



# Whaitua Te Whanganui-a- Tara

Committee Meeting

11 April 2019



Our water, our future.

# Our Taki



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

It is water, it is water  
Water that join us  
Water that necessitates the land  
Soul of life  
Life forever

**Our water, our future.**

# Purpose



To inform Whaitua Committee members about:

- Wellington Water, structure, funding and governance
- Investment decision making
- Our current actions across shared areas of interest
- Provide background to current wastewater challenges
- Regulatory constraints and opportunities (possible discussion if time allows)

# Outcomes

Whaitua Committee understand:

- How the organisation is structured and governed
- How Whaitua recommendations may influence infrastructure management and investment decisions
- Our current thinking on receiving environment water quality
- Some existing challenges with the wastewater network
- Potential regulatory mechanisms to achieve Whaitua recommendations

# Presentation Outline



Wellington Water  
introduction and  
governance –  
Paul Gardiner



Strategic issues &  
Receiving  
Environment FSS –  
Fraser Clark



Investment decision  
making –  
Eugene Stansfield



Wastewater  
Network –  
Steve Hutchison

# Wellington Water Introduction and Governance



- Council Controlled Organisation (CCO)
- Owned by 5 client councils:



- Wellington Water Committee – ‘Shareholder Board’
- Board of Directors – ‘Governance Board’

# About us



Our role is to plan and deliver three waters services (drinking water, wastewater, and storm water) to the metropolitan Wellington region on behalf of our five client councils



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# About us cont'



Wellington Water:

205  
staff

\$150M  
annually

- Provides management advice (including investment, asset management, regulatory etc)

Client Councils:

- Own assets
- Set 10 year LTP and annual budgets
- Set levels of Service for the three waters networks
- Set performance measures

# Our business model



We were formed to create and add value for our client councils by:



Improving  
**customer  
outcomes**



A **technical  
centre of  
excellence** for  
asset planning  
for the region



Improving **long  
term strategic  
planning**

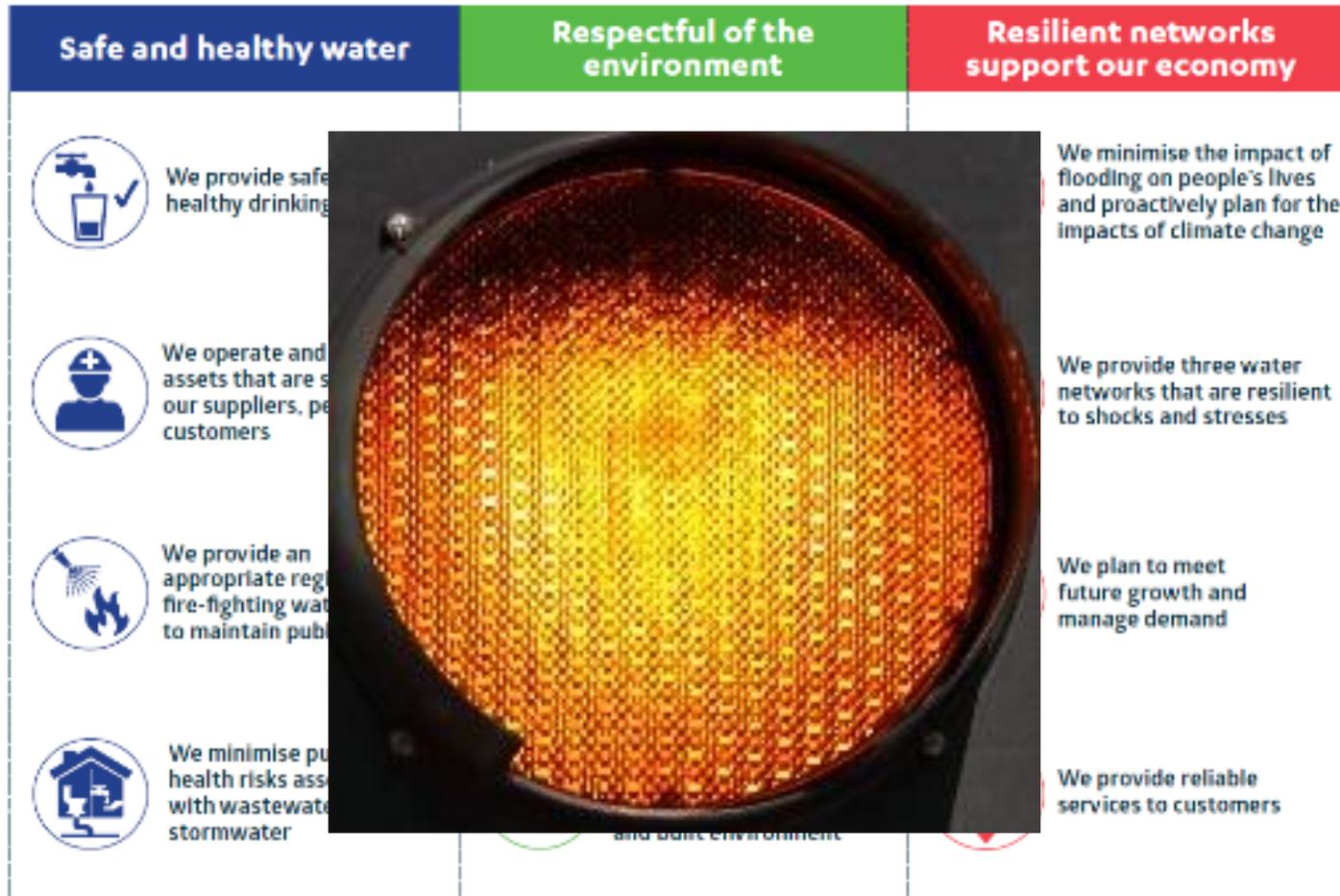


Increasing  
**transparency  
and  
accountability**  
about  
investment  
decisions

**Our water, our future.**



# Our service goals are our target(s)



Our water, our future.

# Delivering customer outcomes through strategy



30 – 50 years...

Safe and healthy water	Respectful of the environment	Resilient networks support our economy
<ul style="list-style-type: none"> <li>We provide safe and healthy drinking water</li> <li>We operate and manage assets that are safe for our suppliers, people and customers</li> <li>We provide an appropriate region-wide fire-fighting water supply to maintain public safety</li> <li>We minimise public health risks associated with wastewater and stormwater</li> </ul>	<ul style="list-style-type: none"> <li>We manage the use of resources in a sustainable way</li> <li>We will enhance the health of our waterways and the ocean</li> </ul>	<ul style="list-style-type: none"> <li>We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change</li> <li>We provide three water networks that are resilient to shocks and stresses</li> </ul>




## Three Waters Strategy

Wellington Metropolitan Region



FINAL - 2018

Our water, our future

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Society

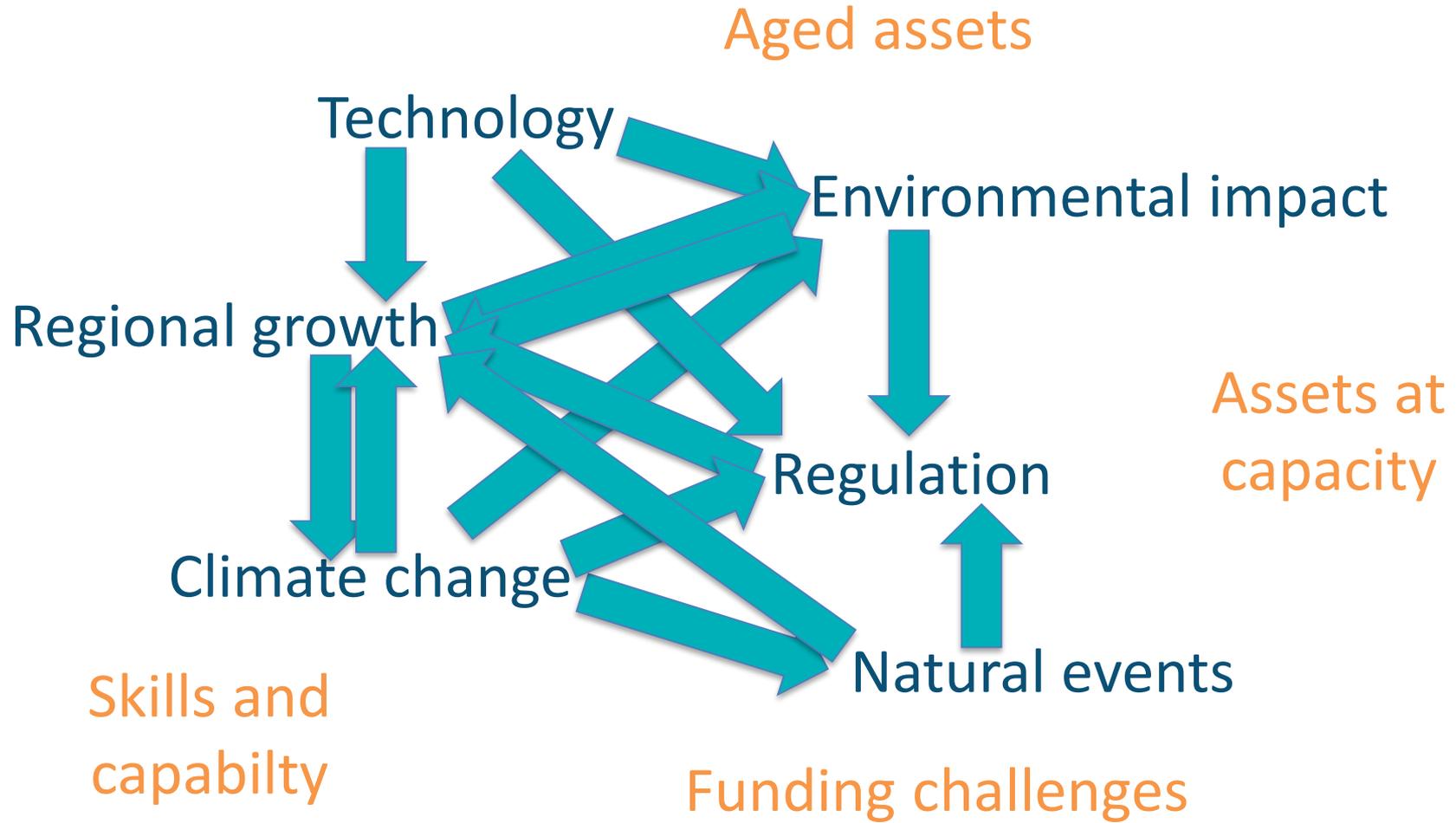
Technology

Economy

Environment

Our water, our future.

# Some big uncertainties



# Regional solutions to regional issues

## - our Future Service Studies

- Water services are shared across our city boundaries
- Our services are part of the water cycle
- Our services interact with each other

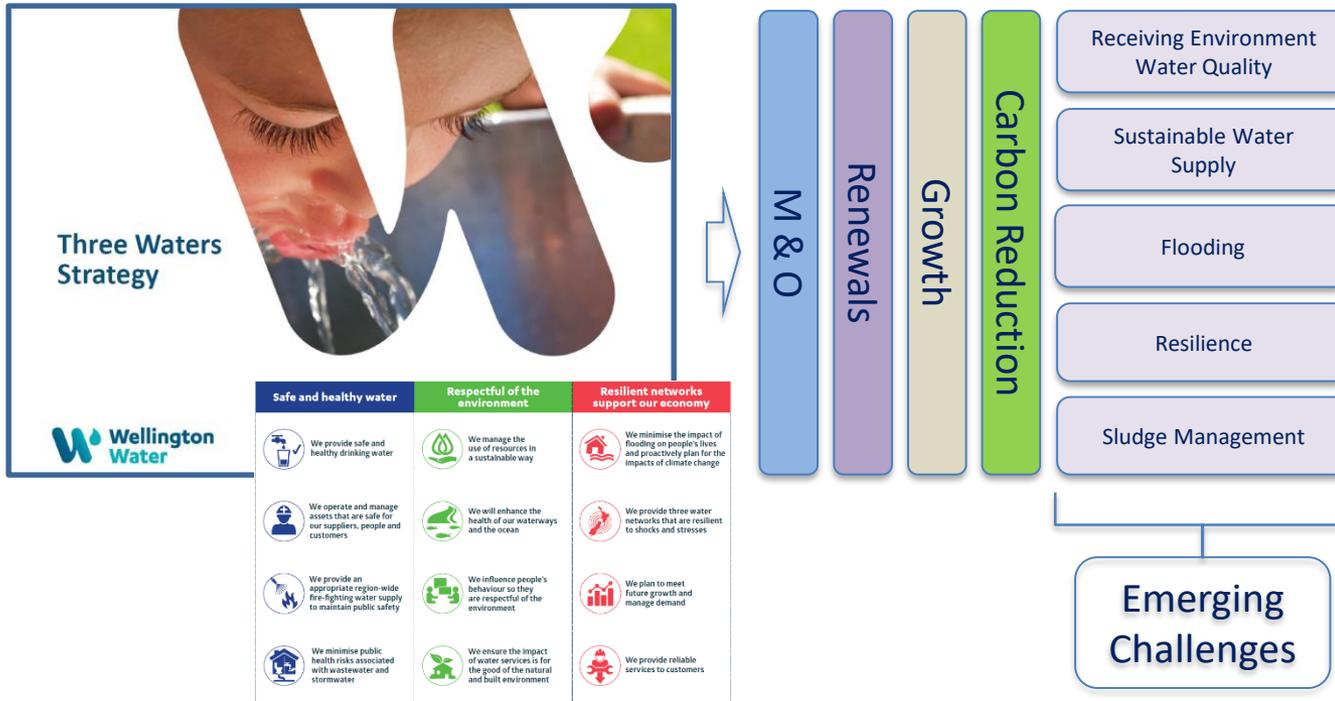
What issues are we facing at a regional level?

How do they impact on our service goals?

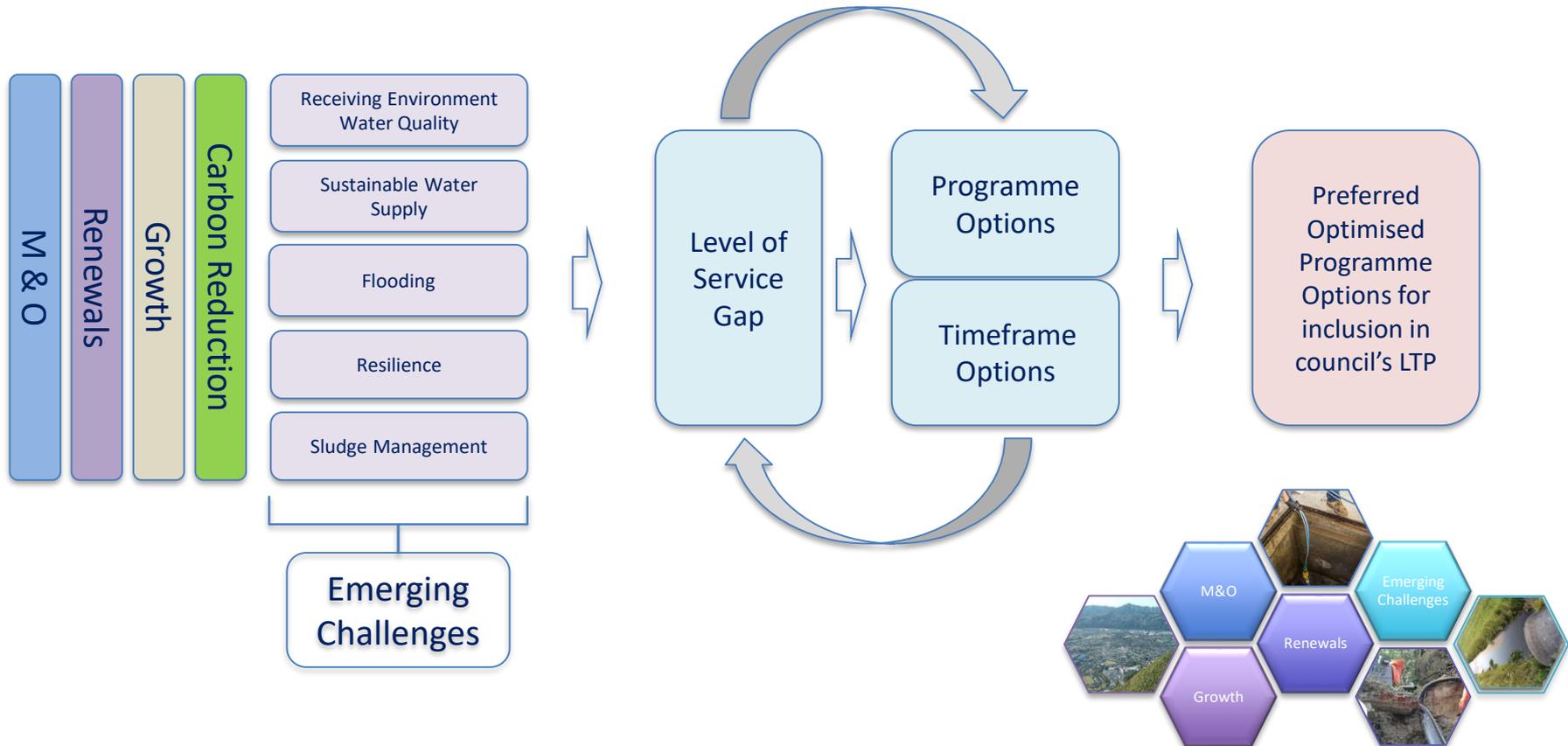
Can we respond in an integrated manner?

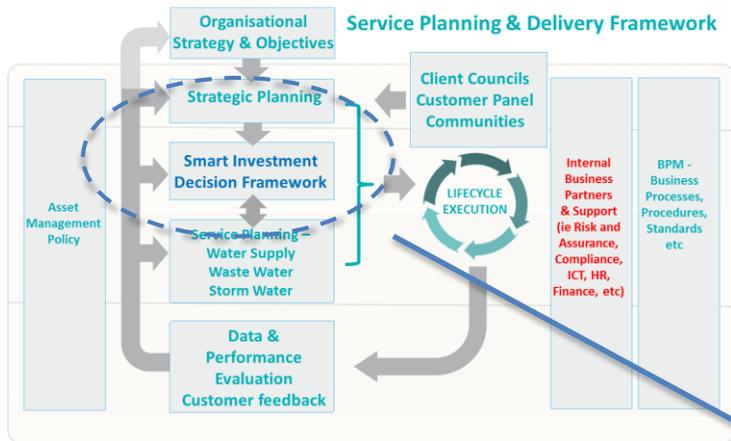
# Three Waters Strategy

Our Three Waters Strategy has identified a number of emerging challenges including growth which are requiring us to respond now. As we develop our responses, we will take a ‘te mana o te wai’ approach to everything that we do.



# Developing three water service plans that input into our client council's LTPs



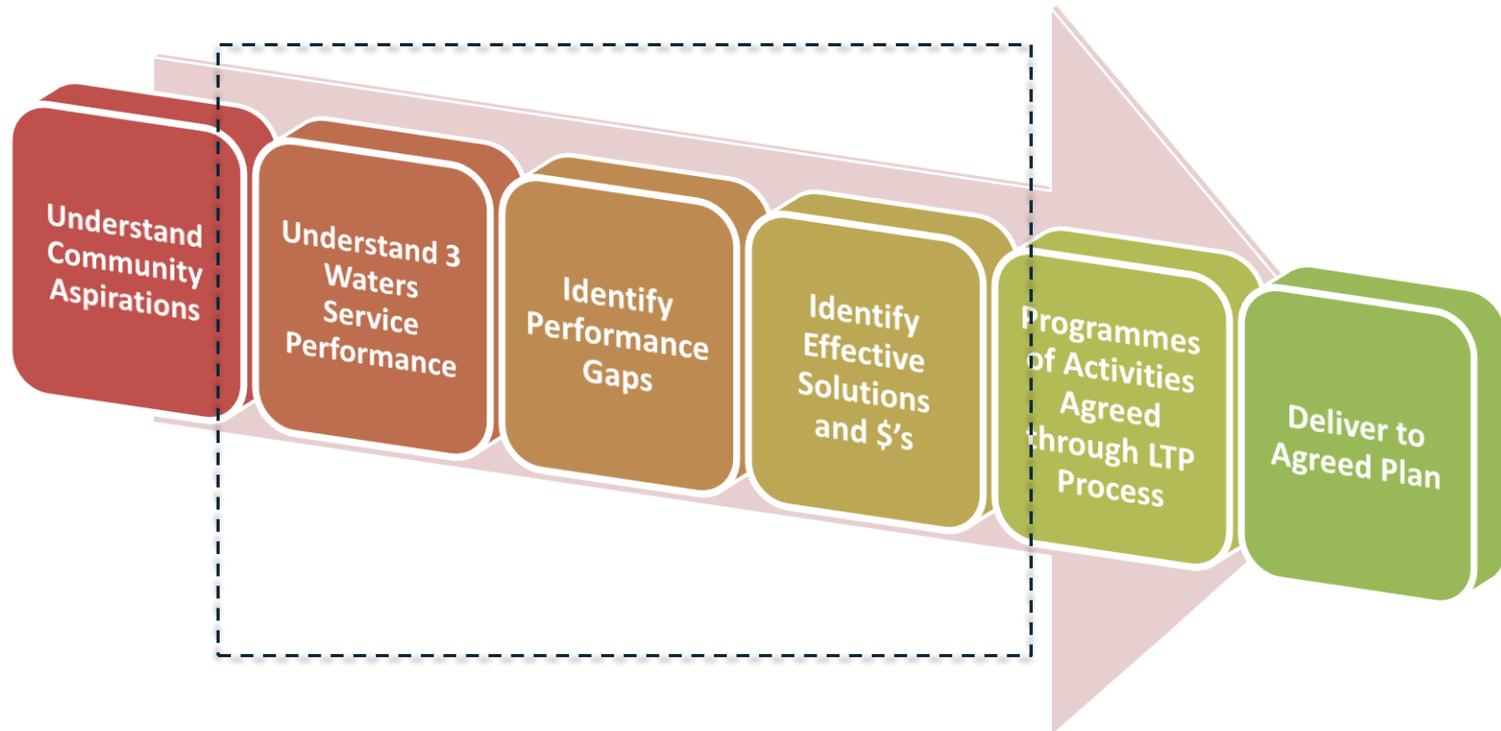


# Developing service plans - Smart Investment Approach



*Our **Smart Investment** decision making approach will ensure that all our activities respond to the **performance of our service goals** and the aspirations of our client councils and communities in a way that delivers **best value for money***

# Alignment of three waters service plan



*Understanding how our Work Activities align to our Service Goals  
(while delivering VfM - balancing Cost, Risk, Performance & Timing)*

# The Three Waters Outcomes

Safe and healthy water	Respectful of the environment	Resilient networks support our economy
 <p>We provide safe and healthy drinking water</p>	 <p>We manage the use of resources in a sustainable way</p>	 <p>We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change</p>
 <p>We operate and manage assets that are safe for our suppliers, people and customers</p>	 <p>We will enhance the health of our waterways and the ocean</p>	 <p>We provide three water networks that are resilient to shocks and stresses</p>
 <p>We provide an appropriate region-wide fire-fighting water supply to maintain public safety</p>	 <p>We influence people's behaviour so they are respectful of the environment</p>	 <p>We plan to meet future growth and manage demand</p>
 <p>We minimise public health risks associated with wastewater and stormwater</p>	 <p>We ensure the impact of water services is for the good of the natural and built environment</p>	 <p>We provide reliable services to customers</p>

# Understanding Service Goal Performance

The three waters dashboard outlines your performance against our 12 service goals



## Three Waters Dashboard

### Customer Outcome 1 Safe and Healthy Water

*Overall we provide services that contribute to safe and healthy water; however, due to apparent contamination of the Waiwhetu aquifer and deterioration in water quality, we anticipate that we will not achieve compliance with the New Zealand Drinking Water Standards for water supplied to WCC and HCC consumers that are supplied from this aquifer. We continue to chlorinate water from the bores.*

#### We provide safe and healthy drinking water

Due to apparent contamination of the Waiwhetu aquifer and deterioration in water quality, we anticipate that we will not achieve compliance with the New Zealand Drinking Water Standards for water supplied to WCC and HCC consumers supplied from this aquifer, which will be confirmed in Quarter 1 of 2017/18. Water from the bores continues to be chlorinated.

#### We operate and manage assets that are safe for our suppliers, people and customers

Although this indicator is green we need to implement processes and continue to investigate asset improvements to maintain this status. Programmed inspection of the manholes on Carey's Gully wastewater return pipeline has identified potential safety risks which are being addressed. Manhole replacement with alternative materials, more resistant to corrosion, is a likely outcome.

#### We provide an appropriate region-wide fire-fighting water supply to maintain public safety

Identification and confirmation with the Fire Service of critical hydrants that will be part of ongoing hydrant performance testing across the region is an ongoing work programme. Where non-compliant hydrants are found they are prioritised for upgrade works.

#### We minimise public health risks associated with wastewater and stormwater

There are network capacity and condition issues that may result in contamination of urban stormwater catchments that can result in public health concerns. Work is ongoing throughout the region to minimise the number of overflows.

### Customer Outcome 2 Respectful of the environment

*We continue to have work to do in this area around measuring our performance. We continue to undertake investigations to identify and remedy pollution sources and work is ongoing regarding understanding the education needs of the community.*

#### We manage the use of resources in a sustainable way

We measure water consumption (including loss) across the region, with service levels currently within targets. As part of future consolidation of contracts for wastewater treatment plants, we are developing a regional approach for the management of biosolids.

#### We will enhance the health of our waterways and the ocean

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.

#### We influence people's behaviour so they are respectful of the environment

We are finalising a new community awareness strategy. This strategy seeks to deliver a regionally aligned, consistent and coordinated programme of activities to improve customers knowledge of three waters and influence behaviour to minimise their impacts on the system.

#### We ensure the impact of water services is for the good of the natural and built environment

There is significant work underway with consenting activities under the Proposed Natural Resources Plan. The outcomes of the collaborative work with the Whaitua committee may impact future consent conditions.

### Customer Outcome 3 Resilient networks support our economy

*Overall the three waters service is reliable. There are parts of the network that do not have sufficient capacity during large wet weather events. This can lead to flooding and wastewater overflows.*

#### We minimise the impact of flooding on people's lives and proactively plan for the impacts of climate change

Further development of hydraulic models will allow us to better understand the likely impact of flooding on communities. There are known flood risk areas. Areas prone to flooding will need to be prioritised based on a consistent economic analysis framework. Our work on climate change impact in 2017/18 will inform our approach to stormwater investment.

#### We provide three water networks that are resilient to shocks and stresses

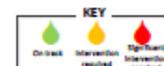
The water supply and wastewater strategies for seismic resilience will enable activities to be prioritised for the 2018 / 2028 plan. The planned Omārōro reservoir will increase operational and resilience storage within Wellington city. All Porirua reservoirs require seismic strengthening and it is expected to take 40+ days to restore water supply network to near normal operations.

#### We plan to meet future growth and manage demand

The National Policy Statement on Urban Development Capacity reinforces the need to understand the impact of Councils' growth aspirations on three waters infrastructure performance. Continued pressure on the land development section to process building consent enquiries, has highlighted the need for planning to identify and resolve potential capacity issues.

#### We provide reliable services to customers

Current service interruptions for water supply and network blockages for wastewater and stormwater networks continue to be within targeted service levels.



Results to end June 2017 (Q4 2016/17)

# Identifying performance gaps and prioritising investment (“Trade-offs”)

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We operate and manage assets that are safe for our suppliers, people and customers	We will enhance the health of our waterways and the ocean	We provide three water networks that are resilient to shocks and stresses
We provide an appropriate region-wide fire-fighting water supply to maintain public safety	We influence people's behaviour so they are respectful of the environment	We plan to meet future growth and manage demand
We minimise public health risks associated with wastewater and stormwater	We ensure the impact of water services is for the good of the natural and built environment	We provide reliable services to customers



There is a performance issue with this service goal



We recommend a greater investment in this area



Our focus is on activities that will deliver the best outcomes for communities



As we can't do everything, we prioritise activities into an optimised programme across service goals in part 3 of the RSP

**What is the outcome?  
We minimise the impact of flooding on our communities**

# Using Smart Investment to develop 10 & 30 year service plans



- Council's have significant areas of service performance requiring improvement
- At current investment \$\$, improving service performance is a long term objective that extends > 20 years
- With pace of performance improvement governed by the funding in the last LTP we presented several investment options for their consideration;

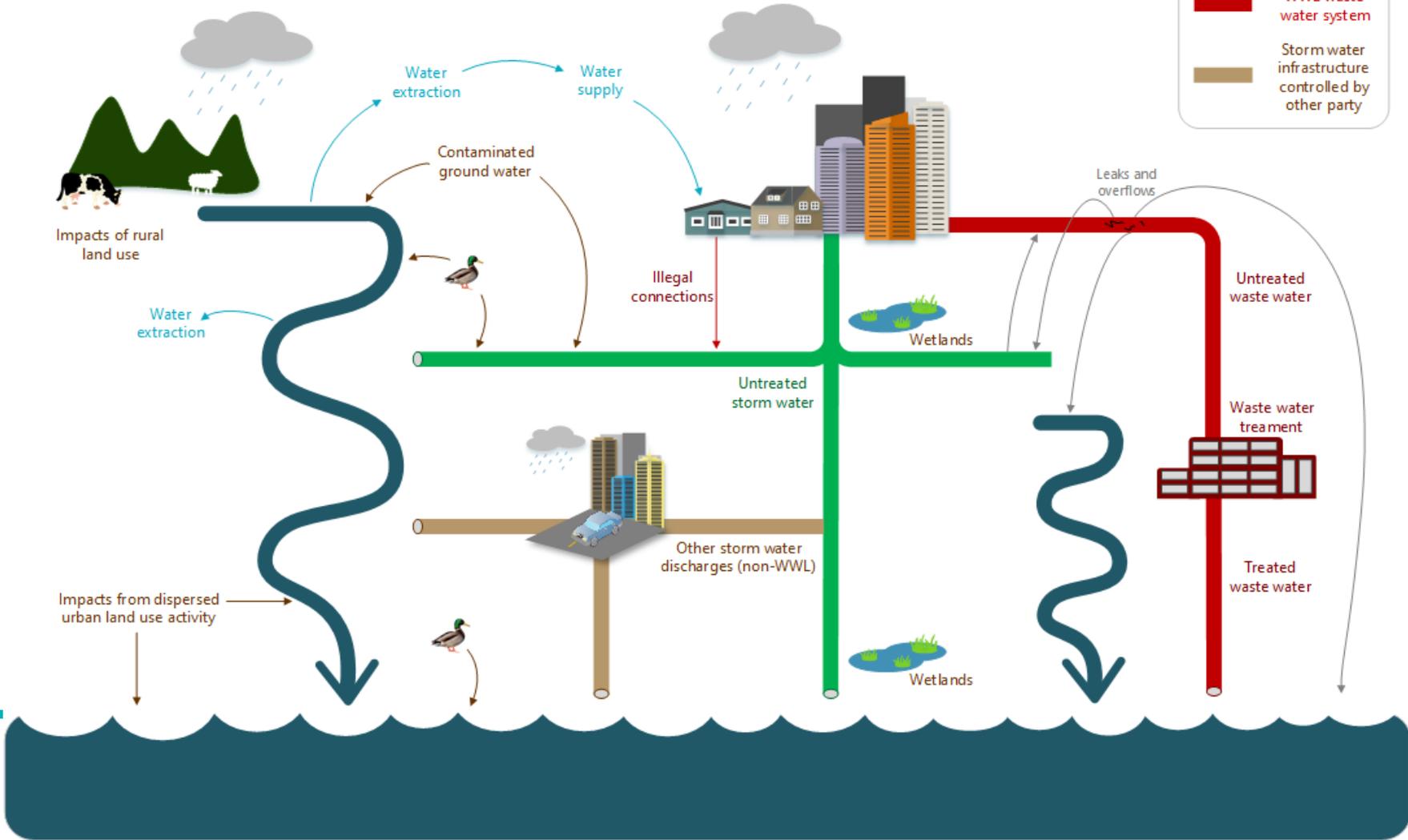
# Receiving environment water quality FSS

Key service goals	
About the issue	<p>Stormwater typically discharged without treatment but may contain harmful contaminants</p> <p>Untreated wastewater is occasionally discharged into the environment, including through leaks</p> <p>Waterway quality is of increasing customer interest and subject to increasing levels of regulation.</p>
Expected benefits	Waterways that meet the public's expectations
Current status	Strategic case commenced
Possible outcomes	<p>Alternative design approaches</p> <p>Regional and district plan changes</p> <p>Improved monitoring and analysis</p>

# Navigating the “horrendogram”

## INFRASTRUCTURE RESPONSIBILITIES

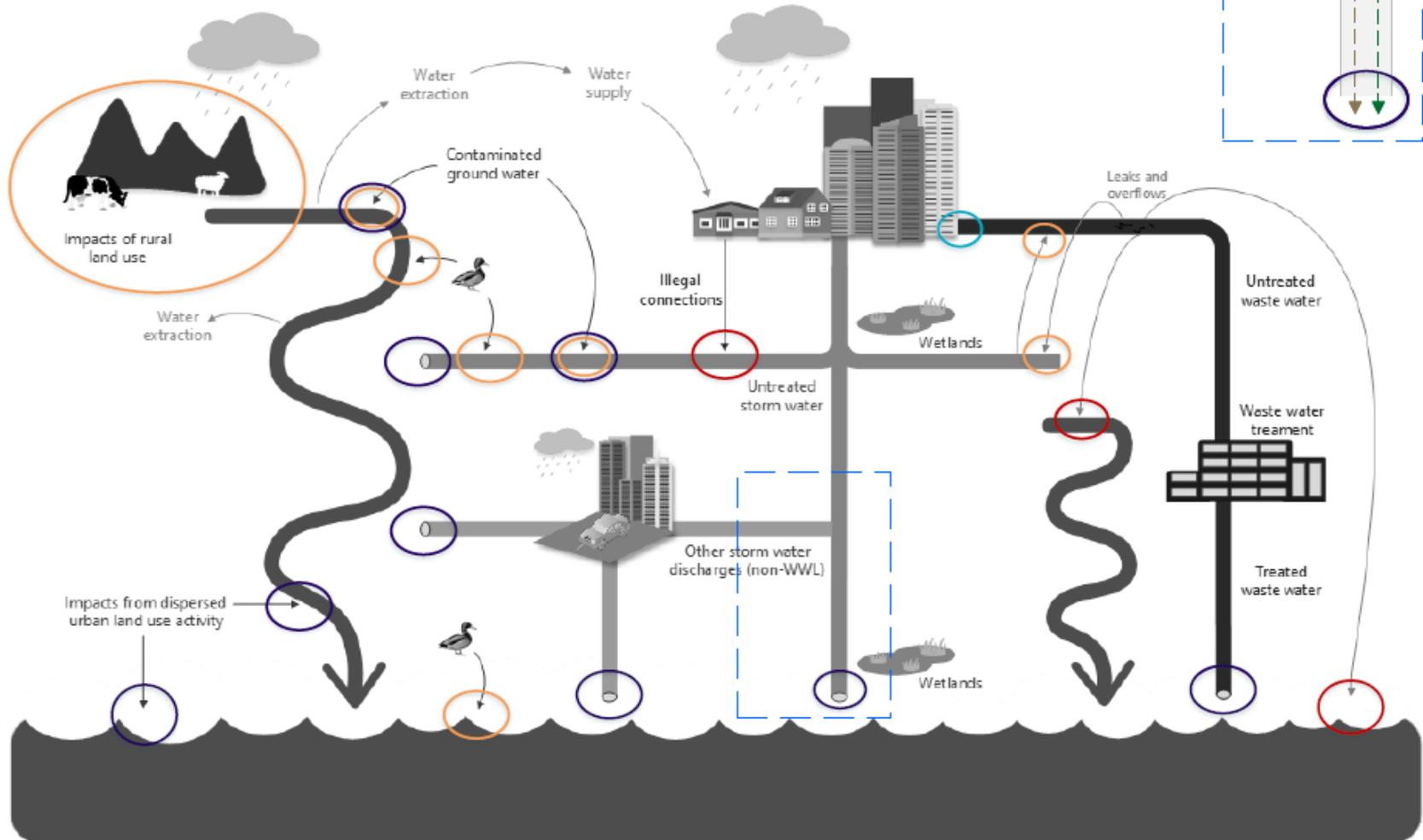
-  WWL storm water system
-  WWL waste water system
-  Storm water infrastructure controlled by other party



# Navigating the “horrendogram”

- Unmanaged or unregulated
- Illegal / unconsented
- GWRC controls
- WWL wastewater bylaw

## CURRENT STATE INFRASTRUCTURE REGULATORY CONTROLS: DISCHARGES

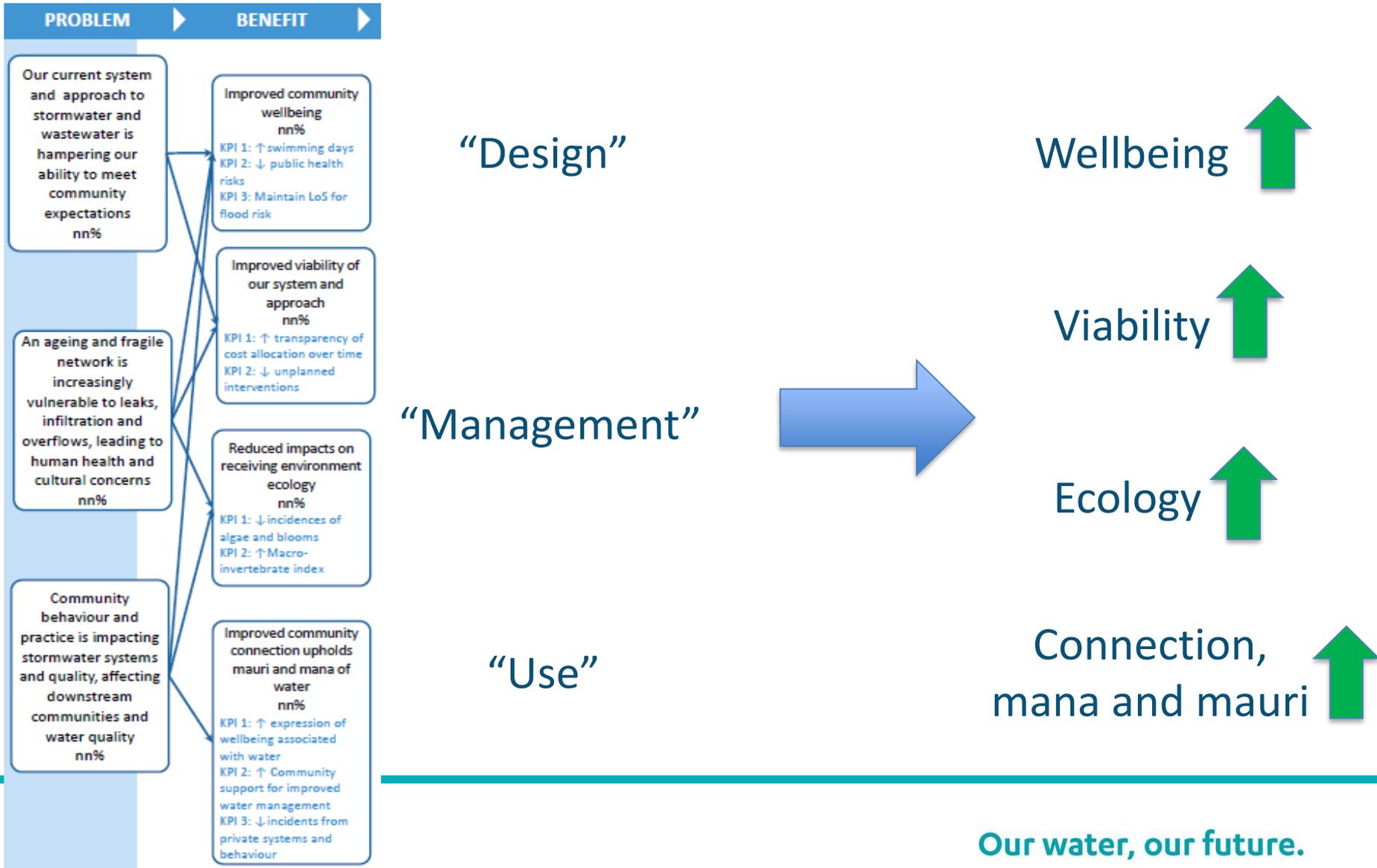


# Supports, rather than duplicates, the Whaitua process



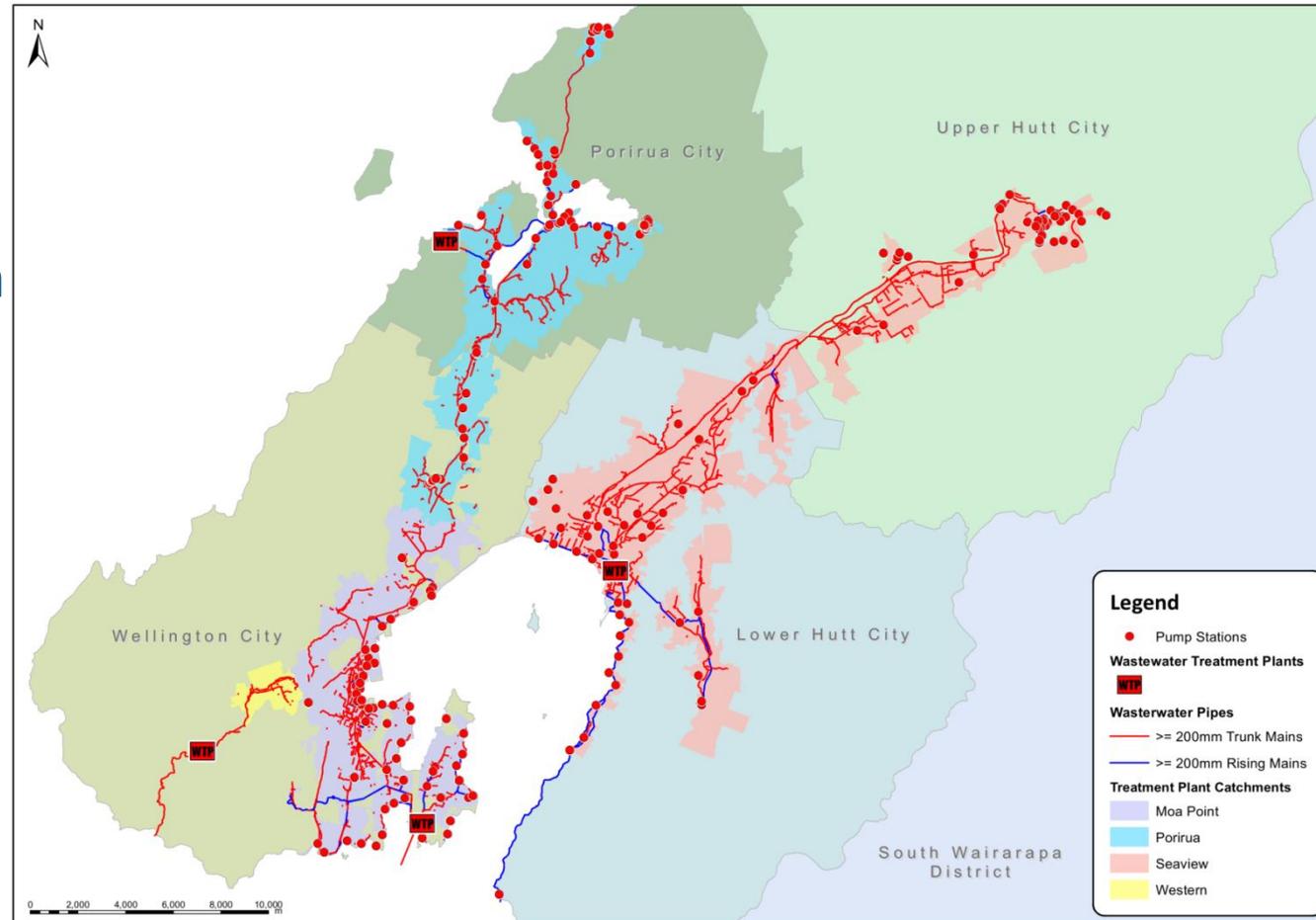
- Clarifies WWL's roles and responsibilities (and influences and accountabilities...)
- Highlights interconnections (physical and policy)
- Facilitates regional approaches and solutions
- Creates council “buy-in”

# Emerging thinking

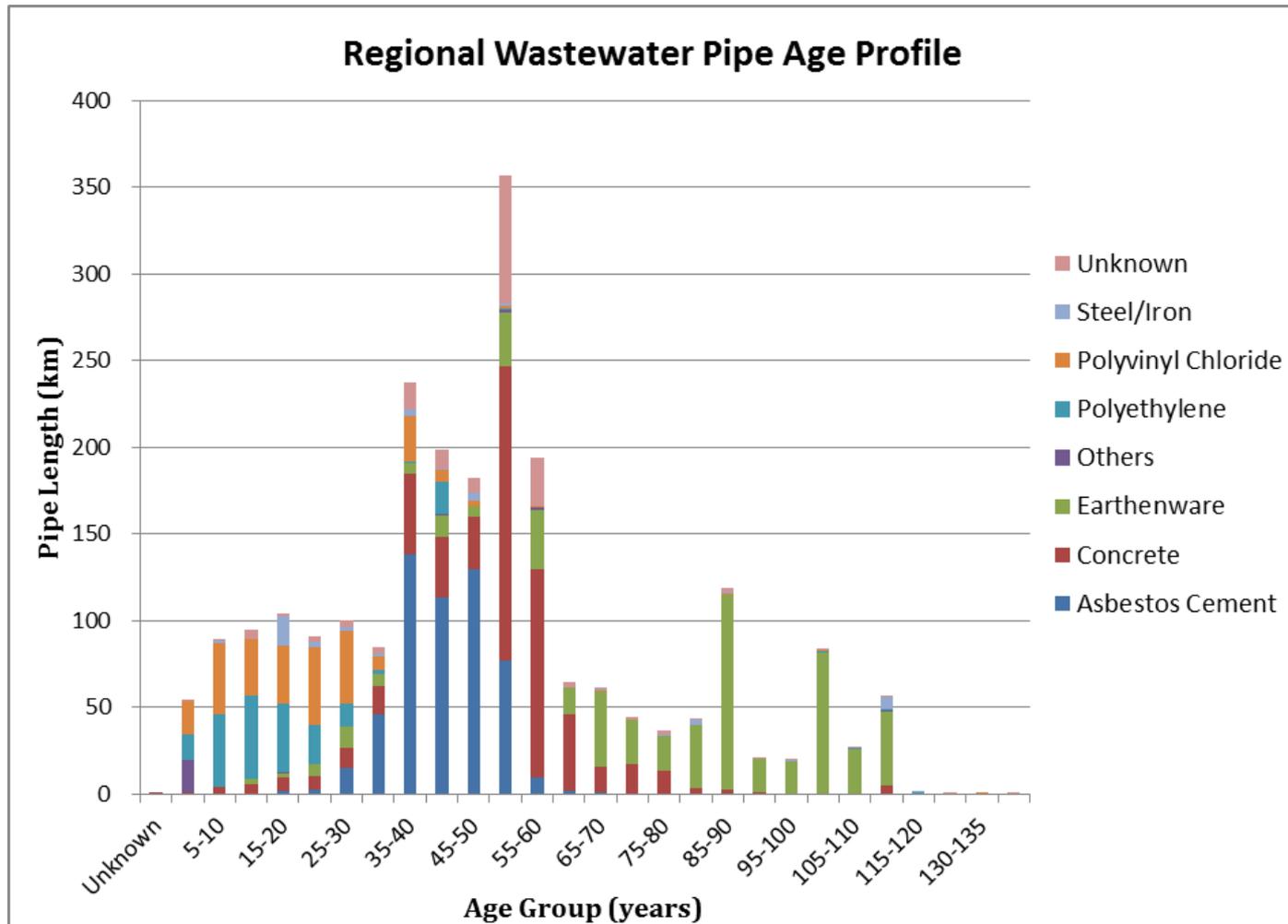


# Wastewater overview

4 catchments  
2,367 km pipes  
168 pump station  
420,000 popn.  
153 MLD  
Treated effluent  
to CMA  
26,000 tonnes  
sludge / year



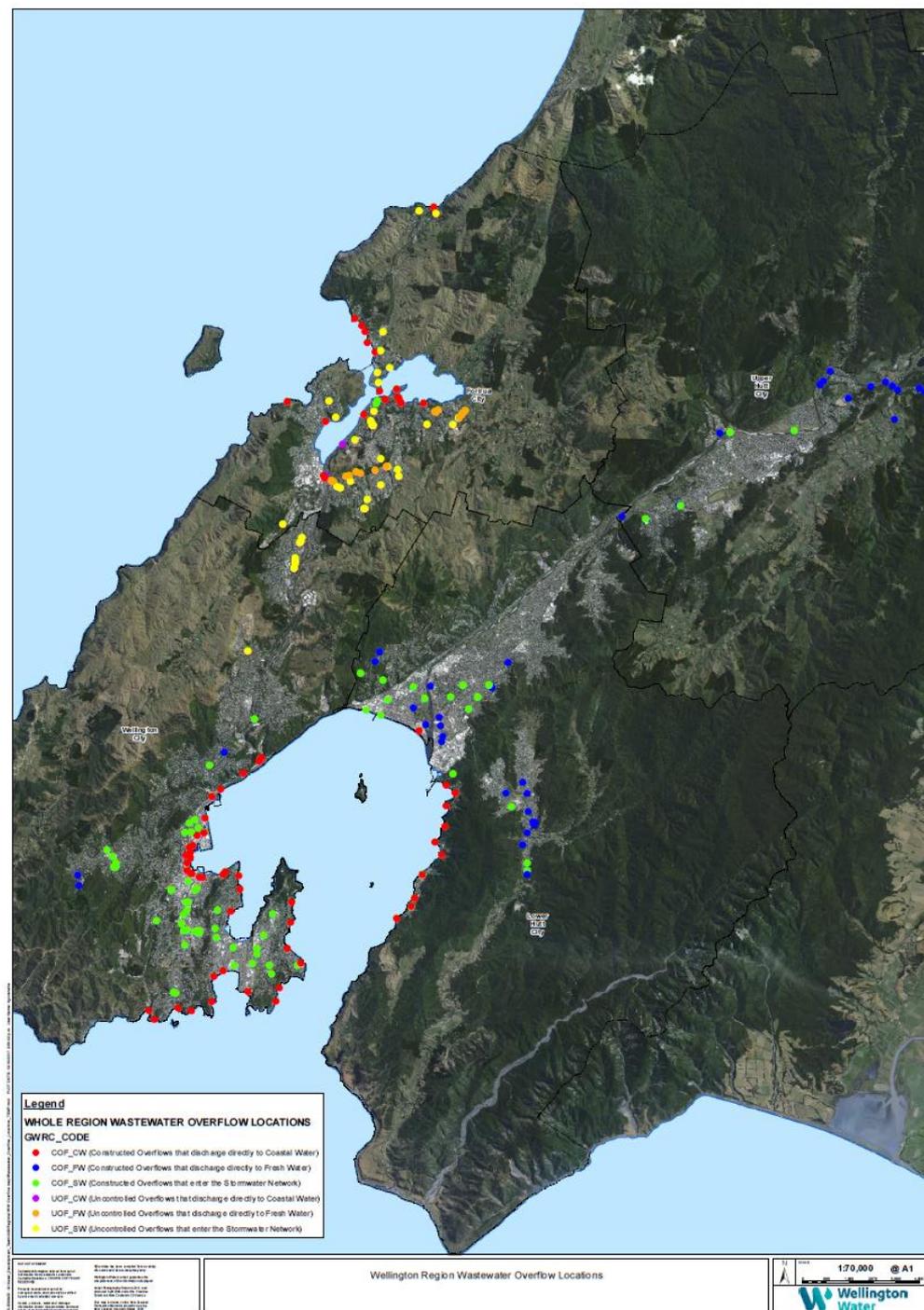
# Pipe age profile



# Overflow locations

Over 250 overflow locations  
About 70 per year operate during wet weather, 1 to 12 times in typical year

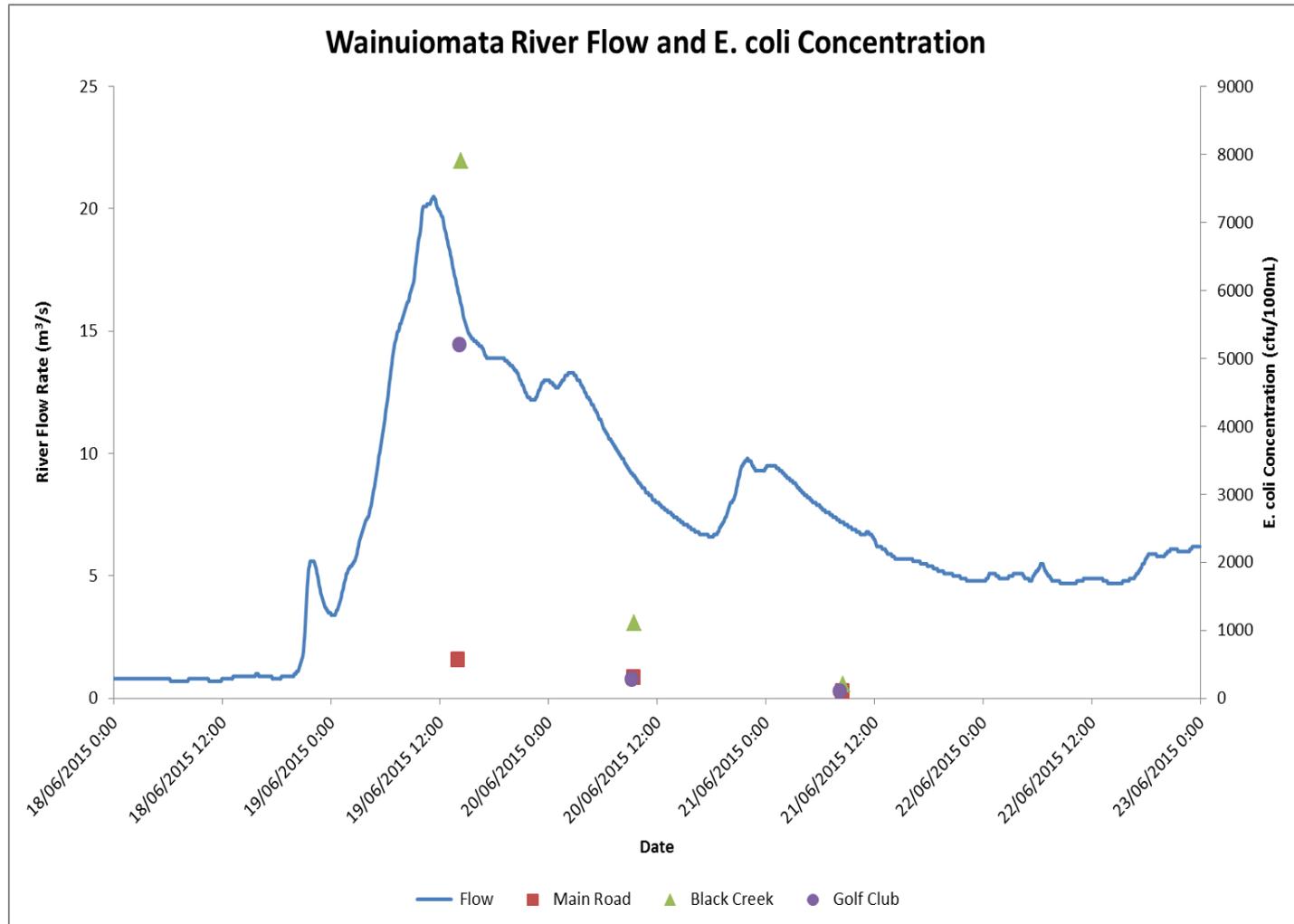
Most pump stations rarely overflow but have facility to  
Constructed overflows are best engineering practise for public health protection



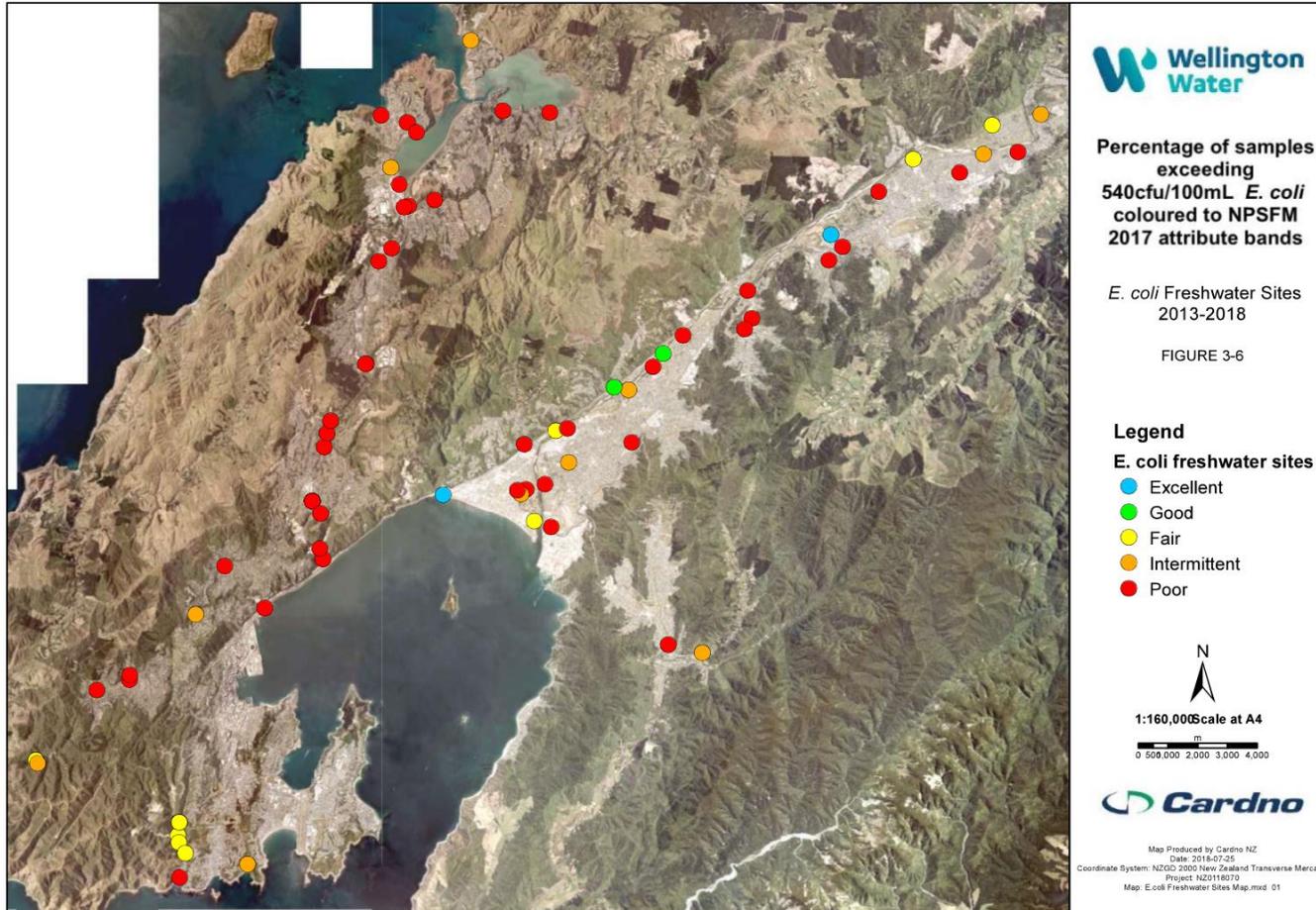
# Overflow examples



# Environmental monitoring overflows



# Dry weather surveillance monitoring



# Questions?



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