





Following local body elections in October, we organised a visit for new councillors (and old ones) to water treatment plants and a pipe renewal project. More pics page 12.



Recognition for the work on reducing wastewater inflow into the Wainuiomata River came in the form of an award for 'most improved river' in the region.

## Earthquake impact still felt as summer programme ramps up

At first glance, the water supply network withstood the November 14 Kaikoura earthquake reasonably well. The region's supply remained safe, no one lost water, and our above ground infrastructure was largely intact. In the area near the port, a wastewater pumping station sustained damage, and we noted a spike in water supplied to the port. It would be January, however, before a leak from a nearby bypass valve off the main supply pipe into Wellington would surface.

Our building was impacted, and this meant we had to manage our response and continuing operations from a variety of locations, until our return to the Petone IBM building on 12 December 2016.

Two days before, then again on the day after the earthquake, intense rain led to flooding in Porirua, Hutt City and Wellington. It is likely that flooding the second time round was exacerbated by slips and material loosened by the earthquake, blocking intakes and pipes.

By the end of December we were almost back to normal operations, as our 2016-17 construction programme ramped up to take advantage of expected drier weather. We have a significant amount of work in the Wellington CBD this year with some key works programmed to coincide with lighter traffic volumes over the summer. Working in Wellington's CBD is never easy, however, as we try to balance minimising the inevitable disruption to traffic and businesses with getting essential work done.

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## New connection applications

Growth continues to be stronger this year than in previous years, indicative of an overall increase in development activity in our region.

Previous quarter



This quarter



Year to date = 353  
 This quarter, last year = 87  
 Year to date, last year = 322

# Our water is safe to drink

OUTCOME

1

## Spring surprises keep response crews on the hop

One of the bigger water losses as a result of the earthquake occurred in CentrePort. The area around the port sustained a lot of damage to its infrastructure, including its water pipes. The first two days after the quake saw 7,000 cubic metres a day being lost from broken pipes in the port.

Water usage in the port in the week leading up to the quake ranged from 400 cubic meters a day to 1,000 cubic meters a day. The average daily water usage in Wellington city is around 80,000 cubic metres, the extra 7,000 cubic metres a day of extra water equated to a 9% increase in the amount of water being used in Wellington city.

**12,960 million litres** of safe drinking water delivered to 138,500 connections.

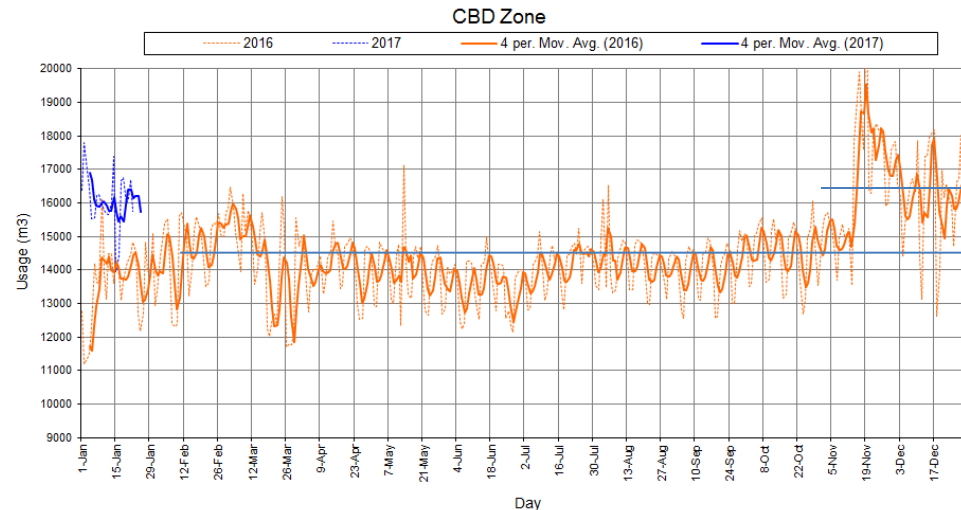
In the same quarter last year (October – December 2015) we delivered 13,200 million litres.

*Usage in the CBD zone jumped from 15,000 to 20,000 cubic metres the day after the earthquake. It is still sitting around 1,000 cubic metres higher than normal; we're carrying out detection programmes to seek out additional leaks.*

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					



All drinking water supplied met the national drinking water standards, and our networks complied with Ministry of Health requirements. While there were no reported incidents of public health issues relating to drinking water, we are continuing to work on reducing inflow and infiltration within the wastewater networks. Our current focus is on developing the Porirua wastewater master plan.



Earthquake impact

## OUTCOME

## 1

## Our water is safe to drink

# Action aplenty on water quality front

### Algae

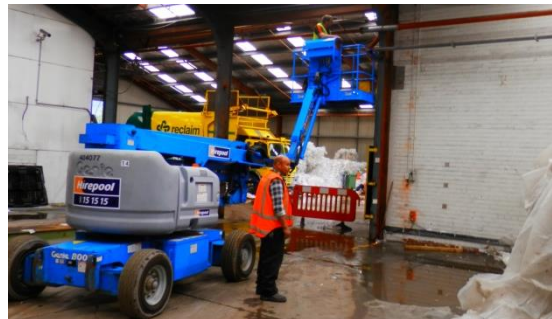
Algae levels in the Stuart Macaskill storage lakes are not high at present, and we continue to monitor them closely. We're particularly looking for algae that have the potential to release cyanotoxins into our lakes. To date all tests for toxins have been negative.

Last quarter we mentioned that we had identified some potential options that may mitigate the causes and impacts of higher than normal levels of algae or their toxins. We now have funding approval for one of these options, to replace the filter media at the Te Marua Water Treatment Plant with biological activated carbon. This will reduce the risk to public health in the event of any toxic algae arising in the lake

We'll begin to replace the filter media this financial year, and expect to have it all replaced and operational by the end of the 2017-18 financial year.

### Water quality issue – Petone

On Tuesday 11 October a fire sprinkler main in the Unilever building was damaged causing a large amount of water to be pushed through the Petone network. This sudden increase in volume stirred up sediment in the pipes, which resulted in numerous reports of discoloured water in south-east Petone. The network was flushed clear and the Rahui Reservoir was temporarily chlorinated as a precautionary measure until bacteria tests came back all clear the following day.



### Earthquake and storm damage

While supply was not affected, the events of November caused some damage to bulk water infrastructure. Kingsley Pump Station had three trees fall on it thanks to a landslide that travelled from across the road. It's now back in service following temporary repairs. There was also some damage to both the Gear Island and Waterloo Water Treatment Plant wellfield equipment. This damage has been repaired with the exception of two bores.

Due to the initial uncertainty around the potential for underground damage to the bores after the earthquake, we initiated more testing to assure the water quality. We are confident that the bores currently in service are sound.



### Positive bacteria test result, Lower Hutt

On Friday 2 December a routine water sample taken from one of the Waterloo Water Treatment Plant bores returned a positive result for bacteria. Further testing of all the bores and reservoirs in Lower Hutt was immediately carried out and emergency chlorination of Lower Hutt's water supply was put into place. Test results received on Saturday 3 December showed that the original bore and all other samples were clear of bacteria. Chlorination of the Lower Hutt network was stopped that afternoon. Increased levels of testing remained in place for a further two days. This bore remains out of service as a precaution

*Both the earthquake and a pipe break cause dirty water issues in the quarter. The earthquake stirred up sediment in reservoirs and pipes (left), while the sudden high flow resulting from a disrupted fire service main (far left, under repair at the top of the picture) had a similar effect on supply pipes. In both cases, colour returned to normal, and there was no risk to public health.*

OUTCOME

2

## We are respectful of the environment

# Rainfall events increase overflow incidents

We managed around 392 incidents this quarter (up from 326 from the same quarter last year) covering blockages, overflows, leaks and faults. No enforcement orders, infringement notices or abatement notices were received. However, we did receive formal warnings about an Orleans Reserve wastewater leak in November, and wet weather overflow discharges from Porirua and Wellington pump stations in December. One “please explain” letter was received for works in a river bed (St Albans Grove culvert outlet) and one informal enquiry (overflow at Prince of Wales Park).

Several sites in Wellington city did not meet the required levels of 1000cfu/100ml this quarter. These areas are the Johnsonville, Newlands at Gorge and Owhiro Bay catchments. We’ve begun investigations in these catchments to identify the sources of the pollution. The water quality at freshwater sites is highly dependent on the condition of the public and private network and our investigations are aimed at identifying faults in these networks. In some cases the fix may take some time to action if it needs to go through the capex works programme process.

Consent compliance 1 July – 30 September 2015 (snapshot covering these activities)		
Nature of work	Target	Track
Extracting water	Full compliance	✓
Discharging water	Full compliance	✓
Wastewater – dry weather overflows	Full compliance	✓
Wastewater – wet weather overflows	Full compliance	✓
Stormwater discharges	Full compliance	✓
How we carry out our work	Full compliance	✓



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					

### Service goal commentary

*This is a long term ongoing initiative to identify and remove sources of pollution.*

*This indicator currently is not measured although education programmes are in place for some areas. The above indicators are based on experience and knowledge at this stage.*

*We measure water consumption (including loss) across the region but are yet to develop indicators in other areas*

*There is significant work under way with consenting activities under the Proposed Natural Resources Plan. this is a long term project.*

OUTCOME

2

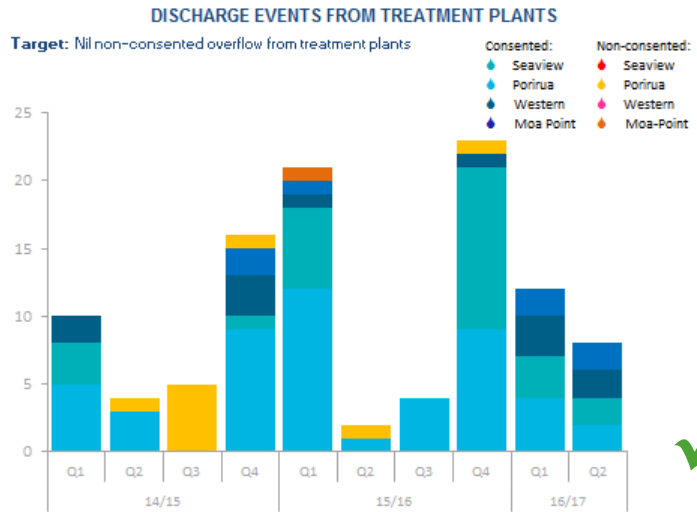
# We are respectful of the environment

## Pipe and people work results in accolade for Wainui river

The Wainuiomata River in Lower Hutt was judged the most improved river in the Wellington Region at the recent Rivers Awards.

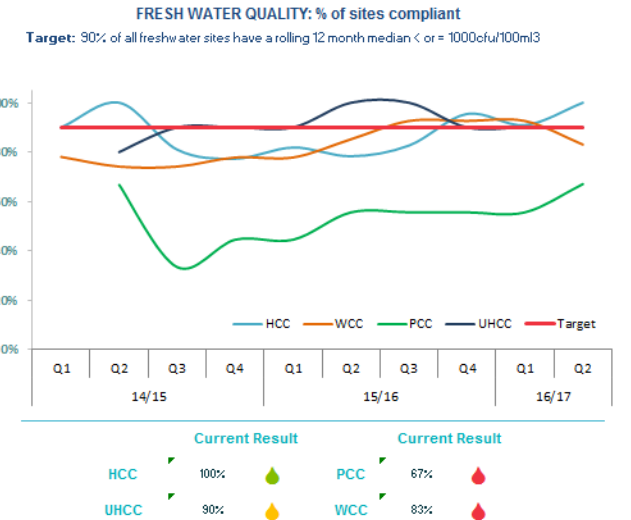
The River Awards, run by the NZ Rivers Trust and the Morgan Foundation, recognise long-term improvement in waterways around the country.

One of the leading causes of poor water quality in rivers and streams is wastewater entering the waterway. Wellington Water and Hutt City Council have been working on improving the wastewater network in the urban Wainuiomata catchment since 2008. We've also been educating rural property owners about the maintenance needs of on-site wastewater systems.

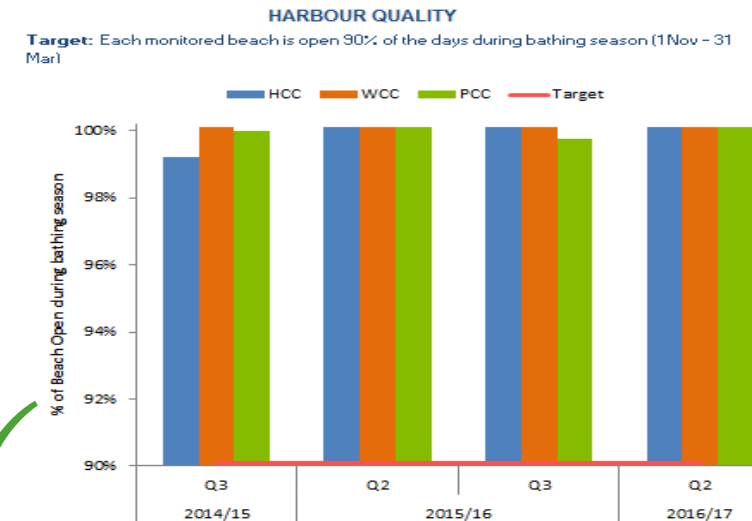


There were no unconsented discharges from our four wastewater treatment plants this quarter.

We inspect approximately 8 kilometres of wastewater pipes in Wainuiomata annually to see which ones need repairing or replacing. Renewing wastewater pipes helps to improve river water quality by eliminating leaking joints that could be leading to pollution of the environment. Over the last nine years, approximately 8,145 metres of wastewater mains have been renewed in Wainuiomata as a result of these inspections.



Porirua's fresh water quality is showing signs of improvement.



OUTCOME

3

# Resilient networks that support our economy

## Nature challenges networks, tests personal resilience

For the month of November we had nearly 1,000 extra service requests to respond to (a 59% increase). In Porirua alone there was a 350% increase in the amount of service requests received. Our head office sustained some damage which meant that staff worked from alternate locations for over a month.

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					

Hundreds of tonnes of earth needed excavation in Leeward Drive, Porirua



A pressurised stormwater main blew out in Lower Hutt



Flooding on Udy Street, Lower Hutt



### Service goal commentary

We don't have the information we need yet to help us predict the impact of flooding on communities, and so reduce its impact.

We have reviewed the water supply system, and determined what work we need to do to provide a water supply network that is more resilient; we have to do the same for wastewater, and then we have to carry out the work.

OUTCOME

3

## Resilient networks that support our economy

# Consenting process begins for central Wellington reservoir

The process of seeking consents to build a 35 million-litre highly resilient reservoir to service Wellington's central business district, Newtown, and Mount Cook began this quarter.

The preferred site for the new concrete reservoir is in the Prince of Wales Park. Upon completion, the reservoir will be almost undetectable; it'll be completely buried and the area will be re-landscaped. The reservoir will improve the resilience of Wellington's water supply because it is designed to retain its water after a major earthquake. Extra water storage will also allow Wellington Water to carry out essential maintenance, repair and upgrade works of other reservoirs with minimal risk of disruption to local water supply.

Engaging with the community and stakeholders is a key feature of developing the reservoir. More than 60 people attended two community open days to

find how construction of the reservoir could impact residents and the local environment.

"The park is home to a range of wildlife and native plants and is a popular walking and recreational spot for locals, so people are understandably concerned about how the construction process and the completed reservoir might impact their neighbourhood," says project director, Ulvi Salayev.

Specialist investigations are underway. These include assessing the impact construction of the reservoir could have on noise and vibration, traffic, sediment and dust, ecology and recreation. Investigation findings will be shared with community at future open days.

You can read more about the proposed reservoir on our website: [www.wellingtonwater.co.nz/POW-reservoir](http://www.wellingtonwater.co.nz/POW-reservoir).

### THREE-WATERS NETWORK AVAILABLE TO CUSTOMERS

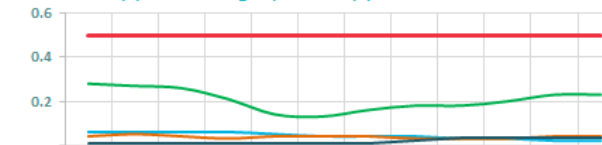
Rolling 12 months of data

#### Water reticulation unplanned supply cuts per 1000 connections

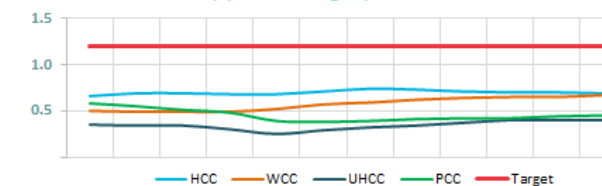


Network reliability remains well within target performance levels.

#### Stormwater pipeline blockages per km of pipeline



#### Wastewater reticulation pipeline blockages per km



At the open day outlining some of the features of the Prince of Wales Reservoir project.



# Wellington Water: Health and Safety

## Suppliers come through busy quarter

We had three injury incidents this quarter. Two were from sprains from manual handling which required physiotherapy treatment, and the third was from a contractor tripping and straining his hamstring muscle. While he did not require any treatment, he did take the following day off work.

Fortunately, our staff and contractors suffered no injuries as a result of the November 2016 earthquake and flooding events. These events had a very minor impact to our health and safety performance. Some H&S initiatives have been delayed due to our head office being closed for a number of weeks. However we have maintained or even increased our engagement with contractors and Councils, as it is important to maintain safety standards during times of stress.

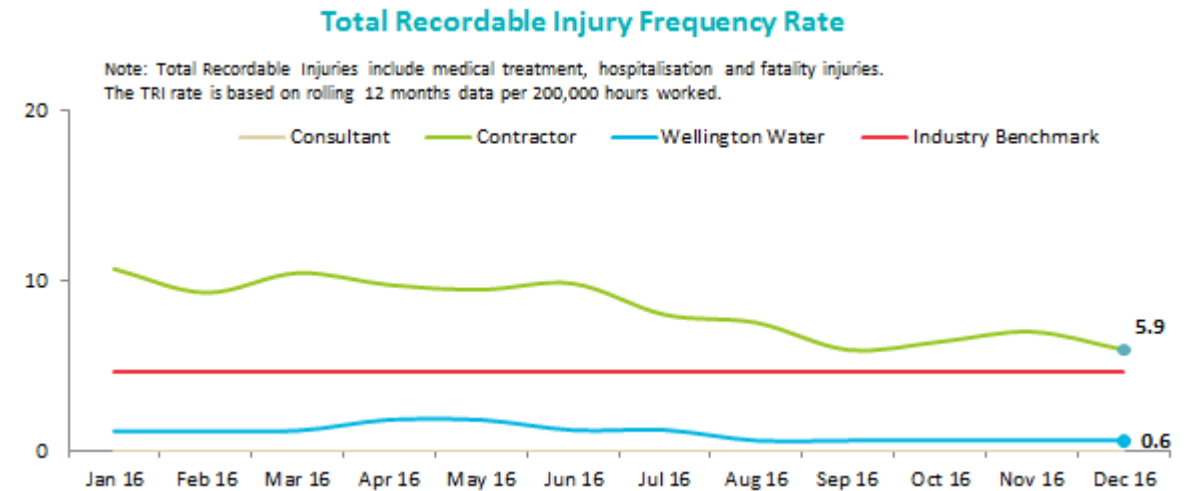
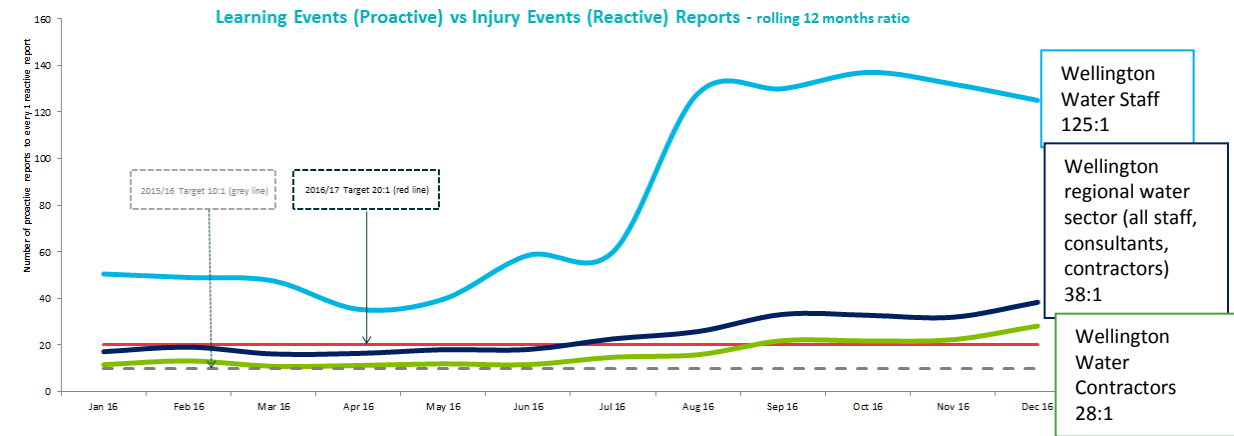
Since we set our higher target of 20 proactive reports for every 1 injury report (20:1) in July 2016, we've had a substantial increase in the number of reports. This quarter we've had reports about: unapproved traffic and pedestrian setups, unexpected underground utility pipes or cables; and problems with high wind speeds. We've also received reports about notably good safety successes or observations, for example the excellent signage and barriers in place at a road worksite.

We successfully met the 20:1 target this financial quarter.

## Health and Safety culture takes hold

One of our contractors, Wellington Pipelines Ltd, recently featured in a WorkSafe NZ case study about how they empower their workers on health and safety. Wellington Pipelines Ltd base their methods on tikanga principles which encourages stronger relationships and better communication. In the case study they talk about how worker input has shaped many decisions with recent examples ranging from the decision to move from a paper based H&S system to a cloud-based one with iPads to deciding what the new kind of hard hats would be.

Check out the full story and video at <http://bit.ly/2kuq2OG>

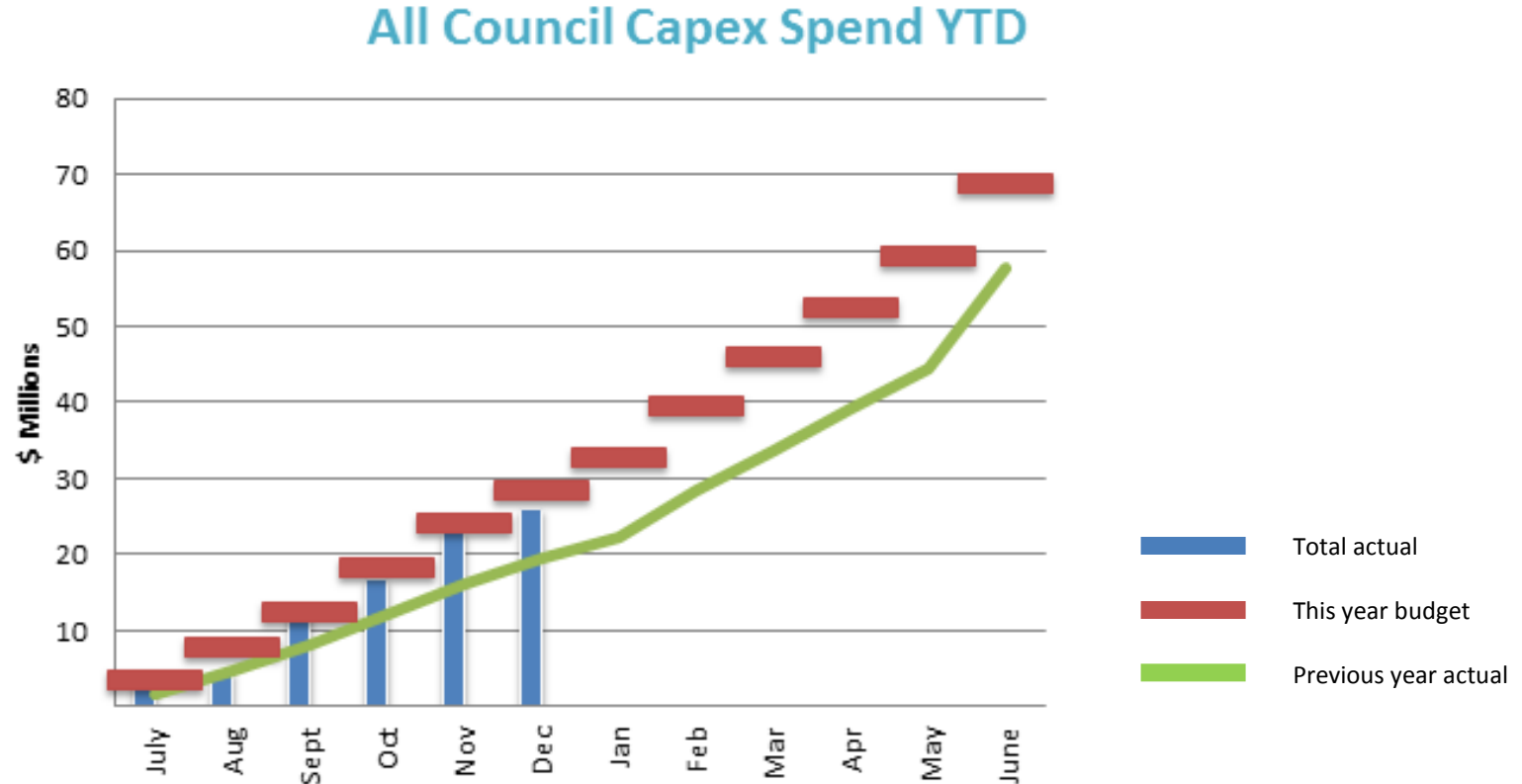


# Wellington Water: Programme delivery

## All major projects on track for tender by end January

We have 290 projects on the go in our capital expenditure programme this year, worth an estimated \$68 million. Our 2016-17 programme is targeted at pipeline renewals and upgrades (\$26 million), structural strengthening and other pump station upgrades and renewals works (\$10 million). We also have \$10 million worth of forward design and investigations within the programme. This work is important to smooth the flow of projects being tendered, and ensuring our contractors have the resources they need to do the work.

The results of this work are that we've increased expenditure by approximately \$8 million compared to the same time last year, and have over 90% of the year's work tendered. We expect to have all our major construction work let by the end of January.



With market conditions as they are, and the amount of activity in the region, we are receiving tenders higher than budgeted for. We're working to manage our project delivery rate to suit our available budgets, and are forecasting we will complete 94% of our planned projects by June 30.

*Our spend to date is slightly below budget, but well ahead of last year. A smoother pattern of expenditure makes for better workflow, and reduces the pressure to 'get things finished' by the end of the financial year (June 30).*

## Wellington Water: Value for money

### Culture a key element of delivering on value for money promise

The two existing water mains in Waru Street, Khandallah had passed their serviceable life and were scheduled for renewal.

The original design had the two water mains in two separate trenches. Our contractor, Groundworks Ltd, proposed to use a single trench for two new pipes instead of the two separate trenches.

The potential benefits of using just the one trench included achieving an earlier project completion date, saving \$50,000 and importantly, reducing the amount of disturbance to both traffic and pedestrians.

Because no new drawings were required and the change details could be incorporated into the as-built drawings, there were no additional costs for the change.



*Dumindu Sundarapperuma (left) and Sarath Amarasekera (right) from Wellington Water with Graham Spencer of Groundworks, discuss progress on Waru St, Khandallah.*

## Wellington Water: National and local agendas



### On the local level

...

In early December, a small group of councillors from across our four cities, including the new Porirua Mayor Mike Tana, came together to learn more about Wellington Water and the three waters.

The day started off with a visit to the Seaview Wastewater Treatment Plant, then went on with a site visit to a wastewater pipe renewal job in Upper Hutt and ended with a tour of the Te Marua Water Treatment Plant.



### On the national level ...

We are watching the inquiry into Havelock North Water Supply Contamination. Initial indications are that there could be significant changes for water businesses in New Zealand and we will stay close to these results as they become available.

We learnt that public consultation has opened on proposed legislation to fast track the redevelopment and regeneration of urban areas to better meet housing and commercial needs. A discussion paper on the establishment of Urban Development Authorities has been released with a submission deadline of 19 May. We are considering developing a submission and anticipating impacts on our land development work.

There is also a proposal to ban the use of microbeads in personal care products in New Zealand, which would improve the quality of our receiving environments.

#### Regional issues

At a regional level, following the M7.8 Kaikoura earthquake, Wellington Water has increased its collaboration with central government, local government and other lifeline utilities in the Wellington Region. It's great to see so many players wanting to strengthen resilience. Our contribution will involve both short term water supply and wastewater campaigns and initiatives and longer term projects, some of which are subject to funding.

Under the National Policy Statement for Urban Development Capacity all five Wellington Councils are categorised as Medium Growth Areas (Stats NZ), which means they must provide sufficient development capacity in the short, medium and long term. Development capacity includes infrastructure services and so we are participating in a regional planning managers sub-group and engaging with Hutt City Council on the Petone Spatial Plan and Hutt City Growth, and Wellington City Council's Future Central City.