

Unclassified

# Water New Zealand Preconference Workshop

16 October 2023



# What we will cover today

	Topic	Presenter
9.00am	Two years in, where to from here?	<b>Allan Prangnell</b> , Chief Executive
9.20am	Insights from drinking water safety plan reviews	<b>Steve Taylor</b> , Head of Regulatory
9.40am	One year of living with the Drinking Water Quality Assurance Rules	<b>Jim Graham</b> , Chief Advisor, Water Science
10.05am	Q&A interactive	
10.30am	Morning tea	
11.00am – 12pm	Discussion on <i>cryptosporidium</i> outbreak in Queenstown	<b>Jim Graham</b> , Chief Advisor, Water Science <b>India Eiloart</b> , Senior Technical Advisor <b>Dr Michael Butchard</b> , Medical Officer of Health/National Public Health Service

# Two years in, where to from here?

Allan Prangnell | Chief Executive



# Taumata Arowai






# Our roles as a regulator



**Standards &  
rules  
DW, WW, SW**



**Core DW  
regulation  
...CME**



**Public  
reporting  
DW, WW, SW,  
NEPMs**



**Tools and  
guidance**



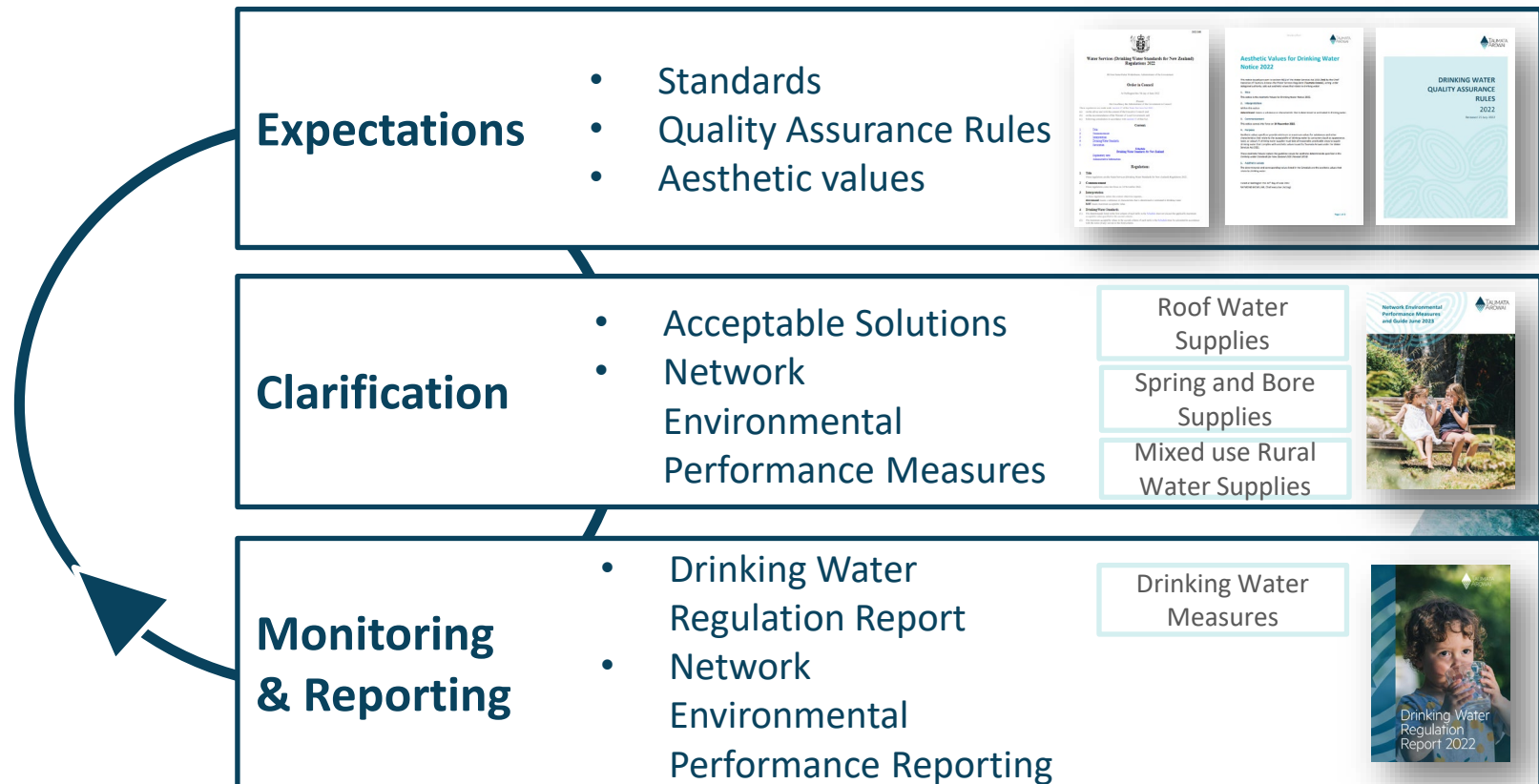
**Incident  
response**



# Two years in...

Focus has been getting the fundamentals in place for drinking water

- ✓ Core regulatory systems, standards and plans are in place for drinking water
- ✓ Regional frontline operations staff located across the country
- ✓ Rules set and reporting is underway



# Te Mana o te Wai and Te Tiriti o Waitangi

## Growing our capability

- Strive to be an exemplary partner, upholding Te Tiriti in accordance with our legislation and in a way that embodies the aspirations of our name
- Established an operational Māori advisory function to increase internal capability regarding Te Mana o te Wai, Te Tiriti o Waitangi, Te Ao Māori policy and engagement, and to support the operationalisation of Te Puna guidance
- Te Mana o te Wai is about restoring and preserving the balance and wellbeing between the wellbeing of water, the environment, and our communities.
- A range of work has progressed over the past year contributing to building our awareness and understanding of Te Mana o te Wai



# Where we are today

- Broadening into a water services regulator, as wastewater and stormwater functions commenced in October
  - Published Public Register of Wastewater Networks
  - Wastewater standards and targets
- Pivoting to a greater external-facing focus as an organisation
- Ongoing improvements – data analysis, NEPM measures, public reporting – forming a picture and telling the story about the (hopefully improving) state of our drinking water, wastewater and stormwater networks
- Drinking Water Safety Plan reviews will continue to be a core priority for some time





# Where to from here

- We have recently communicated our expectations and deadlines for compliance with protozoa barrier requirements. We'll shortly be doing the same for bacterial protection
- Some suppliers may have been waiting for a regulatory signal – they have that now. From here, we anticipate communicating:
  - Our regulatory strategy (< 3 years), so that suppliers have clarity on what they need to do and what we'll be focusing on as a regulator
  - A roadmap (years 3 – 10) of how we see priorities and focus playing out beyond the regulator strategy period. I'd like to hear industry and sector perspectives on what a roadmap might have in it and how you see priorities over time
- Over the next three years, we expect to deliver the first iteration of targets and standards for wastewater.



# What are wastewater environmental performance standards?

## Wastewater environmental performance standards

Established through consultation with network operators, regional councils, and any other person considered appropriate

May relate to:

- Discharge to air, water or land
- Biosolids or other byproducts
- Energy use
- Trade waste (third party waste)
- + other?

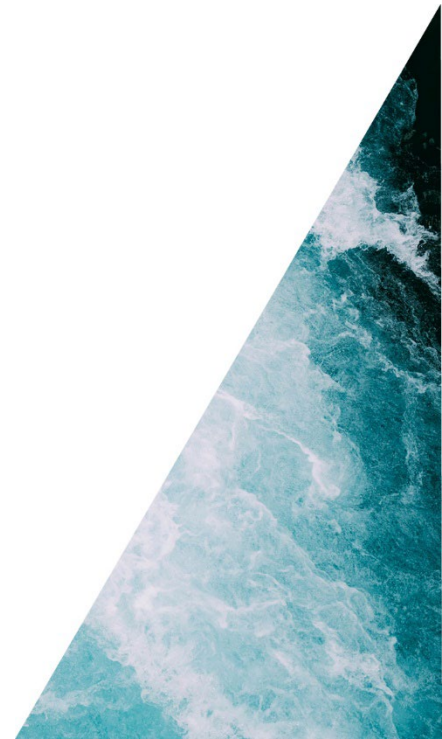
May include requirements, limits, conditions or prohibitions

May apply to all, or classes of, wastewater networks and their operators (but not to individual networks or operators)

Secondary legislation

Applied by regional councils to any new consent, or by territorial authorities through bylaws

Identify  
requirements  
that must be  
met



# What improvements are needed?

## Supporting improvements in environmental performance

1. Identify and understand complex wastewater network environmental performance issues

2. Prioritise

3. Address using available tools

Environmental  
Performance  
Targets

Environmental  
Performance  
Standards

Guidelines /  
Advice

Research, Skills,  
Training

## Wastewater, Te Mana o te Wai and mana whenua

- Wastewater should be treated in a way that is culturally acceptable:
  - uphold responsibility to care for water bodies and preserve practices like mahinga kai
  - involved in decisions on design and consenting
  - have the option to be involved (or informed) on compliance monitoring on an ongoing basis.

## Resource consenting

- New discharge consents needed for ~60%+ of wastewater treatment plants
- Highly variable consent conditions, of varying quality
- High levels of non-compliance, variable monitoring and enforcement practices
- High cost, bespoke approaches to consents and upgrades
- Process not well aligned with how council network operators undertake long-term planning – uncertainty about specific environmental bottom lines until the consent has been granted

## Network performance expectations

- |                                   |                               |
|-----------------------------------|-------------------------------|
| • Treated effluent quality        | • Sludge / biosolids disposal |
| • Network overflows               | • Trade waste management      |
| • Plant upgrades                  | • Energy use                  |
| • Waste settling pond de-sludging | • Operator qualifications     |



# Insights from drinking water safety plan reviews

Steve Taylor | Head of Regulatory

# Drinking water safety plan reviews

- From 1 July 2023, we began reviewing plans to seek assurances that supplies are being managed safely
- Reviews are being prioritised by population served and safety concerns
- The information gathered will help us:
  - identify risks and non-compliance with the Act
  - take compliance action when necessary
  - understand the sector
  - inform future priorities and improvements

**753**

drinking water  
safety plans  
received



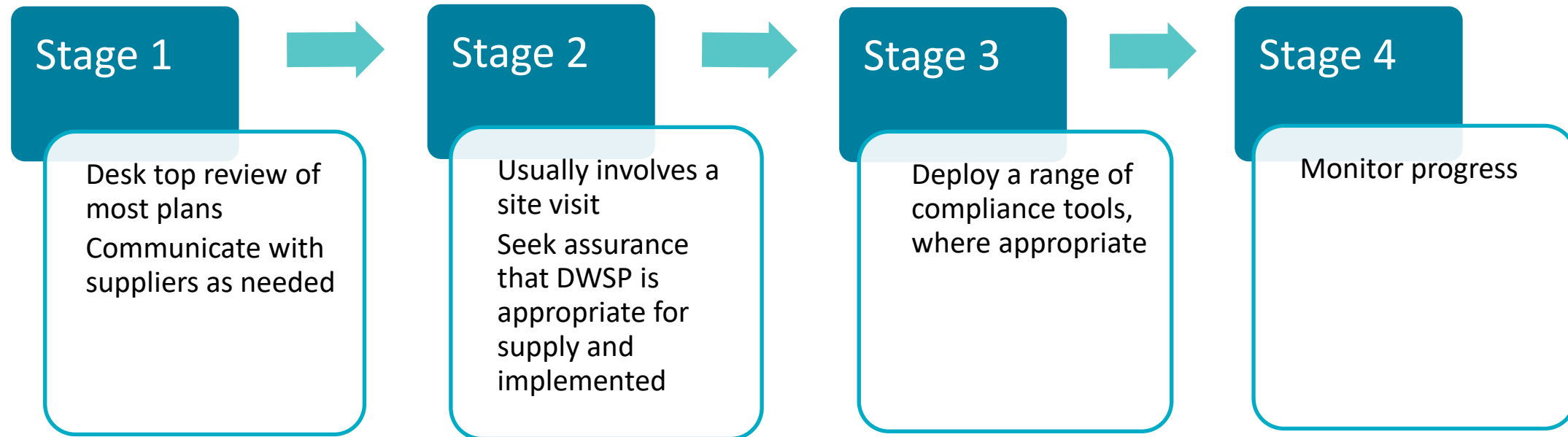
# Drinking water safety planning

## An important part of good risk management practice

- It's the water suppliers' responsibility to own the safety of their drinking water and apply good risk management approaches
  - Drinking water safety planning is a continuous process
  - The outcome of the planning process is documented in a drinking water safety plan
  - Your plan should detail hazards and risks to your drinking water supply (from source to the point of supply to consumers) and how they will be managed to ensure water is safe to drink
- ▶ We're reviewing drinking water safety plans, but not approving them



# Our review process



# Our review process

## Some things we are looking at closely

### Governance and review

- Does senior management endorse and support the implementation of the plan?
- Does risk feed into a planned and funded improvement schedule?
- What's the culture of the organisation?

### Drinking Water Quality Assurance Rules and Drinking Water Standards

- Do you comply with the Rules and Standards?
- Has the supply got a multi-barrier approach?

### Emergency response

- Do you have response plans for different scenarios?

### Source water risk management plan

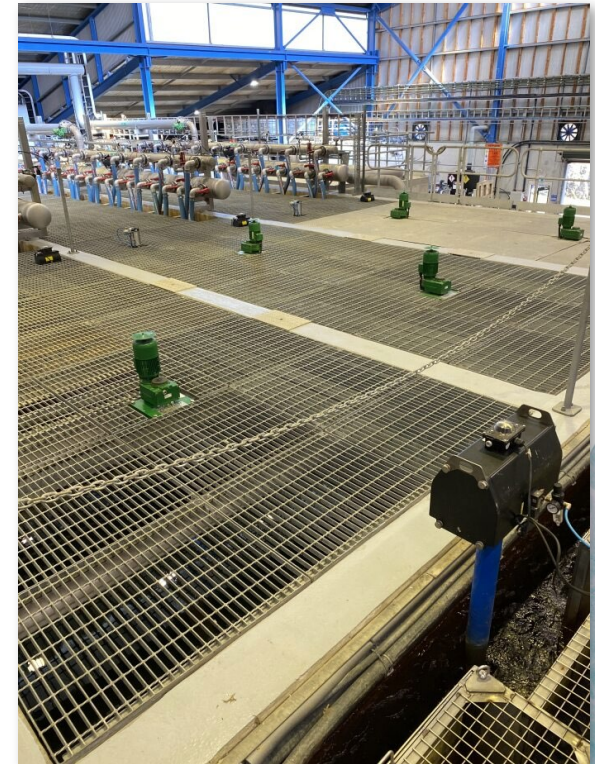
- Do you have a source water risk management plan for the supply?
- Does it include Te Mana o te Wai?



# Stage 2 – site visit



- Drinking Water Safety Plan under review
- Nelson City Council water supply – large and complex
- Tour plant and source to understand the supply
- Discussion of outcomes

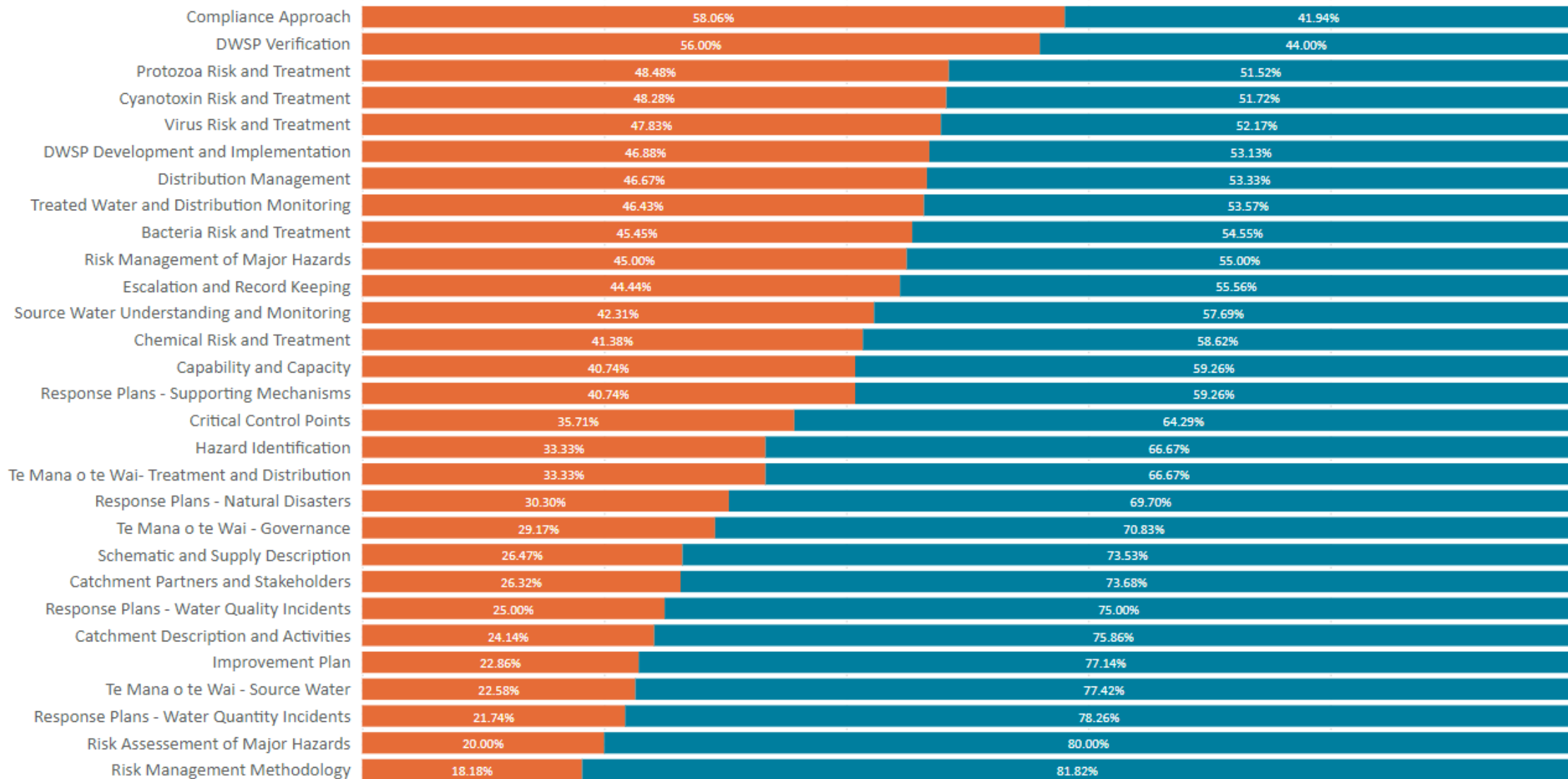




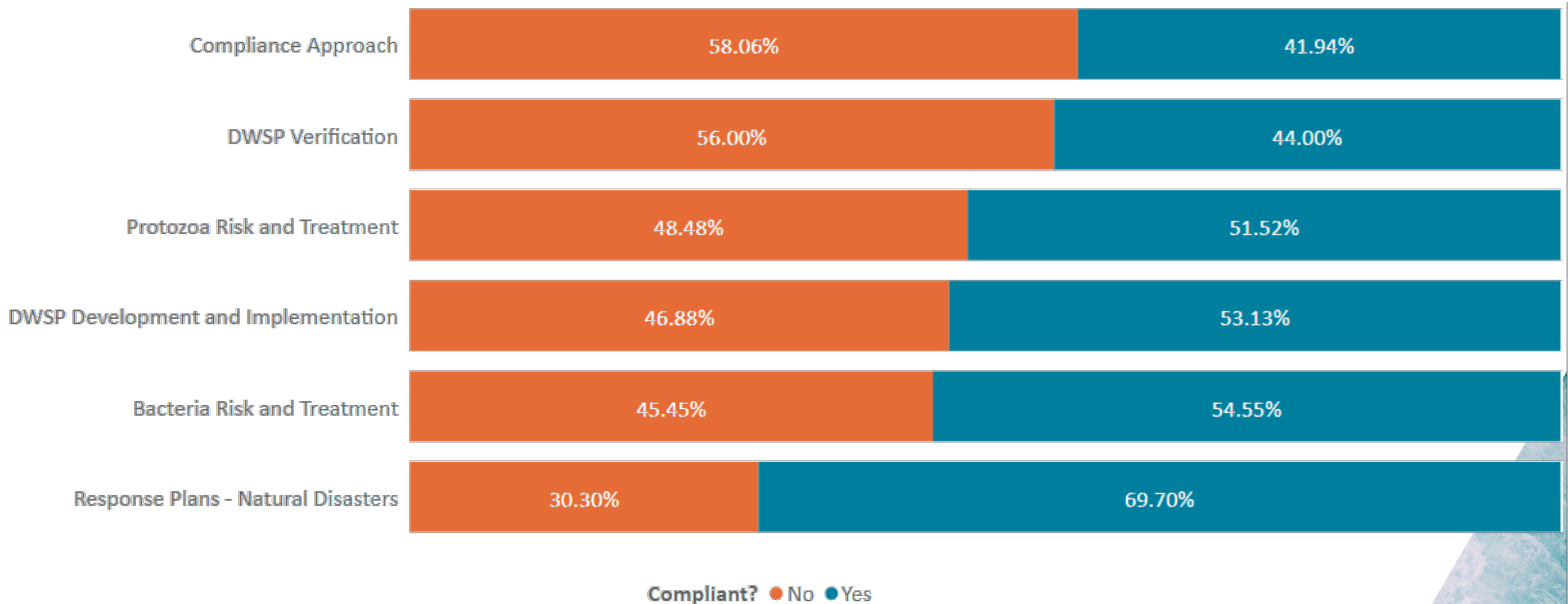
# Drinking Water Safety Plan Review Topics



Compliant? ● No ● Yes



# Zooming in on some areas of concern



# Areas of concern

- **Drinking water safety plan development, implementation and verification** – does the supplier have an up-to-date plan and is it implemented?
- **Compliance approach** – does the plan outline how the supply complies with the Drinking Water Quality Assurance Rules and is the plan appropriate?
- **Bacterial and protozoa risk and treatment** – do they have barriers and are they effective? Is there a plan in place to promptly address the risks?
- **Response plans** – does the supplier have appropriate response plans for a range of water quality events and natural disasters?





# Our compliance approaches

## Compliance behaviour

## Compliance approaches

Have decided not to comply

Enforced

Greater use of law

Don't want to comply

Directed

Motivate

Tries, but doesn't always succeed

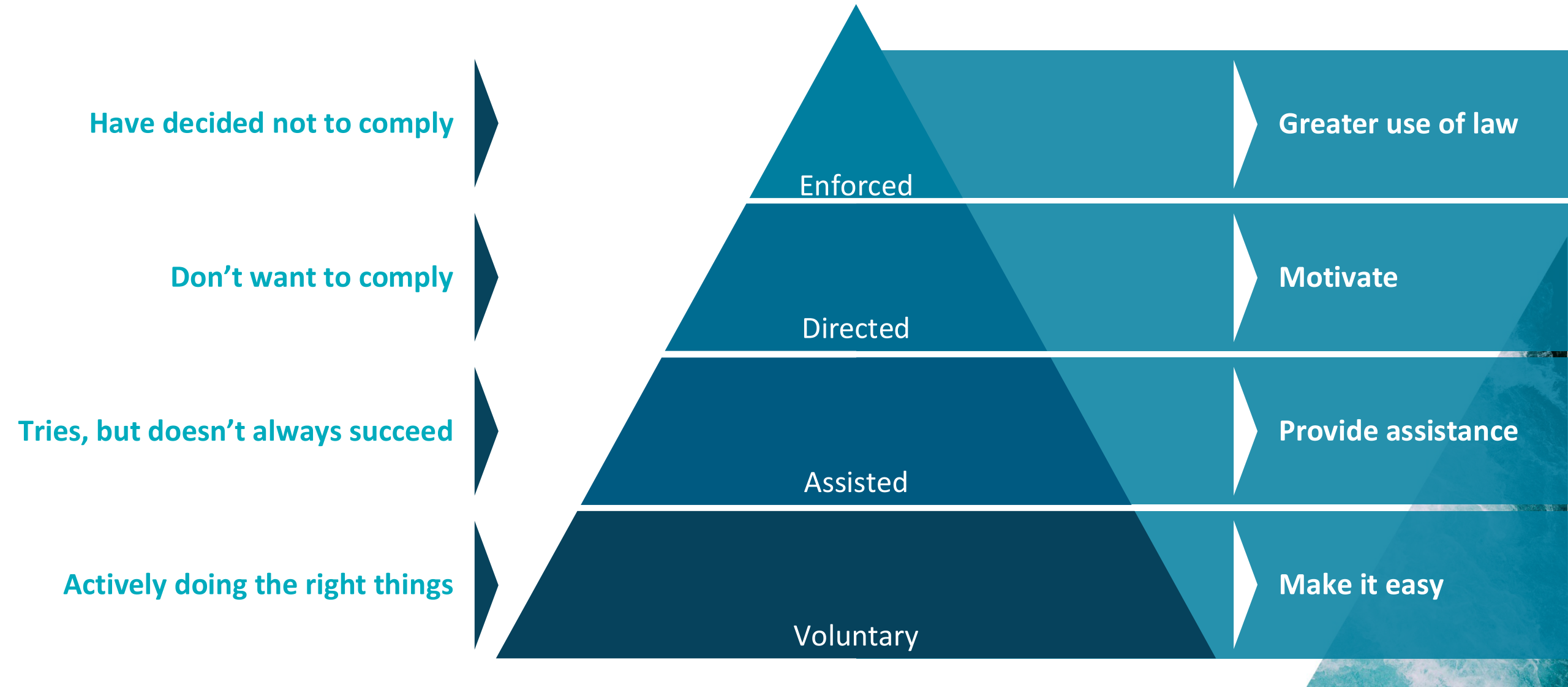
Assisted

Provide assistance

Actively doing the right things

Voluntary

Make it easy



# Our compliance approaches

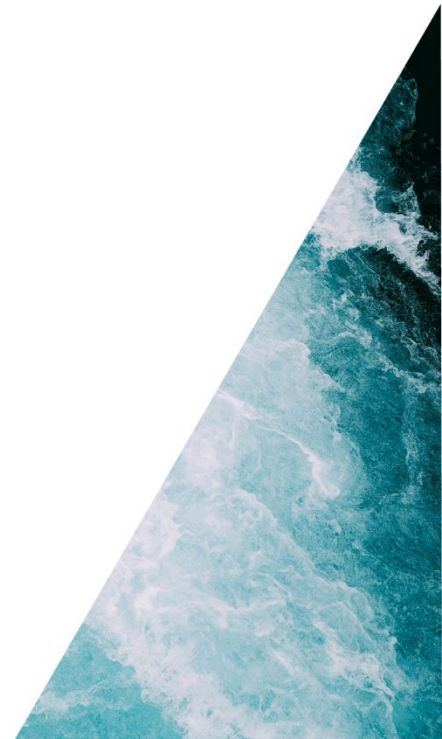
## Compliance approaches

## Compliance tools

Enforced	Greater use of law	<ul style="list-style-type: none"><li>• Statutory management</li><li>• Prosecution</li><li>• Remedial action</li></ul>
Directed	Motivate	<ul style="list-style-type: none"><li>• Accept Enforceable Undertaking</li><li>• Compliance order</li><li>• Infringement</li><li>• Issue directions &amp; warnings</li></ul>
Assisted	Provide assistance	<ul style="list-style-type: none"><li>• Publish clarifications and position statements</li><li>• Encourage planning &amp; compliance</li><li>• Provide information</li></ul>
Voluntary	Make it easy	<ul style="list-style-type: none"><li>• Set standards and rules</li><li>• Publish guidance</li><li>• Streamline transactions with tools and templates</li></ul>

# How we are responding

- Committed to ensuring all communities have access to safe drinking water every day
- Many suppliers are complying with the Act or have included in their drinking water safety plans how they will work towards compliance
- For those who are not, we will respond to particular circumstances considering the provisions of the Act, along with our [Compliance, Monitoring and Enforcement Strategy](#)
- We've a range of tools and interventions we can use to protect public health and help improve performance in the water services sector



# One year of living with the Drinking Water Quality Assurance Rules

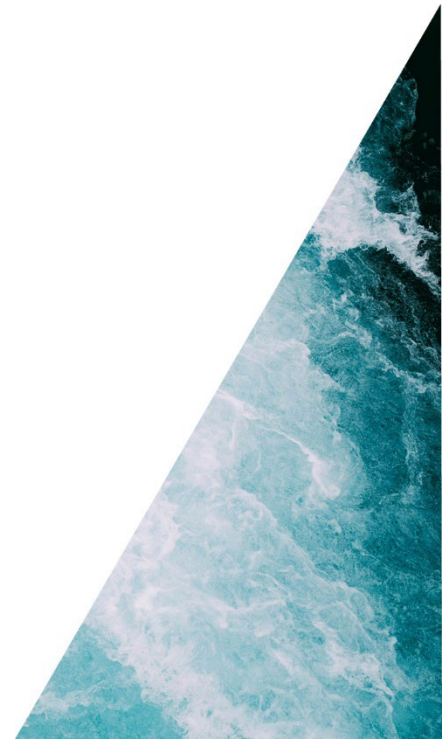
Jim Graham | Chief Advisor, Water Science



# One year on

## Drinking Water Quality Assurance Rules

- ✓ Different levels of complexity to match complexity of supplies
- ✓ New modular format and grouping of rules
- ✓ New requirements on source water testing and distribution system monitoring
- ✓ New chemical compliance section for large supplies
- ✓ Some places where water suppliers can make their own decisions
- ✓ National level reporting on the Rules
- ✓ No showing stopping disasters in the Rules, but some things could have gone better



# A few things to clarify

## Some things weren't as clear as they might have been

- Table 4 for Level 2 rules quarterly reporting
- Footnotes – Example: chlorate monitoring

T3.93 and Table 33 (pages 65, 66)	Section 4.10.3 (page 64) states:  If sodium hypochlorite is used, chlorate must be monitored weekly, regardless of the levels determined by sampling.	<b>Additional clarification</b> for Section 4.10.3:  If sodium hypochlorite is used, sampling of chlorate must be weekly as per Table 33 unless footnote 62 (page 66) is met.
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Rule Number	Parameter	Compliance Period	Reporting Period <sup>9</sup>
T2.2	<i>E. coli</i> , total coliforms	1 Month	3 Months
T2.9	Turbidity	1 Month	3 Months
T2.13	UVT	1 Month	3 Months
T2.19	FAC	1 Month	3 Months
T2.21	pH	1 Month	3 Months
D2.1	<i>E. coli</i> , total coliforms	1 Month	3 Months
D2.5	FAC	1 Month	3 Months

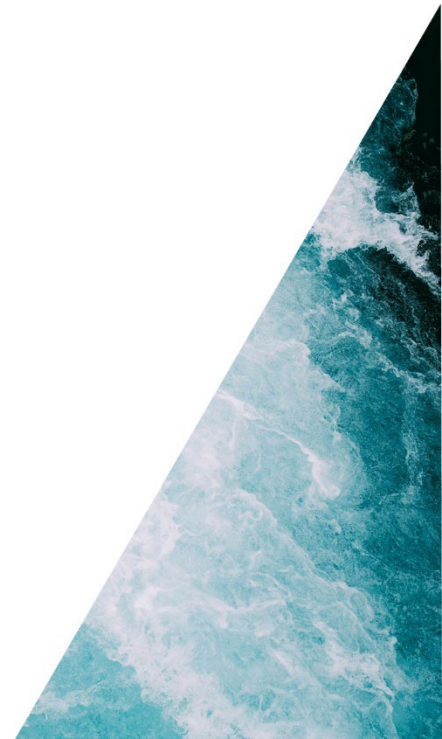
Note 9: Report must be provided to Taumata Arowai within 20 working days of the end of each quarter.

- Source classes
- Coming soon: assurance and monitoring rules update

# Working with suppliers

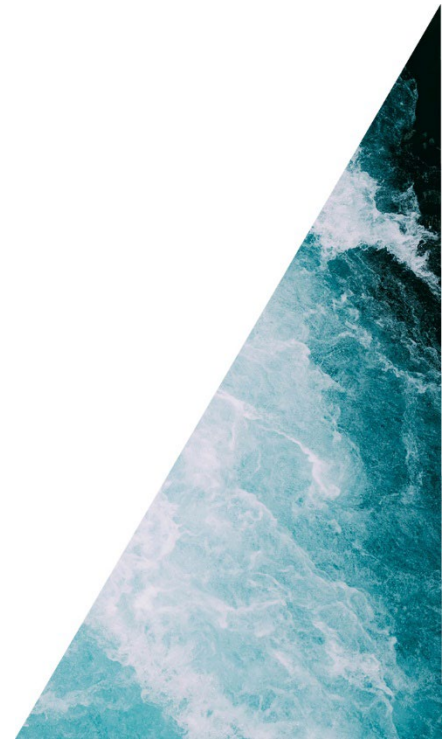
## Some things we needed to adapt

- New DIN standard accepted for UV
- Recycle waste streams
- Integrity testing



# Some places where suppliers can make their own decisions

- 3 log to 4 log
- Representative bores
- T2 turbidity monitoring (continuous monitoring)

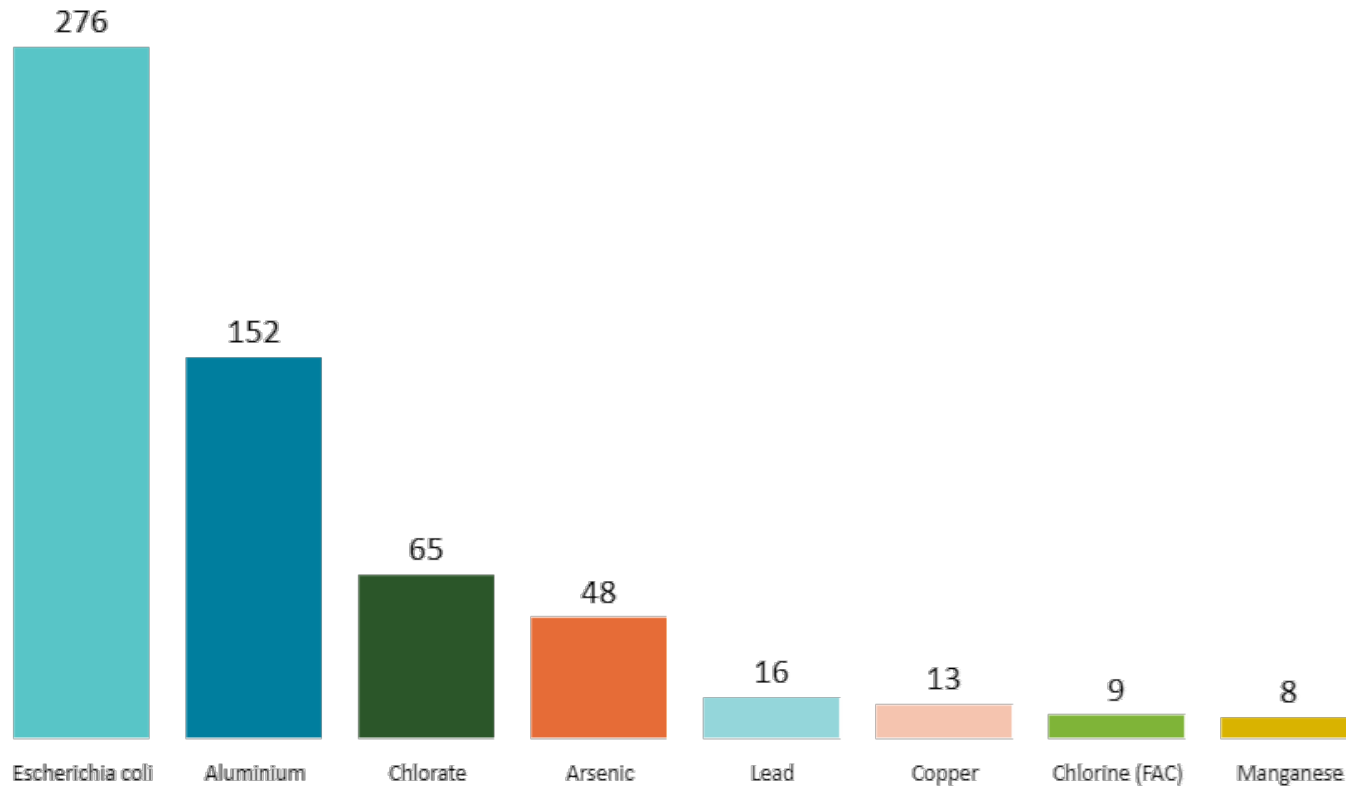




# What the rules uncovered

## 599 notifications of contaminants

- From 193 registered supplies
- Nearly half of them are from laboratories only



Notifications about top 8 contaminants

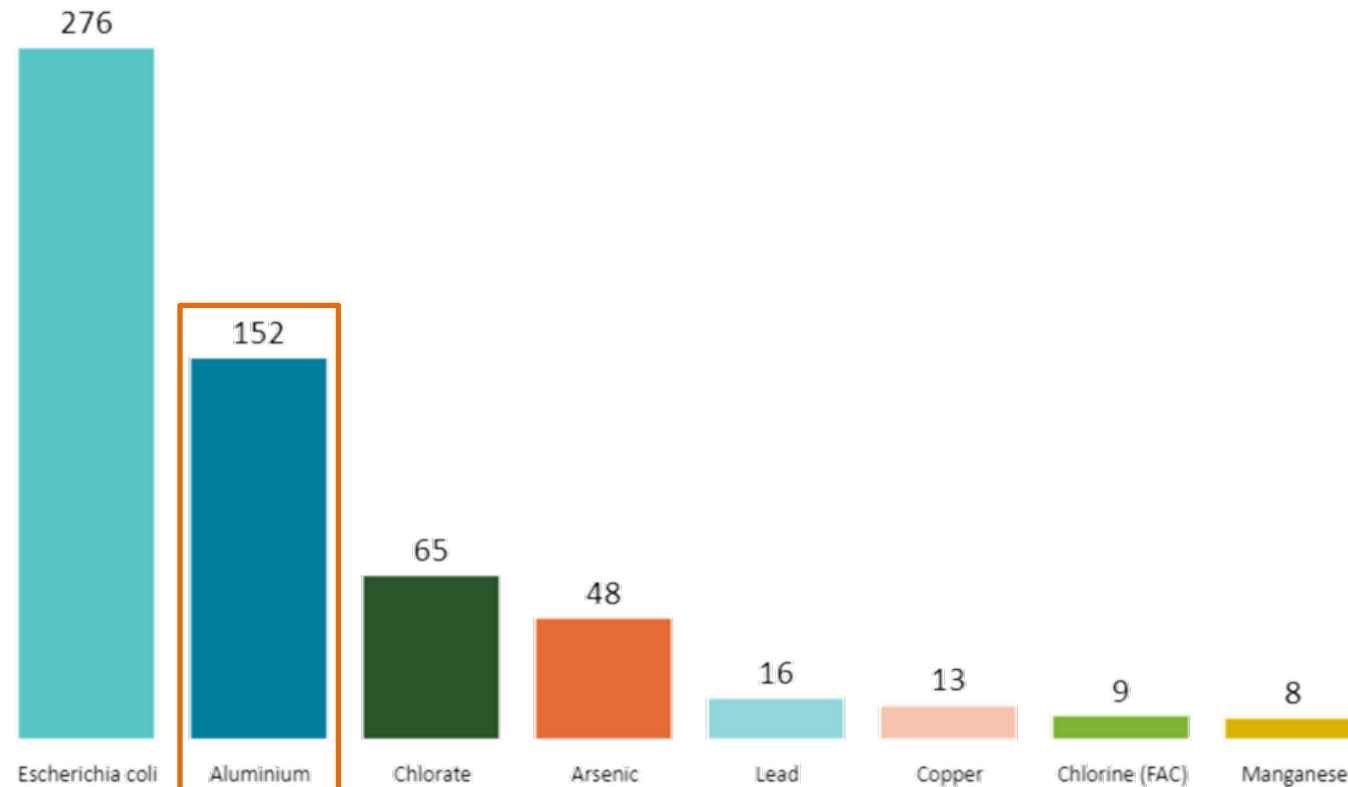
15 November 2022 – 30 September 2023



# What the rules uncovered

## Aluminium in drinking water supplies

- 152 notifications from 10 registered supplies



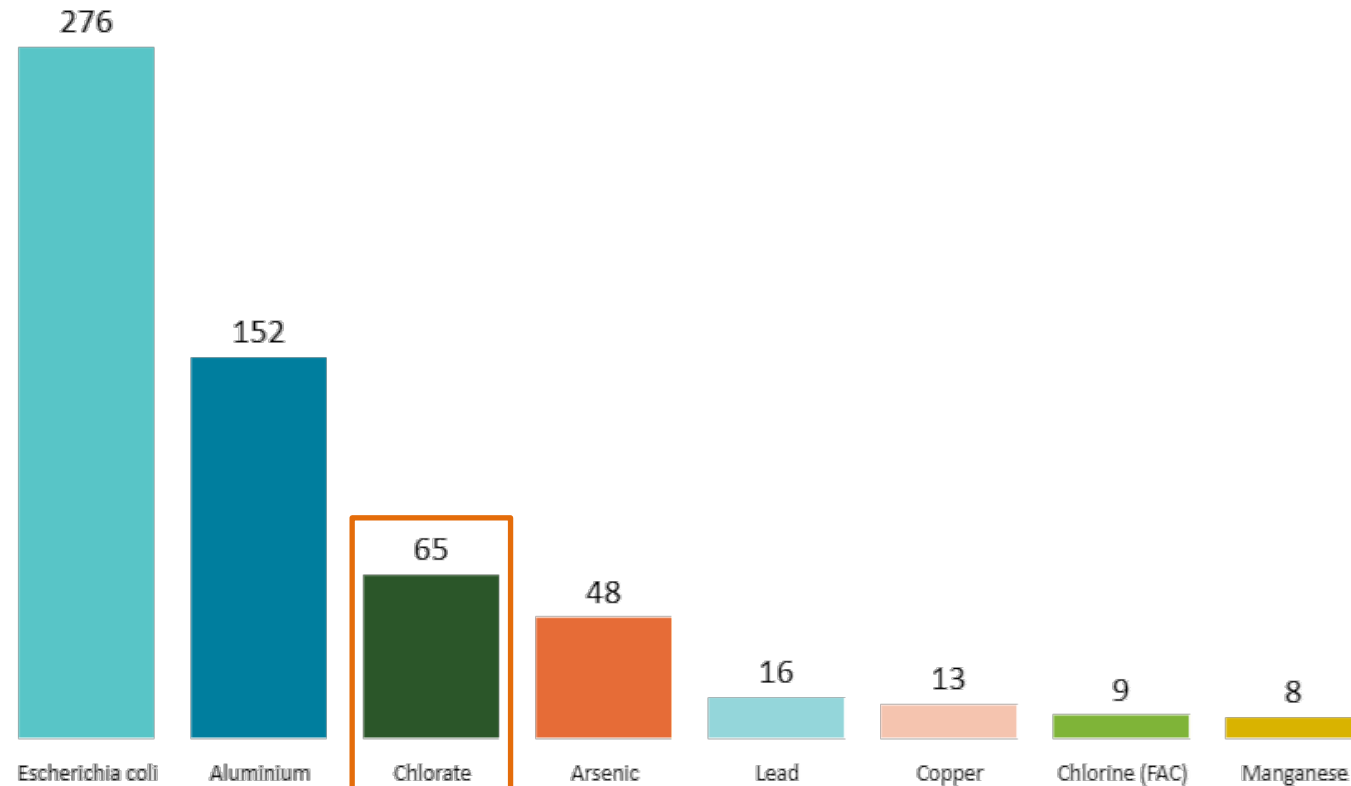
Notifications about top 8 contaminants  
15 November 2022 – 30 September 2023



# What the rules uncovered

## Chlorate in drinking water supplies

- 65 notifications from 16 registered supplies



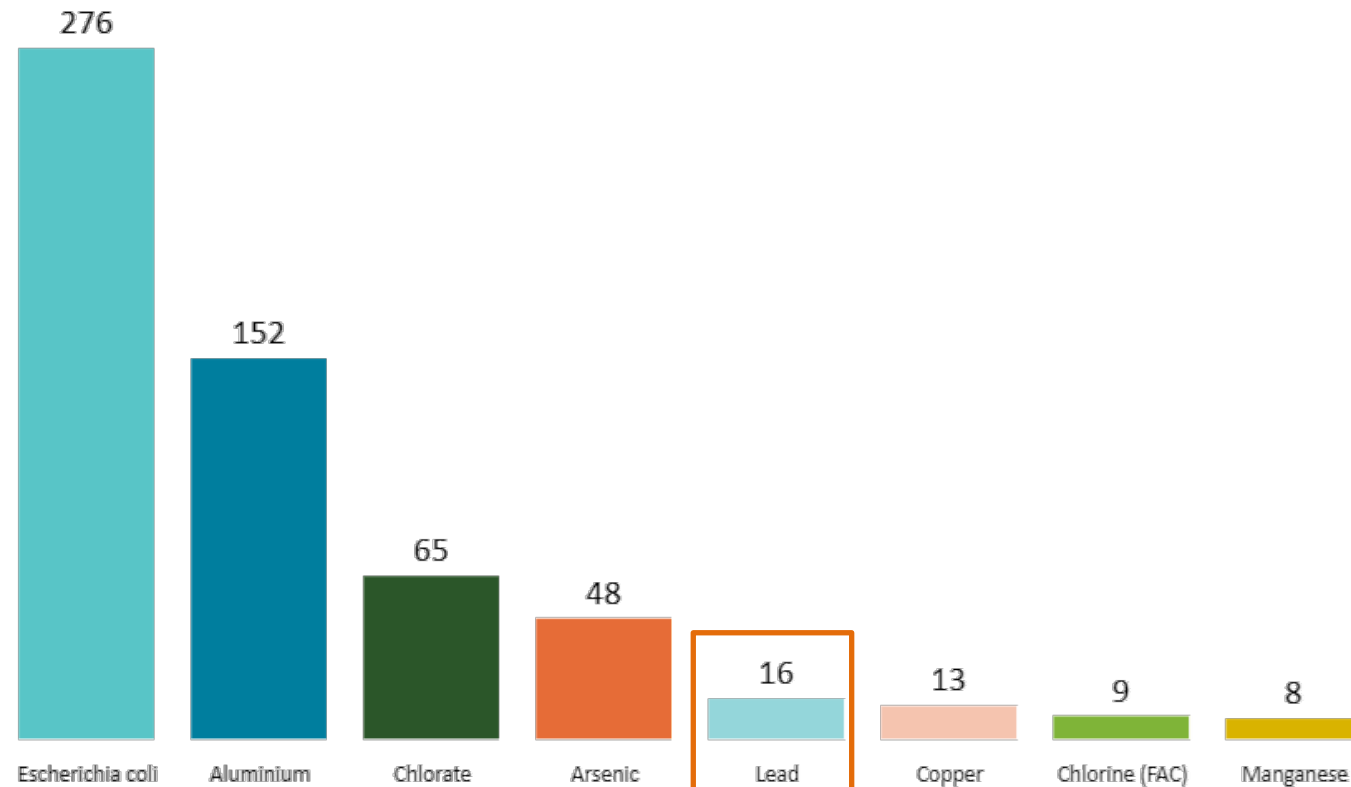
Notifications about top 8 contaminants  
15 November 2022 – 30 September 2023



# What the rules uncovered

## Lead in drinking water supplies

- 16 notifications from 8 registered supplies



Notifications about top 8 contaminants  
15 November 2022 – 30 September 2023

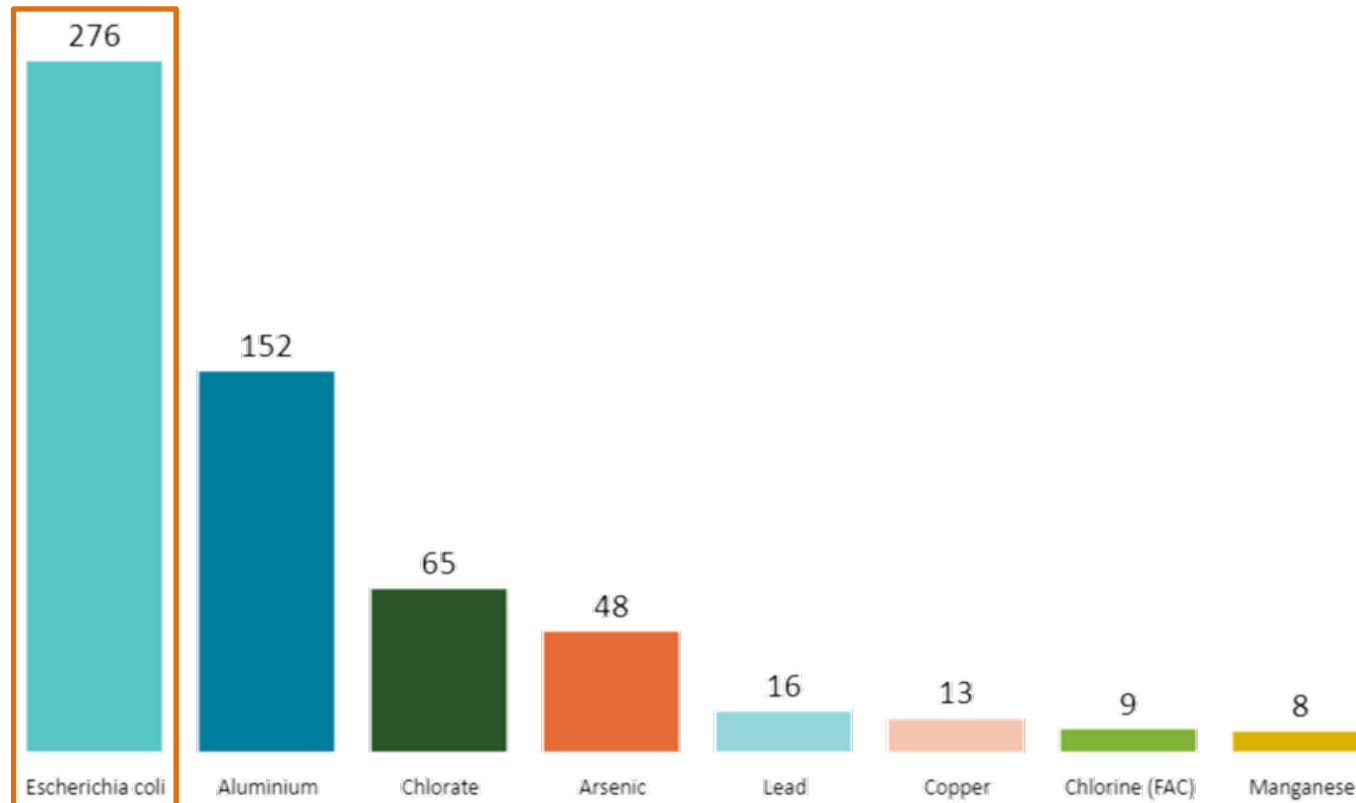




# What the rules uncovered

## Positive *E. coli* results in drinking water supplies

- 276 notifications from 138 registered supplies
- 93 out of 138 don't have location information

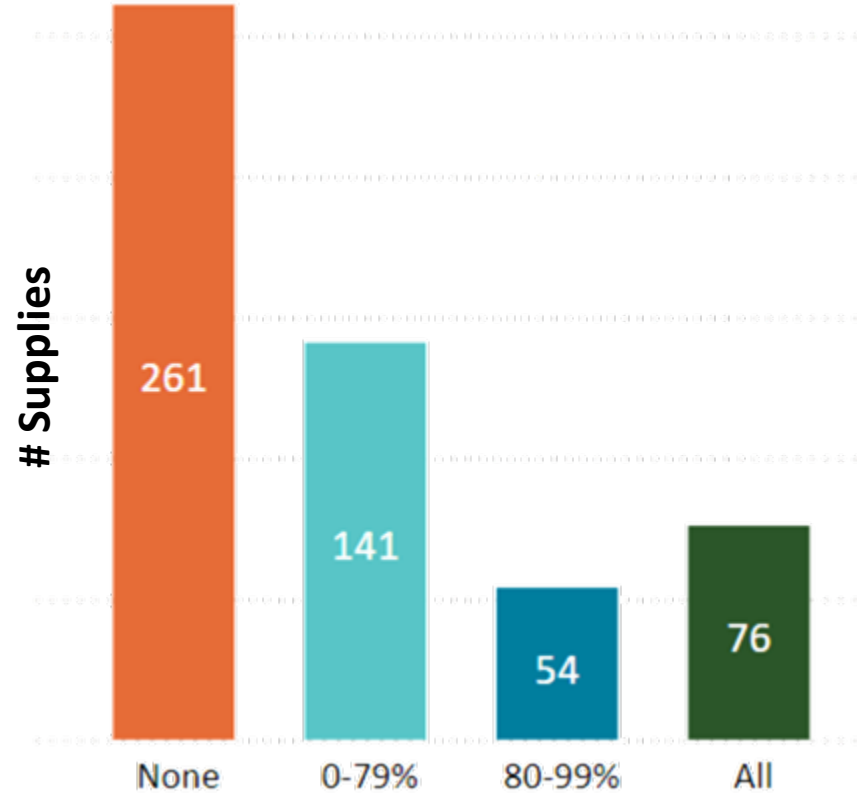


Notifications about top 8 contaminants  
15 November 2022 – 30 September 2023

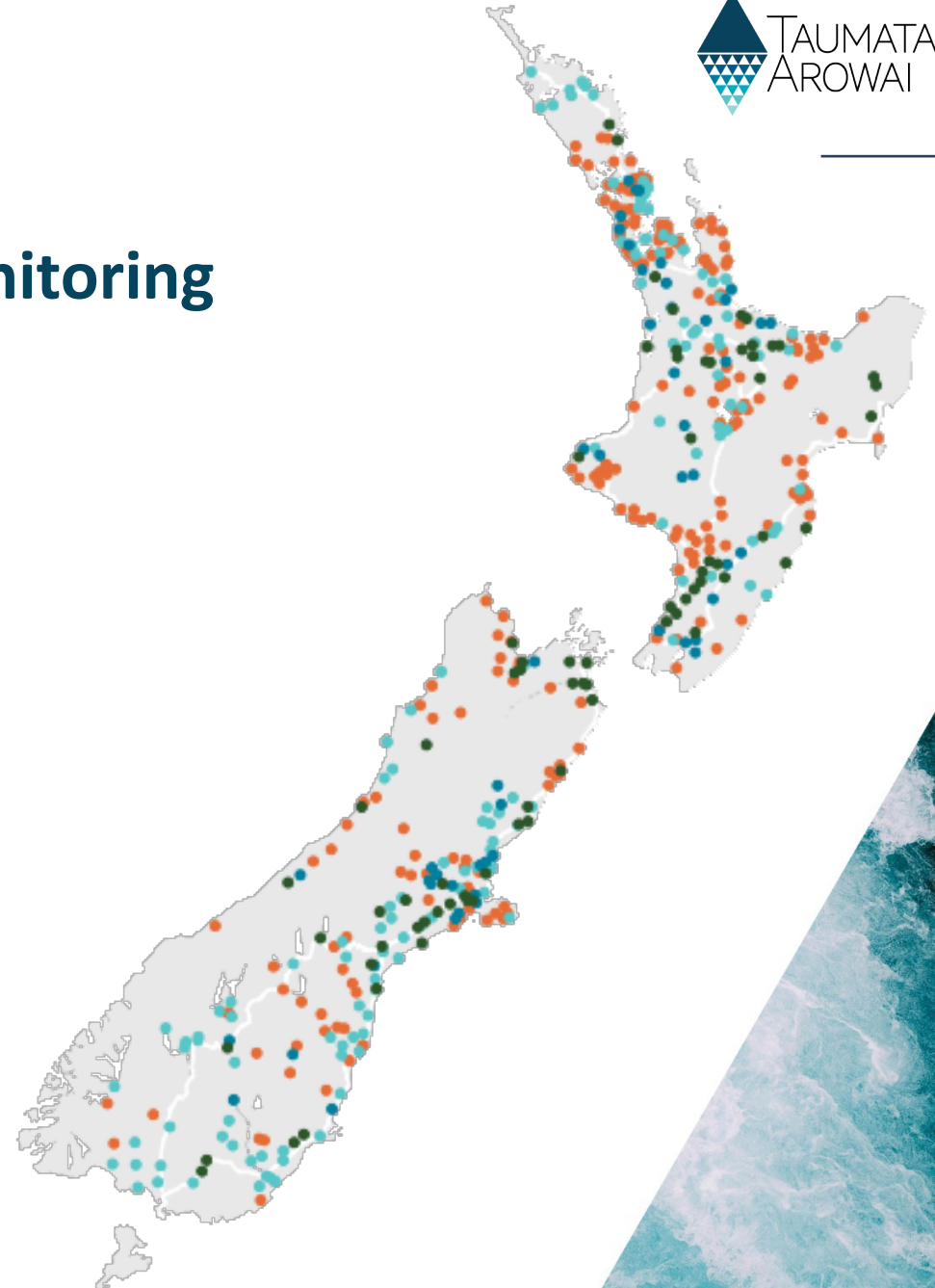


# What the rules uncovered

## Initial analysis of council zone bacterial monitoring



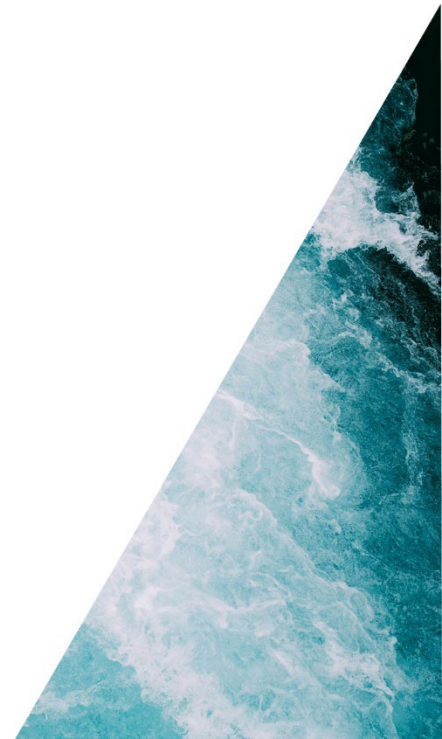
Completion rate for supplies reporting on bacterial monitoring rules for distribution zones (D1.1, D2.1 or D3.29)  
1 January 2023 – 30 September 2023



# Continuous improvement

**We'll be sharing the following updates...**

- Further clarifications to the rules
- Summary list of rules
- Improved data quality checks
- Getting ready for your annual rule reporting (including Drinking Water Quality Assurance Rules)



# Continuous improvement

## Some thoughts...

- Using your reporting in the Drinking Water Regulation Report
- Change bacteria section to log credit approach
- Introduce a virus section with a log credit approach
- Rewrite cyanobacteria section possibly with a monitoring approach
- Micro contaminants
- Distribution zone continuous monitoring
- Mātauranga Māori measures of water quality

▶ Starting official review in 2024



Visit our team at the  
Taumata Arowai expo  
stand on level 2



# Q&A interactive



Visit our team at the  
Taumata Arowai expo  
stand on level 2

The background of the image is a solid teal color with a pattern of stylized, overlapping tea leaves in a slightly darker shade of teal. The leaves are arranged in a way that creates a sense of depth and movement, with some leaves appearing to be in the foreground and others receding into the background.

# Morning tea