



**Te Whanganui-o-Tara
Whaitua Committee
Drinking Water Issues Overview**

Laurence Edwards – Chief Advisor Drinking Water



Our water, our future.



Water Supply

Our water, our future.

The Six Principles



Principle 1: A high standard of care must be embraced

Principle 2: Protection of source water is of paramount importance

Principle 3: Maintain multiple barriers against contamination

Principle 4: Change precedes contamination

Principle 5: Suppliers must own the safety of drinking water

Principle 6: Apply a preventative risk management approach

Our water supply network



Water sources



Bulk water network
180 km



Reservoirs



Business, Government and
critical customers



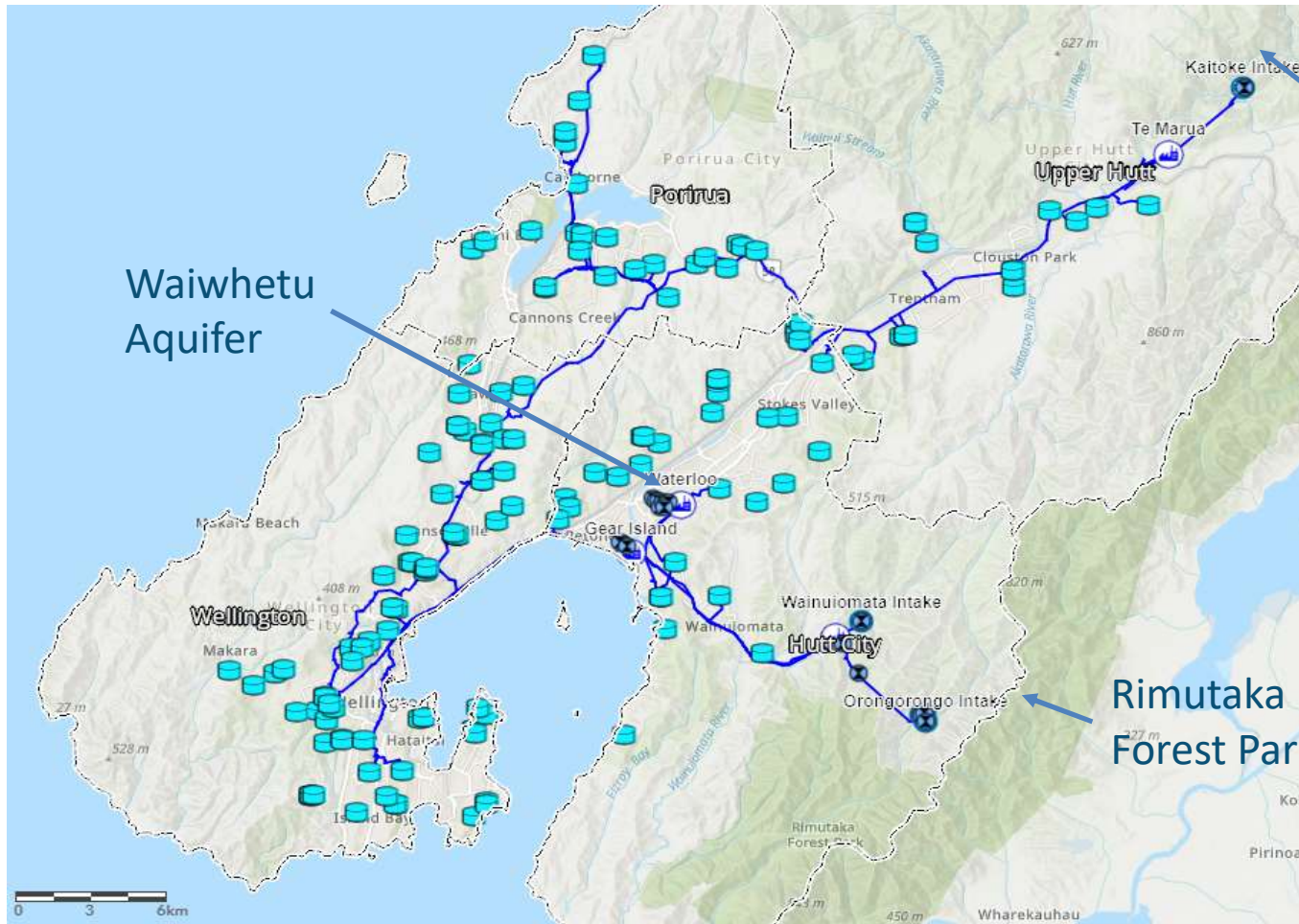
Our homes



Reticulation network
2800 km

Our water, our future.

Network Layout



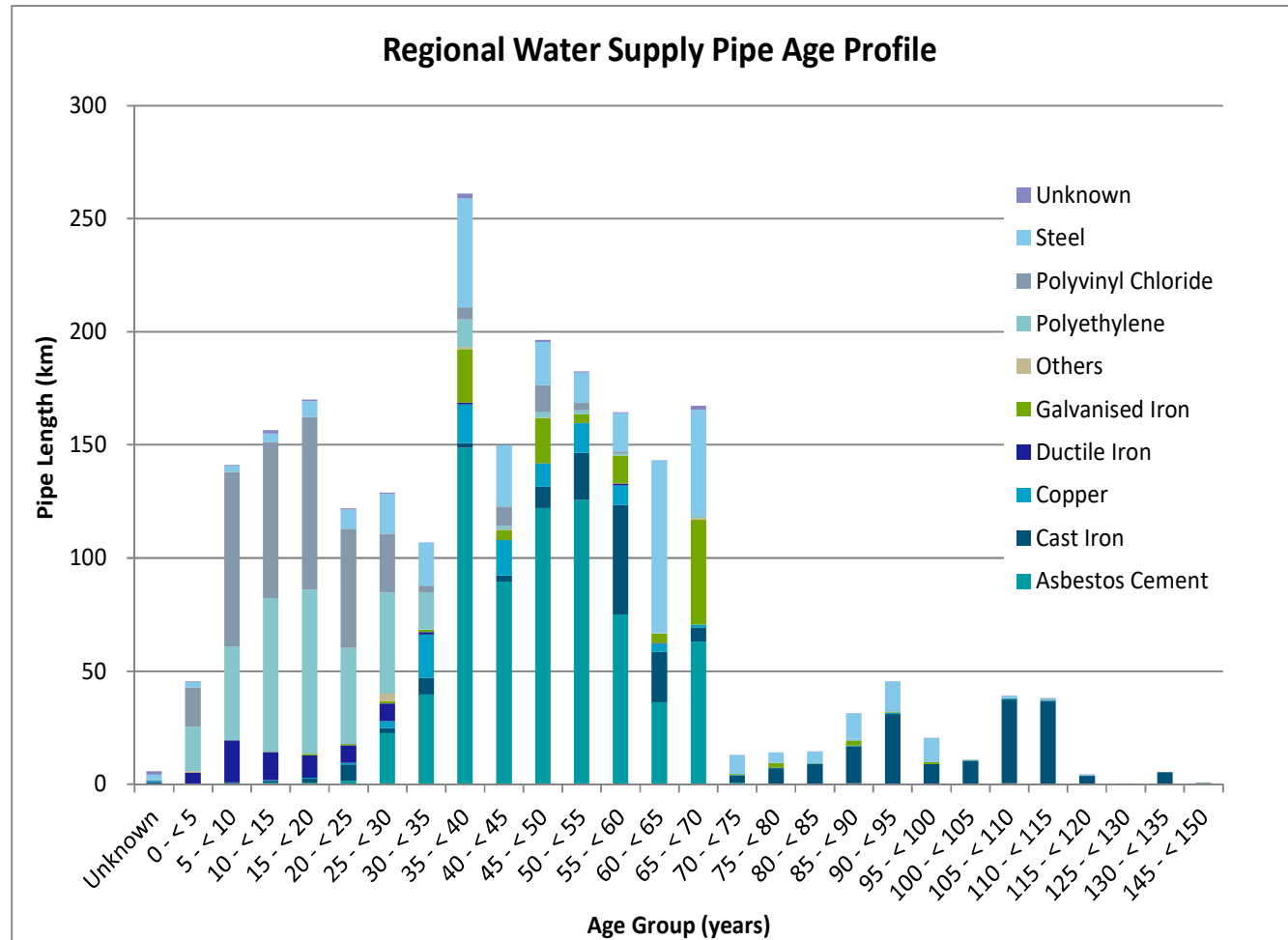
Kaitoke Regional Park

Waiwhetu Aquifer

Rimutaka Forest Park

Our water, our future.

The water pipe network



Pristine Surface Water Sources



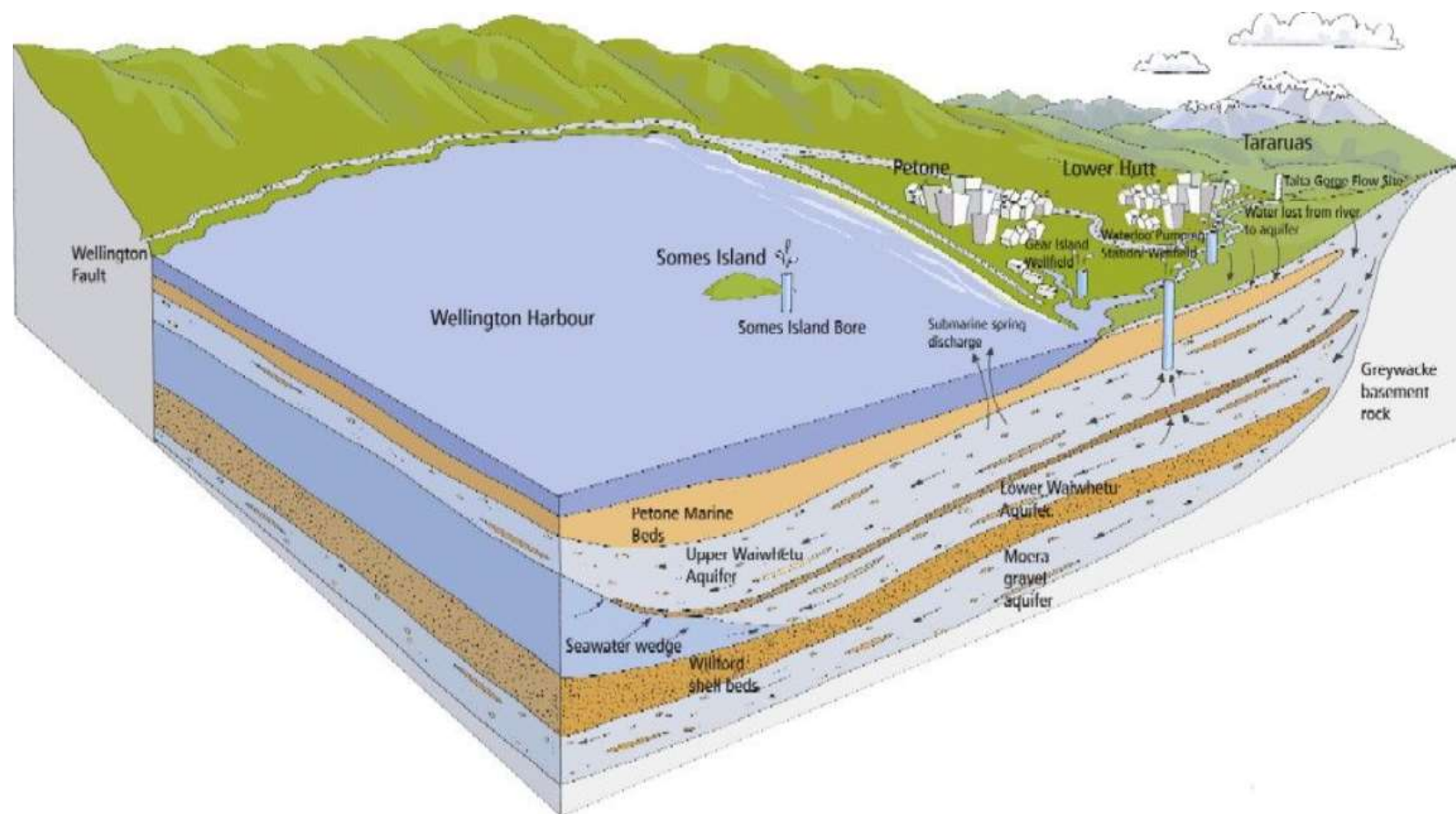
← Kaitoke intake (Te Marua WTP)

Orongorongo intake
(Wainuiomata WTP)



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Our Vulnerable Aquifer Source



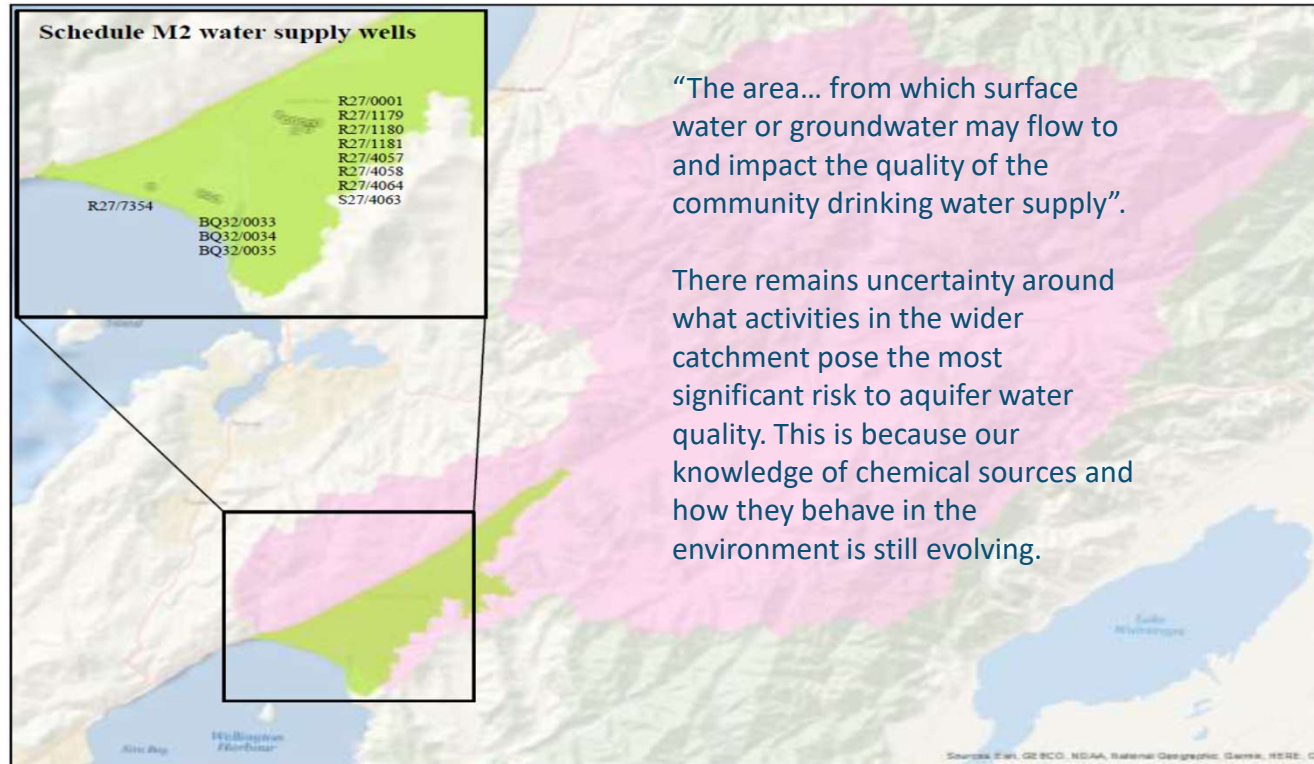
Our water, our future.

Contamination Risks - Microbiological

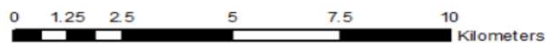


Contamination Risks

- Chemical



- Groundwater community drinking water supply protection area
- Hutt community drinking water supply catchment area
- ⊙ Schedule M2 Groundwater Supply Well



Contamination Risks - Cyanobacteria



← Blue-green algae – river sources

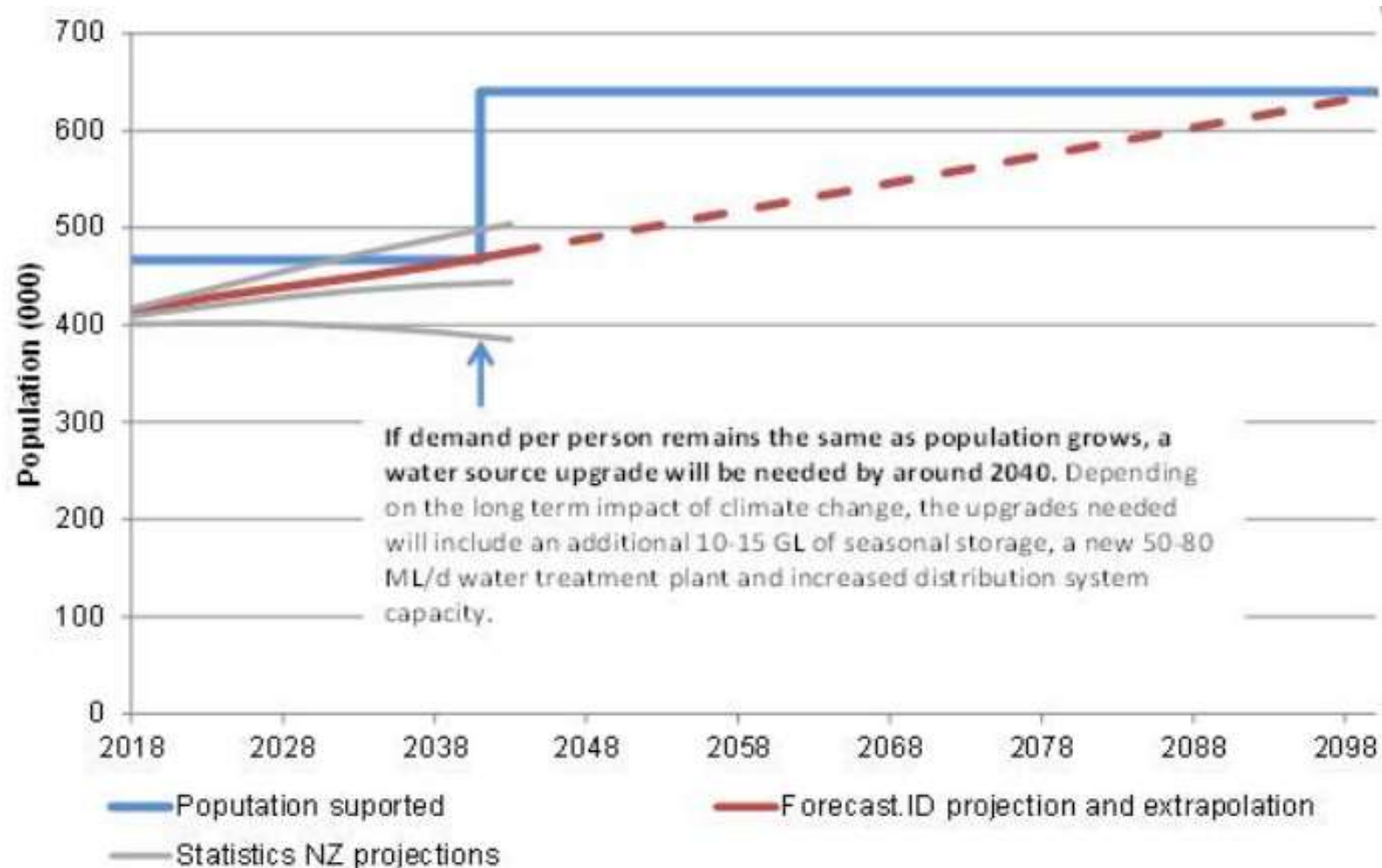
Benthic algae – Macaskill
Lakes (Te Marua)



- Taste & odour (Geosmin, 2MIB)
- Cyanotoxins



Future Pressures - Growth



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Sustainable Water Supply



Problem statements

Demand will exceed capacity to supply

- **Current water consumption and a growing population will lead to water shortages by 2040**
- We won't have enough water available in the future based on current usage
- Water loss and leakage in the network and on private property
- Network capacity to cope with the impacts of housing growth
- Inefficient usage
- Higher than necessary wastage.

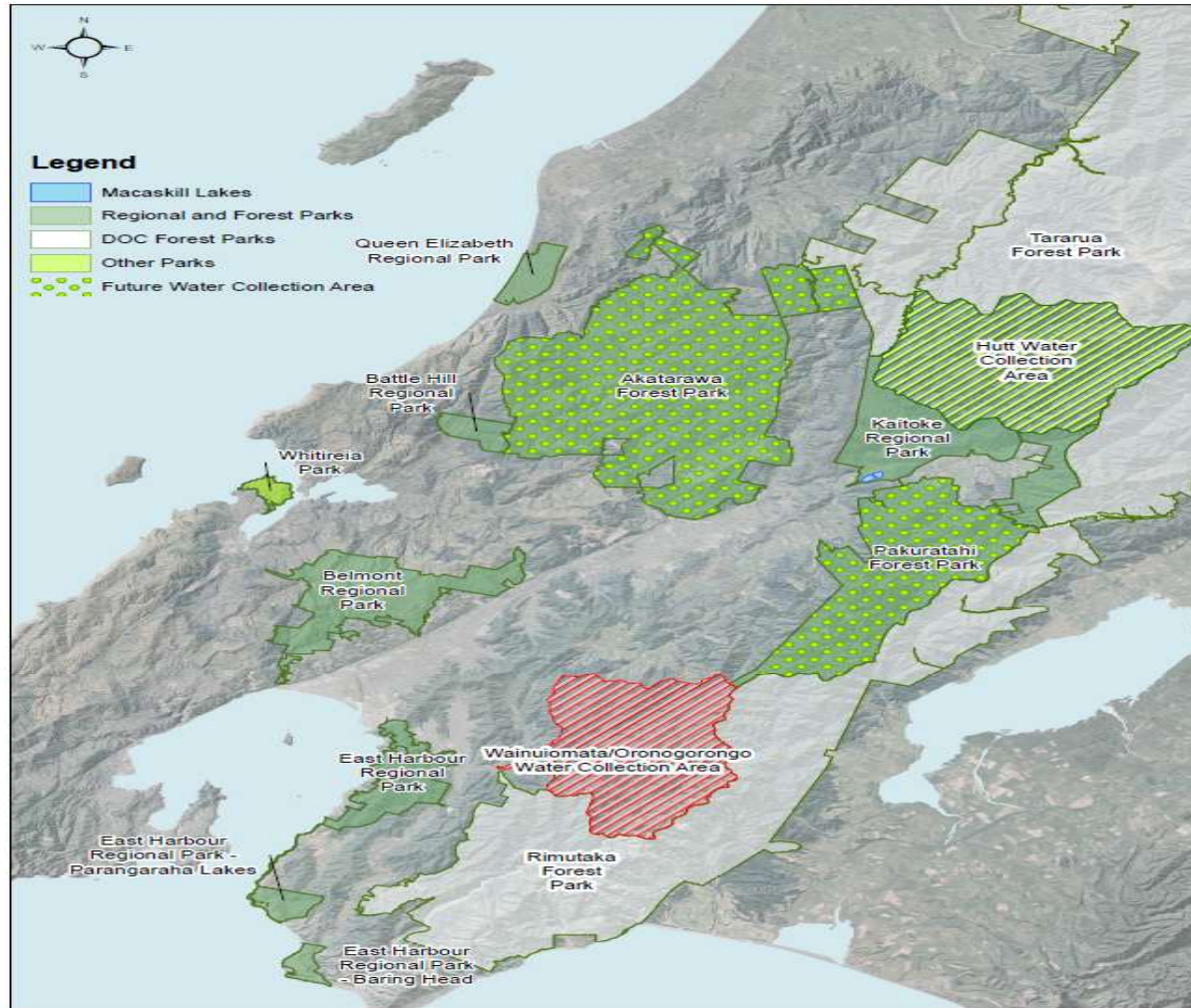
Our networks and sources are vulnerable

- **Threats to our vulnerable water sources and networks are compromising our ability to maintain supply**
- We have an old fragile network
- We have a heavy reliance on the aquifer particularly in summer
- Earthquakes and high intensity storms cause land movement leading to ruptures and risk of contamination
- Risk to quality of water from emerging contaminants
- Climate change will lead to risks to sources by rising temperatures, increased severity of drought and storms, and rising sea levels

There may be less water available for us to use

- **Potential reduction in our current water take to meet environmental needs may constrain our ability to supply community and customer needs**
- Sources are potentially over allocated based on the draft NRP
- Meeting the NPS for Freshwater Management

Future Supply Arrangements



Our water, our future.

Questions

