff were on site at the Wainuiomata Drinking Water Treatment Plant, Mōa Point Wastewater Treatment Plant, the banks of the Hutt River/Te Awa Kairangi, a car wash, our Petone office, and at Titahi Bay and Glenview Schools in Porirua.

The interviews were uploaded each night onto the LearnNZ website providing a virtual (online) learning tool. Each day had a slightly different focus:

- **Day one** – Water from its source to your tap.
- **Day two** – Managing wastewater.
- **Day three** – How to use the water network more responsibly.

People and Water – looking at our water networks – virtual field trips were submitted to the Copyright Licensing Education Awards 2018 on behalf of CORE Education and won Best Student Resource. To view the LearnNZ virtual field trips visit wellingtonwater.co.nz/education

Wadestown Road water-main renewal – coffee for residents

The recently completed Wadestown Road water main renewal was always going to be a bit of a challenge for our project team. It's a narrow, winding, busy road, carrying a lot of commuter and school traffic (and the pipes go down the middle of it).

This meant we had to close the road to access the pipes – and the detour is even narrower and more winding. Great for buses – not! Because of the nature of this work, we had to close the road 24/7. So residents and commuters had about three months of disruption, as we improved the resilience of the water supply for Wadestown and suburbs further west.

Adding to these challenges was the fact we'd done exactly the same thing about three years ago. So while we knew some of what to expect, we also had to explain why we didn't do the work at the same time (essentially, this boiled down to safety and budget timing).

There were a few hiccups along the way, and we were certainly aware that we were a bit of a nuisance. That said, the contracting team did a wonderful job, and the work went very much to schedule.

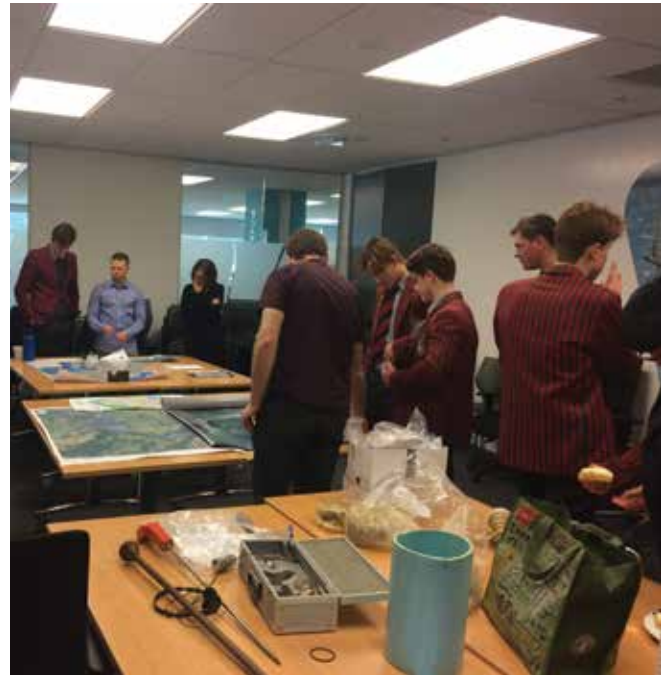
At the end of it all we wanted to say a big thank you to residents and businesses for their patience during the work. And hear some feedback.

So, on Saturday 11 August, we set up in the local coffee shop and while local residents had a coffee on us, we asked them to complete our customer survey. We received some really useful feedback, both positive and negative – but great for helping us improve our performance. Community Engagement Advisor, Samantha McCluskey, said a key area of feedback was around keeping people well informed as the project progressed.

Scots College and Engineering Week

In August we hosted 40 Scots College students interested in finding out what Wellington Water does and what sort of work an engineer could be expected to do. We held a morning and afternoon session both of which were followed by a site tour of our emergency Community Infrastructure Resilience equipment in use at Korokoro.

Also in August, we took part in the Engineering Week Open Day at Shed 6, TSB Bank Arena and spent the day chatting to people about the importance of being prepared and how to store water. ▶



(Above) Scots College students learning about the work Wellington Water does, and checking out one of our community emergency water stations at Korokoro (below).



Wellington Home and Garden Show

The Wellington Home and Garden Show was held in September. We took the opportunity to showcase our emergency Community Infrastructure Resilience project and speak to people about being prepared at home by storing water and having a plan for the safe disposal of their wastewater, especially for those crucial first seven days.

Over 12,500 visitors attended the show over the three day period.



Home and Garden show attendees keen to learn more about the emergency water network in the region.

Johnsonville community walk and Community Infrastructure Resilience information day

On Sunday 28 October, Raroa Intermediate School, in Johnsonville, held a fundraising walk up Mt Kaukau as part of a campaign to install a giant canopy over the school's central courtyard.

An estimated 500 people took part in the inaugural Team YIP Johnsonville Community Walk. The walk was kicked off in good spirits with Ohariu MP Greg O'Connor, Wellington City Mayor Justin Lester, and Raroa Intermediate principal Christine Brown counting down to get everyone going.

The view at the top of Mt Kaukau was well worth the hard slog for those hardy souls taking part in the walk! Overall, the day raised about \$6,000.

We supported the walk by opening up our community emergency water station at Johnsonville Park and providing walkers with water. This was also a great opportunity for us to hold a community information day and let the public know more about what this project was about, where the other stations are, and how they will work following an emergency. ■



People stopped to read about the emergency water network and how it works. We also had a 5,000 litre bladder on display. People will collect their water from community water collection points, from day 8 + following an earthquake.



Nick Hewer-Hewitt – Service Delivery Facilitator, Network & Customer Operations – at our community emergency water station in Johnsonville Park on Truscott Ave. These community water stations will operate from day 8 + following an earthquake.

2018-21 Statement of Intent

DELIVERING ON OUR PROMISES

Our customers will be resilient in the event of a natural disaster because we will improve the number of households that have drinking water stored and have a plan for the safe disposal of their wastewater (SOI measure 9).

UPDATE: In quarter one our surveyed customers' shows a 2% increase of water stored against a target of 5% (about a million litres).

Our customers will reduce the amount of water they are using at home because they have the information they need to make informed decisions and change their behaviours (SOI measure 5).

UPDATE: In quarter one we have run marketing campaigns targeted at our customers that provide important water conservation messages. We will measure the success of these campaigns as the year progresses.

partnering with Plunket

Helping parents to prevent plumbing problems.

Fourteen-month-old Arthur looking pretty impressed with the emergency water pack his mum Katie Bramely won, as part of our Wellington Water/Plunket Facebook competition.



They say there's no sweeter sound than your baby's laughter. That is, until you realise the laughter is because they've done a squelching 'poonami', and are rolling around their cot, spreading the mess in absolute delight.

As you prepare for battle, it's easy to reach for a wet wipe. They are, after all, a staple in most parents' nappy changing arsenal. However, how you dispose of used wet-wipes can have a big impact on your household plumbing, and the environment.

Wet wipes flushed down the toilet cause havoc in our wastewater network, blocking pipes and pumps that can cost a lot to clear. If we don't get there in time, these blockages can cause overflows – sending untreated wastewater into the environment, or even private property.

The same thing can happen to household pipes and plumbing. Blocked up loos and pipes can leave homeowners with an even nastier surprise than baby poo on the bedclothes, in the form of hefty plumbers bills!

This is one area where we can all make a difference to looking after the environment, and our water networks. Remember to only flush the 3Ps – pee, poo and paper (toilet paper) down the loo – everything else, including tampons and pads, condoms, cotton wool and ear buds, plastic wrapping – everything you might once have thought 'wouldn't hurt' – should go in the bin.

Helping families be more aware

We've partnered with Plunket New Zealand to help families look after their pipes and avoid unnecessary plumbing costs or environmental harm caused by blockages.

The partnership has been in place since July 2018, so we thought we'd check-in with Plunket's Events and Partnerships Coordinator, Maddie Murphy-Harris, to see how it's going.

Blocked up loos and pipes can leave homeowners with an even nastier surprise than baby poo on the bedclothes, in the form of hefty plumbers bills!

What's Plunket's role in the community?

Plunket is the largest provider of free support services for the development, health, and wellbeing of children under five in New Zealand. We see more than 90 per cent of new-borns in New Zealand each year. Plunket offers parenting information and support as well as developmental assessments of your child.

Our nurses provide support through home and clinic visits, mobile clinics and Plunket Line, a free telephone advice service for parents (24 hours a day, seven days a week).

Plunket also organises parent groups, parenting education and toy libraries, drop in centres, playgroups and education in schools – most of which are available nationwide and free of charge. ▶

How many families does Plunket reach in the Wellington region?

Plunket provides services to about 4,250 new parents in the Wellington region each year. We have 30 Plunket clinics or centres, and 90 planned parent courses per year. In addition, we also have a network of over 7,000+ families through our regional Facebook pages.

What benefits do you hope this partnership will have for Plunket families?

We want to work together to help disseminate the 3Ps message with families. As a charity, working together with local businesses is fundamental to our success and working together for the betterment of family life is key for us.

We're really keen to educate families about the importance of disposing of non-perishable items correctly. Helping families avoid the nightmare of blocked pipes and unnecessary financial stress whilst protecting the environment makes sense.

Sustainable parenting

During the October school holidays we ran a competition on Wellington Plunket's Facebook pages. People had the chance to win an emergency water prize pack which included a 200 litre emergency tank, two wastewater buckets, and a spade.

Katie Bramely, from Khandallah, and mum to fourteen-month-old Arthur, was the lucky winner. We caught up with her when we dropped her prize-pack off and talked about sustainable nappies.

We recently partnered with Plunket to raise awareness about wastewater and resilience for new parents. Are you a wet wipe user, and did you know they shouldn't be flushed down the toilet?

I did know. However we use reusable wipes and have wet wipes for back up.

What's a reusable wipe?

We use these little cloths that we've cut up from a large piece of flannel fabric. We simply wash and reuse them. We also use cloth nappies, however we use disposable nappies for when we're travelling or in emergencies.

Did you have a group of friends who all use the cloth nappies?

I first got onto cloth nappies through friends that helped me. I'm a keen advocate for sustainable parenting so I have organised a session with other parents who want to learn about them.

I do volunteer work with Plunket and just wanted to help people see how easy it is – it's not onerous. It's about getting a system in place that works for your family. It's not like it was 'back in the day' with the big soaking buckets of Napisan.

Is there a particular brand you like?

I use 'Real Nappies'. We tried a whole lot but my husband and I liked that it's a trifold like the traditional cloth nappy. We also liked that you use the cloth and wash it, and can bleach it if you have to, but the insert is the waterproof layer and you can reuse it again, if it's not soiled.

Do you see the value in Wellington Water partnering with Plunket and getting the message about alternatives to flushing wet wipes down the toilet?

Yeah I do. I would class myself as a sustainable parent and I do really think that it's a growing movement. I do volunteer work for Plunket and it would be good to help new parents see the sustainable parenting options that are out there.

When you're a new parent you're so tired, it's nice to have someone say here's another way, and once you get into it it's easy.

Did entering our emergency water pack competition make you think more about being prepared in case of an earthquake?

We have lots of civil defence systems in place, especially since the Kaikoura earthquake. So we have a lot of water storage down the bottom of our house and cans everywhere. I've always liked the tank idea, and have always wanted to do it – and having a big water source now that we've got Arthur is so important.

Also with garden water restrictions at the moment it's nice to be able to collect rain water and use it on my vegetable garden. It's good to be a bit more efficient in how we use water.

What's a tip you have to be prepared in an emergency?

We always have bleach. A budget unscented one. I read something about having it in emergency kits, as well as having hand sanitisers.

Bleach is also great for cleaning nappies. You can use a small amount of bleach to make your stored water safe to drink.

WHAT COULD BE LURKING IN YOUR PIPES?

Sometimes things end up in the wastewater system that shouldn't be there, and these unwelcome items can cause havoc on pipes, which can cost you a lot of money to fix.

'Rag Monsters' are made up of wet wipes, nappies, cloth, tampons, sanitary pads, hair and other non-biodegradable material.

These items have no place in the wastewater system and should never be flushed down the toilet.

Put unflushable items into your rubbish bin.

ONLY FLUSH THE '3 PS' DOWN THE TOILET:

- PEE
- POO
- (TOILET) PAPER.



Wellington Water
Our water, our future.

Plunket
Supporting Wellington Families

What are your next steps to help you get prepared for an emergency?

I noticed our cans of food were very low and needed refreshing so we just went and updated our canned and dry food stocks.

One of the other things I've been working on is building my networks with my neighbours. They'll be our first port of call in an emergency.

Nice to hear you've been proactive!

I think it's important to be prepared and if there was a real emergency you'll be calmer knowing there are plans in place.

Especially listening to what happened in Christchurch, and people not having water and basic sewer systems, and all the queues for food. If you can have that all sorted and have cash around – little things like that can make a big difference.

To read more about what should and shouldn't be flushed down the toilet (or poured down the sink) visit wellingtonwater.co.nz/your-water/wastewater ■

2018-21 Statement of Intent DELIVERING ON OUR PROMISES

Our customers will feel confident our wastewater service is reliable because we will improve the number of days the wastewater service is available (SOI measure 3).

UPDATE: In quarter one we have partnered up with Plunket to deliver an information campaign directly to new parents. We are also working to baseline the number of days the wastewater service is available.

six principles

The inquiry into Havelock North's water contamination incident recommended taking a principles-based approach to drinking-water management.

Here's our six principles report for this quarter.

1. A high standard of care must be embraced

Our response to the contamination identified in samples taken from the Waiwhetu Aquifer in late 2016 and 2017 demonstrate the high standard of care we embrace to provide safe and healthy drinking water to consumers across the region.

Work completed (installation of ultraviolet light treatment) at the Waterloo Drinking Water Treatment Plant in December 2017 places us in a very good space to respond to the recommendations from the Havelock North Drinking Water Inquiry Stage Two Report, and we are confident that the water is safe to drink. However, we can't afford to become complacent, as we continue to manage system risks. As the Havelock North Stage Two Report states "the safety of a supply or security of a source can never be assumed to remain static even where, at one point in time, reasonable confidence exists."

To embed a safe drinking water culture across the business and with our suppliers, we are initiating development of a Safe Drinking Water policy through engagement with our staff and suppliers. Once developed, we'll make this policy visible and communicate its importance regularly to all involved in managing our networks to keep safe drinking water front of mind at all times, similar to the importance given to Health and Safety.

2. Protection of source water is of paramount importance

We continue to work alongside the Greater Wellington Regional Council (GWRC) to protect our water sources. The surface water supply catchments at Te Marua and Wainuiomata are within regional park areas with good controls in place to safeguard the source water quality, including pest management activities and restricted access.

Recent samples of the water from the Waiwhetu Aquifer have tested positive for Bisphenol-A (usually referred to as BPA, and associated with plastic manufacture). The Waiwhetu Aquifer supplies water to Waterloo Drinking Water Treatment Plant where it is treated prior to distribution to customers.

BPA is a contaminant of emerging concern and a risk to drinking water supplies. We are using overseas literature as our guide to managing this until the Ministry of Health addresses this type of chemical in the revised Drinking Water Standards of New Zealand. In addition, as part of our Regional Water Safety Plan we are completing this year, monitoring for emerging contaminants such as BPA will be put in place at frequencies to give us advance warning of any changes in levels of these chemicals, so appropriate treatment can be put in place if required. We are keeping Regional Public Health informed of our approach to managing BPA levels in water.

While these samples show the presence of BPA, the levels found are much lower than the maximum acceptable levels in drinking water standards adopted overseas.

The sampling was carried out as part of a wider investigation into the aquifer and water quality after the Kaikoura earthquake. Treated water from the Waiwhetu Aquifer continues to be safe to drink and is a vital resource for the region. However, we'll continue to reinforce the ongoing need for protection of important water supply catchments from human-caused pollution, through collaborative engagement with the GWRC and city councils who control land use activities.



3. Maintain multiple barriers against contamination

Completion of the Waterloo Water Treatment Plant upgrade in January 2018, and chlorination of the Hutt City Council network now means that we have multiple barriers to microbiological contamination in place for all our treatment plants.

However, we need to continue to be vigilant and work with our client councils to manage risks associated with chemical contamination and contaminants of emerging concern such as BPA, for which the only barrier in place is system monitoring.



4. Change precedes contamination

Change of any kind (for example personnel, governance, and equipment) should be monitored and responded to with due diligence. We are mindful of the need to carefully manage the transition in our maintenance contract supplier over the next year or so to ensure we manage contamination risks appropriately, and this will be a regular discussion topic for our Safe Drinking Water Committee.

5. Suppliers must own the safety of drinking water

We have set-up our Safe Drinking Water Committee to provide greater assurance for the delivery of safe drinking water, and bring together knowledgeable, experienced, committed, and responsive personnel with dedication to providing consumers with safe drinking water.

Our monitoring and sampling programme is on track, however, we are still operating multiple systems across the bulk water supply and local authority networks for the management of our water quality sampling and testing information, which increases the risk of sampling frequency and compliance errors 'falling through the cracks'. To address this, the transition of the local authority testing and sampling information (Infrastructure Data) to the same system used for the bulk water supply is in progress and is expected to be completed by the end of the 2018/19 financial year. This will provide more proactive oversight of the sampling programme and results so we pick up any system changes quickly and effectively to respond to adverse monitoring signals.

6. Apply a preventive risk management approach

Our work to develop a single Regional Water Safety Plan is progressing well. This plan will ensure we adopt a source to tap approach when managing system risks. The work we are doing highlighted a number of improvement areas which include backflow prevention, improvements to our reservoir inspection program, standardisation of monitoring systems, processes, and auditing practices. Implementation of these improvements will be overseen by our Safe Drinking Water Committee.



Work sites are securely fenced off to keep the public safe. We're also increasing site signage to help inform people about the work that's involved, who is doing it, and what it means for their community.

health and safety in focus

Managing our critical risks.

We know from analysing our health and safety incident data there are eight main work activities that can cause harm to our people, suppliers, or members of the public (in no particular order):

1. Traffic management
2. Mobile plant and equipment
3. Working at heights
4. Trenching and excavations
5. Service strikes (hitting services such as water, electrical, gas, etc.)
6. Fixed plant and equipment
7. Confined spaces
8. Chemicals

The mobile plant and equipment critical risk project is one of these eight critical risks and has been identified by the Health and Safety Leadership Forum as having life threatening potential, where the risk can also be mitigated.

To mitigate risks and make sure improvements will be as effective as possible, solutions must be recommended by the people closest to the risky work activities.

To do this we've created a cross company working group that includes input from our consultants and contractors. This working group is tasked with identifying root causes and recommending industry designed solutions to prevent harm.

When addressing the mobile plant and equipment critical risk the working group agreed that focussing on either competent operators, or appropriate plant and equipment, was not enough to mitigate the risk to an acceptable level.

This is because addressing the competency of the operators wouldn't adequately offset the risk of injury from plant and machinery (due to the variable condition of the equipment across our suppliers). ▶

Similarly, the risks arising from plant and machinery can't be significantly reduced by solely addressing the condition of the equipment (due to the consideration of whether the operator can select the correct equipment for the job, and has the ability to identify any deficiencies in the equipment).

To mitigate risks regarding mobile plant and equipment the working group agreed that 'we need to ensure that competent and suitable people use the appropriate plant and equipment in line with best practice.'

We are also interested in how new technology can help make our mobile plant and equipment safer to use by understanding what's available or becoming available to take the human fallibility element out of the equation. Watch this space! ■



A worker on the Victoria and Dixon Street wastewater upgrade wearing full personal protective equipment (PPE) gear. Any person that enters a work site must be authorised and have full PPE.



Loading a container of sodium hypochlorite (liquid chlorine used for water supply disinfection) into Waterloo Drinking Water Treatment Plant's chlorination room.

2018-21 Statement of Intent
DELIVERING ON OUR PROMISES

Our customers will be kept safe because our work sites will not result in any member of the public suffering a serious injury or hospitalisation (SOI measure 12).

UPDATE: In quarter one there were no incidents involving members of the public reported to us, our supply chain, or client councils.

We will improve the health and safety of our people by reviewing our Health and Safety critical risks and applying controls to manage risks to an acceptable level (SOI measure 35).

UPDATE: In quarter one we have reviewed our critical risks and are implementing working groups that will identify root causes and recommend industry designed solutions to prevent harm.

our year in review

Looking back on 2017/18

Every day we provide on average 140 million litres of drinking water to Wellingtonians. That's around 400,000 people consuming 56 Olympic-sized swimming pools full of water every day. We then take wastewater from homes and businesses, treat it at one of our four wastewater treatment plants, and discharge it safely into the ocean. To make sure that we enhance the health of our waterways and ocean, we've been working to reduce wastewater overflows following heavy rain events, and stormwater runoff from the urban stormwater network.

Most importantly our work in the past year has seen us shift the way we think about our customers. This work kicked off in August 2017 when we hosted customer experience experts from Scottish Water.

Their approach helped us to focus on putting customers at the heart of everything we do. One of Scottish Water's key recommendations was to build a customer culture within the company. We've started to do this through the introduction of a customer plan, which includes a number of areas that will help us to better understand what our customers' value from the services we provide and how we might be able to learn from those insights.

Because the majority of customer interactions are through our client council contact centres and interactions with our contractors, we only have a limited view of our

customers. We still have a lot of work to do to create a common customer experience across the region, and we will continue to work with our client councils in this space.

2017 saw the third driest November on record. Demand for water soared and we had to start using reserves from the Stuart Macaskill storage lakes at Te Marua to supplement supply. To curb water demand we introduced a total residential sprinkler ban and provided customers with advice and information on the importance of water conservation. The result of this activity was a significant decrease in demand. It was great to see the public share their water conservation tips and hints and we saw positive engagement and growth through our social media channels.

We're reminded on a regular basis that we live in a seismically active region. Our drinking-water supply and wastewater networks are vulnerable. Underground pipes, pumps, and reservoirs could be badly damaged in a significant earthquake, and as a result some suburbs could be without drinking water for more than 100 days, and without wastewater services for more than 120 days.

In the past 12 months we've been working with central and local government to develop an emergency water network that will supply communities across the metropolitan Wellington region with water from day eight following a disaster. The first of 22 emergency water stations was opened on 25

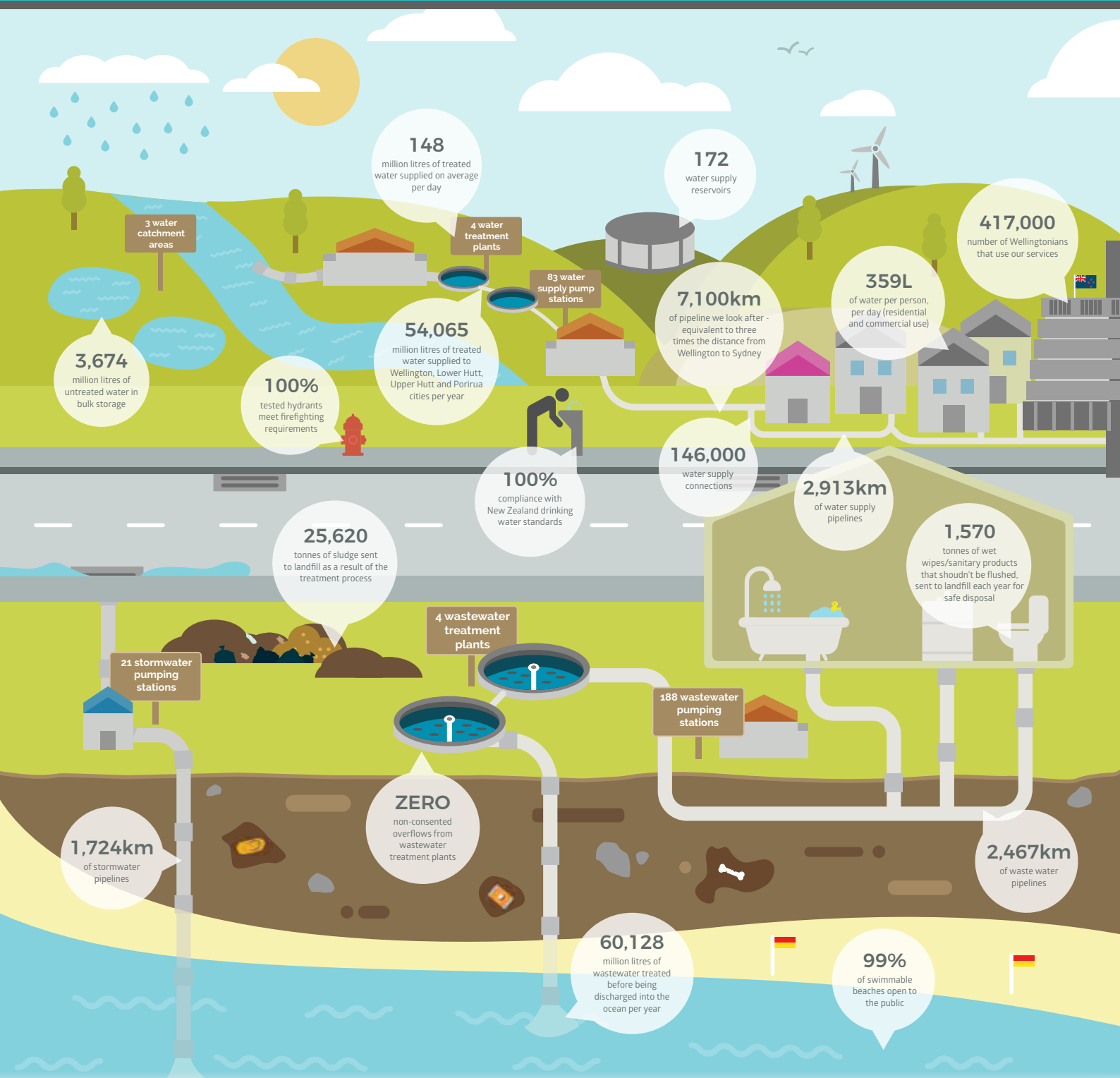
June at a special event attended by Civil Defence Minister Kris Faafoi and senior representatives of our five client councils.

This emergency water network, together with our investigations into an alternative water source for Wellington's southern and eastern suburbs and the construction of water reservoirs, will help our communities to become more resilient. At a household level, we've continued to raise awareness of the need to store 20 litres per person per day for at least seven days.

We've had a busy year making sure that our customers remain confident that the drinking water we provide is safe and wholesome. Following the discovery of E. coli in the water exiting the Waterloo Drinking Water Treatment Plant, our client councils agreed to add ultraviolet (UV) light and chlorine to the treatment process. This is part of a multi-barrier system that provides assurance to our client councils and customers that water supplied to everyone who lives and works in the metropolitan Wellington region is safe.

Introducing UV treatment to Waterloo wasn't a smooth process, and we appreciated the patience of residents and the community as we disrupted traffic to dig up roads to install the new pipes needed to cope with the UV treatment process.

A safe and reliable water supply is essential to public health and the social and economic progress of our region. ▶



Upper Hutt City

323 ↑
New dwellings connected to the network

+81%

Infrastructure Maintenance and New Assets

Water (52% water leaks or mains)	1,411	Pipe (renewed & upgraded)	1,127m
Wastewater	17	Pumping stations (renewed/upgraded)	3
Stormwater	12	Reservoirs (upgraded)	1
Total repairs	1,440		

Hutt City

395 ↑
New dwellings connected to the network

+85%

Infrastructure Maintenance and New Assets

Water (49% minor leaks)	3,740	Pipe (renewed & upgraded)	2,900m
Wastewater	137	Pumping stations (renewed/upgraded)	5
Stormwater	414	Reservoirs (upgraded)	3
Total repairs	4,291	UV Treatment	1

Porirua

287 ↑
New dwellings connected to the network

+0.7%

Infrastructure Maintenance and New Assets

Water (44% water leaks)	1,710	Pipe (renewed & upgraded)	1,030m
Wastewater	61	Pumping stations (renewed/upgraded)	9
Stormwater	100	Reservoirs (upgraded)	1
Total repairs	1,871	Wastewater treatment plant (upgrades & renewals)	

Wellington

1,136 ↑
New dwellings connected to the network

+31%

Infrastructure Maintenance and New Assets

Water (45% minor leaks)	6,044	Pipe (renewed & upgraded)	3,800m
Wastewater	803	Pumping stations (renewed/upgraded)	11
Stormwater	860	Reservoirs (upgraded)	3
Total repairs	7,707		

The findings from stage two of the government's Havelock North Drinking Water Inquiry have reinforced this importance. The inquiry proposed six fundamental principles of drinking-water safety and we have worked to understand how we can integrate these into the services we provide.

As a result of Local Government Minister Nanaia Mahuta's announcement to reform drinking water, stormwater, and wastewater, we agreed to facilitate the development of a submission on behalf of our five client councils that suggests improvements to the water sector in New Zealand.

Our region is experiencing steady urban growth, with the population expected to increase by 21 per cent in the next 30 years. Because the infrastructure and assets we use to deliver our services have lifespans of 30-100 years, we have to take a sophisticated approach to planning. We've continued to develop key planning documents such as the Regional Service Plan, which outlines all the activities in the next three, 10 and 30 years that we need to undertake to make sure we provide services now and into the future. Our Three Waters Strategy takes a long-term (50-year) view of our drinking-water, stormwater, and wastewater networks. We've used this strategy to identify a number of issues that could disrupt the services we provide. Over the next three years we'll investigate these issues by carrying out Future Service Studies using the 'Better Business Case' approach.

We've made great progress on our Service Delivery Strategy. This strategy articulates how we propose to deliver services through our suppliers and contractors in the next 10-20 years across our three waters services, and outlines how we can create value for money by selecting the optimal way of delivering services through options ranging from self-performing to full outsourcing.

We're on track to deliver an alliance approach to network maintenance and operations by June 2019; select a collaborative capex contractor panel to start work in 2019/20; and consolidate our wastewater treatment plant management contract by July 2019.

We've completed the review of our health and safety vision, and launched 'people first, every time' with our staff, contractors, and suppliers. It's been well received and we'll continue to work with these groups as we embed this vision in our way of working.

From a financial perspective, the company ended the year with a \$29k deficit (pre-tax). In March 2018 we were forecasting a \$300k loss, so the fact that we finished as close to break-even as we did is a reflection of the effort made throughout the organisation to reduce costs where possible.

Two key areas that helped were our continued focus on annual leave, resulting in a \$20k year-end credit, and the high level of effort on cost savings throughout the organisation.

Our capital expenditure (capex) was underspent by \$0.2m. This was to be used for the fit-out of the alternative office (replacing IBM House, Level 6, Petone). However, the updated engineering assessment of the IBM building concluded the building's NBS rating was between 70-80%, so this has remained unspent.

The final council operational expenditure (opex) result was \$2.1m over budget. This was primarily due to a \$3.3m planned overrun for Greater Wellington Regional Council (GWRC) from the harbour bores work and an overspend of \$0.8m for Porirua City Council. Both of these overruns were signalled to the councils well in advance and were fully funded by the councils through year-end wash-ups. The other three councils finished with a combined \$2m below budget.

The final council capex was \$3.7m below budget. This result is due to some work being delayed until next year and savings made. It's great to see that the changes we're making internally, to both our mindset and processes, are yielding positive results and making capex forecasting more certain.

The results show that we've made significant improvements across the organisation. However, we need to continue building on this success. The focus for this year will continue to be on accurate and timely forecasting and sustainable cost savings.

To find out more about how we've achieved the goals we set ourselves in our 2017-21 Statement of Intent you can read our Annual Report 2017/18 by visiting wellingtonwater.co.nz/about-us/company-documents ■



David Wright
CHAIR OF THE BOARD



Colin Crampton
CHIEF EXECUTIVE



service goals





We deliver our services by focusing on three customer outcomes: safe and healthy water, respect for the environment, and resilient networks that support the economy.

Our performance in these areas is reported through 12 service goals, four for each outcome.

How we're tracking against our service goals in 2018/19:

💧 On Track
 💧 Some concern
 💧 Off track

Outcome: **Safe and healthy water**

Safe and Healthy Water		We provide safe and healthy drinking water	Stay the same	💧	💧	💧	💧	💧
		We operate and manage assets that are safe for our suppliers, people and customers	Stay the same	💧	💧	💧	💧	💧
		We provide an appropriate region-wide fire-fighting water supply to maintain public safety	Stay the same	💧	💧	💧	💧	💧
		We minimise public health risks associated with wastewater and stormwater	Stay the same	💧	💧	💧	💧	💧



We are compliant with the New Zealand Drinking Water Standards. The Regional Water Safety Plan (WSP) will prioritise improvements that mitigate drinking water quality risks. The WSP is 95% complete and will be submitted to the regulator in November. All drinking water quality issues have overview by the newly formed Drinking Water Safety Committee.



We experienced no lost time injuries or serious near misses in the first quarter of 2018/19. The critical risk projects have continued to progress, with traffic management and vehicles/mobile plant being the two critical risks under review. The project teams are developing industry designed solutions to mitigate the risks; they will be presented to Senior Leadership Team (SLT) in November. The change in service delivery presents challenges and opportunities for the health and safety function. We will work with the new alliance partner, Fulton Hogan, and other suppliers to ensure we can continue to improve our culture and system performance.



Identification and confirmation with the Fire Service of critical hydrants that will be part of ongoing hydrant performance testing across the region is an ongoing work programme. Where non-compliant hydrants are found they are prioritised for upgrade works. A pilot study has been carried out to identify and prioritise fireflow availability with a region wide plan scheduled for completion this financial year.



There are network capacity and condition issues that cause wastewater overflows and result in contamination of urban stormwater catchments. This can result in public health concerns. Work is ongoing throughout the region to minimise the number of wet weather overflows. Eliminating dry-weather overflows continues to be a challenge.

How we're tracking against our service goals in 2018/19:

● On Track
 ● Some concern
 ● Off track

Outcome: Respect for the environment

Respectful of the environment		We manage the use of resources in a sustainable way	Improve	●	●	●	●	●
		We will enhance the health of our waterways and the ocean	Improve	●	●	●	●	●
		We influence people's behaviour so they are respectful of the environment	Improve	●	●	●	●	●
		We ensure the impact of water services is for the good of the natural and built environment*	Improve	●	●	●	●	●



Per capita demand for water is showing an increasing trend in all areas except Wellington. If the overall trend continues it is likely that the regional limit of 374 L/p/d will be exceeded within the next couple of years. If this occurs we will need to consider accelerating supply/demand initiatives to achieve a sustainable water supply.



We currently monitor freshwater sites and beaches, and some of these sites exceed pollution target levels. This is a long-term ongoing initiative to identify and remove sources of pollution. Test results from freshwater monitoring sites has shown a decline in water quality in the past 12 months. We are mapping a pathway for the enhancement of our networks to achieve the adopted standards. In the last quarter a request for proposals from preferred contractors was prepared for a future contract for the operation and maintenance of all wastewater treatment plants in the region.



We developed stormwater and drinking water social marketing campaigns at the end of 2017/18 which were out in market at the start of 2018/19. The 'Where does it go?' stormwater campaign nudged people to stop and think before they undertake activities using the stormwater network, showing connections between their actions, our networks, and the environment. Our 'Love Every Drop' campaign showed customers where their water comes from, educated them on how to look after our water, and provided them with alternatives/solutions to their actions.







There is significant work underway with consenting activities under the Proposed Natural Resources Plan including a good level of engagement in the NRP process itself, ie; hearings, submissions etc. The outcomes of the collaborative work with the Whaitua Committee may impact future consent conditions. We are also actively participating in other national work streams such as the National Planning Standards – Network Utilities, and Ministry for Environment Urban Water Principles.

How we're tracking against our service goals in 2018/19:

● On Track
 ● Some concern
 ● Off track

Outcome: Resilient networks that support the economy

Resilient networks support our economy*		We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change	Improve	●	●	●	●	●
		We provide three water networks that are resilient to shocks and stresses	Improve	●	●	●	●	●
		We plan to meet future growth and manage demand*	Improve	●	●	●	●	●
		We provide reliable services to customers	Stay the same	●	●	●	●	●



Completion of our hydraulic models by 2021 will allow us to better understand the likely impact of flooding on communities. There are known flood risk areas that will need improved flood mitigations. Programmes are being developed and prioritised to understand the scale and urgency of an appropriate response. Areas of known high risk are having upgrades implemented. Examples include construction work underway for Kilbirnie and design being progressed for Porirua.



Our networks are fragile and vulnerable to a significant natural event such as an earthquake. Improvements coming out of the water supply resilience strategy have been incorporated into the councils' 30-year Infrastructure Strategies, informing and supporting the 2018-38 Long-term Plans. The Community Infrastructure Resilience programme, which is financially supported by central government, will continue toward completion in quarter two.



The National Policy Statement (NPS) – Urban Development Capacity requires councils to support growth demands with enabling planning provisions and adequate three waters servicing. Initial results are showing a shortfall in both areas for predicted growth over the next 3, 10 and 30 year periods. District Plan changes to enable growth will need to be integrated with network planning that identifies and resolves capacity issues over these same timeframes.



An increased number of reported water leaks has meant that the initial response to non-urgent repairs has been slower. Increased awareness around health and safety requirements, has meant that more planning is now being carried out prior to the works on site. We have selected a new Alliance partner for network maintenance and operations which will commence in July 2019 with the intent of improving the management of customer issues.



one budget to rule them all

Bringing five separate budgets together will make things simpler for our suppliers and budget managers. Sounds easy?

In 2014, when Wellington Water was formed we managed capital and operating expenditure within our five client councils' budgets. This meant that our suppliers would invoice the relevant council for payment and all costs would be contained within the five client councils' separate accounting systems.

While there's nothing wrong with this approach, it did have a number of disadvantages. Suppliers who were dealing with a Wellington Water employee about a job, then needed to talk to a council

about payment. This could lead to inefficiencies and potential for misunderstandings and errors.

Also, budget managers had limited visibility of how costs were tracking against budget, as this information was contained within council systems. Reporting costs was also inefficient as data needed to be extracted from five separate systems and then combined, increasing the risk of errors.

Fast forward to 2016 and a different approach to funding Wellington Water's activities was envisaged, to enable us to take

over responsibility of budgets and paying suppliers. Our Finance and Procurement team got to work designing, planning, and implementing the new funding structure and on 1 July 2017 One Budget became a reality.

One Budget is simply one budget. Instead of five separate client councils' and the potential for confusion, errors and inefficiencies we have rolled all the systems and processes into one. We now manage the relationship with our suppliers all the way through the procurement-to-payment ►

process, and manage expenditure within approved budgets.

One Budget helps us to resolve issues faster as all information is contained within our finance system (rather than five separate client council systems). We have improved visibility of budgets, and tracking of costs to help improve financial management. We're able to be more agile and responsive to changing cost pressures, and we

now have more accountability, as we now have full ownership of the budgets.

We've now completed our first year using One Budget and we, along with our client councils and suppliers, have learnt a lot along the way. All change comes with challenges and One Budget was no different, however through strong relationships and good communication we've navigated

through these challenges to a much more streamlined and clearer model than we had before.

So what next?

We don't have any immediate plans to change the One Budget model, however we are always looking for opportunities for further enhancements, especially to support our aim of creating excellence in regional water services so communities prosper. ■

Ray Dunn, from G.P. Friel Ltd, completing a tricky renewal of the wastewater main in Herald St. One Budget has enabled us to manage the relationship with our suppliers all the way through the procurement to payment process, and manage expenditure within approved budgets. This has saved both time and money for our client councils, creating better value for our customers.



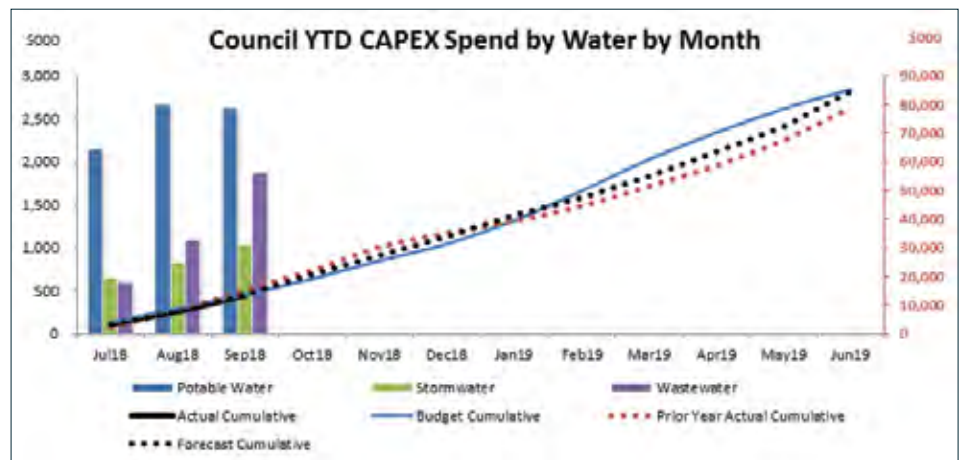
delivery of planned work

With just over a quarter of the financial year gone, our programme of planned improvement work for our council clients (capital works, or Capex) is progressing well.

There are some variations to each portfolio, and the timing of major projects can lead to variations in how each council portfolio is tracking. We've reviewed the bulk drinking water project list (for Greater Wellington Regional Council) and have recommended we slow down some work in order to procure and deliver it more efficiently in years two and three (of the long term plan-based programme). Otherwise we expect to deliver all our planned work for the year.

For the remaining programmes we are reviewing budget forecasts, contingencies and any savings, and where appropriate we will look to advance work planned for the 2019/20 financial year. This will help with the transition to our new capex contractor panel. The panel consists of a group of contractors that will work together to deliver almost the entire programme for our clients. This will see better co-ordination, planning and scheduling of work and resources, and improved regional consistency, meaning customers will all receive the same level of service.

As we move into summer, work on drainage networks (wastewater and stormwater) will increase. The dryer weather and longer days makes working on these pipes a bit safer, and with people taking holidays, there's also the opportunity to get more done with less overall disturbance to customers.



The Capex Spend By Water By Month graph shows, on the right-hand scale, how we are tracking at spending what the region has budgeted on renewing and improving the three waters networks. Completing this spend in the year can be a challenge – in fact the average council capex spend across New Zealand in the three waters is around 80 per cent of budget.

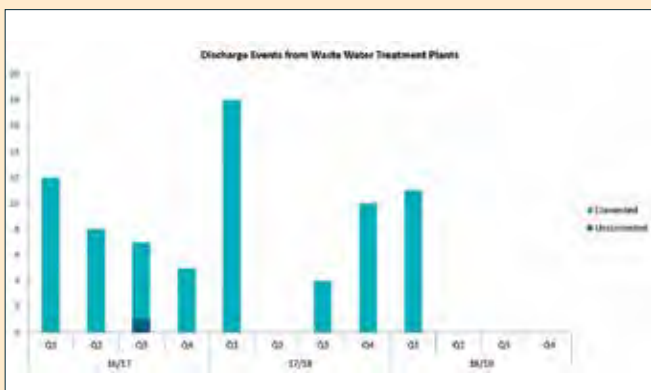
The solid black line is what we've spent or accrued; the black dots are our forecast, and the red dots are what we spent and how last year.

The left-hand scale shows how much we've spent so far on each of the three waters – drinking (blue bar), storm (green bar) and waste (purple bar). ■

tracking our performance

We're mindful of the impacts that our activities have on the environment. We work closely with stakeholders to make sure any discharges into waterways and the sea are carefully managed.

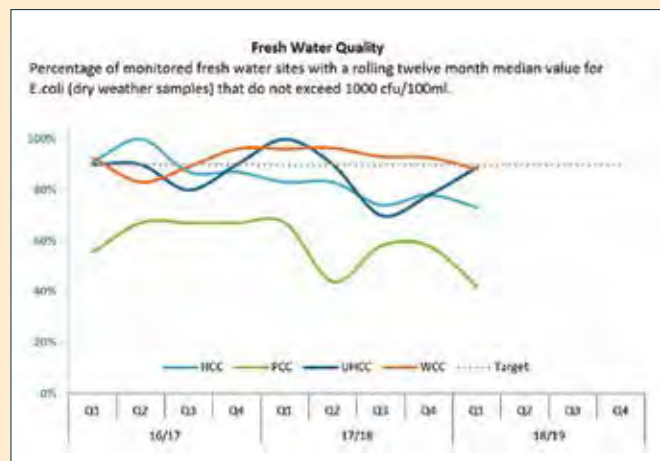
Below are the results of our activities up to 30 September.



Target: no non-consented overflow from treatment plants.

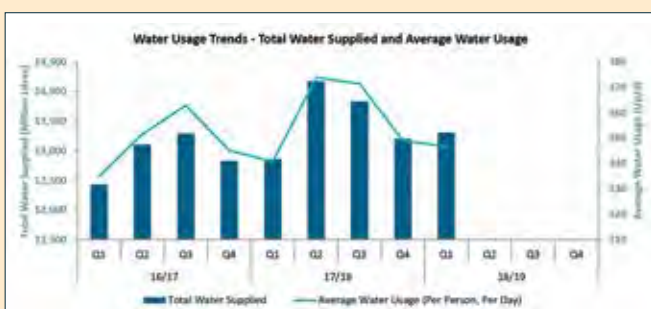
Our renewal programme around the region works to upgrade the aging parts of the network to help reduce the number of consented and non-consented overflows.

There are network capacity and condition issues that cause wastewater overflows and result in the contamination of urban stormwater catchments. This can result in public health concerns. Work is ongoing throughout the region to minimise the number of wet weather overflows. Eliminating dry weather overflows continues to be a challenge.



Target: 90 per cent of all freshwater sites have a rolling 12 month median < or + 1000 colony forming units (cfu)/100ml.

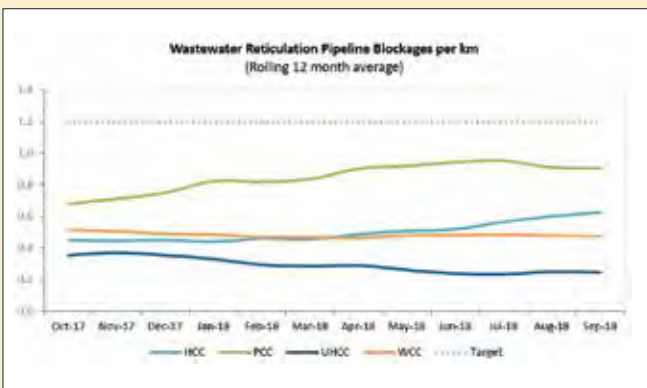
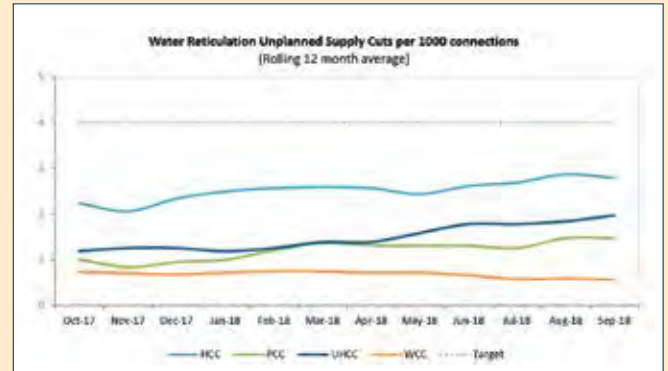
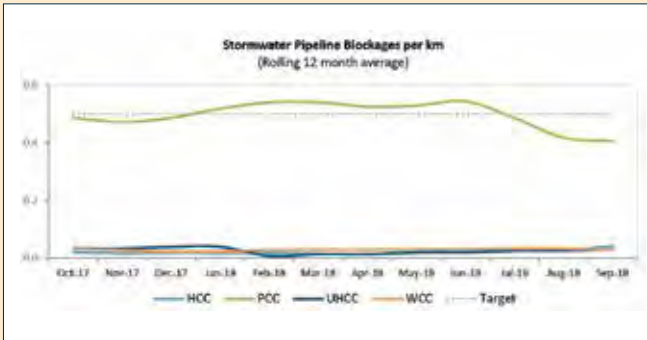
We currently monitor freshwater sites and beaches. Some of these sites exceed pollution target levels. This is a long-term ongoing initiative to identify and remove sources of pollution. Test results from freshwater monitoring sites have shown a decline in water quality over the last 12 months.



We delivered 54 billion litres of safe water to over 400,000 people in the 2017/18 financial year (to June 30). This is compared to 51.6 billion litres the previous year. The increase in total water supplied is a result of increasing consumption as well as network leakage. We believe we've addressed most of the leakage issues; the increase is now about 2.9 per cent year-on-year.

We're mindful of the impacts that our activities have on the environment. We work closely with stakeholders to make sure any discharges into waterways and the sea are carefully managed.

Below are the results of our activities up to 30 September.



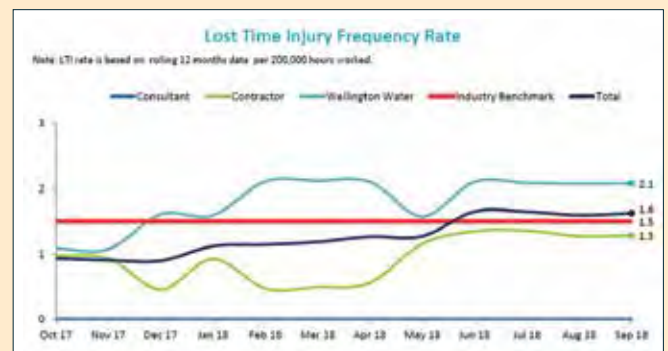
Our wastewater and stormwater network reliability remains well within target performance levels, with the exception of Porirua City Council (stormwater pipeline blockages, although the performance has improved over the past three months).

We are well within our target performance levels across all client councils for unplanned supply cuts.

People first, every time. Below are the results of our health and safety injury frequency rate up to 30 September.



This last quarter has seen seven minor injuries (no lost time); such as inadequate eye protection and body strains which has caused the trend to increase over the past few months. We've identified improvements we can make to keep our people safe; such as co-designing new eye protection with New Zealand Safety that is more suitable to the work we do.



This is the first quarter in two years where we have had no lost time injuries (LTI's) or serious near misses have occurred.

Porirua wastewater improvement

Backing a community aspiration

The community has given Porirua City a strong mandate to improve the health of the harbour through feedback on Te Awarua-o-Porirua Harbour Strategy and Action Plan and more recently the long term plan.

The Wastewater Improvement Programme is a key part of this.

What's the problem?

- The condition of the wastewater network and the treatment plant is contributing to poor water quality in our streams, our harbour and coastal environment.
- Wet weather overflows need to be reduced and consented.
- The treatment plant discharge consents expire in 2020 and need renewing.

What's our plan?

We are prioritising improvements to the wastewater network, to manage flow to the plant, to reduce wastewater entering the harbour and improve water quality in the harbour and catchment.

This will support work to improve the capacity and performance of the wastewater treatment plant.

We welcome your feedback on this approach.

What we are proposing

- To prioritise improvements to the wastewater network, to reduce wastewater entering the harbour and help improve water quality in the harbour and catchment.
- We will also build on upgrades to the treatment plant to increase capacity and performance.

Why?

- The state of both the wastewater network and the treatment plant are contributing to poor water quality.
- Water quality is much better in the coastal environment than it is in the catchment and harbour.
- By prioritising improvements to the wastewater network, we can reduce wastewater entering the harbour and improve the quality of water in the harbour and catchment.

How will we do that?

We are considering a range of options:

Improving the network	Improving the treatment plant
<ul style="list-style-type: none">• Increase capacity of the wastewater pipe network.• Build wastewater storage tanks in the network to hold back the flow of wastewater during heavy rainfall.• Upgrade pump stations so they can pump more wastewater to the treatment plant during heavy rainfall.• Reduce the amount of stormwater entering the wastewater network during heavy rainfall.• Increase leak detection and repairs to reduce wastewater entering streams and the harbour during dry weather.	<ul style="list-style-type: none">• Plant and equipment upgrades.• Increase capacity of the plant to treat up to 1,500 litres of wastewater per second following heavy rainfall.• Investigate new locations for the discharge from the plant.• Rationalise discharge locations for wastewater network overflows.

How to have your say

You can provide your feedback by:
visiting [wellingtonwater.co.nz/work-in-your-area/Porirua-Wastewater-Improvement](https://www.wellingtonwater.co.nz/work-in-your-area/Porirua-Wastewater-Improvement)
emailing PWl@wellingtonwater.co.nz

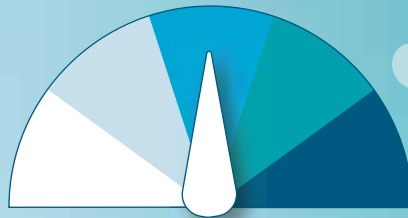
Looking after Porirua Harbour

Find out how Porirua is looking after the harbour, and how you can help
porirua.govt.nz/your-council/city-planning-and-reporting/our-strategic-priorities/healthy-harbour/

Want to know more about wastewater?

Find out more and learn some tips on how to look after your wastewater network
[wellingtonwater.co.nz/your-water/wastewater/](https://www.wellingtonwater.co.nz/your-water/wastewater/)

Watering guide



GARDEN WATER RESTRICTIONS

A **single watering system** (sprinkler, irrigation system, soaker hose, or unattended hose) **between 6-8am and 7-9pm**, on odd/even dates of the month depending on your house number.



RESIDENTIAL SPRINKLER BAN

Includes **sprinklers, irrigation systems, soaker hoses and unattended watering**. Handheld watering is allowed.



RESIDENTIAL OUTDOOR WATER BAN

Includes **sprinklers, irrigation systems, soaker hoses, unattended watering and any handheld watering**.

See what this means for you at loveeverydrop.nz