Te Kaitiaki Wai

Wellington Water's official magazine | Spring 2018

CHANGING BEHAVIOURS

HOW WE'RE PUTTING THE CUSTOMER AT THE HEART OF EVERYTHING WE DO

GETTING SH*T DONE, SINCE 1899

UNEARTHING THE LESS GLAMOROUS PARTS OF OUR CITY

AT YOUR FRONT GATE

OUR ENGAGEMENT APPROACH TO PROJECTS

Wellington Water

Our water, our future.

contents

He wai, he wai
He wai herenga tāngata
He wai herenga whenua
He wai ora
He wai rua
Tihei mauri ora

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

helping communities to prosper

As our communities grow, the need for infrastructure such as roads, power and water to keep up with change will be vital to our region's success.

Wellington Water's vision is to create excellence in regional water services so communities prosper. Our customers, the residents of the metropolitan Wellington region, use the services we provide - drinking water, wastewater and stormwater - every day. Reliable and affordable delivery of these services supports the social fabric of our communities.

The pipes, sumps, pumps and other infrastructure we use to deliver our services to our customers generally have a life expectancy of 30-100 years. This means we must take a sophisticated approach to planning to make sure we get the best value for money from these assets – now, and in the future.

Our Three Waters Strategy looks ahead 50 years and identifies the major issues our services will be facing.

Our Regional Service Plan tells us we need to investigate the following issues on the horizon:

- responding to growth
- maintaining, operating and renewing assets
- improving our services, and
- planning for and responding to emergencies.

As we carry out these activities, we will work as trusted advisors to our client councils, and work collaboratively with our customers, mana whenua partners and stakeholders to make sure their feedback and aspirations are incorporated into our service planning.

Relationship-building is key - both with our client councils and our customers. We continue to connect and engage with our Customer Panel. Working with this group has influenced our thinking, our advice to councils, and how we can improve community awareness initiatives.

We have further developed our Customer Hub, and are using customer interactions, feedback and data to look for ways we can improve our services and customer experience. Because the majority of customer interactions are through our client council contact centres and 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.

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changing behaviours

Putting the customer at the heart of everything we do

In August 2017, we were visited by customer experience experts from Scottish Water.

Scottish Water is the single water authority for the whole of Scotland. They were formed in 2002 following the merger of three regional water authorities, and are a public sector body answerable to the Scottish Parliament through Scottish Ministers.

When they were formed, they set a goal of being awesome at customer service. With a similar goal (putting our customers at the heart of everything we do), we thought theirs was a journey we'd be able to learn something from.

Their visit and their learnings made an immediate impact on our approach to build and improve our customer connections and relationships, and we set up a programme of work in the form of a Customer Plan.

The creation of the Customer Plan will help us (and our supply chain) transform into a customer-focused organisation that puts "customers at the heart of everything we do."

The Plan includes the following five workstreams:

1. Develop customer behaviours: developed by team members throughout Wellington Water and endorsed by our senior leadership team, our customer behaviours include:

- being caring
- being honest
- being authentic.

2. Build relationships: often, our customers interact directly with our client council contact centres or directly with our contractors. We want to have a better understanding of our customers, so we'll work to build relationships with contact centre managers.

3. Improve signage on our sites: by having clear signage on every work site, our customers will have visibility about the work we're doing - at their front gate and in their communities.

4. Develop a customer journey process: we've worked with our contractors and client councils to build a customer journey process that will help manage customer queries and make sure queries are actioned and closed out (completed) in the councils' own systems.

5. Report and analyse customer activity: another way we can better understand our customers is by improving the data we collect and how we report it.

championing the customer

Our Customer Champions were set up as part of a strategy to help develop a number of customer-focussed areas and become more customer-focused in our everyday work. Customer Champions are people from across our organisation who meet on a regular basis to raise the profile of customers within each of our teams.

The first task our Customer Champions have tackled is to confirm a Customer Vision. The Customer Vision sets the tone for how we want to interact with and be perceived by our customers through our interactions with them.

Our Water, Our Future: Wellington Water's Statement of Intent 2018-21 simply states that we want to put the "customer at the heart of what we do." So we began to define three key behaviours that would help to bring that vision to life across our organisation and our wider Wellington Water whānau.

These customer behaviours stem from positive and negative experiences that we ourselves had as customers in our day-to-day lives. By using these experiences to shape our customer service, we can ensure that we create a better experience for our customers.

1. **Caring:** We work with our customers

Example:
Gerry has a water leak on his property, so he calls our Customer Hub to report it.
Michelle (from our Customer Hub team) listens carefully and asks a few questions to ensure she fully understands why Gerry is calling. Michelle explains that because the leak is on his property, he'll need a plumber to come and have a look at it. Michelle suggests to Gerry that one of our team can have a look and advise him on the best steps to take.
Tama heads out to see Gerry. He's been fully briefed by the Customer Hub and knows about the issue, so Gerry doesn't have to repeat it all again. Tama is friendly and patient; he investigates the leak, talks Gerry through his options and provides him with the details of who will be able to fix it. Before leaving, Tama reminds Gerry he can always call the Customer Hub if he has any further issues, as we are here to help.

2. **Honest:** We say what we'll do and we do what we say

Example:
Leila has some seepage at the back of her property, so she calls our Customer Hub to report it.
Jess (from our Customer Hub team) listens to Leila, making sure she understands the issue fully. She explains that we'll need to visit Leila's property to investigate. She talks through the investigation process and lets Leila know the timeframe.
The investigation is completed, and Jess calls Leila back within the timeframe. Leila feels fully informed throughout the process and that the expectations set out for her were met.

3. **Authentic**: We build and maintain genuine relationships

Example:
Grant has recently developed eczema. He calls our Customer Hub to discuss chlorination in our water and asks if this could be the cause.
Michelle (from our Customer Hub team) listens to Grant's query. She responds empathically while also explaining the unlikelihood that the water is the cause. However, she offers for his water to be tested to help put him at ease and show that we care.
Michelle advises Grant that she'll get back to him within two weeks with the results, which she does.
Michelle logs Grant's call and test results through the Customer Hub so if he calls back, the person speaking to him has all the information they need and can continue to maintain the good relationship.

How these behaviours fit within our culture

Caring: Wellington Water is full of people who take particular care and attention to detail within each of our respective roles. We understand the importance and interdependence of our work, and therefore understand the need to collaborate with each other to ensure we achieve common goals in the challenges we face. We want to apply that same level of understanding and collaboration to our customers, so as to ensure the best achievable outcome.

Honest: Our key strategic documents all clearly outline the levels of service we aim to achieve. We are held accountable, report on progress being made and highlight any issues as they arise. When interacting with our customers, we want to be clear about what we as individuals and as a company can achieve, and what customers can expect to experience along the way.

Authentic: The meaningful relationships we build with our client councils are pivotal to our success. Strong relationships build trust and confidence in the services we provide.

Delivering our customer promise

We can use these behaviours to help us deliver on our customer promise. By putting ourselves in the customer's shoes, we're reminded that the solutions we develop and the actions we take in delivering the three waters services are for both the customer of today and the future.

It's also clear that our customers can rely on us if we say what we do and do what say. Behaving in this way helps generate trust between our customers and ourselves; and trust is the foundation of a genuine relationship. So, by demonstrating our customer behaviours, we can deliver on the promise we made.

Over the next twelve months, our Customer Champions will work to embed these behaviours throughout the organisation and our wider family. We will be measuring our success as we go and are excited to see the results, as they'll directly impact on all of our customers and bring to life our vision of customers being at the heart of what we do.

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meet our customer panel

-Genevieve Drake
Communications Advisor, Contractor

The term 'customer' is bandied about quite a bit - both in retail and in the service sector.

Customers are people who buy goods or services from shops or businesses, and have some level of choice in doing so. This is fine in a transactional sense, but what about the actual people?

The Oxford Dictionary had a bit of a go at defining 'customer' by adding the thought 'a person of a specified kind with whom one has to deal'. Oh, the effort!

At Wellington Water, we have a different view on all this by putting the customer at the heart of what we do. In a nutshell, the people that use our services will know what we are up to, and why.

There are all sorts of reasons for being customer-centric in our activities. For a start, it's simply good

Some of the Customer Panel at a meeting in June 2018, talking about our future service studies and asking Wellington Water to "walk the talk".

manners
to let
people
know what
projects have been
planned in ample time.
With reasonable notice, customers
work with our project teams really well, and
the disruption caused by infrastructure upgrades is
minimised. This is pretty important, especially for
property owners with a public wastewater (sewer)
main running through their yards.

Secondly, our five client councils entrust decent sums of money with us to manage their infrastructure and assets on their behalf; value for money and smart investment decisions are an essential part of how we go about all of this.

In order to make sure that our efforts deliver customer outcomes and goals, we collected some actual customers from Porirua, Upper Hutt, Lower Hutt and Wellington cities and formed a Customer Panel. We meet with this group every six weeks and talk about a wide range of topics, like service planning, community engagement and public education.

After a year of meeting, it's clear that actively seeking to understand our customers is well worthwhile. This is because the Customer Panel has invested time in understanding who we are and what we've set out to do – their qualified feedback is directly applicable to our thinking.

Achieving our strategic regional outcomes is dependent on community understanding and desire for sustained behaviour change in how we both use and value our natural resources. This is well beyond putting pipes in the ground; it's about truly valuing our land and its people.

We've started on a journey that will clearly be challenging, but worthwhile. Working towards a cleaner environment demands innovation and courage to do things differently than before - alongside our communities. Actually wanting to engage with our customers is a good start.

water for the people

Civil Defence minister Hon Kris Faafoi (third from left), attended an open day to learn how the new emergency water network will operate. The network includes mobile bladders that will be used to distribute water if pipelines are out of action.

Pictured from left to right: Justin Lester (Mayor, Wellington City Council), Nick Hewer-Hewitt (Wellington Water), Hon Kris Faafoi (Minister of Civil Defence), David Bassett (Deputy Mayor, Hutt City Council and Wellington Water Committee Chair), Ray Wallace (Mayor, Hutt City Council), Andrew Brown (Cardno), Jill Day (Deputy Mayor, Wellington City Council) and Mike Tana (Mayor, Porirua City Council).

On Monday 25 June we hosted a special event at Johnsonville Park to open the first of 22 community water stations, which form the foundation of our emergency water supply network.

Minister of Civil Defence Hon Kris Faafoi, mayors and representatives from the four councils (Wellington City Council, Hutt City Council, Upper Hutt City Council and Porirua City Council) were in attendance to learn more about how they'll operate.

Wellington's drinking water supply network is vulnerable. Underground pipes 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.

Over the past 12 months we've been working with central and local government to develop an above-ground emergency water network that will supply over 400,000 people across Wellington from day eight following a disaster.

We've identified 22 emergency water source sites across the Wellington metropolitan region:

- 12 sites that will take water from local rivers and streams
- nine new groundwater bore sites
- desalination units, which will be transported into areas with no access to bores, rivers and streams.

Once the water has been extracted from a bore, stream and/or river, it passes through a community water station where it is treated and made safe.

Each community water station will have a 20,000 litre emergency water bladder, which acts as a reservoir.

They are filled with safe water once it has been treated by the community water station.

20,000 litre bladders will hold water that has been extracted and treated by the community water stations.

'Pipes on wheels' will transport water to smaller bladders that will be set up at community collection points around the region.

Utes, trailers, and vans will be the 'pipes' in the emergency water network. Water collection points will be set up in locations such as schools, parks and roadsides.

The aim is to make water collection points easily accessible from every home. Locations will be advised through official information channels following the emergency.

It's important to remember that following a major earthquake, the first thing people rely on is themselves and their families, so storing water is a must for every household.

You should have 20 litres of stored water for every person, every day, for at least seven days. That's 560 litres for a four-person household. You may need to store more if you have any unwell people or small children in your home.

Easy-to-install 200-litre tanks can be purchased from your local council for $105.

Fill up bottles and containers from the tap stand at community collection points. This water will need to be boiled once carried home.

feeling pumped in Porirua

Investment in pump stations pays off for environment

- Paul Winstanley
Team Leader Utilities,
Network & Customer Operations

Porirua's newly-upgraded wastewater pumps are having a large impact at a low cost.

We've been working hard to increase the operating standards of Porirua's wastewater network assets (valves, pumps, pipes and electrical components). They take wastewater from homes and businesses around Porirua and transport it to the Wastewater Treatment Plant, where the water is treated before it is discharged into the ocean.

We're constantly looking to improve these assets, and in the last few years we've made significant upgrades and improvements to the wastewater pump stations in Porirua. For example, in the first year of managing these sites we had over 320 pump station overflow events. This last year, we've had only 43 overflows.

An overflow happens when wastewater gets into the stormwater network, or stormwater gets into the wastewater network. They typically happen after heavy rainfall events, because a large volume of stormwater enters the wastewater network, overwhelming its capacity. This is an ongoing challenge we face, because when an overflow event occurs, wastewater can end up in the Porirua Harbour, which puts public health and our water quality at risk.

In 2017, when wastewater pumps located at the city centre required major servicing, we looked for opportunities to increase the pumps' efficiency and reduce the amount of wastewater overflows. We engaged our Consultant Panel, and it was agreed that if we changed the type of impeller - the rotating component which drives the pump - we'd be able to increase the amount of wastewater that could flow at this critical site.

This upgrade resulted in the flow capacity increasing from 280 litres per second (L/s) to 390 L/s per pump – or an increase of one and a half bathtubs per second. When all pumps are running at full speed, we've increased capacity from 600L/s to 760 L/s!

Several storms have passed through Porirua, and the upgraded pumps have prevented overflows that otherwise would have ended up in the harbour.

The wastewater pump station on Tangare Drive in Titahi Bay, Porirua, is more efficient and has helped increase Porirua's wastewater flow capacity from 600 litres per second (L/s) to 760 L/s

out and about

What we've been doing in your community

Porirua City Council flooding drop-in sessions

We recently held five drop-in sessions to discuss flooding in the Porirua area, and to share the mapping information recently compiled from detailed hydraulic modelling. These sessions provided us with valuable information, and allowed us to connect with the community to help us build a shared confidence that the models accurately represent the flooding hazards.

We received valuable feedback about local experiences of the recent flooding events, such as blockage-prone culverts, or the impact that the floods had on residents and businesses. This information will be used to help enhance our representation of the catchment in the model.

It was also a great opportunity to talk to the residents about the performance of our network and the causes of flooding. This can help them prepare for future floods; and also provides a catchment-wide perspective of the flooding.

About 70 residents attended our drop-in sessions. The maps were well-received, and the feedback we got was that the maps corresponded extremely well with local residents' experiences of the recent floods. Issues such as sedimentation and vegetation in the streams were a concern, and many, of course, wanted to know what works were planned to improve drainage in their area.

The next steps for Wellington Water are to use the models to help prioritise areas for investigation and upgrade, and also to work with Porirua City Council to publish these hazard maps in the proposed Porirua District Plan.

The purpose of the District Plan hazard maps is to help ensure that new development:

- maintains or enhances the overland flow paths that are vital to drain flood flows
- constructs floor levels for new businesses and residents at a level to avoid most flooding
- locates new buildings so they may be accessed safely, even in a flood
- is set back from streams
- is prepared for the predicted impacts of climate change
- does not add to the flood risk in the catchment and, if possible, reduces it.

Residents in Porirua found real value from dropping by our sessions about flooding and Porirua. We were able to show residents the models we're working on, and get feedback on their flooding experiences.

Planting time – Friends of Petone Beach

On Thursday 19 July 2018, some Wellington Water staff hopped over the road and teamed up once again with Friends of Petone Beach and Hutt City Council, and helped plant about 650 pīngao (golden sand sedge) plants along the western end of Petone Beach.

The Friends of Petone Beach formed in the 1980s, and in 2004, with the support of Hutt City Council - who supply the plants - the Petone Dune Restoration Project started.

Graeme Lyon from the Friends group explained that the main aim of the project is to help restore the natural features of the dunes along the beach and help protect against potential rising sea levels and storm surge damage. They also want to restore the native biodiversity, and help reduce wind-blown sand to streets and properties along the beachfront.

Last year, we helped plant just over 900 pīngao plants – a native plant found only in New Zealand – along the foreshore.

A team of Wellington Water staff headed to Petone beach to help plant pīngao on Thursday 19 July 2018.

These plants will help restore the natural features of the sand dunes, and protect against sea level rise and storm surges.

Wellington Water's behaviour change campaign highlights things we can all do to help our waterways

A lot of our infrastructure is 'out of sight, out of mind' – which can result in our customers not knowing much about the three water services we provide through our stormwater, drinking water and wastewater networks.

It's a common misconception that storm drains lead to a wastewater treatment plant, but stormwater actually receives no treatment and is discharged directly into the closest waterway. Therefore, everything that enters our stormwater network also ends up in our waterways.

This lack of awareness is reflected by some people's behaviours when they use the stormwater network without even realising they may be contributing to water quality issues in local streams.

Think twice about dumping anything into a storm drain!

We want our customers to stop and think 'where does it go?' before they undertake an activity that uses the stormwater or wastewater network.

This question was the focus of our recent stormwater campaign, which worked to bring our infrastructure 'above-ground' to help our customers make the connection between their actions on the network (at the storm drain), and at the end of the network (streams, rivers, and eventually, the coast).

By posing the question 'Where does it go?' we're nudging people to stop and think before they

undertake an activity, i.e. “If I clean my paint brush here – where does it go?”; “If I clean my car here – where does it go?”; “If I pour fats and oils down this drain – where does it go?”

This contains a bit of intrigue for our customers in regards to what ‘it’ is, gripping them and taking them on a journey with us to see where it ‘goes’ (the journey being the network, and the destination being our waterways).

There are three key focus areas for 'Where does it go?'

1. telling/showing our customers where it goes
2. explaining what shouldn’t go down and why (educating)
3. providing alternatives/ solutions (educating).

We chose a number of key actions for the campaign, including:

- washing your car
- cleaning paint brushes
- picking up dog poo
- mowing the lawn
- throwing out rubbish
- getting rid of fats/oils, and
- disposing of wetwipes.

Each action has two pipes leading off them: one pointing to a positive behaviour and the other to a negative behaviour.

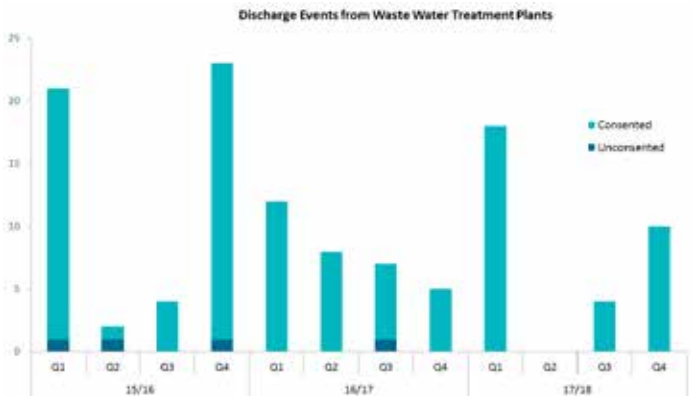
By informing our customers about the networks, educating them on what behaviours have negative impacts on the networks, and providing them with alternative options or solutions, our customers will be able to make informed decisions about their behaviour and actions.

We all have a role to play in looking after our stormwater network and protecting our environment. All we need to do is make a few small changes and our infrastructure, waterways and the environment will be better off.

The ‘Where does it go?’ campaign featured a range of videos and digital ads that ran across social media, and images [see left] that featured on busbacks around the region.

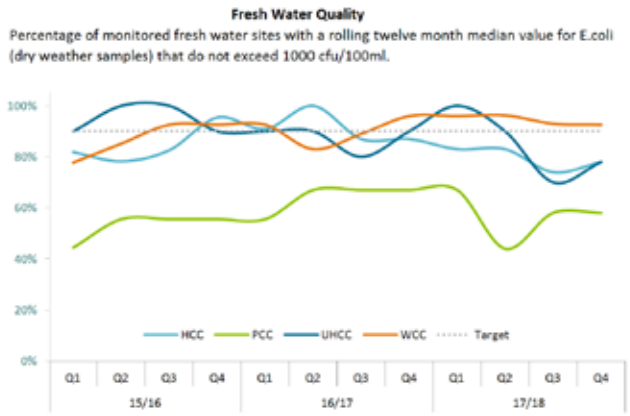
'Respect for the environment' dashboard

We're mindful of the impacts that our activities have on the environment. We work closely with stakeholders to make sure discharges into waterways and the sea are carefully managed. Below are the results of our activities up to 30 June 2018.



Target: no non-consented overflow from treatment plants.

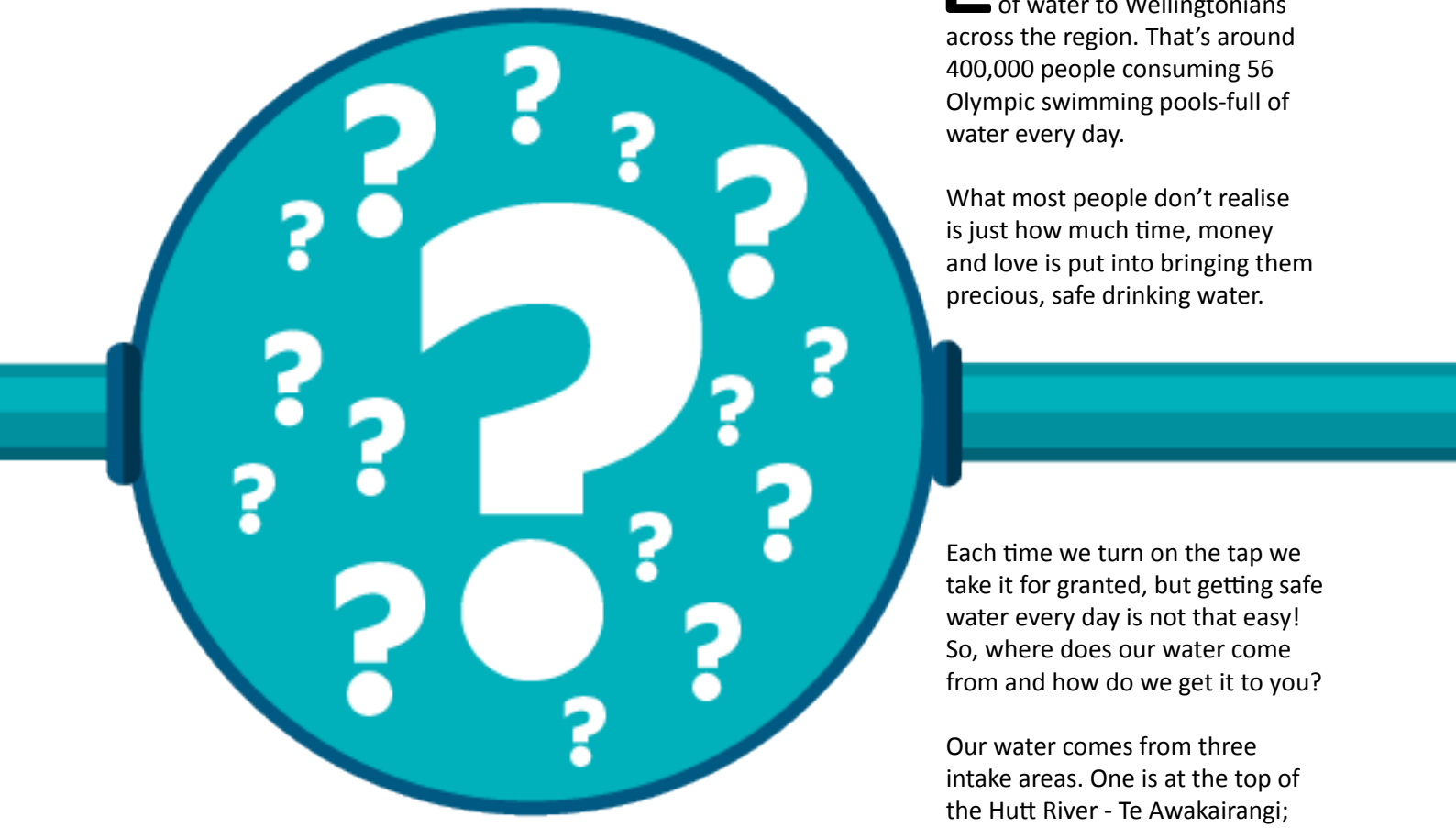
We achieved the target in the 2017/18 financial year. Our renewal programme around the region works to upgrade the aging parts of the network to help reduce the number of consented and non-consented overflows.



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. The national "bottom line" standards for freshwater have recently been adopted as a benchmark of our waterways by the Porirua Whaitua Committee. Wellington Water is mapping a pathway for the enhancement of our networks to achieve these limits.

from source...



...to tap

Find out where your drinking water comes from, and why we need to look after it

Every day we provide, on average, 140 million litres of water to Wellingtonians across the region. That's around 400,000 people consuming 56 Olympic swimming pools-full of water every day.

What most people don't realise is just how much time, money and love is put into bringing them precious, safe drinking water.

Each time we turn on the tap we take it for granted, but getting safe water every day is not that easy! So, where does our water come from and how do we get it to you?

Our water comes from three intake areas. One is at the top of the Hutt River - Te Awakairangi; the second is ground water from the Waiwhetu aquifer, and the final one is from the joint flow of the Wainuiomata and Orongorongo rivers.

We also have two large storage lakes at Te Marua which we use to supplement our supply when we can't take as much water from the rivers or the aquifer – typically during the summer months.

The rivers have special catchment areas that are protected to keep pollution to a minimum. They're situated upstream of housing, away from people and protected from pests.

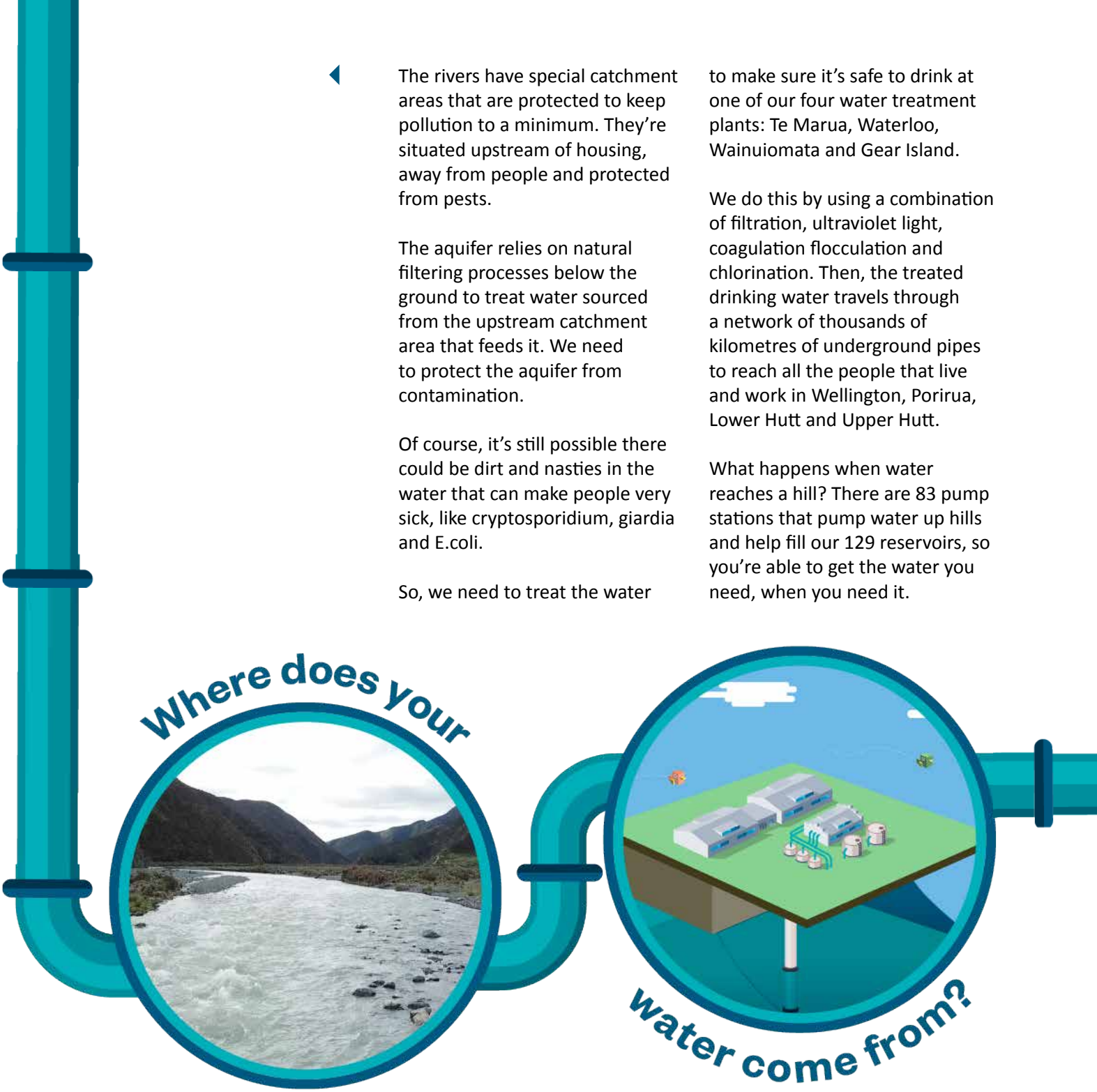
The aquifer relies on natural filtering processes below the ground to treat water sourced from the upstream catchment area that feeds it. We need to protect the aquifer from contamination.

Of course, it's still possible there could be dirt and nasties in the water that can make people very sick, like cryptosporidium, giardia and E.coli.

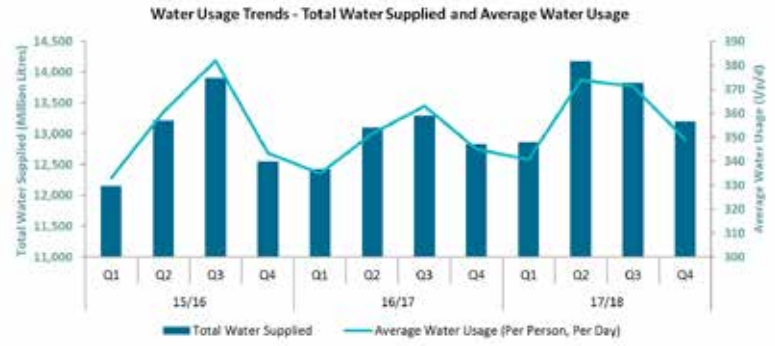
So, we need to treat the water to make sure it's safe to drink at one of our four water treatment plants: Te Marua, Waterloo, Wainuiomata and Gear Island.

We do this by using a combination of filtration, ultraviolet light, coagulation flocculation and chlorination. Then, the treated drinking water travels through a network of thousands of kilometres of underground pipes to reach all the people that live and work in Wellington, Porirua, Lower Hutt and Upper Hutt.

What happens when water reaches a hill? There are 83 pump stations that pump water up hills and help fill our 129 reservoirs, so you're able to get the water you need, when you need it.

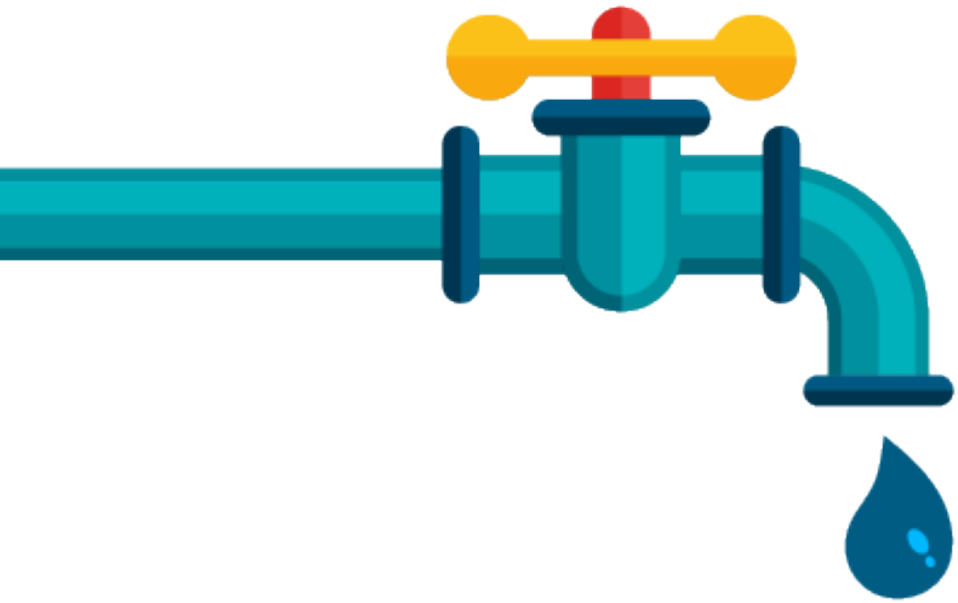


Drinking water supply



We've 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.



As our cities and population grow, we'll have to be even more mindful about the amount of water we are using. Because we rely on rivers and the aquifer, we need to be careful about the amount of water we use, so there aren't any negative impacts on the environment. So, it's really important that each and every one of us loves every drop now, and for the future.

This year, our water conservation campaign focuses on showing people where we get our water from, how it's treated so that it's safe to drink, and how we deliver it to over 400,000 people that live, work and play in the metropolitan Wellington region.

We're supporting this message with a series of helpful tips that show people some easy things they can do around their home to conserve water.

We want to encourage water users in Wellington to develop good water conservation habits all year round. Embedding the sense that drinking water is precious and needs to be cared for is important, even in winter, and will help establish good habits in summer when water use and demand increases, putting pressure on supply.

Our campaign continues to use a positive 'Love Every Drop' message to encourage customers to buy into water conservation.

FEATURE

at the front gate

Our engagement approach to projects

-Genevieve Drake
Communications Advisor, Contractor

When public infrastructure crosses private property and needs renewal, it can be disruptive.

Customers contemplating the inconvenience of a project underway on their property often ask if financial compensation is paid. The short answer is no, we don't offer financial compensation for the temporary loss of use/amenity of property as these public works are carried out.

However, we do our utmost to practically address the problems that might arise when our crews are on-site. This worked particularly well on a recent wastewater renewal on Asquith Terrace, Brooklyn. The residents were actually looking forward to the renewal work in their backyards – true story!

That's right, even difficult projects with challenging terrain can be a pleasure for both contractor and residents. The Asquith Terrace Wastewater Renewal

Clockwise from top:

To carry out the wastewater renewal on private property, our contractors had to store a large amount of equipment onsite.

By engaging with customers early we can work with them to ensure the work is as least disruptive as possible.

Proactive engagement with property owners and careful consideration helps a project to run smoothly

story is one that had plenty of lead-in time, and a decision was made early on to use helicopters to fly materials onto the site.

Approximately 140m of wastewater pipe was installed, replacing some underneath houses in some spots, and down really steep and heavily vegetated land in the Prince of Wales Park.

Proactive engagement with property owners and careful consideration of what it all meant for our customers meant that the four months of site occupancy went really well. Affected residents understood what needed to be done, which translated into a very pleasant job indeed. Some property owners even managed to get some pesky hollows filled in here and there since the contractor was moving earth about, anyway.

The countless number of steep steps throughout

properties meant that it was preferable for materials to be delivered via air and conveyor belts rather than carried. This made the project site safer and the work delivery much more efficient.

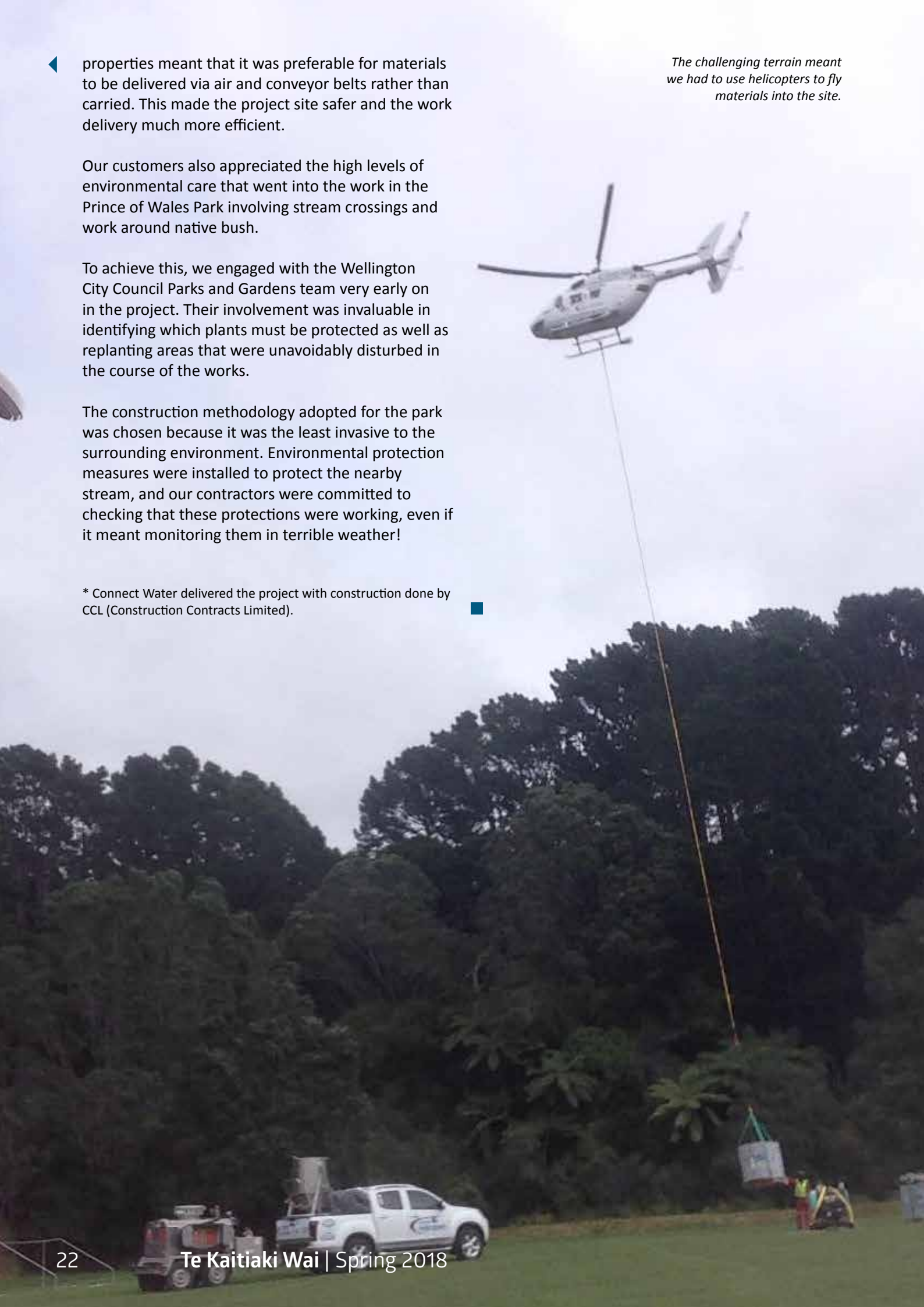
Our customers also appreciated the high levels of environmental care that went into the work in the Prince of Wales Park involving stream crossings and work around native bush.

To achieve this, we engaged with the Wellington City Council Parks and Gardens team very early on in the project. Their involvement was invaluable in identifying which plants must be protected as well as replanting areas that were unavoidably disturbed in the course of the works.

The construction methodology adopted for the park was chosen because it was the least invasive to the surrounding environment. Environmental protection measures were installed to protect the nearby stream, and our contractors were committed to checking that these protections were working, even if it meant monitoring them in terrible weather!

* Connect Water delivered the project with construction done by CCL (Construction Contracts Limited).

The challenging terrain meant we had to use helicopters to fly materials into the site.



REPORT

six principles

All around the world, water supplies are under increasing threat. The discovery of microplastics in a global sample of bottled water made headlines[1] some time ago. Though the health impacts of this are unknown as yet, it certainly doesn't sound great, and it's just one of the emerging risks that water supply managers face.

The common challenges involved in delivering safe water to people in their homes led to the development of six principles that are ingrained in good practice. At Wellington Water, we believe we're living and working by those principles. But we also accept we could do better, both in ensuring that we follow them and sharing how we do that.

Our report will provide insight into the work we're doing to ensure safe drinking water, using the framework of the six principles.

The Six Principles of Drinking Water Safety as identified by the Government Inquiry into Havelock North Drinking Water (Havelock North Inquiry) are:

1. a high standard of care must be embraced
2. protection of source water is of paramount importance
3. maintain multiple barriers against contamination
4. change precedes contamination
5. suppliers must own the safety of drinking water
6. apply a preventive risk management approach.

In this report we'll look in-depth at Principles 5 and 6.

Case study:

Digger smashes pipes, leads to boil water notice

Early in 2018, the close proximity of buried wastewater and drinking water pipelines led to a contamination risk, and Wellington Water had to issue a boil water notice. This was in effect for 10 days from February 28 to March 9, and affected about 50 properties.

This was the first time Wellington Water had ever issued such a notice, and we wanted to do everything we could to make sure anyone at risk knew what to do. We and our suppliers mobilised to ensure the message about the need to boil water was distributed through all possible channels. Letters were delivered to each affected property, residents returning from work were waved down in their vehicles, and notifications were sent to media and published on our and council websites. We had up to 50 people working on the issue during the initial notification period, with many working into the evening to ensure every resident was aware of what to do (all before we actually knew whether or not the water was contaminated).

It was a good demonstration of the personal sense of responsibility and responsiveness that we as operators agree are core behaviours required of a drinking water operator.

Water quality testing showed that drinking water had indeed been contaminated when a digger pierced both a wastewater and a drinking water pipe. Fortunately, thanks to the warnings, no-one in the affected part of the network became sick.

The incident also underlines how vulnerable a water network can be. Regardless of how safe the system is or how high the standards are, there will always be incidents that put human health at risk. In these cases, we rely on our staff and suppliers being prepared to do what it takes to ensure people's health is not compromised. All our contractors are required to carry out buried service surveys before they carry out any excavation, and any service strike on our sites is reviewed by a member of our senior leadership team.

[Left] Having services buried right next to, on top or underneath each other increases the risk of damage. [Right] Citycare staff joined us on the ground to let people know and deliver safe water.

[1] https://orbmedia.org/stories/plus-plastic/multimedia

Sense of responsibility

Suppliers must own the safety of drinking water:

Drinking water suppliers must maintain a personal sense of responsibility and dedication to providing consumers with safe water.

Knowledgeable, experienced, committed and responsive personnel provide the best assurance of safe drinking water. The personnel, and drinking water supply system, must be able to respond quickly and effectively to adverse monitoring signals.

This requires commitment from the highest level of the organisation and accountability by all those with responsibility for drinking water.

Drinking water and the Matrix

The Six Principles approach promoted by the Havelock North Inquiry is a good reminder that bringing fresh thinking to established methods and behaviours is important in an area where so many take so much – safe water at the tap – for granted.

Additionally, the Government is strongly signalling the creation of a drinking water regulator. Meeting the new regulator's requirements and demonstrating what we're doing to ensure safe drinking water will become a significant part of the work of all water supply managers in the country in the near future.

In response, we've taken steps to create a cross-organisational or 'matrix' team approach to ensure we're both embedding and fostering a culture of drinking water safety throughout our entire area of operations, and that we're ready for regulatory change.

We think this is a good thing to do because two of the Six Principles focus on culture and behaviour. 'A high standard of care' (Principle 1) and 'A personal sense of responsibility and dedication' (Principle 5) are soft concepts that aren't easily measured in the way a risk management framework or monitoring regime can be.

The remit of Wellington Water's Drinking Water Safety Committee is to look across the organisation for risks and insights, improvement opportunities and best practice that can be shared to help make those soft but vital qualities of care and ownership integral to the way our people work.

Some of the tools the Committee will use to foster continuous improvement in drinking water safety:

- drinking water quality monitoring trends (both compliance and operational)
- incidents, near misses and lessons learnt with respect to drinking water safety
- trends of customer inquiries relating to drinking water
- water safety culture development activities
- implementing Water Safety Plan improvements
- summer demand risk assessments
- any other trends relating to drinking water safety, such as consent non-compliances and system performance issues.

At this early stage of the Committee's existence, the work programme is already full and includes:

- Water Safety Plan improvements (more on this follows)
- backflow prevention
- cultural development (includes preparing a Drinking Water Safety policy and both internal and external engagement activities)
- reporting (water quality for compliance and operational purposes, plus this Six Principles report)
- getting ready for a regulator (what it means, where we are now, where we need to be, estimated costs).

The findings, reports and recommendations of the Committee will feature in future reports.

Preventative risk management

Apply a preventive risk management approach:

A preventive risk management approach provides the best protection against waterborne illness. Once contamination is detected, contaminated water may already have been consumed and illness may already have occurred.

Accordingly, the focus must always be on preventing contamination. This requires systematic assessment of risks throughout a drinking water supply from source to tap; identification of ways these risks can be managed; and control measures implemented to ensure that management is occurring properly.

Adequate monitoring of the performance of each barrier is essential. Each supplier's risk management approach should be recorded in a living Water Safety Plan which is utilised on a day to day basis.

The role of the Water Safety Plan

As the extract from the Havelock North Inquiry notes, a Water Safety Plan is a management tool aimed at ensuring public drinking water supplies are safe to drink. The Plan should look at all stages of water supply from catchment to tap, at the risks all along the way, and identify the mechanisms in place to reduce, eliminate and prevent them.

Water Safety Plans are a requirement under the Health Act 1957. While the Plan itself can be seen as delivering on Principle 6, in practice the Plan should encompass all Six Principles because they apply to the whole system of delivering safe water.

Previously there were plans in place for each of the local authorities that jointly own Wellington Water. We are in now the process of preparing a single regional Water Safety Plan. The reason for this is that it supports a holistic and integrated approach that will ensure the best outcomes in terms of identifying and managing risks.

Put another way, there's less chance for things to be overlooked, or for gaps in accountability to appear if there is a single Plan for the entire catchment and supply area. A regional Water Safety Plan is in itself a mechanism for eliminating the risk of managing multiple plans.

A regional approach is also smarter because Water Safety Plans are important to the planning of future investment and maintenance programmes. Having the Plan in one place will make identifying and prioritising where to spend money simpler and more transparent.

Our approach to preparing this new Plan has been to identify key people with different responsibilities in the water supply system and involve them in discussions about current procedures and potential risks.

Arising from these discussions and a review of existing documentation, the Plan describes the water supply system and sets out a methodical assessment of risks that could compromise drinking water safety.

It addresses risks at water sources and during abstraction, treatment and delivery to customers. It also provides a prioritised suite of improvements for future capital investment or additional operational commitment. In assessing public health risks, the plan refers to current risk mitigation practices and identifies and prioritises improvements.

The draft plan is being reported back to those staff who contributed to its development.

Our expert advisor – Jim Graham from Water New Zealand – has written dozens of Water Safety Plans. He says this was the most complex one he'd been involved with, but all staff involved were fully engaged and extremely helpful. This is a good sign, as we look to demonstrate that we do have a high sense of ownership and a high standard of care in managing safe drinking water supply.

We're aiming to have the completed Plan ready for the Ministry of Health by the end of September.

keeping the water running

-Euan Stitt
Principal Advisor Procurement, Finance & Procurement

Our procurement strategy for service delivery

We want to deliver the most efficient water services we can for our customers.

To make sure we're doing this, we've developed a procurement programme that brings together all the different delivery approaches we currently use across our five client councils. This will help us apply a region-wide approach, resulting in greater value for money across our supply chain, and improve the water services that ratepayers in the region receive.

We've called this programme our Service Delivery Strategy. The Strategy focuses on delivering three main workstreams.

Network maintenance and operations

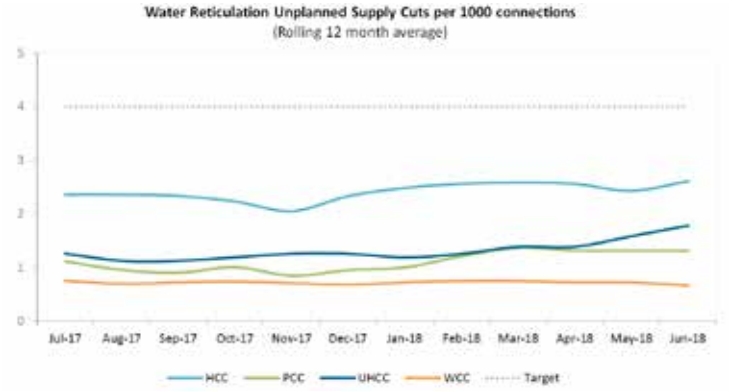
These are the day-to-day maintenance and operations we carry out on the network, such as assessing leaks, fixing mains bursts, flooding, etc.

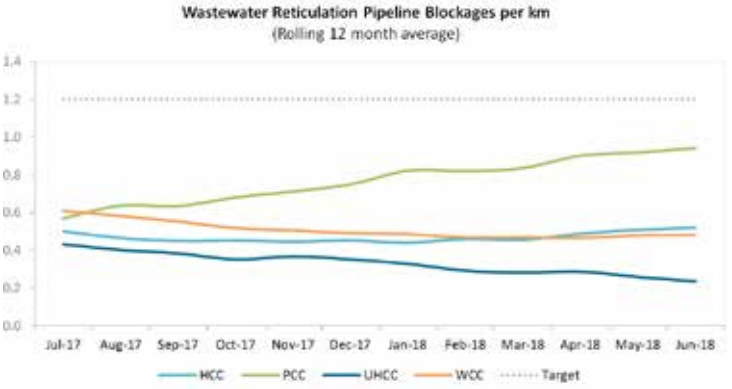
Currently, we have a top-down relationship with a number of contractors who carry out this work on our behalf. As part of the Strategy, we're adopting an 'Alliance' approach, which means we'll combine our expertise

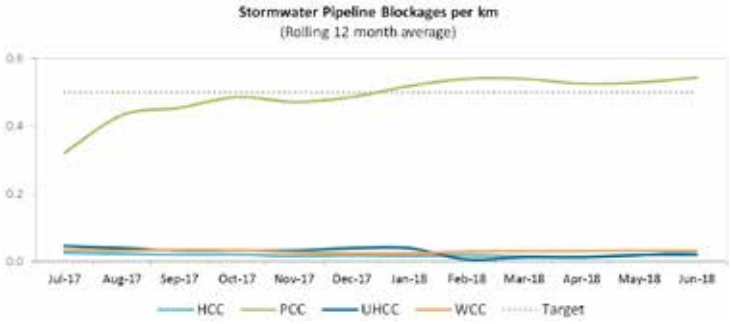
Capital expenditure (capex) programme works being carried out in Wadestown. Going forward, these works will be carried out under the Contractor Panel model.

Three waters network reliability dashboard

Network reliability remains well within target performance levels, with the exception of Porirua City Council (stormwater pipeline blockages).







with one private contractor on a peer-to-peer model. We'll work collaboratively with them to manage the maintenance and repairs to the drinking water, wastewater and stormwater networks.

This closer relationship will make sure there is consistency around maintenance and operation work across the region. Customers will have a single point of contact and be fully aware of what we're doing to provide improved water services to the region.

By aligning with the contractor in an Alliance, we also increase our ability to respond to an emergency event, as we will be partners and have the availability of alternative works depots, spare parts, and contingent workforces.

Also, the Alliance will be responsible for co-ordinating a range of functions that will improve customer outcomes from across the Wellington Water business, such as analysing customer feedback. By having an Alliance, we'll be better positioned to gather and share data and information, which will help with decision-making around whether to repair, replace or upgrade parts of the network.

Network upgrades and renewals

Each year, we complete a large number and range of projects around the region which improve network performance for our customers. This is known as our capital expenditure, or 'capex' programme of works. These are the big projects around the region, such as upgrading pump stations and replacing pipes.

To ensure these works have a greater customer focus, we're implementing a panel approach for our contractors. This means there will be regional consistency, better co-ordinating, planning and scheduling of work, and customers will all receive the same level of service.

The panel will also result in our contractors co-operating more to drive process efficiency, taking a whole-of-network view, sharing equipment, and learning lessons together. This will be cost effective for our customers in the long run.

Wastewater treatment plants

Across the region there are four treatment plants, and each one is operated by a different contractor in a different way. We're currently in the process of tendering for a single contractor to run all four treatment plants. This will remove duplication and streamline the supporting processes we use to ensure we meet the needs of our customers and the environment most effectively.

By approaching our service delivery in this way, we'll deliver better value and more effective water services for our client councils and our customers.

Watermain burst outside Wellington Water's head office. These types of repairs will be carried out under the Alliance approach going forward.

Footage taken during inspections of the Interceptor in 2002, by our internal staff and our consultant. These inspections were to identify defects and sections that would require repairs or upgrades.

getting sh*t done, since 1899

-Steve Hutchison
Chief Advisor, Wastewater

Wellington was a growing city in the late 1800s, rising from a modest population of 3,227 in 1841 to 10,956 in 1876, after becoming the capital city in 1865. With more people living close together came the challenge of keeping everyone healthy.

Increasingly regular cases of typhoid and cholera were reported, which were attributed to poor sanitation. Between 1893 and 1896, Wellington Hospital recorded an average of 91 cases of typhoid fever per year.

Our city leaders grappled with this dilemma for some years. Parliament passed the Health Act in 1872, requiring "all houses within the limits of cities or towns having a population exceeding two thousand souls… shall have attached to them sufficient earth-closets or water closets…" But the prevailing argument was that a combination of "night soil" collection and surface drainage could "pass into the harbor without any detriment to the bay," and there was a reluctance to commit the city to investing in wastewater improvements.

However, the cases of disease kept rising, and by 1890 there had been 77 deaths linked to wastewater-soaked backyards, prompting action.

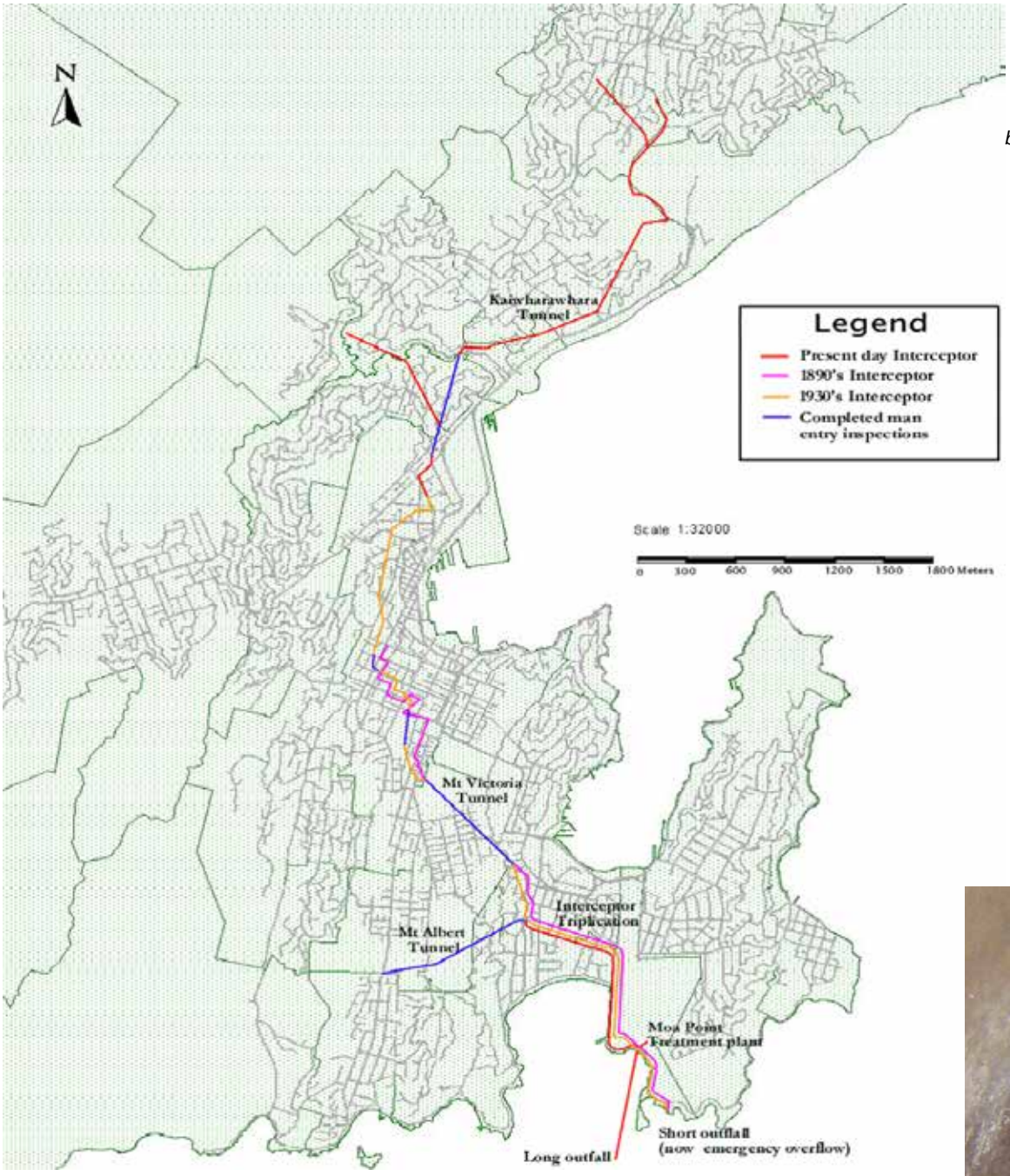
A Drainage Commission was appointed, and it recommended a wastewater network that included building:

- a wastewater network in the residential areas around the harbour
- consented overflow locations
- a large pipe to take the city's wastewater from Manners Street through Mt Victoria and out to the South Coast near Moa Point, and
- a sea outfall at Moa Point.

Building this network was a serious undertaking. Construction started in 1893 and was not completed until 1899, at a cost of £175,000. Much of the route required tunneling through rock, which was dangerous work. By 1900, when the work was completed, Wellington had a population of about 50,000 and was still growing.

In classic Victorian engineering style, the finished wastewater pipe was labelled "the Interceptor", as it intercepted the drains laid from city hills down to the coast.

Over the next decades, dedicated smaller wastewater pipes were laid in the city streets and gullies



The layout of the Interceptor underneath Wellington's central business district (CBD), and the extensions that have been added on over the years.

serving Mt Cook, Mt Victoria and the early properties in Newtown, all linking to the Interceptor.

As Wellington's population grew to over 100,000, the Interceptor needed to be extended. In the 1930s, a tunnel was built from Manners Street up through to Pipitea Street.

This extension crossed the Wellington Fault in Thorndon, and special care was taken at that section to reinforce the tunnel lining with steel reinforcing bars. Around the same time, the Wellington Airport was being built, and the Interceptor had to be re-routed to the southern end of the new runway.

A separate wastewater system was also built in Karori, with septic tanks built near the end of South Karori Road. An outfall pipe down the steep banks of Karori Stream to the south coast was commissioned in 1935.

As suburbs continued to grow into Khandallah and Johnsonville, a further extension effort was required. Starting at Tyers Road

in Ngauranga Gorge, a tunnel was built through to Ngaio Gorge, bridged over Ngaio Stream, and connected to the main interceptor at Thorndon.

Population projections have exceeded the original Interceptor design, but due to the way the Interceptor was constructed, it has been large enough to accommodate the expanding city. This is due to the physical area the miners needed to build the tunnel.

Several different pipe shapes were used over the years, but most were at least six feet high by three feet wide, large enough for the miners to stand inside the tunnel and wield their picks.

As the Interceptor ages, our focus has turned to keeping stormwater out of the Interceptor so it doesn't overflow to the harbour, and to making sure it can keep serving the city into the next century. For a long time, this has been done manually by workers walking the line and taking photographs and notes, typically in the early hours of the morning when wastewater flows are low.

Technology has improved over the years, and this unpleasant task is now conducted by remote-controlled high definition video cameras. The unit currently in use also has sonar and laser sensors to measure any changes to the Interceptor.

Wastewater can be corrosive, and over the years, some of the original pipework had to be replaced or reinforced with protective liners in sections which started to degrade. As time goes on, the technologies for upgrading these pipes will continue to develop, so we can minimise the disruption from road works to replace sections.

In 1998, the Moa Point Wastewater Treatment Plant was commissioned, along with the new ocean outfall, taking the now-treated wastewater 1,800 metres offshore into Cook Strait. This was a further step change to the level of public health protection, particularly for the popular Lyall Bay. It was also, of course, a major improvement for the environment, with 14,000 tonnes a year of sludge taken out of the wastewater during treatment.

Some of this infrastructure is now over 120 years old, and although it may be one of the less glamorous parts of the city, it continues to do an impressive job of keeping us healthy. Every day, 67 million litres of wastewater flows through the Interceptor to Moa Point for treatment, and allows us to live with the convenience of modern plumbing and being free of diseases like typhoid - now just a note in the history books.

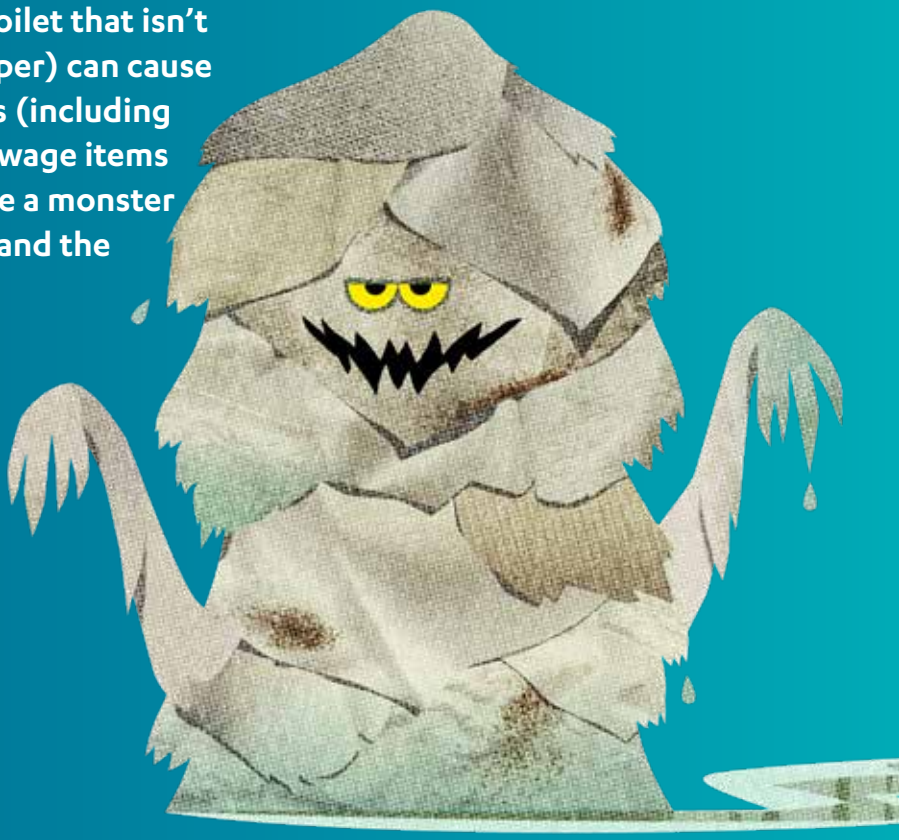
A worker inspecting the Interceptor. The numbers refer to a defect location, which is measured from an access point (manhole).

WHAT COULD BE LURKING IN YOUR PIPES?

The Rag Monster and Fatberg can wreak havoc on your home's pipes, and could cost you thousands of dollars if the damage happens within your property boundary!

To beat these two monstrosities into submission, remember these tips:

1. Flushing anything down the toilet that isn't the 3 Ps (pee, poo or toilet paper) can cause blockages. Cleaning wetwipes (including 'flushable ones') and other sewage items can tangle together and create a monster of a problem for your pipes – and the environment.



Only flush the 3 Ps

- **PEE**
- **POO**
- **PAPER (toilet paper)**

2. When you pour fats and oils down your kitchen sink, it can cause fatbergs to form – lumps of congealed fat that can grow larger and larger as they pass through your pipes, even becoming big enough to block them.

Keep fatbergs away! Put fats and oils in the bin.

Wellington Water

Our water, our future.

fatigue

-Nikki Ganley
Business Assurance Advisor, Risk and Assurance

Fatigue is physical or mental exhaustion that stops people from functioning normally.

We recently conducted our quarterly employee wellness survey to help us find out which health and safety areas need our focus; and to understand how effective our current actions are.

The inaugural survey received a 50 per cent return rate. While this is lower than we would like, by demonstrating that we're taking meaningful action as a result of this survey, we should see an improvement next quarter.

The survey revealed that 36 per cent of our employees thought that fatigue was a significant factor for them, and that 16 per cent of 'our people [are] not feeling their best'.

So, what exactly is fatigue?

It's a hazard that affects workers in different ways. People can get fatigued at work, and their work can be impacted by non-work-related fatigue factors, too.

Fatigue is a tricky topic to manage because it's impacted by work, personal and lifestyle circumstances. Wellington Water needs to be careful to balance our role as an employer with an individual's personal circumstances outside of work. As we can't control this entire risk, we need our people to stand up and tell us when they're suffering from fatigue, and we need to take these matters seriously.

We are currently working through our fatigue management practices, especially working hours and rest periods between shifts (particularly for those who do on-call work). The Health and Safety Leadership Forum and Health and Safety Committee will be actively involved in deciding how best to communicate the right messages about managing fatigue to our staff.

A bit more about fatigue

Fatigue is physical or mental exhaustion that stops people from functioning normally. It's caused by prolonged periods of physical and/or mental exertion with little time to rest and recover. A fatigued person might spend long periods of time awake, or get very little or poor-quality sleep.

Fatigue can affect an individual's performance and productivity. They can make more mistakes,

have slower reaction times, and their chances of being involved in an accident increase.

It's common knowledge that people shouldn't drink alcohol and drive, because it interferes with their coordination, judgement and response times. Fatigue can be just the same.

Being awake for 17 hours affects our body the same way as having a blood alcohol level of 50mg per 100ml of blood – that's the legal blood alcohol limit for drivers over 20 years old.

What we're doing at Wellington Water to manage fatigue

Managing fatigue risks need to go beyond relying on traditional controls such as rostering patterns. It's more about getting enough quality sleep than simply managing hours of work. That's why management and workers need to share the responsibility to manage this challenging risk successfully.

Table 1 [below] only scratches the surface of the many challenges we face when combating fatigue. However, in order to manage fatigue risks, we have to find out what lies behind it.

By working together, keeping lines of communication between managers and staff open and being prepared to manage more than one fatigue management risk, we hope to find that our future workplace fatigue results will have improved.

Work-related causes influencing fatigue	Non-work-related causes influencing fatigue
Extended hours of work	Long commuting times
Shift work or being on call	Family and social obligations
Not enough time for sleep between shifts	Community commitments
Early or late shifts	Stressful or emotional issues e.g. relationship problems
Job design, including physical effort, high workloads, high-pressure work environment	Age
Physical working environment	Poor health and/or fitness levels
	Poor diet
	Alcohol, drug and caffeine consumption
	Poor sleep environment

Table 1: work and non-work-related causes influencing fatigue.

Health and safety dashboard

This quarter, we have experienced three lost time injuries (LTIs) resulting in us not meeting our Statement of Intent (SOI) industry benchmark metric of 1.5 lost time injury frequency rate (LTIFR) for the second successive period.

We have reviewed each incident and learned valuable lessons as it relates to environmental influences, contractor behaviours and management.

This trend has increased over the period, in particular in terms of lost time injuries. Although reporting has been increasing across the business, our contractors consistently report more incidents.

An opportunity exists to draw on best practice from our contractors, using a peer-to-peer model so we can further encourage and reinforce good practices, raise awareness of risk mitigations to prevent injuries, and highlight the importance of a safety culture and messaging.

Worksafe.govt.nz has a number of online resources to help educate about the dangers of fatigue. The poster [below] can be downloaded from www.worksafe.govt.nz/topic-and-industry/work-related-health/fatigue/posters/ and hung up around the workplace.

WORKSAFE
NEW ZEALAND

Prevent fatigue

Fatigue can make it hard for you to work safely. It can make you forget things, make mistakes and unsafe decisions, and have slower reactions. Fatigue is caused by lots of different things, so it's important to understand how you can prevent it. To find out more, see WorkSafe's website.

service goals

Our services include: the collection, treatment, and delivery of drinking water; the construction, operation, management and maintenance of the three waters network assets and systems; as well as treatment facilities, pump stations, reservoirs and related networks. Ongoing and effective development and maintenance of these assets is critical for the local economy.

We deliver our services by focusing on three customer outcomes: safe and healthy water, respect for the environment and resilient networks that support our economy. These outcomes are supported by twelve customer service goals, which help us assure our client councils and customers that all of our activities are directed to providing the right services today - and into the future.

Performance against our customer outcomes and service goals are reported in our half-year and annual reports. This performance assessment is across the Wellington metropolitan region as a whole. Individual council performance sheets are provided directly to our client councils.

How we tracked against our service goals in 2017/18:

On Track Some concern Off track

Customer Outcome	Service Goal	Aspirational Direction	YTD Status	Quarterly Status Q1	Q2	Q3	Q4
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 is in draft and an implementation plan will need to be created.

We have experienced nine lost-time injuries in the period 2017/18. All investigations have reviewed physical and behavioural causes with controls implemented to reduce the likelihood of reoccurrences. The critical risk projects have continued to progress, with traffic management and vehicles, along with plant and equipment being the critical risks under review. The review process is collaborative, with working groups involving our staff, supply chain and client councils.

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. If non-compliant hydrants are found, they are prioritised for upgrade works.

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.

Customer Outcome	Service Goal	Aspirational Direction	YTD Status	Quarterly Status Q1	Q2	Q3	Q4
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					

We measure water consumption (including loss) across the region. An increase in the identification of water leaks requiring repair occurred in late 2017/early 2018, coinciding with the early summer dry period, impacting per capita consumption for all councils. We are continuing leak detection and repair work as well as investigating the causes of the increased consumption.As part of future consolidation of contracts for wastewater treatment plants, we are developing a regional approach for the management of biosolids.

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. The national “bottom line” standards for freshwater have recently been adopted as a benchmark of our waterways by the Porirua Whaitua Committee. Wellington Water is mapping a pathway for the enhancement of our networks to achieve these limits.

Our most recent customer survey showed 38 per cent of people had seen one of our ads/ social media campaigns, which prompted an average (across seven campaigns) of 55 per cent of people to take action. We have prepared a marketing and community awareness programme for 2018/19, focusing on the three waters and resilience. Each campaign provides behavioural messaging, highlighting the issue and presenting a solution.

There is significant work underway with consenting activities under the proposed Natural Resources Plan (NRP). We have also been involved in a good level of engagement in the NRP process itself, including hearings, submissions and other collaborative opportunities. The outcomes of the collaborative work with the Whaitua Committee may impact future consent conditions.

Customer Outcome	Service Goal	Aspirational Direction	YTD Status	Quarterly Status Q1	Q2	Q3	Q4
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, and recent flooding events in Kilbirnie, Tawa and Porirua have reinforced the need for 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.

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.

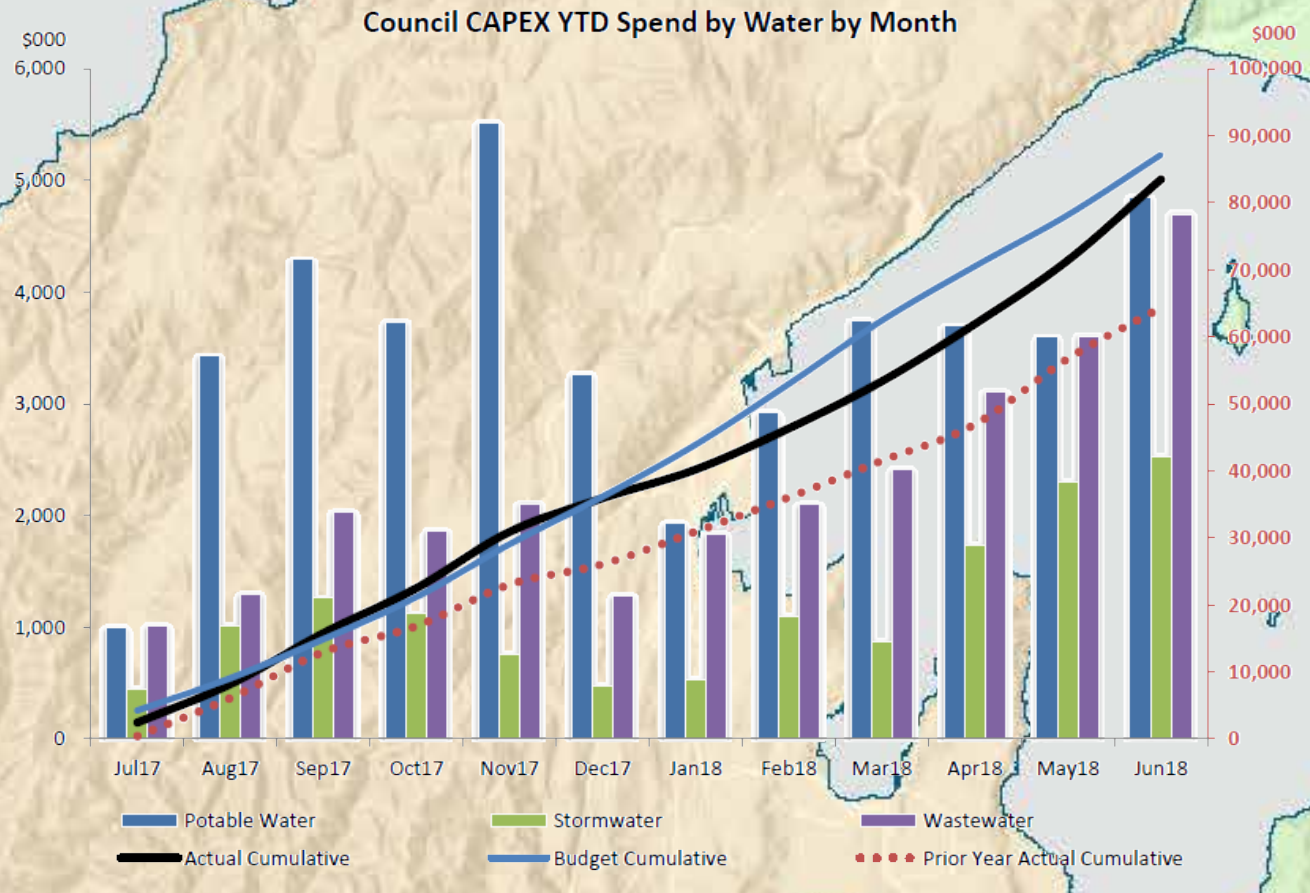
A review of Te Marua treatment plant's capacity has changed our assessment of water supply shortfall from an annual probability of 2 per cent to 5.7 per cent. This issue will be addressed in our future service study "Sustainable Water Supply," which is underway. The National Policy Statement (NPS) on Urban Development Capacity reinforces the need to understand the impact of councils' growth aspirations on three waters' infrastructure performance.

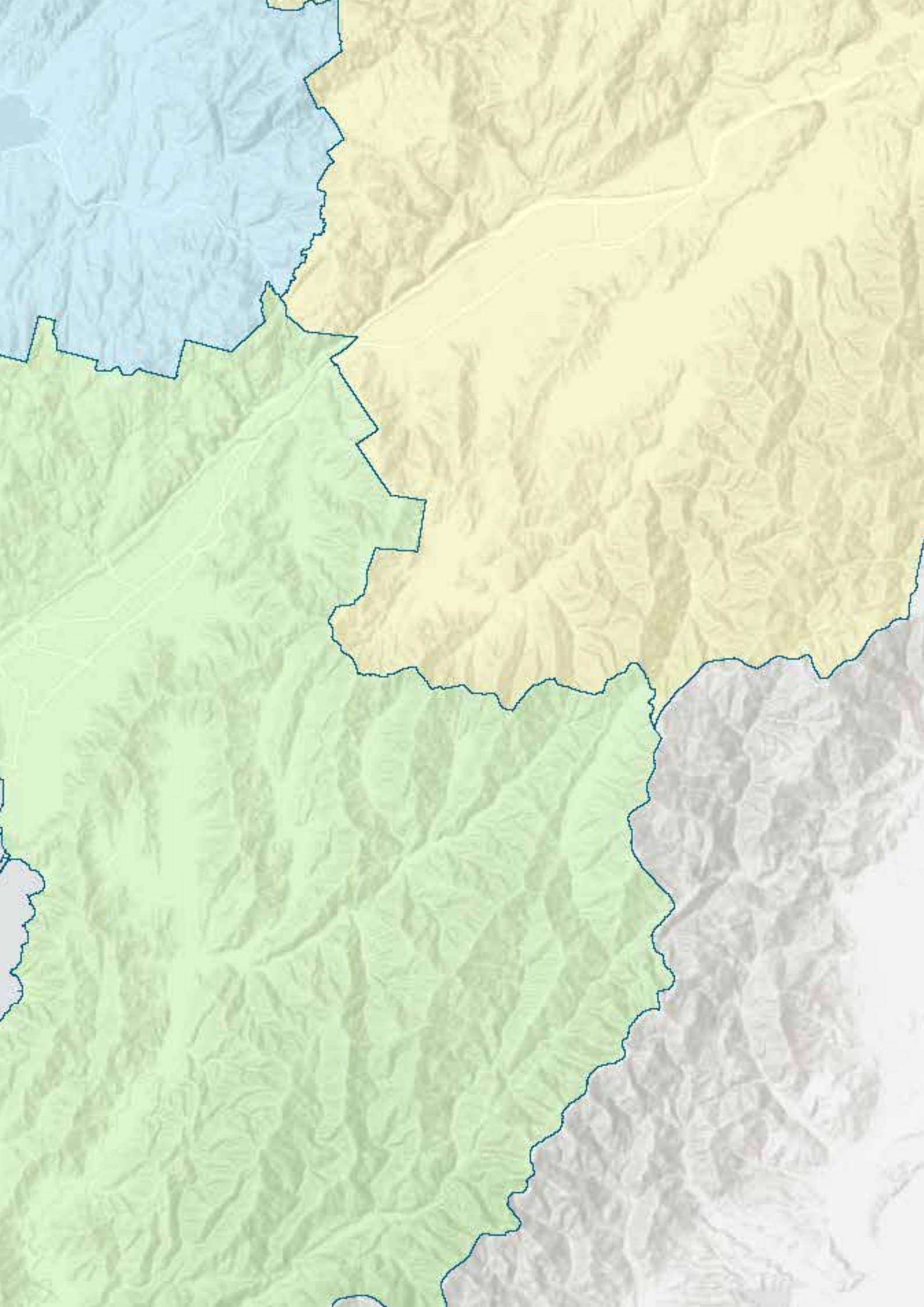
This year's extended summer period led to a significant increase in the number of water network bursts and leaks across the region, resulting in a slower initial response to lower-priority (non-urgent) jobs, as more urgent jobs (e.g. bursts) have taken precedence. The time taken to resolve urgent jobs has also been affected. With the return of wetter weather, the number of reported leaks dropped and contractors cleared the backlog of non-urgent jobs.

The council capital expenditure (capex) programme finished 4 per cent below budget, a variance of $3.7m. This is primarily due to delays in the Community Infrastructure Resilience project, which is now scheduled to be completed in September 2018.

This is a great result when considering the challenge of delivering the work relating to the ultra violet (UV) treatment upgrade project that was required at the end of 2017, at Waterloo Water Treatment Plant. This project pulled resources away from the planned capex work programme, meaning many projects were compressed into a shorter-than-planned period in the second half of the year.

investing in our water, our future





HUTT CITY
TE AWA KAIRANGI

porirua city

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

LIFE. LEISURE. LIVE IT!
UPPER HUTT CITY
UPPER HUTT CITY COUNCIL

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, and Greater Wellington Regional Council. The councils are all equal shareholders.

Our vision is to create excellence in regional water services so communities prosper. Our customers, the residents of the metropolitan Wellington region, use the services we provide: drinking water; wastewater; and stormwater in their homes, businesses, and communities every day.