Board meeting | 9 May 2023
Public session

Venue	Watercare Services, Level 3 Boardroom, 73 Remuera Rd, Remuera and via Microsoft Teams
Time	9:45am

	Meeting administration	Spokesperson	Action sought	Supporting material
1	Opening Karakia	Graham Darlow	-	Verbal
2	Apologies	Chair	Record apologies	Verbal
3	Quorum	Chair	Five directors required	Verbal
4	Declaration of any conflicts of interest	Chair	For noting	Verbal
5	Minutes of the previous meeting of 4 April 2023 Board meeting	Chair	For approval	Minutes
6	Public deputations	Chair	For information	Verbal
	Items for information, discussion and approval			
7	Chief Executive's report	Dave Chambers	For discussion	Report
8	Health, safety and wellbeing update	Executive Team	For discussion	Report
9	Auckland Drought Management Plan	Mark Bourne and Andrew Lester	For approval	Report
	Governance			
10	Board planner	Chair	For information	Report
11	Directors' meeting attendances	Chair	For information	Report
12	Disclosure of Directors' and Executives' interests	Chair	For information	Report
13	General business	Chair	For discussion	Verbal update

Date of next meeting	Tuesday 13 June 2023

Karakia Timatanga (To start a meeting)

1. **Whakataka te hau ki te uru**

   Whakataka te hau ki te tonga

   Kia mākinakina ki uta

   Kia mātaratara ki tai

   E hī ake ana te atakura

   He tio, he huka, he hau hū

   Tīhei mauri ora!

Cease the winds from the west
Cease the winds from the south
Let the breeze blow over the land
Let the breeze blow over the ocean
Let the red-tipped dawn come with a sharpened air.
A touch of frost, a promise of a glorious day.

2. **Tukua te wairua kia rere ki ngā taumata**

   Hai ārahi i ā tātou mahi

   Me tā tātou whai i ngā tikanga a rātou mā

   Kia mau kia ita

   Kia kore ai e ngaro

   Kia pupuri

   Kia whakamaua

   Kia tina! TINA! Hui e! TĀIKI E!

Allow one's spirit to exercise its potential
To guide us in our work as well as in our pursuit of our ancestral traditions
Take hold and preserve it
Ensure it is never lost
Hold fast.
Secure it.
Draw together! Affirm

Minutes

Board meeting	Public session
Date	4 April 2023
Venue	Watercare Services, Level 3 Boardroom, 73 Remuera Rd, Remuera and via Microsoft Teams
Time	9:45am to 12:07pm

Attendance		
Board of Directors	**Watercare staff**	**Guests**
Margaret Devlin (Chair) (except for the first part of item 7) Nicki Crauford (Acting Chair for first part of item 7) Julian Smith Frances Valintine Brendon Green Graham Darlow **Via Microsoft Teams** Hinerangi Raumati-Tu'ua	Dave Chambers (CE) Jamie Sinclair (Chief Corporate Services Officer) Mark Bourne (Chief Operations Officer) Amanda Singleton (Chief Customer Office, for items 1 to 9) Steve Webster (Chief Infrastructure Officer, for items 1 to 8) Sarah Phillips (Chief People Officer, for items 1 to 9) Bronwyn Struthers (Head of Health, Safety and Wellbeing, for items 1 to 8) Priyan Perera (Head of Strategy and Planning, for items 1 to 8) Craig Matthewson (Project Engineering Manager, for item 8) Suzanne Lucas (GM Asset Upgrade and Renewals, for items 1 to 7) James Talbot (Operations Manager – Environmental Assets, for item 10) Kirsty Cels (Head of People Experience, for item 9) Emma McBride (Head of Legal and Governance) Pinaz Pithadia (Legal and Governance Advisor) **Via Microsoft Teams** Richie Waiwai (Tumuaki Rautaki ā-Iwi me ngā Hononga) Jenny Wigley (Customer Insights Specialist)	Councillor Ken Turner, Watercare's Lead Councillor Trudi Fava, CCO Programme Lead, Auckland Council **Via Microsoft Teams** Elizabeth Drayton (Watercare's Citizen's Assembly member, for items 6 to 14)

1.	**Opening karakia** Hinerangi Raumati-Tu'ua opened the meeting with a karakia. **Meeting administration** The Chair congratulated Sarah Phillips for being promoted to Chief People Officer. The Chair thanked Brendon Green for representing the Board at the launch of three new e- trucks for the Central Interceptor project. The Chair welcomed Councillor Turner to the meeting.
2.	**Apologies** There were no apologies.
3.	**Quorum** The Chair confirmed that a quorum was established.
4.	**Declaration of any conflicts of interest** No conflicts of interest were noted.
5.	**Minutes of the previous meeting** *The Board **resolved** that the minutes of the public session of the Board meeting held on 7 March 2023 be confirmed as true and correct.*
6.	**Public deputations** The Chair noted that there were no public deputations. Elizabeth Drayton, one of the members of Watercare's Citizen's Assembly was attending the meeting as an observer.
	The Chair departed the meeting at this point to attend to an urgent phone call and returned at 10:21am. Nicki Crauford was Acting Chair for this period of time.
7.	**Chief Executive's report** The CE introduced the report. The CE highlighted the following key topics from the report.

Current significant issues

- Water supply situation is stable, but water quality is still an issue as the dams are still very murky. It could take up to 12 months for water turbidity to settle at our western dams.
- Of the 172 breakages reported during the flood/cyclone, we have 155 active jobs to determine a long-term solution after the Auckland Anniversary storm and Cyclone Gabrielle.
- In relation to three waters reform, our operating environment has a level of uncertainty as the Central Government undertakes its re-set. In the meantime, the NTU has commenced consultation with our staff on their transition pathway to Entity A.
- In response to questioning, in respect of the recent second harbour announcement and any impact on Watercare assets, Steve Webster explained that Watercare is involved in these discussions as we have water infrastructure crossing the Harbour bridge. If a second crossing is built, then Watercare may want infrastructure on that crossing as well to provide for further growth/resilience in the north. In parallel, Watercare is considering a driven pipe under the Harbour.

Water quality

- Mark Bourne noted that non-compliance of residual disinfection of chlorine level at Helensville area has not changed the water quality being supplied to customers. The water leaving our water treatment plants remained compliant. Proactive network flushing has been implemented in the short term to improve turnover, whilst medium to long term solutions are identified. There was no risk to public health.
- Due to the impact of Cyclone Gabrielle on raw water quality, the Helensville zone breached Trihalomethanes (THMs) compliance. We had a single result that was above the maximum allowable value. The risk posed by THMs is measured over a lifetime of exposure, and this single occurrence has a very low health risk. The remedy for this issue will be to improve treatment efficacy going forward.
- In response to a query from the Board, Mark noted that Taumata Arowai's (TA) final rules were not published until late last year. January 2023 was the first month of reporting under the new regulations. All additional monitoring equipment required under the new regulations is in place.
- Mark explained that TA do not approve our Drinking Water Safety Plans (DWSPs) but instead it undertakes a review of a sample of our DWSPs. We are confident that we comply with the requirement of the safety plans.
- Our Asset Management Plan reflects how ready are we for the future changes in standards (e.g. we are upgrading our Huia WTP in anticipation of future drinking water standards).

Key performance measures

- The average number of wet weather overflows will stay above the target for the rest of the year and may go higher due to the impact of Auckland Anniversary storm and Cyclone Gabrielle.

Update on the recommendations of the Citizens' Assembly

- Amanda Singleton welcomed Elizabeth Drayton, a member of the Citizens' Assembly, to the meeting.
- Amanda provided the Board with a progress update on Management's implementation of the accepted recommendations of the Assembly.
- One recommendation included educating the public on the value of purified drinking water. This work has begun with work underway on two pilot water treatment plants. Information on future water sources, including purified drinking water has also been added to our website.
- One of our pilot plants at Māngere will be commissioned in few months. More initiatives will be unveiled over the next few years, including the use of the recycled water for irrigation and other community uses (e.g. parks, ice-rinks). The aim is to slowly build the community's confidence in the use of purified recycled water, first for non-drinking purposes.
- Mark noted that TA do not yet recognise wastewater as drinking water. The potable water supply produced through this pilot plant will therefore be used for the industrial projects such as the Central Interceptor.

The Chair rejoined to the meeting at this point.

Financially vulnerable customers

- Amanda confirmed that the business has significantly increased its support around financially vulnerable customers, especially since Covid-19. Following the meeting, Amanda will discuss with Julian Smith about what are we doing to support financially vulnerable customers, including wider promotion of the Water Utility Consumer Assistance Trust (WUCAT).

Risk and compliance update

- In response to questioning from the Board, Emma McBride explained the Court case involving a $1.2m claim is progressing slowly through the Courts. It is being managed by the lawyers appointed by our insurance company.

Flood response recovery plan

- Suzanne Lucas provided an update on flood recovery, which is being managed in Watercare by a cross functional team, including those involved in the complicated insurance claim processes. At this stage we are still in the "fixing" and "planning" stage.
- In response to a query from Board, we do not have an ETA for when all the damage will all be repaired. However, we anticipate that it will take almost two years to get back to the position we were in pre-storm/cyclone.
- Watercare is a part of Council's flood recovery group. Auckland Council holds three weekly stand-up meetings, which includes officers from Watercare, Healthy Waters and Auckland Transport. We are working together on the flood response to ensure coordination and a "dig once" approach where possible.

	• Suzanne noted that the work being done is a combination of like for like replacement as well as resilience for the future. Immediate repairs are relatively low-cost. More permanent solutions can be expensive and go through the normal capital approval process. Given the overall cost of the repairs/rebuild will be between $250m-$460m, the AMP will need to be reprioritised, especially if we need to adapt rather than simply rebuild. This is because the repair/"build back better" needs to be included in the current funding envelope. • On 16 March 2023, Auckland Council advised that 60 houses that had been red stickered at Muriwai were going to change to yellow/white stickers. By 27 March 2023, all those houses had drinking water via their taps. Watercare ensured customers were aware that it would take some time to get the water back on as we required time to check and disinfect the pipes leading to these houses. • Watercare's water treatment plant at Muriwai remains red-stickered. We are working with Council to see if we can access site to assess whether the groundwater source is still viable, and whether the plant can be revived. The CE stressed that our people will not go back on to the site unless it is safe to do so. *The Board **noted** the report.*
8.	**Health, safety and wellbeing update** Bronwyn Struthers introduced the report, which was taken as read. The Board and Bronwyn discussed the following matters: ***HSW Governance*** • The Business Leaders' Health and Safety Forum (BLHSF) has completed a study into HSW Governance in New Zealand and have launched a guidance document for officers supported by a detailed report. A copy has been placed into the Diligent's Resource Centre. • The report has been endorsed by both WorkSafe and the New Zealand Institute of Directors as good practice. An information session on this kaupapa is recommended as continuing professional development for officers. • The report describes five principles around HSW Governance. Shaping KPIs around those five principles would be very useful to achieve better HSW outcomes for Watercare. • A workshop with the CEO forum (i.e. the CEOs of our major construction and maintenance suppliers) is being held shortly and following that a session with the Board will be organised. • The Board recognised that this represents a good start and queried whether we should consider looking to any investment required to address the critical risk exposures when we refresh our Asset Management Plan (AMP). ***Service strikes*** • Following an update to the Board on service strikes earlier this year, we have set up a working group which consists of members of our maintenance delivery team, MSN group, Downer, CityCare and March Cato. We are now working collectively with Chorus, where we have our largest number of service strikes, to understand the issues and how we all can improve.

	Progress update on Back to Basics Programme Steve Webster and Craig Matthewson provided an update on this programme, and noted the following key topics: • The programme is successful in creating engagement of site teams around a key critical risk area each month. • The programme has also formed a "Teach the managers group". • A WhatsApp group was created to connect staff across the partnership as they are all working on different software and email platforms. This was found to be effective. Going forward, we may create a different platform (e.g. mobile app). • The Board commended the team on keeping the programme updated and fresh to avoid complacency. *The Board **noted** the report.*
9.	**Strategic deep dive: our people** Jamie Sinclair, Sarah Phillips and Kirsty Cels introduced the presentation and noted the following key topics: • This Pillar's focus is to ensure our people are informed, engaged, and supported to help them through transition and to be successful into the future. • The people team is extremely focussed on reform and supporting our people through a period of uncertainty. We are working closely with the NTU to deliver their first phase of training to our people. • Retention is a key part of our people strategic priorities. • The recent engagement survey result is heading in the right direction. • We are preparing companywide remuneration framework education module. • Our people have welcomed the more simplified company plan/pillars. • Voluntary turnover has remained steady (around 19%) for the last five months. Nationally, the voluntary turnover is around 20.5%. • The Board provided their feedback on the pātai included within the presentation. In terms of diversity and inclusion, the Board requested an update on what we are doing to recruit and retain Māori and Pasifica. • The Board also encouraged the team to focus on our Employee Value Proposition (EVP) and the unique features of working for Watercare. Interviews with staff as to why they choose to stay at Watercare are one way to obtain this information. The Board thanked the team for the presentation.
10.	**Waitākere tramlines (the rainforest express)** Mark Bourne introduced James Talbot to the meeting. James took the report as read and noted the following key topics:

	• In 2014, following concerns around rock falls and instability around the Tramlines, a geological report was commissioned which identified 20 risk sites across both Tramlines, nine of which posed a significant risk to public safety. • The report put the cost of reducing the risk to an acceptable level for paying public use at these nine sites to more than $11m, and noted that even then, the residual risk could be "significant". • Current operation and maintenance activities are focused solely on the pipeline infrastructure and can continue to be done at nil cost and minimal operational expenses. • Any future repairs or maintenance that require greater access requirements, e.g. transportation of plant or materials, will use alternative options to access the raw water mains, including helicopter, mini 4x4 and tracked carrier. Following the 2023 Auckland Anniversary Storm, the repairs were undertaken with the aid of a helicopter due to the condition of the tracks. Cr Turner thanked the Board for putting this matter on the Board agenda. He noted that health and safety had brought this operation to a halt. However, the attraction is in a heritage area and could provide Watercare and Council, i.e. Tātaki Auckland Unlimited, with a unique opportunity to engage with the community. In response, the Board noted that they were supportive of Management's position as outlined in the report. That is, whilst the Tramline remains Watercare owned it remains closed to the public; should there be a desire from a third party to return the Tramline to public use then the Tramline assets should be firstly acquired by Auckland Council ideally at book value; and any subsequent operation of the "Rainforest Express" would need to be facilitated by a change to the Headworks Lease Agreement to ensure Watercare's core operations were not compromised and that Auckland Council or the third party took full responsibility for related health and safety. *The Board **resolved** that should there be an interest from a third party to return the Tramline to public use, the Watercare team is to:* • *explore whether an arrangement can be achieved with Auckland Council to acquire the Tramline assets; and* • *identify the changes required to the Headworks Lease Agreement to enable the safe operation of the Tramline by a third party without compromising Watercare's ability to operate and maintain the water supply assets; and* • *explore whether access to the rolling stock for the purposes of maintenance can be achieved.* Management will keep the Board informed of developments.
11.	**Board planner** • A monthly update on our flood response recovery is to be provided to the Board until June 2023. Following that it will be a quarterly update. • Trudi Fava will keep Watercare informed about this year's CCO Direction and Oversight Committee visit to Watercare. • Lutra Limited's SOI for 2023-2026 will be presented to the Board at May 2023 Board meeting for the Board's formal feedback. *The Board **noted** the Board planner.*

12.	**Directors' meeting attendances** *The Board **noted** the report.*
13.	**Disclosure of Directors' and Executives' interests** Brendon Green noted that he is no longer a member of Infrastructure Committee of Waikato District Council. *The Board **noted** the report.*
14.	**General business** The meeting closed at 12:07pm.

CERTIFIED AS A TRUE AND CORRECT RECORD

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Margaret Devlin, Chair

Chief Executive's report – May 2023

Presented by: Dave Chambers

Watercare









1. Current significant issues

Reform resets have been topical during April. However, for the purposes of this report I will focus on March 2023.

March was very busy. Of particular note were the following the meetings:

- Select Committee meeting in Wellington for Three Waters.
- The CCO oversight committee meeting. I am pleased to report that this meeting went well, and Councillor Shane Henderson noted that he was appreciative of our work/response during the recent floods and cyclone.
- Auckland Infrastructure CE's meeting – this is a great forum to discuss shared issues and desires. This quarter we focussed on resilience, following the January/February extreme weather. Waka Kotahi are now facing overwhelming issues, and all infrastructure providers have to make big decisions around increasing resilience, delivering significant capital programs with resource constraints, and also community response to managed retreat.
- Hosting a South Korean delegation visit - Watercare has hosted multiple delegations from overseas in the past, however due to Covid-19, the South Korean Delegations were the first visitors we have had in three years. This presentation / delegation visit was for educational purposes and to share innovative ideas. The topics and the activities covered were broad and included Water Efficiency, Recycled water, digital innovation, recent Cyclone damage on our network, Net Zero Carbon Emission, a Huia water treatment plant site tour, and a visit to the Lower Nihotupu Dam.

  The KWWA (Korean Water Works Authorisation) is a non-profit organisation that has members from the South Korean water local authorities. It is similar to our WaterNZ. 20 leaders from across many divisions and many authorities attended, as well as public officials, an English interpreter and guide. The visit went well and was beneficial to all parties.

- Rivercare Group – we met with representatives of the Rivercare Group, Te Wai O Pareira Trust to discuss the overflow issues at Taipari Strand in Te Atatu. Also at the hui were representatives of the local marae, community groups who use the river, the local school, the local board and the MP for Te Atatū.

  We were supported by senior staff from Healthy Waters. The representatives discussed the significance of the river to their activities. These were all deeply personal, ranging from cultural significance and the whakapapa of the river and its connection to mana whenua to the more practical safety and training significance around teaching people to kayak and water ski. Key safety procedures cannot be taught in the river due to the risks of illness caused by being submerged. We were given a well-rounded view of the causes and effects of the overflow and there was significant discussion around the ability of Council to stop or slow growth.

  Funding, prioritisation, and equity were also discussed. There were various solutions suggested, which we took on board, and which actually aligned with current and proposed work programmes. Screening overflow locations, more detailed monitoring, and diversion works were examples that we have already started implementing or investigating consistent with our Asset Management Plan. Finally, we also discussed the metropolitan servicing

strategy and how the water and wastewater services are being considered together and what that means for the four wastewater treatment plants serving our metropolitan customers. We encouraged the groups to participate in the strategy development which will be commencing later in 2023. Healthy Waters also discussed the river, its catchment, and the effects of the catchment type on water quality. This included discussions on land use planning and the effects on river catchments, as well as erosion, siltation and nutrients.

The group was buoyed by our solutions aligning with theirs but were also dismayed by the timing of some of the more substantive solutions. We took away some actions from the hui, around confirmation of information. These have been completed. It was a generally positive hui and we agreed to keep up the dialogue and transparency of approach shown so far.

There was also a lot of media activity in March 2023.

- I received many interview requests in response to our price increase announcements, and these interviews ran smoothly.
- At the end of March our Community Trust score increased, which is an interesting reflection given the price rises. It goes to show that if we front-foot the media with clear and concise messaging, we can achieve positive feedback – a reflection of our strong and dedicated communications team.

Last month the Board also asked us to provide an update on what additional things we are planning to implement to care and support for our vulnerable customers given the cost-of-living crisis. Here are a some of the things we are doing:

- Our Retail Operations team are actively working towards preventing customers from becoming overwhelmed with debt and being unable to pay their water bills. As a result, our debt has increased much less than we would expect when operating post-Covid-19 with the rising cost of living. In the last 12 months to March 2023, the total water services debt as a percentage of revenue only increased by 0.06% (from 5.98% to 6.04%).
- To help customers manage their bills, we proactively alert them to high bills or possible leaks, with an average of 2,158 alerts sent per month. If a leak is fixed, customers may apply for a leak allowance. Around 1,300 customers benefit from this arrangement every month.
- We also offer payment arrangements for customers who need more time to pay their bills, with an average of 106 such arrangements being made each month.
- We encourage customers via messages on every bill and payment reminder letter to seek support directly from Watercare or the Water Utility Consumer Assistance Trust (WUCAT), should they experience financial challenges.
- Our reminder system is designed to give customers ample notice before any action is taken, and we make every effort to avoid sending bills to debt collection agencies. Out of our ~473,000 monthly bills, only 43,000 (9%) customers receive the first payment reminder, and just 593 (0.1%) are ultimately referred to the debt collection agency. More than 86% of the accounts referred to debt collection are successfully collected.

Finally, and most importantly, our People.

- We have continued our focus on health and safety, and I have visited the Huia 1 Watermain, the Mairangi Bay Pump Station, MSN, and Rosedale to name a few. We have launched new H&S principles and continue to ensure that H&S is our number one priority.
- Sarah Phillips was also appointed Chief People Officer, which is a representation of her hard mahi and dedication to Watercare over the past 5 years. Sarah has been instrumental in transforming the P&C function and today, her highly capable team has deep roots into the business thanks to the partnership model.
- Lastly, I have worked on updating the Sensitive Expenditure Policy and this will be discussed at item 5 on the confidential agenda for today's meeting. Having heard our people's feedback, I request an update to the Policy to provide a more workable solution for people incurring business expenses.

2. Key performance measures

Attachment 1 sets out Watercare's performance against the current Statement of Intent measures for March 2023. At the monthly performance hui, the following points were noted:

- The Total Recordable Injury Frequency Rate (TRIFR) is significantly above target and has declined in recent months. Lead indicator KPIs such as leadership walks also do not appear to be working. We have therefore established an entity wide Health and Safety monthly meeting to discuss improving our health, safety and wellbeing outcomes and we have launched new principles too.
- Attendance at, and number of, sewerage overflows both exceeded targets because of significant rain and storm events. We expect the number of overflows to continue to be above target as this is an annual rolling average and weather continues to be wetter than normal.
- Some workforce targets such as gender and contractor ratios, as well as Employee Net Promotor score are not being achieved to target. However, these are a challenge to address in the current reform environment.
- We are driving Māori spend to ensure we can achieve this KPI, however many of these programs of work as slow burn.
- Our unaudited GHG results at the end of Q3 suggest that we are likely to miss the FY23 target by ~10500 tCO2e (~12%). This is a result of increased fuel consumption by our field service operators responding to storm related faults, increased wastewater volumes being treated due to the extreme weather events, and a change in energy production at Māngere WWTP to reduce electricity purchase. We are reviewing our co-generation operating philosophy and the high inflows into the wastewater treatment plants to better understand the trade-offs between operating procedures, energy production, natural gas use, budget efficiency and meeting our targets for GHG emissions.

3. Our people and our customers

3.1 Our people

In mid-April we held the Watercare Family Day at Ambury Farm. This was a staff lead initiative organised by a powerhouse of volunteers. Kaimahi and their whanau enjoyed a day of fun activities and a BBQ with over 700 people attending. This was a great chance to get together, enjoy time with whanau and thank our people for the hard work following the challenging weather events of earlier in the year.

Our Diversity, Inclusion and Belonging Committee ran their bi-annual elections to gather more members. There was a high level of interest and nine new committee members from across Operations, Te Rua Whetu, and MSN were selected with all staff having the opportunity to vote. The Committee will now complete a process to elect a committee chair in accordance with the committee charter.

In April, we bid farewell to our South Island laboratory whanau. The laboratory team have been part of Watercare for more than 10 years and have been bought by global laboratory service provider Eurofins in line with our Board's direction to focus on our core business. All staff will transfer to Eurofins and we took the opportunity to thank them for the hard work.

We also bid a fond farewell to Biosolids operator, Cliff who retired after spending 24 years working on Puketutu Island, first with working in the quarry for Winstone Aggregates, then for Twomey Construction Limited, building the cells that hold the biosolids, and finally for Watercare, collecting the biosolids from the Māngere Wastewater Treatment Plant and delivering them to the island. Cliff remembered his time with Watercare fondly and was looking forward to having more time to go fishing and admirably wanting to take more people fishing who wouldn't usually be able to afford to do it .

Attachment 2 is a workforce snapshot for March 2023. Our turnover has dropped slightly to the lowest level this calendar year. Rolling sick leave and monthly sick has increased slightly compared to January 2023 and the same period last year.

3.2 An update on what we are doing to recruit and retain Māori and Pacific Peoples

The Board asked for an update on what we are doing to recruit and retain Māori and Pacific Peoples. In response we can provide the following update;

Analysis

- We have analysed our recruitment data to identify opportunities we can target at different stages of the recruitment process. This has shown us that proportionally, Māori and Pacific Islander candidates are more likely to get through the different stages of recruitment than other ethnic groups. However, we get a very small number of applications from Māori and Pacific Peoples, especially in senior roles. Over the last year Māori applications have only made up 7.95%, whereas Māori make up 18.66% of hires (based on primary ethnicity).
- The key technical skill required for most of our leadership roles is engineering. UoA and University of Canterbury note that Māori and Pacific Peoples are significantly underrepresented at less than 10%. This figure increases for diploma and non-Washington accord study.

Remove barriers

We are focussing on challenging the requirements of roles and putting a different lens on the skills and knowledge that Māori and Pacific Peoples bring to our roles and organisation. By reducing requirements in our Job ads/Position Descriptions, we are more likely to increase the number or Māori and Pacific Peoples who apply and will also be able to progress their applications through the process more. This includes:

- Challenging educational, technical, and experience requirements in position descriptions/ads that are not actual requirements of the role.
- Recognise specifically Māori and Pacific Peoples skills, knowledge, and education in position descriptions, ads, and when screening candidates.
- Where Māori and Pacific Peoples meet most requirements for a role, offer an interview.
- Look at technical training options like Project Management courses to support Māori and Pacific Peoples who meet all requirements other than technical or qualifications into roles.

Partnering with Māori and Pacific People

One of the difficulties we face is with waiting for leadership roles to come up at the right time that also suits the right candidate who are Māori and Pacific Peoples. We are therefore taking a more proactive approach where we build relationships with key Māori and Pacific Peoples talent in the market and develop pathways into Watercare.

- Partner with Iwi and Pacific Peoples groups for candidate referrals
  - When we have a leadership role become available, we are aiming to reach out to all our key partners and relationships for referrals before we advertise a role.
  - Rather than waiting for the right candidate to come through, when a candidate becomes available look at opportunities within Watercare to accommodate them.
- Continued sponsorship of groups like South Pacific Professional Engineering Excellence (SPPEEx) and South Pacific Indigenous Engineering Students (SPIES) Network SPIES.
  - Investing not just from a financial perspective but offering opportunities for learning for SPPEEX and SPIES members through events and resources in an effort to build relationships and highlight opportunities at Watercare.
- To ensure we are highlighting leadership opportunities to the Māori and Pacific Peoples we need to engage in an external talent mapping exercise via our relationships with Iwi and organisations like SPPEEx and SPIES to understand the talent market for Māori talent and ensure we are highlighting the right opportunities to these potential candidates. It is likely that this effort will take some time through sustained efforts like running events, and focused efforts from Leaders within Watercare to build these networks and relationships.

Prioritising Māori and Pacific People

While many Māori and Pacific Islander candidates are currently prioritised through the recruitment process already (7.95% applicants vs 18.66% hires) we could take some action to ensure this prioritisation in future.

Actions we are considering implementing:

- Where a Māori or Pacific Islander candidate meets 80% of job requirements (excluding ones required for HS&W), we ensure they get an interview.
- We implement a whānau interview process for candidates who wish to interview in this way.

- We ensure representation wherever possible on interview panels, especially where Māori or Pacific Islander candidates are being interviewed.

Early careers

At present we are doing well in this space but there are some key actions we can take to support these rangatahi into leadership roles in the future.

Some actions we are taking already include:

- Sponsoring of SPIES and running events with them
- Continued attendance to Māori based careers fairs for high school students like the Puatala Science Spinners Fair and the Nou te Ao Employment Expo.
- Continued support of initiatives like Engineering NZ's Wonder project which encourages STEM careers at primary school age, specifically for schools that have larger Māori and Pacific Peoples demographics.
- Structural changes to our Scholarship programme to create opportunities for Māori & Pacific Peoples scholarship winners to join Watercare.
- Gateway/Work Experience opportunities specifically for Māori and Pacific Peoples.

Internal movement

We have identified we need to implement more ways to support Māori and Pacific Peoples through our organisation. Areas we are currently considering are:

- Talent pathways from early career and entry level positions into leadership positions. What key skills, qualifications, and capabilities are we not providing to people in these roles to be able to progress.
- Training for all staff to understand Te Ao Māori and its value to our organisation to support an environment that supports Māori staff and values Māori skills and knowledge to support young people into their careers.
- More gateway and work experience opportunities for Māori, partnered with training and development opportunities to help them progress through the organisation.
- Mapping of current Māori and Pacific Peoples talent within the organisation to be included in P&C Talent Forum discussions to help create opportunities for key talent.

4. Operations

4.1 Water resources

The leak management programme is ongoing. Since the start of the programme approximately 16,445 kms have been surveyed to date with 9,796 leaks found.

4.2 Water quality

Formal compliance reporting to Taumata Arowai has commenced with reporting systems operational.

While most water quality objectives were achieved in March 2023, the following non-compliances have been reported:

Residual disinfection – 85% of free available chlorine samples in a month must be >0.20mgL in each distribution network zone, with no results <0.1mgL. The Maungawhau, Swanson, Te Henga and Huia Village zones had results <0.1mgL, however there was chlorine residual detected in all results. Huia Village achieved 80% of samples in a month >0.20mgL. Taumata Arowai will be confirming whether a single FAC <0.1mgL will be reported as a non-compliance for a month. Watercare has offered to meet with Taumta Arowai to discuss our position on this matter – a single result should not make a zone non-compliant for a month. For now reporting is based on the 85% samples compliant in a month requirement. Under previous regulations, residual disinfection was not a compliance reporting requirement – this is not a reflection of a change in water quality, but a change in compliance requirements.

4.3 Legacy PFAS fire fighting foams

The Environmental Protection Authority informed Watercare of the requirements of the Fire Fighting Chemicals Group Standard 2023 (HSR0022573), specifically in relation to the use of legacy PFAS firefighting foams. Since 31 December 2022, legacy firefighting foams are no longer able to be used in uncontained firefighting systems. Watercare only had one site remaining where the foam-based extinguishers were in use when an audit was completed in January 2023. These have since been replaced and all Watercare sites are complaint with the new requirements.

4.4 Flood response recovery plan

Attachment 3 outlines the most recent update from the Flood Recovery Working Group (FRWG).

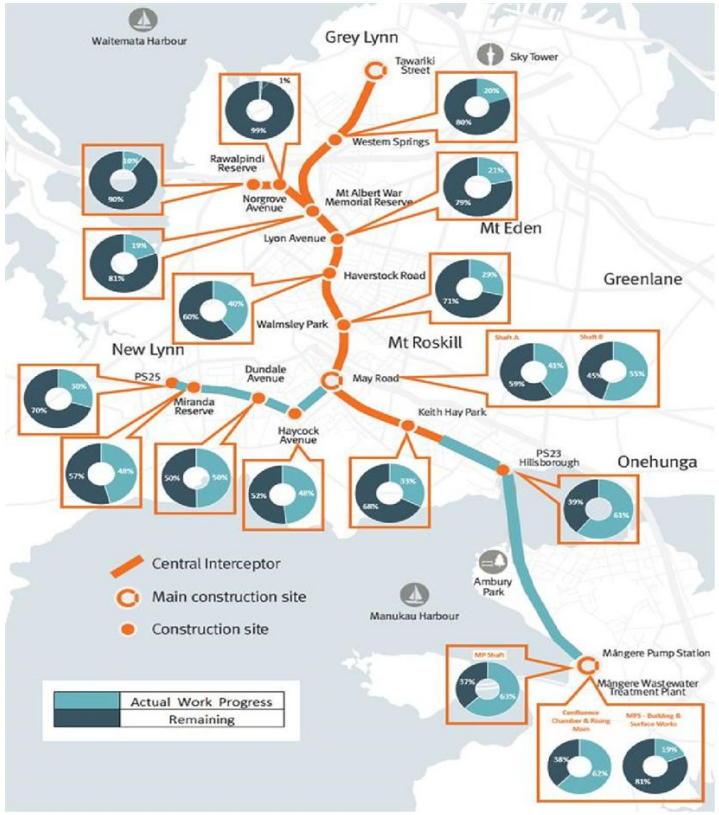
5. Central Interceptor

Work on the Central Interceptor continues across all but one site (Tawiriki Street), with progress shown on the adjoining graphic. Several milestones were achieved in March 2023.

The Main Tunnel was advanced 398m in the month, with a total length of 5,152m installed at month end. This is 68% of the Southern Tunnel completed.

The emergency tunnel egress via PS23 shaft has been established and is operational. This is quite a novel solution developed by the GAJV, as it required changes to segment design to allow the escape hatch to be installed without compromising the tunnel quality.

All the internal walls of the Māngere Pump Station (MPS) are now completed, with the construction of the roof beam in progress. Dewatering underneath the shaft slabs has ceased, with no adverse impacts recorded throughout the period it was in operation.



Significant progress on the Confluence Chamber has been achieved, whilst having no impact on the Eastern and Southwestern Interceptors. Demolition of redundant bypass structure around western interceptor is 90% completed.

The final drive on Link Sewer C (Miranda Reserve to PS25) was completed ahead of programme. This was covered in detail on TVNZ's Seven Sharp.

Remedial works to the Mt Albert shaft following the flooding during the storm event in late January 2023 has been completed.

The Resource Consent application for the extension of the main tunnel to Pt Erin was publicly notified on 17 March 2023.

The launch of the Electric Trucks was held, to a small but interested gathering, and was covered on Te Karere and One News.

Members of the Central Interceptor Team represented Watercare at a Marae Work Expo, organised by Manukau Jobs & Skills Hub from Te Manatū Whakahiato Ora (Ministry of Social Development). The targeted audience is a mixture of the local and surrounding communities including high school students, school leavers, as well as people both on and off the benefit. GAJV will have a stand to recruit for CI at the next Expo.

The Executive Programme Director successfully came through a rather unexpected double heart bypass operation!

6. Risk and compliance update

6.1 Enterprise risk management

A number of the Enterprise Risks remain elevated due to the impacts of the Auckland Anniversary Floods and Cyclone Gabrielle. Work on these risks and their associated mitigation actions is continuing. However, in many cases this involves infrastructure related repairs and renewals and will take considerable time to complete, so these risks will continue to be closely monitored as they will remain elevated for some-time.

The Bush Report on Auckland Council's flood response has been reviewed and discussions on ways to work more closely with Council have commenced. In addition, an internal review covering the response to the Floods/Cyclone has been completed including improvement actions from Watercare's Lessons Learned workshops. These include the actions to meet the recommendations in the Bush Report. The intention is to implement with urgency over the next three to sixz months. The report will be tabled at the May Audit and Risk committee meeting.

6.2 LGOIMA requests

In March 2023, we received 13 requests for information under the Local Government Official Information and Meetings Act 1987 (the Act). Three of these requests were forwarded to us from Auckland Council. We transferred three requests (that we received directly) to Auckland Council. We processed all 13 requests in accordance with the Act.

6.3 Legal action

- RMA related:
    - Huia Water Treatment Replacement Plant: the first two-day mediation session between all the parties to the Environment Court appeal was held in September 2022. This resulted in a number of actions that Watercare agreed to complete between then and the next mediation session. The February mediation session has been changed to 25 May 2023 and 26 May 2023 with an additional session set down for 29 June 2023 and 30 June 2023. The experts in Kauri Dieback and ecological compensation have undertaken caucusing as directed by the Environment Court. These discussions are ongoing. Watercare continues to meet with the neighbours in an attempt to resolve their issues regarding the impact on construction on their properties. The three key activities we are undertaking are:
        a) continuing the resource consent process including the Environment Court process, and the timeframe is unfortunately out of our control;
        b) continuing our other planning activities, including confirmation of our design basis for the facility; and
        c) planning for the infrastructure required to support the plant (i.e. raw water infrastructure and the drinking water network infrastructure).

- Non-RMA related:
    - There is currently one claim for $1.2m for alleged damage to a residential property from a burst watermain. The matter is being handled by our insurers. Further update expected in late 2023.

- In February 2023, Watercare was served with a copy of proceedings lodged in the Māori Land Court by Te Runanga o Ngati Whatua, Ngati Manuhiri Settlement Trust concerning the legal status of the Hōteo River bed. Watercare owns property in Wellsford that adjoins the river and draws water from the river. Watercare filed a notice of intention to appear in late March 2023. Further updates not expected for some time (years).

6.4 Whistleblowing

There have been no disclosures made through the PwC whistle-blower service since the last Board meeting. All disclosures are reported to the Audit and Risk Committee on a quarterly basis.

6.5 Non-compliance with resource consents

Consent non-compliance in March continues to be high. Of the 15 full non-compliances, seven were for compensation and flushing flow activities from two Southern dams. The consent bundles for each dam each have common conditions, so any breaches trigger non-compliance of multiple consents.

The 19 technical non-compliances this month include breaches of rolling annual statistics conditions and a backlog of overflow reporting from the Anniversary floods and Cyclone Gabrielle. Such issues will resolve over time.

For most key assets, Council grades compliance no more often than once every three months. From this report onwards, gradings are internal using Auckland Council's rating system to highlight any issues in advance.

Attachment 4 sets out the details on the significant non-compliance for March 2023.

7. Policy update

Attachment 5 sets out the current programs of work that are underway, and their expected impacts to Watercare.

8. Climate change delivery and sustainability update

8.1 Carbon emission measurement and reduction

Watercare team members continue to investigate ways to reduce greenhouse gas emissions in infrastructure. Though this can often have a long lead time from a change in approach at the planning and design stage we are seeing impacts directly within construction projects today. The Takapuna foreshore pipeline project was recently completed and approach taken has resulted in around 89% less emissions due to a rehabilitation process instead of direct

replacement. The pipeline is 81 years old so a lot of care needed to be taken and the outcomes of the project are reduced wastewater overflows. The trenchless pipe relining technique also resulted in minimal community disruption and therefore achieved sustainability goals on many levels.

The Watercare Sustainability and Digital teams have been working to establish an approach for better visibility of annual greenhouse gas emissions. This is currently a manual process utilising spreadsheets that is very time consuming on a quarterly basis. We expect a new solution to be implemented in the new financial year which will provide better insights to carbon performance that will be available throughout the business.

The Rosedale wastewater treatment team along with Chair Margaret Devlin and Executive members welcomed the Prime Minister and Minister of Energy and Resources, Megan Woods to the site to see the floating solar array. They were pleased to see the innovative renewable energy solution and hear about the other opportunities and challenges we face to achieve our climate and resilience goals.

8.2 Climate change adaptation and disclosure

Climate change adaptation continues to be a key focus of the flood response. Though many of the issues we are facing after the floods require an immediate replacement to ensure continuity of service, we are actively reviewing opportunities to change the location of assets and even assess whether the network could be amended so certain assets/areas at risk are not needed and can be worked around so we do not have similar issues in the next large weather event.

Our climate related disclosure project continues internally and in liaison with Auckland Council. A long list of risks has been identified and a prioritisation step put in place. The next step is detailed assessment utilising a new climate specific methodology. This is still being agreed across the Council family and has caused a small delay in progress. A report will be provided to the Audit and Risk Committee in August 2023, outlining any gaps we see in Watercare's current approaches in line with the disclosure requirements.

9. Matters for noting

9.1 Significant meetings attended by the CE

- Presentation to the Select Committee: Three Waters
- Live radio interviews around price rises
- Waikato River Authority Board to Board Engagement Hui
- Auckland Infrastructure CE's meeting
- South Korean delegation visit
- Rivercare Group

10.Delegated authority to Chief Executive

In accordance with the authority delegated to the Chief Executive by the Board for the months of March 2023:

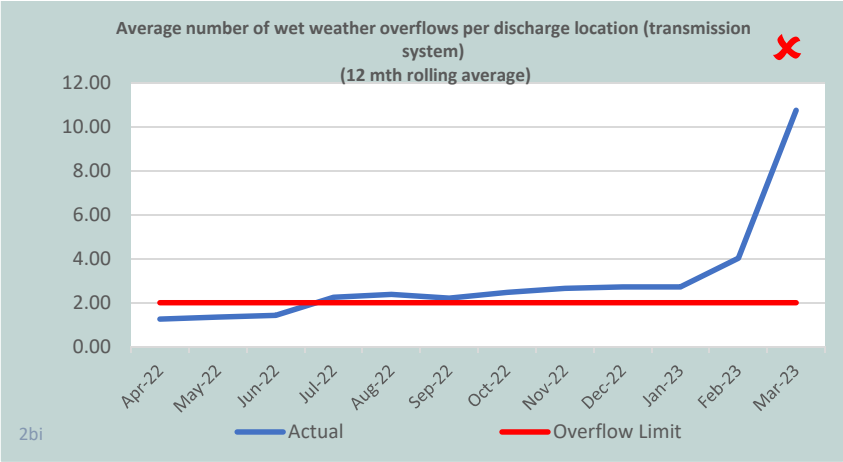
- there was no document required to be signed by the Chief Executive in relation to deeds, instruments and other documents.
- there were no documents required to be signed by two members of the Watercare Board.
- there were no capex approvals signed below a threshold of $50m.
- there were six contracts approved over $100,000. They are as follows:

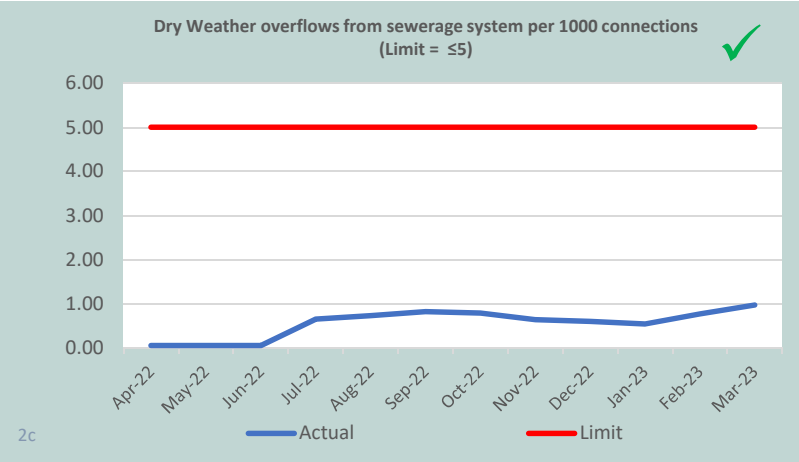
Contract description	Successful supplier
PRV and District Meter Installation in Central	City Contractors Limited
Proactive Renewals Tranche 2 – Central Package	City Contractors Limited
Proactive Renewals Tranche 2 – Northwest & Southern Packages	Stockman General Contractors Limited
Waikato A Intake Raw Water Pump Station	The Fletcher Construction Company Limited
Kahika Rising Main Replacement and Diversions	CB Civil & Drainage Limited
Infor Managed Services Work Order	Infor (New Zealand)

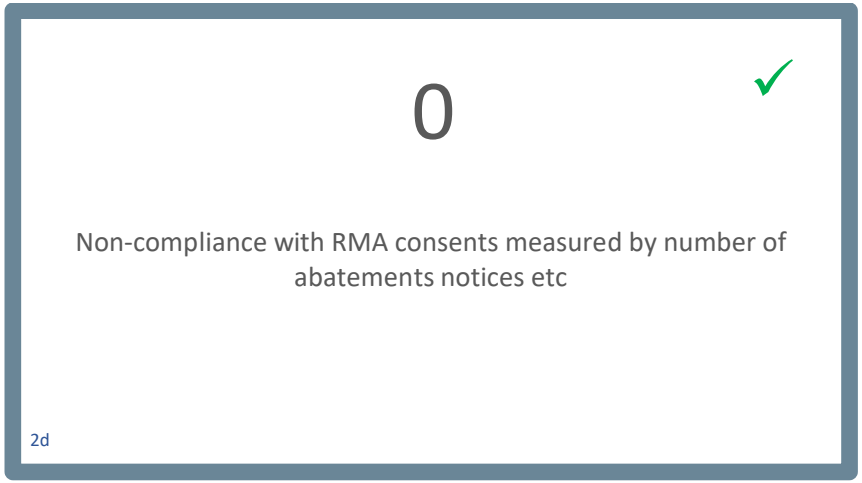
Dave Chambers
Chief Executive

Attachment 1 – Performance against Statement of Intent measures

SOI Measures — Natural Environment







SOI Measures — Assets and Infrastructure

100% ✓

Volume of water compliant with standards

1a

100% ✓

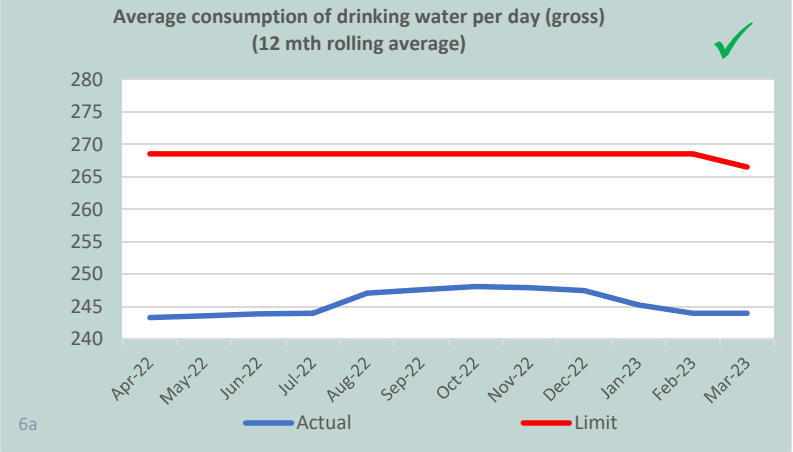
Compliance with Part 4 of the Drinking Water Standards (bacterial)

1a

100% ✓

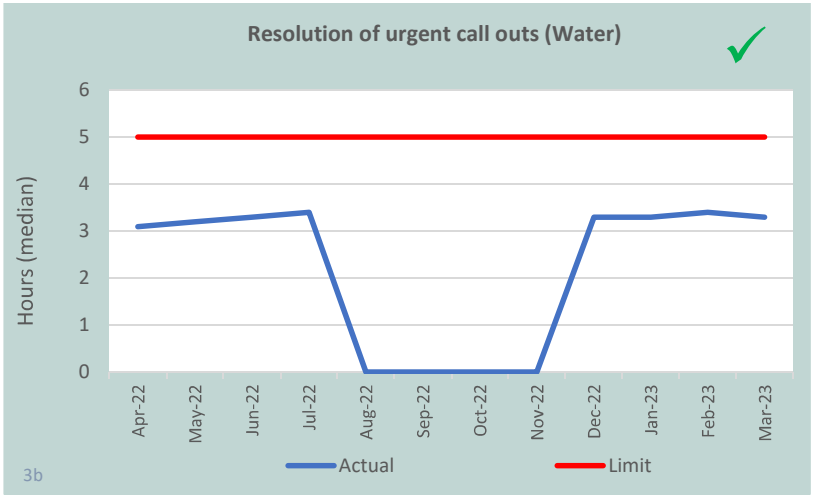
Compliance with Part 5 of the Drinking Water Standards (protozoal)

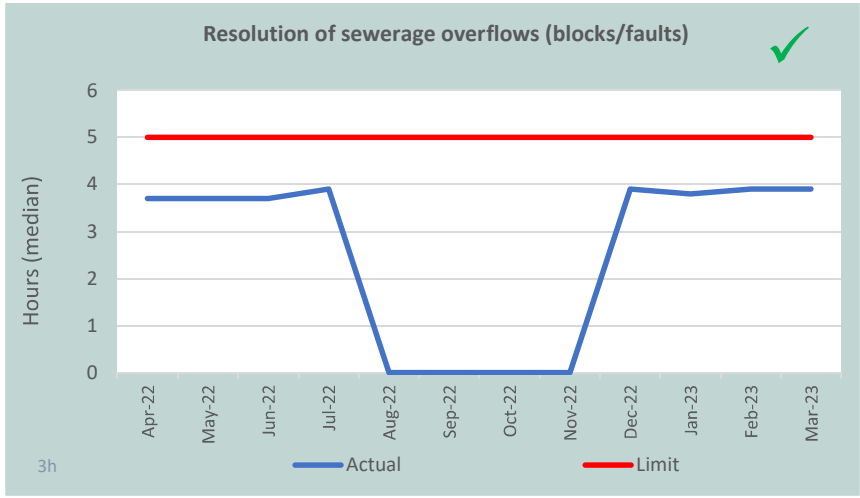
1b

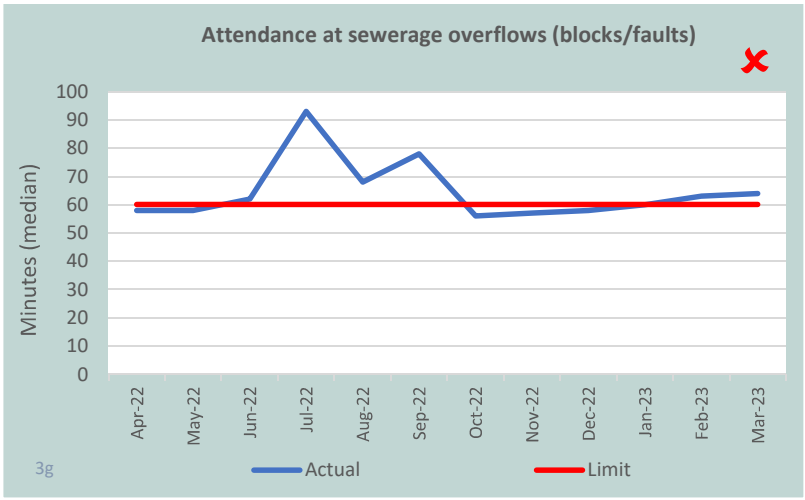


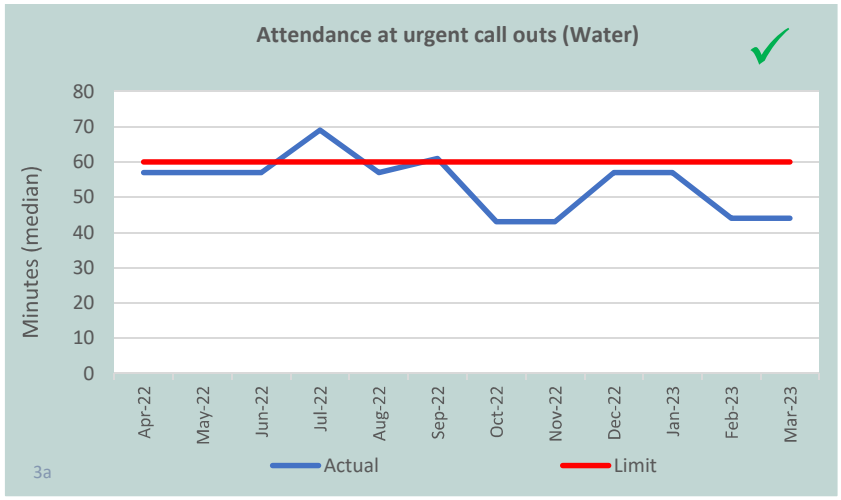
6a

SOI Measures — Community and Stakeholder Relationships

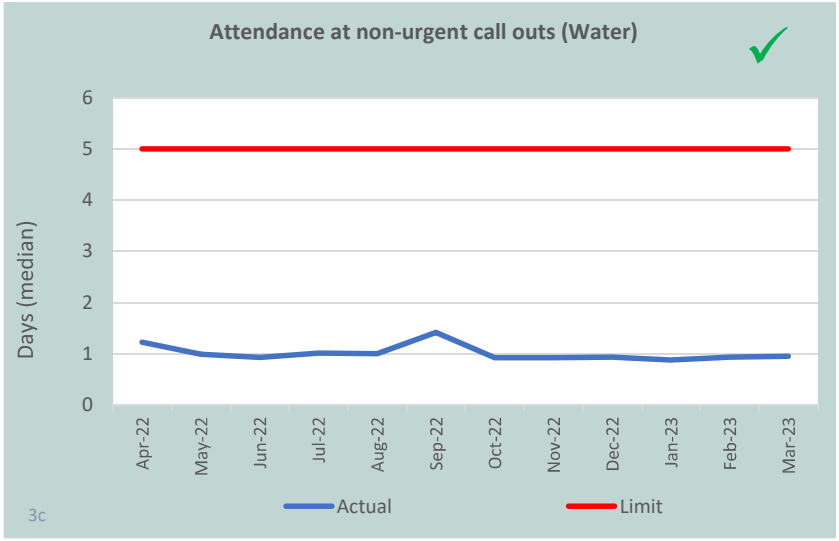


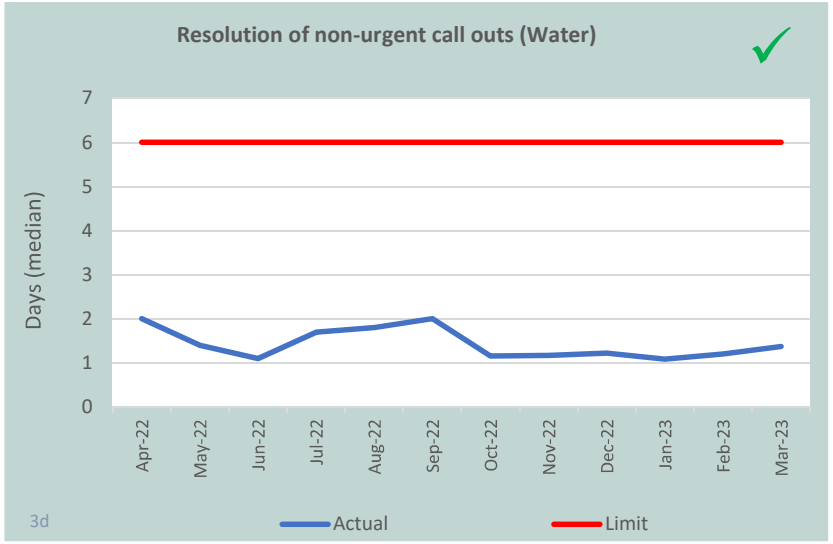


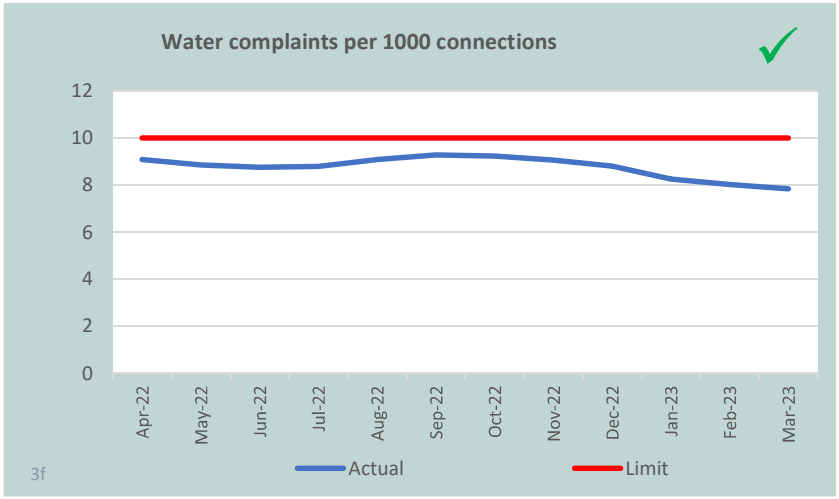


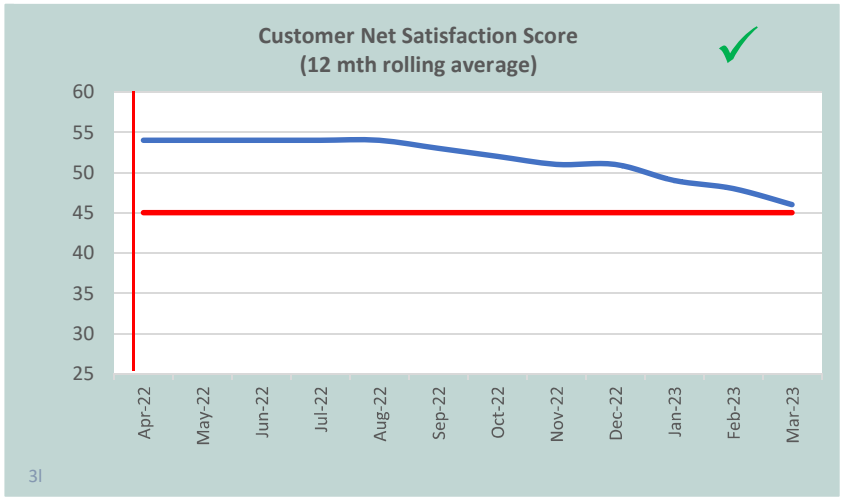


SOI Measures — Community and Stakeholder Relationships









Watercare performance measures (unaudited)

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
1.	Total recordable injury frequency rate (TRIFR) per million hours worked (12-month rolling average)	<10	19.58%	19.55%	16.79%	Target has not been achieved and is unlikely to be achieved by year end as it is a rolling average. We are focussing on understanding the effectiveness of critical risk controls and have refreshed our HSW commitment and we are towards a human-centred safety culture based on the following principles: people make mistakes; blame fixes nothing; context drives behaviour; learning is vital; response matters. In practice, this means: celebrating champions and good HSW behaviours; sharing learnings and best practices; and hands on, meaningful training.
2.	Compliance with the territorial authority's resource consents for discharge from its sewerage system measured by the number of: a) abatement notices b) infringement notices c) enforcement orders d) convictions received by the territorial authority in relation to those resource consents Note the assumption is that abatement notices received relates to new notices issued in the financial year.	 ≤2 ≤2 ≤2 0	 0 0 0 0	 0 0 0 0	 0 0 0 0	
3.	The average consumption of drinking water per day per resident within the territorial authority district (*litres plus/minus 2.5%) (12-month rolling average)	258 litres	243.33	244.00	245.26	

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
4.	The extent to which the local authority's drinking water supply complies with part 4 of the drinking water standards (bacteria compliance criteria)	100%	100%	100%	100%	This is a DIA measure and Watercare continues to meet this measure. NB: In terms of water quality, New Zealand's new drinking water standards, overseen by Taumata Arowai, commenced on 1 January 2023 and Watercare started formal compliance reporting to Taumata Arowai.
5.	The extent to which the local authority's drinking water supply complies with part 5 of the drinking water standards (protozoal compliance criteria)	100%	100%	100%	100%	This is a DIA measure and Watercare continues to meet this measure. NB: In terms of water quality, New Zealand's new drinking water standards, overseen by Taumata Arowai, commenced on 1 January 2023 and Watercare started formal compliance reporting to Taumata Arowai.
6.	Median response time for attendance for urgent water call-outs: from the time that the local authority receives notification to the time that service personnel reach the site (minutes) 12-month rolling average.	≤ 60 mins	44	44	47	
7.	Median water response time for resolution of urgent callouts: from the time that the local authority receives notification to the time that service personnel confirm resolution of the fault or interruption (hours) 12-month rolling average.	≤ 5 hours	3.35	3.35	3.03	
8.	Median response time for attendance for non-urgent water call-outs: from the time that the local authority receives notification to the time that service personnel reach the site (days) 12-month rolling average.	≤ 5 days	0.95	0.93	0.87	

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
9.	Median response time for resolution of non-urgent water call-outs: from the time that the local authority receives notification to the time that service personnel confirm resolution of the fault or interruption (days) 12-month rolling average.	≤ 6 days	1.37	1.20	1.08	
10.	The total number of complaints received by the local authority about any of the following: a) drinking water clarity b) drinking water taste c) drinking water odour d) drinking water pressure or flow e) continuity of supply f) the local authority's response to any of these issues expressed per 1000 connections to the local authority's networked reticulation system. (12-month rolling average)	≤ 10	7.84	8.03	8.26	Complaints reduced due to the significant volume of proactive communications sent to customers during the storm event.
11.	Attendance at sewerage overflows resulting from blockages or other faults: median response time for attendance – from the time that the territorial authority receives notification to the time that service personnel reach the site (minutes) 12-month rolling average.	≤ 60 mins	64	63	60	Target has not been achieved and is unlikely to be met by year end. The January/February weather events significantly impacted the 12-month rolling average. Resources continue to remain stretched due to our people working on permanent repairs following the January/February 2023 weather event, our people taking leave and days in lieu that they could not take during January/February. Additionally, the weather continues to be wetter than normal.
12.	Attendance at sewerage overflows resulting from blockages or other faults:	≤ 5 hours	3.4	3.3	3.23	

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
	median response time for resolution – from the time that the territorial authority receives notification to the time that service personnel confirm resolution of the blockage or other fault (hours) 12-month rolling average.					
13.	The total number of complaints received by the territorial authority about any of the following: a) sewerage odour b) sewerage system faults c) sewerage system blockages d) Watercare's response to issues with its sewerage system expressed per 1000 connections to the territorial authority's sewerage system (12-month rolling average)	≤ 50	24.67	25.74	24.45	Complaints have remained steady due to the significant volume of proactive communications sent to customers during the storm event.
14.	The percentage of real water loss from the territorial authority's networked reticulation system (12-month rolling average)	≤13%	10.87% (November figure)	10.14% (October figure)	10.35% (September figure)	The water losses in this measure are calculated by deducting the volume of water sold and unbilled water usage (or non-revenue water) from the total volume of water produced. Due to meter readings being completed on a four monthly cycle, non-revenue water loss reporting is delayed.
15.	The number of dry-weather overflows from the territorial authority's sewerage system, expressed per 1000 sewerage connections to that sewerage system (12-month rolling average)	≤ 5	0.97	0.77	0.54	
16.	Average number of wet weather overflows per engineered overflow point	≤ 2 overflows per year	5.6	5.9	4.03	Target has not been achieved. Rolling average significantly impacted by January and February 2023 weather events. Results will continue to

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
	per discharge location (12-month rolling average)					exceed target for the rest of the year due to significant volume of overflows experienced in the storms.
17.	Leakage performance[#] - litres/connection/day (l/c/d)	107.9 l/c/d	105.72 (November figure)	98.49 (October figure)	100.18 (September figure)	The leakage performance reported is for November 2022. The water losses in this measure are calculated by deducting the volume of water sold and unbilled water usage (or non-revenue water) from the total volume of water produced. Due to meter readings being completed on a four monthly cycle, non-revenue water loss reporting is delayed.
18.	We are sourcing water from a diversity of sources; and we are preparing for, and promoting, the adoption of alternative sources of human drinking water in the future	Watercare to develop submission points to Central Government supporting the use of desalination and purified recycled water as recognised sources of drinking water in New Zealand.	N/A	N/A	N/A	In early 2023, Watercare forwarded submission points that supported the adoption of more diverse water sources in the development of its Resource Management and Three-Waters reform submission points. However, if there is a change in Government in October 2023, this may trigger changes to the Three Waters Reform and Resource Management legislation so we may need to support adoption of more diverse water sources again.
19.	Employee net promoter score (eNPS)	≥20	6 (March survey results)	N/A	N/A	Our eNPS was 6, up from 4 in November 2022 (this is on a scale of –100 to +100). Also note that our employee engagement score increased slightly from 7.1 in November 2022 to 7.2 in March 2023 (on a scale of 1-10).

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
20.	Gender workforce ratio in fixed term and/or permanent roles, including leadership positions (Tier 3 and above)	40% men 40% women 20% any gender	F: 38.51% M: 61.49%	F: 38.18% M: 61.82%	F: 38.36% M: 61.64%	We have increased female representation by 4% since 2020/21, however, we are unlikely to meet the target by year end. Indeed, meeting these targets is a challenge in the current reform environment. Analysis shows we have high female representation in our early careers' programs e.g., 42% Grads, 70% interns. We have also implemented several positive initiatives such as Gender Tick accreditation, Ata Woman's Network, and improved policies and benefits for women.
21.	Employees in fixed term and/or permanent roles, including leadership positions (Tier 3 and above) identify as Māori	6%	4.63%	4.50%	4.34%	Expected recruitment and turnover over the next three months, and challenges in the current reform environment, means this target is unlikely to be met by year end.
22.	Safety improvement plans	100% of teams with a HSW Improvement Plan	100%	100%	100%	Improvement plans are in place for all sites and business units.
23.	Culture and Leadership	100% of Tier 1 to Tier 4 who have completed at least 10 leadership walks per year	20%	25% (approx.)	25% (approx.)	This target will not be achieved by year end. This KPI does not appear to be effective. We are therefore establishing an entity wide monthly H&S meeting to discuss lead indicators, with a focus on improving our health, safety and wellbeing outcomes.
24.	Debt to revenue ratio	≤3.61	2.68%	2.68%	2.68%	Whilst the debt to revenue ratio is within our SOI target, cash headroom is tight and is being managed daily. The scale and acceleration of our capital project delivery and the lower than

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
						expected IGC revenue are impacting our working capital position. The impact of this improvement in capital delivery and any implications for funding is being assessed and will be provided to Council for review and approval as required.
25.	Percentage of household expenditure on water supply services relative to average household income	≤ 1.5%	0.83%	0.83%	0.81%	
26.	Formal engagement with mana whenua of Tāmaki Makaurau	Partnering with mana whenua of Tāmaki Makaurau to achieve outcomes for Māori Each year, at least five priority outcomes within our Achieving Māori Outcomes Plan are being progressed with mana whenua (updated measure).	100%	100%	100%	6 of 10 priority outcomes identified within Kia Ora Tāmaki Makaurau. Initiatives under the following areas are being progressed: 1) Kia Ora te Marae, 2) Kia Ora te Ahurea, 3) Kia Ora te Rangatahi, 4) Kia Ora te Taiao, 5) Kia Ora te Reo and 6) Kia Ora te Umanga. Given Te Rua Whetu's secondment to the DIA to assist with three waters reform it is unlikely the number of initiatives will increase until such time as Te Rua Whetu have increased resources and capacity to support delivery of Māori outcome priorities. This should hopefully occur in Q4.

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
27.	Ratio of procurement sourced through Māori owned businesses	2%	Total spend 1.91% Direct 0.98% Indirect 0.93%	Total spend 1.88% Direct 0.98% Indirect 0.90%	Total spend 1.89% Direct 1.02% Indirect 0.87%	Target has not been achieved. Total Māori business spend FY to date is $14.26m ($7.30m Direct, $6.96m Indirect). Citycare is the only Works partner supplier not reporting indirect Māori business spend. This has been escalated in Citycare and it is expected that spend (if any) will be reported by the end of the FY.
28.	Integration/Adoption of Te Reo and Tikanga Māori within Watercare	Ensure all Tier 1-4 job titles include Te Reo Māori translation. and hold a Watercare Tikanga Māori experience for all staff	100%	100%	100%	Te Reo Māori translations for all Tier 1 - 4 job titles are complete.
29.	Percentage of customer complaints resolved within ten days of notification	≥95%	99.02%	98.80%	98.80%	
30.	Customer Net Satisfaction Score (Previously Net promoter score)	≥45%	46%	48%	49%	This is a 12-month rolling average.
31.	Community trust score	≥55%	59%	58%	58%	This is a 12-month rolling average.
32.	We will implement Mitigation measures in line with our emissions reduction targets. We will report annual greenhouse gas emissions from Scope 1 and Scope 2 emissions (operational mitigation) in line	<88,400 tonnes CO_2e	74,407 (Q3 result)	45,347 (Q2 result)	45,347 (Q2 result)	Our unaudited GHG results at the end of Q3 suggest that we are likely to miss the FY23 target by ~10500 tCO2e (~12%). This is a result of increased fuel consumption by our field service operators responding to storm related faults, increased wastewater volumes being treated due to the

No.	Measure	FY23 Target	Actual			Commentary
			March 2023	February 2023	January 2023	
	with our emission reduction pathway to meet 50% reduction by 2030.*					extreme weather events, and a change in energy production at Māngere WWTP to reduce electricity purchase. We are reviewing our co-generation operating philosophy and the high inflows into the wastewater treatment plants to better understand the trade-offs between operating procedures, energy production, natural gas use, budget efficiency and meeting our targets for GHG emissions.

 # Leakage Target for Economic Level of Leakage has now been established and as such two of the lines have been consolidated namely, Leakage Target and Leakage Performance.

**Note: these targets exclude emissions from Puketutu island as our current measurement methodology does not provide enough accuracy for a performance target. Actions to directly monitor emissions from this source as well as reduce them are being delivered and future SOI's will include these numbers.*

Attachment 2

PEOPLE DASHBOARD: March

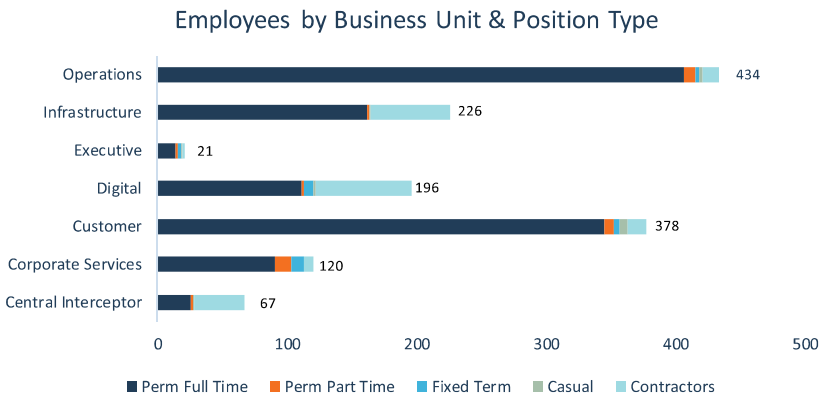
Note: As of 1 July 2022, reporting has been changed to align with Finance mapping - people to cost centre, not group.

Workforce Snapshot

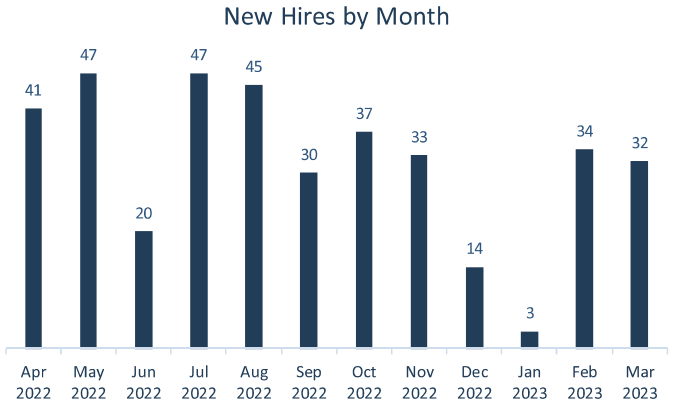
Headcount as at 31 Mar 2023

*	**1231**	**38.51%**	**61.49%**
	Full Time	34.44%	59.46%
	Part Time	2.19%	0.65%
	Fixed Term	1.06%	1.06%
	Casual	0.81%	0.32%

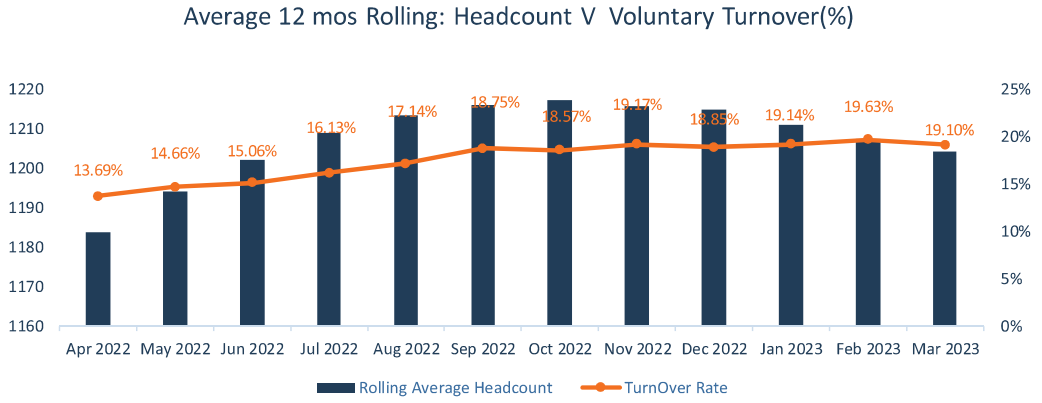
** Contractors and Directors are excluded from the headcount figures above. Long term leave and parental leave employees are included.*



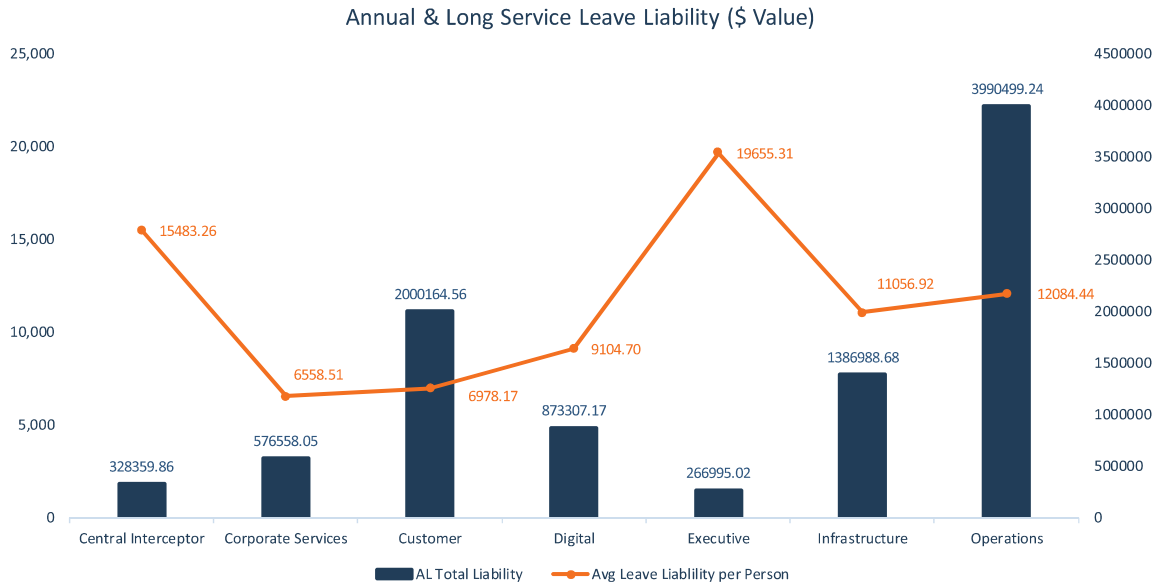
Active contractor information is based on data captured across both ServiceNow & PayGlobal.



Current vacancies in recruiting process 74, +5 on prior month.
Hires by gender for March M:43.74%, F:50%, Gender Diverse:3.13%, (3.13 Prefer not to answer).

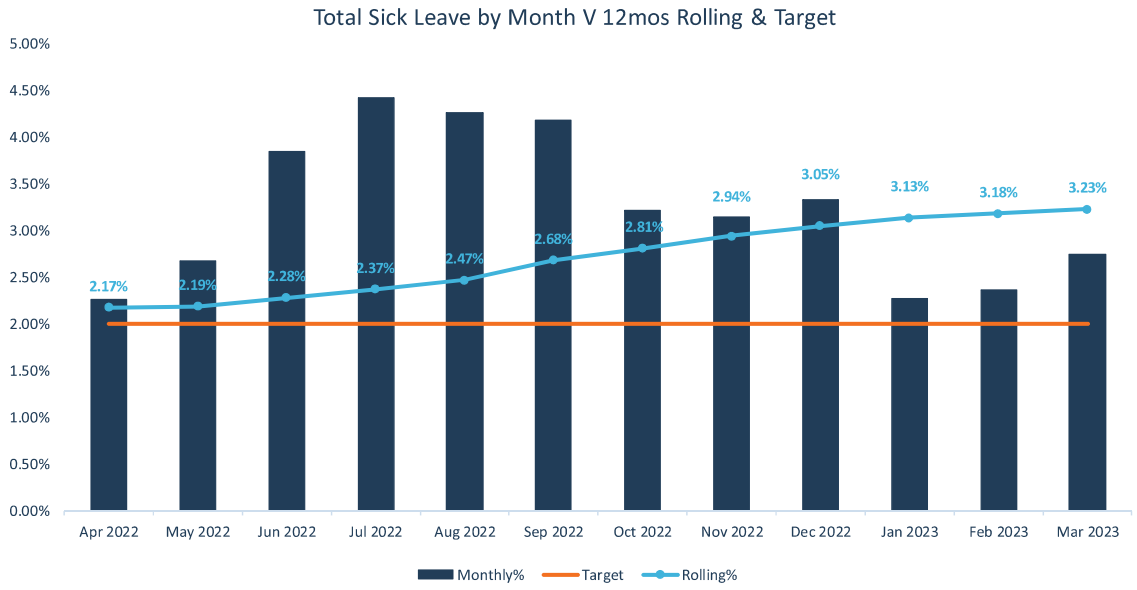


This does not include anyone that has left for reasons other than resignation.
Only Permanent employees (full time and part time) are included in the data.



Includes all full time and fixed term employees. As at 31 March 2023, total annual leave liability increased $400K to $9.42 mil, while total long service leave liability remained stable at $2.5 mil.

Average leave liability per person has risen slightly on last month, however still continues to track below Dec 2022 average per person.



Attachment 3

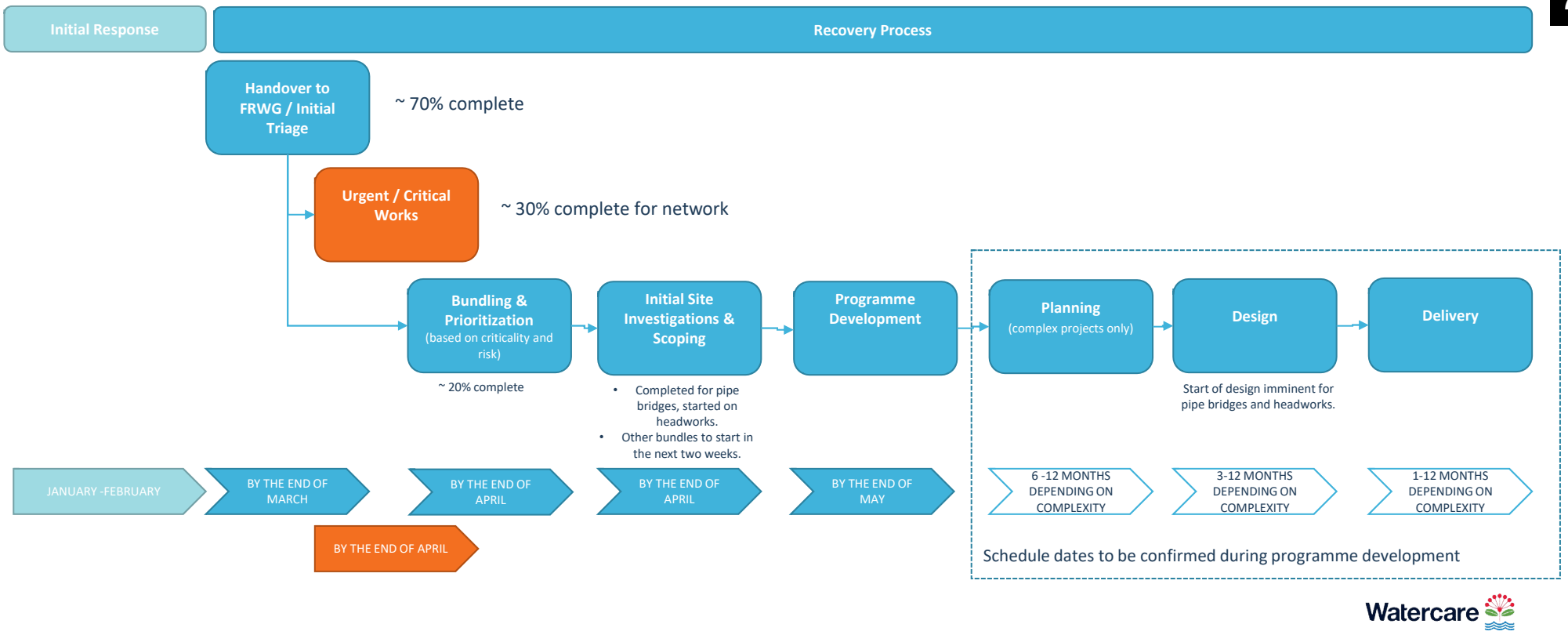
7.3

Flood Recovery Working Group - Update

May 2023

Watercare

Recovery Process



Watercare

Handover Status

Focus areas

Stakeholder Engagement

- Weekly WSL key stakeholder meetings
- Weekly Auckland council update meetings
- Regular interaction with AT
- Proactive engagement with affected stakeholders, works over process

Programmes of work – Like for Like & Adaptation

- Networks
- Pipe bridges
- Pump stations
- Slips & Structures
- Headworks

Elimination of overflows and overland pumping

- Focus on local networks to eliminate overflows
- Improved interim fixes to eliminate over pumping

Resourcing

- Utilising external contractors & consultants
- To date no planned capex work has been stopped due to resourcing or capital funding as a result of the floods

Condition Assessments

- The Asset Integrity team has carried out condition assessments of all complex assets which were known to be flooded/damaged during the weather event
- Condition Assessment team to be supported with specialty external engineers to enable faster CA. Asset condition work will be shared with NTU/DIA
- Inspection data providing some information to support re-build valuation for insurance purposes

Insurance Claim

- WSL has two insurance claims, above ground assets (with AC) & below ground assets (with Healthy Waters)
- Resource being secured to assist with Insurance Submission
- Working with AON to formulate our submission
- Loss assessors currently visiting high value damaged assets
- First submission end of April

Watercare

Urgent Works - Muriwai

- Pursuing permanent power connection for generator setup – dependent on Vector.
- Geotechnical risk assessment completed with independent peer review.
- Initial vegetation removal complete, structural review of reservoir to be completed w/o 24/4
- Minimal damage to the water treatment plant itself – could possibly have operational plant in the near future dependent on risk assessment and further investigations.

Watercare

Attachment 4

Rating	Detail
Category 1	Watercare has complied with the consent condition.
Category 2	Watercare has not complied with the consent condition. Watercare has assessed the non-compliance as technical or having no more than a minor adverse effect.
Category 3	Watercare has not complied with the consent condition. Watercare has assessed that non-compliance has the potential to result in minor adverse effects on the environment. Alternatively, since the last audit, there is evidence of repeat Category 2 non-compliance.
Category 4	Watercare has not complied with the consent condition. Watercare has assessed the non-compliance as having the potential to cause significant adverse effects on the environment. Alternatively, since the last audit, there is evidence of repeat Category 3 non-compliance.

Active resource consents in March 2023

384

Consents with non-compliances in March 2023

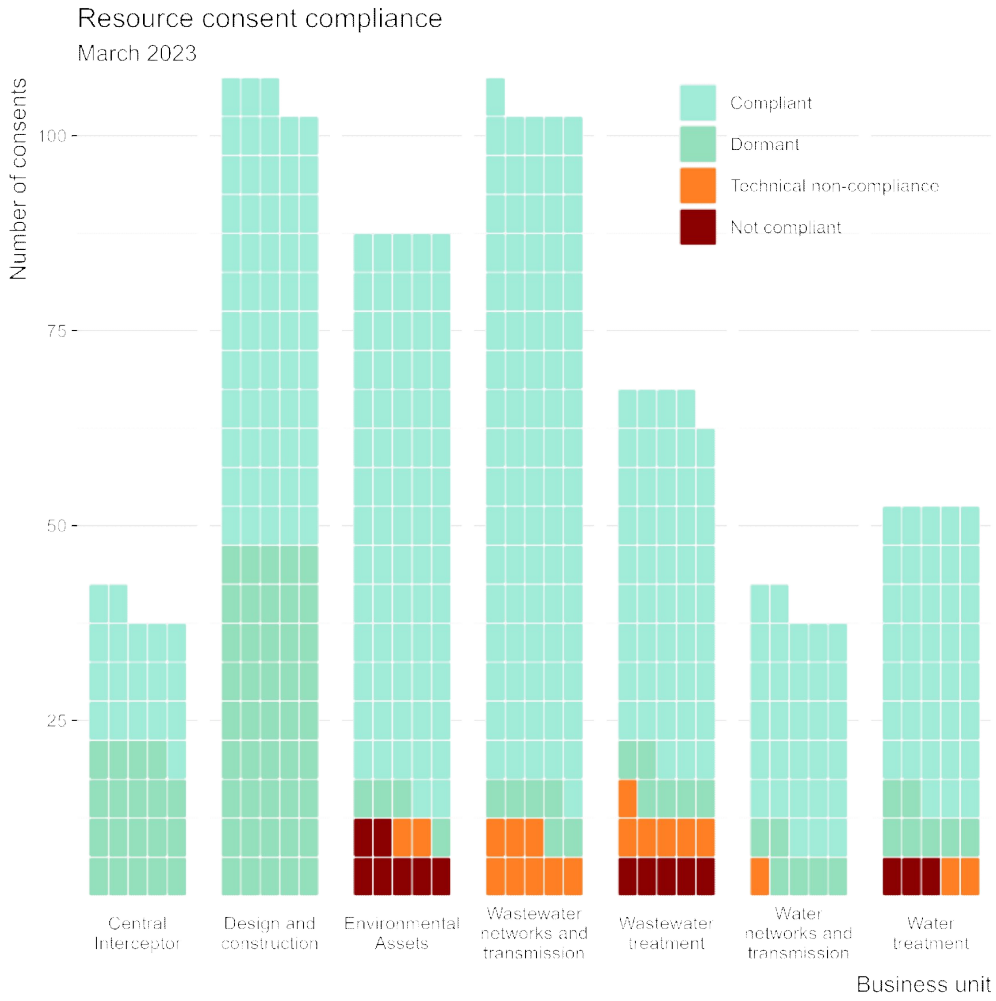
34 ↑

Rolling 6-month average (non-compliant consents)

22 ↑

Consents under enforcement in March 2023

0 -



Significant non-compliances for March 2023 (excludes technical non-compliances)

Facility/Asset	Consent	Condition(s)	Issue(s)	Actions and Commentary	Resolution	Significance
Army Bay WWTP	DIS60331146	6	UV dose not maintained	Continued issues with solids carryover affecting performance. Solids handling procedure has been optimised to best of Operation's ability. The business case for a screens upgrade has been submitted and awaits final approval. This improvement project may reduce level of non-compliance but will not eliminate it. Upgrade needed. Conceptual design for Stage 1 upgrades starts in July 2023.	**2026-2031** (per AMP) Date to be confirmed after conceptual design completed.	**Moderate-High (Grade 3-4):** Long-term and repeat issue.
Cosseys Dam	39473 / WAT80317001 39474 / DIS80296860 39472 / WAT80316960	6	Greater than 50% increase in downstream turbidity during free discharge valve release	Dams currently have high turbidity so high risk of consent breach when valves opened for maintenance purposes. In this case operational and source water quality needs were greater than compliance requirements. Environmental effects would have been minor; turbidity levels were well below stress thresholds for native fish.	**6-12 months** Trialling method for real-time monitoring that would allow greater control and thus minimise risks.	**Minor (Grade 2)**

Facility/Asset	Consent	Condition(s)	Issue(s)	Actions and Commentary	Resolution	Significance
Helensville WWTP	22225 / DIS60265455	6	Breach of annual average volume limit	Exceedingly high effluent volumes in July 2022 and January-February 2023 meant a breach of the rolling annual average. A return to compliance relies on dryer weather and ongoing ingress & infiltration (I&I) improvement programme	**March 2024** at earliest (rolling statistic), contingent on I&I actions and weather	**Moderate (Grade 3)** WWTP was under an abatement notice, but it should return to full compliance over the next 12 months.
		7,17	High ammoniacal nitrogen in the discharge. Non-compliant in March.	Action underway. Upgrade project due for completion in March 2023. Because the limits use rolling 12-month calculations, full compliance will not occur until April 2024.	**April 2024** (rolling statistic)	
Mangatangi Dam	AUTH122097.01.02 AUTH122087.01.02 AUTH122099.01.02 AUTH122086.01.02	4	Compensation levels not fully maintained	Automation issue associated with post-storm emergency works meant valves were semi-manual and did not adjust to low flow conditions. Environmental effects would have been minor.	**Resolved.**	**Minor (Grade 2)**

Facility/Asset	Consent	Condition(s)	Issue(s)	Actions and Commentary	Resolution	Significance
Māngere WWTP	30083 / CST80294146	30	Breach of rolling 12-month average influent	Very wet weather since July 2022 and historical high inflows during Anniversary floods. Central Interceptor (CI) will add flows in wet weather, while Northern Interceptor works should offset CI once completed in the 2030s.	**2032 (new consent)** No practical solutions available. Resolution depends on no extreme weather events and ongoing I&I and separation projects.	**Low - Moderate (Grade 2)**
		-	Loss of screened influent to stormwater	Loss of seal at splitter box meant uncontrolled leak into line that feeds three reactor clarifiers. A part of the leak went to stormwater until confined (approximately 12 hours). Discharge quality conditions were maintained throughout the event.	**Compliance issues resolved.** Repairs ongoing through April-May.	**Moderate (Grade 3)**
Omaha WWTP	DIS60050606; DIS60050490	19	Maximum irrigation limit exceeded	Very wet weather since July 2022 and historical high inflows during Anniversary floods. Plant upgrades will improve capacity, but reducing inflows requires I&I investigation and associated actions or dryer weather	**June 2023 at earliest.** Contingent on weather and forthcoming I&I works	**Moderate-High (Grade 3-4):** Inflows have been a known issue since July 2023.

Facility/Asset	Consent	Condition(s)	Issue(s)	Actions and Commentary	Resolution	Significance
Snells WTP	37993 / WAT60275761 37953 / WAT60274031	15	Monitoring bores cannot be monitored	Equipment failures (level logger and sampling pump). Replacements may take months to arrive due to ongoing supply chain issues. Sampling procedure review underway with focus on alternative sampling methodologies to eliminate risks of future failures.	**3-6 months**	**Minor (Grade 2)** Data to date shows no environmental issues associated with water take.
Waitakere WTP	26983 / DIS80296456	2	High sediment in stormwater discharge	Likely due to sample contamination. No evidence of ongoing issue.	**Resolved.** One-off issue	**Minor (Grade 2)**

Attachment 5

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
Urban Intensification ("Tier 1" Councils) – MfE National Policy Statement for Urban Development (NPS-UD), and Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 • Auckland Council is developing their Plan Change to give effect to these two initiatives. Watercare has been invited to contribute to the plan change.	Increased intensification without requiring a resource consent (as a permitted activity) puts Watercare at risk of breaching our existing level of service and network discharge consent conditions due to being unaware of where, and when, growth is occurring in advance. Watercare, AT and HW have been working with Auckland Council to develop Council's plan change.	Submissions to these intensification related plan changes closed end of September 2022.	Hearings are proposed to begin approximately mid-2023. Watercare is currently preparing its evidence. Expert conferencing and mediation expected to begin Feb/March., An extension to this timeframe has been requested by Council.	Infrastructure	Policy, Infrastructure, Ops, S&P	Medium
Three Waters Reform Programme – DIA • Water Services Entities Bill 2022. ("Bill 1") Now an Act – Royal assent, 14 Dec 2022 • Water Services Legislation Bill ("Bill 2") – First Reading, Dec 2022 – At Select Committee stage. • Water Services Economic Efficiency and Consumer Protection Bill ("Bill 3") – First Reading, Dec 2022 - At Select Committee stage. **Associated** – Consultation on Taumata Arowai's - Second Tranche of Drinking Water and Wastewater Network Environmental Performance Measures.	Watercare is develop its submission points. Impacts are wide ranging. Note we have already submitted into previous Water Services related Bills with Auckland Council, namely, the bills that established the regulatory authority Taumata Arowai. Will impact Watercare's and Healthy Waters reporting requirements and operations	Submissions close: • "Bill 2" 24 February 2023 • "Bill 3" 24 February 2023 Submissions on second tranche of Performance Standards closed December 2022	Watercare made its own submission and presented to the Select Committee. Now considering impacts of Governments "Affordable Water reforms" policy changes	Policy	All	High

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
		Third tranche consultation due to open mid-2023				
Review of the Electricity (Hazards from Trees) Regulations 2003 Discussion document released in April	Damage from tree fall and root damage has, and will have, an impact on Watercare	Submissions due 5 May, 2023	Watercare is contributing submission points to Auckland Councils submission	Policy	Steve and Mark Bourne	Medium
Strengthening National Direction on Renewable Electricity Generation and Electricity Transmission – Consultation Document	Due to Watercare's future renewable electricity generation aspirations, would be advantageous for Watercare to contribute submissions points.	Submissions due 1 June 2023.	Watercare is developing its potential submission points.	Policy	Operations	Medium
Government Climate Change Work Programme – MfE Key documents under the Climate Change Response Act 2002 and the Climate Change Response (Zero Carbon) Amendment Act 2019 were released in mid-2022: • Three emissions budgets for 2022-'25, 2026-'30, (now open for submissions) and 2031-'35 • The Emissions Reduction Plan (ERP) • Updated Emissions Trading Scheme (NZ ETS) • Draft National Adaptation Plan (NAP) to help resilience to climate change	Many potential impacts on Watercare's (and Council's) future climate change adaptation and GHG emissions reduction plans.	Submissions have closed Will keep a watching brief over the implications of these documents	Watercare contributed submission points into Councils submissions	Policy	Policy, Sustainability, Infrastructure, Ops, S&P, Finance	Medium

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
Resource Management (RM) System Reform – MfE • Natural Built and Environments Act (Bill) (NBA) • Strategic Planning Act (Bill) (SPA) and • Climate Adaptation Act (Bill) (CAA)	Potentially large implications for Watercare's planning, AMP, and resource consenting processes.	Submissions due: • NBA – Late February 2023 • SPA – Late February -2023 • CAA – expected First Reading, late 2023	Watercare has contributed submission points to Council	Policy	Policy, Infrastructure, Ops, S&P, Finance	High
Essential Freshwater Package – MfE **Auckland Council - and all other regional councils and unitary councils – need to effect to the NPS-for Freshwater Management (NPS-FM)** • Fundamental concept – Te Mana o te Wai • National Policy Statement for Freshwater Management 2020 (NPS-FM) – Auckland Council is engaging.	This plan change is likely to have major implications in relation to water allocation methodology and how freshwater limits/standards will be set.	Public notification from Regional and Unitary councils of respective plan change is required by Dec 2024	Auckland Council has invited Watercare to contribute to their water quality/quantity plan change. Watercare is working with Auckland Council and have a seat on the Steering Group and Technical Group.	Policy	Policy, Infrastructure, Ops, S&P, Finance	Medium to High
Essential Freshwater Package – (NPS-FM) - MfE **Waikato Regional Council (WRC) – Freshwater Policy Review** • Waikato Regional Council has begun its Community & Stakeholders Engagement, Round 1 – mid 2022 • Round 2 – mid-2023	Watercare will need to engage with Waikato Regional Council as this plan change to their Regional Policy Statement and Regional Plan is rolled out. This plan change is likely to have major implications in relation to water allocation methodology and how freshwater limits/standards will be set.	Engagement round 1 – May to July 2022 Engagement Round 2 – May to July 2023 Plan change notified Dec 2024	Watercare is a member of the Water Users Liaison Forum and will contribute as a stakeholder.	Policy	Policy, Infrastructure, Ops, S&P, Finance	Medium to High
Essential Freshwater Package – (NPS-FM) - MfE **Northland Regional Council (NRC)** • The Northland Regional Council has begun its engagement by setting up two advisory groups	Given the three-waters reforms, Watercare will have an interest in how NRC will review its Regional Policy Statement and Regional Plan to give effect to the NPS-FM.	We are unclear on NRC's next engagement steps.	TBC	Reform team.	TBC	Medium

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
Water Availability and Security Programme – MPI • Water Availability and Security in Aotearoa New Zealand - Information Paper – August 2021	Recommended next step for MPI to develop an action plan for NZ. Waikato Regional Council is planning for a "Water Security Strategy for the Waikato Region -Action Plan". Potential implications for Watercare.	TBC	TBC	TBC	TBC	Medium
Indigenous Biodiversity – DOC • Aotearoa New Zealand Biodiversity Strategy 2020 (released mid-2020) • Aotearoa New Zealand Biodiversity Strategy Implementation Plan (released April 2022) • National Policy Statement for Indigenous Biodiversity (NPS-IB) (upcoming)	The NPS-IB is likely to have significant implications for Watercare, especially in relation to future renewals, maintenance and upgrade works in areas of high biodiversity value.	Submissions to the Exposure Draft of National Policy Statement for Indigenous Biodiversity (NPS-IB) were called for mid-2022. Gazetted NPS-IB is expected early 2023.	Watercare contributed submission points to Auckland Council's submission. Will identify implications of gazetted NPS-IB on Watercare when gazetted	Policy	Policy, Infrastructure, Ops, S&P, Finance	Medium to High
Infrastructure Commissions 30-Year Final Infrastructure Strategy – 2022-2052 • Draft delivered, May 2022 – Government responded September 2022 • Final Strategy released late 2022	Watercare, with Auckland Council, forwarded a submission. The strategy includes a number of recommendations, many of which are water specific. Watercare will undertake a review of protentional impacts and update the board late 2022 once the strategy is finalised and adopted.	Closed early 2022	Watercare supplied submission points to Auckland Councils submission. Final Strategy has been released	Policy	Policy, Infrastructure, Ops	Low
Waste System Reform - MfE • New Aotearoa New Zealand Waste Strategy -Consultation due early 2023 • New waste related legislation is proposed (to replace Waste Minimisation Act 2008) – expected mid 2023	Implications of upcoming Strategy, and any resultant legislation, likely to impact Watercare's sludge, biosolids, construction waste disposal aspirations.	Submissions to draft Strategy expected early (now mid) 2023. Any resultant bill submissions, likely mid-2023.	Watercare will consider developing submission points.		Ops	Low

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
Per- and polyfluoroalkyl substances (PFAS) National Environmental Management Plan (PFAS NEMP) version 3.0 for public consultation	May impact Watercare's future biosolids disposal aspirations	Public submissions close 28 February 2023	Watercare made its own submission	Policy	Ops	Low to Medium
New Zealand Freight and Supply Chain Strategy • Te rautaki ueā me te rautaki whakawhiwhinga o Aotearoa | New Zealand freight & supply chain issues paper – 30 years	Implications will be considered when Draft Strategy arrives.	Submissions closed June 2022 Draft Strategy was due August 2022 – nothing arrived	Watercare didn't provide submission points Will keep a watching brief	Procurement	Procurement	Medium
Emergency Management System Reform • Proposed to replace the Civil Defence Emergency Management Act (2002) (the CDEM Act) with the "Emergency Management Bill"	Likely to have implication for Watercare	No submission period yet announced	Watercare to keep a watching brief	Policy	Infrastructure	Low
Government's response to UN Declaration on the Rights to Indigenous Peoples (UNDRIP) – Te Puni Kōkiri	Government has halted any further consultation	None	TBC	TBC	TBC	Medium
Marine and Coastal Area (Takutai Moana) Act 2011 (MACA)	Settlements are still working through the High Court. Settlements may have implications on Watercare's coastal assets, and wastewater treatment plant discharges. Will report any updates.	Currently active	TBC	TBC	TBC	Low - Medium
Energy Strategies for New Zealand The government's energy strategies will set the policy direction and priorities for the NZ energy sector and focus on transitioning to net zero carbon emissions by 2050 – being worked on: • Aotearoa New Zealand Energy Strategy • Gas Transition Plan • New Zealand Energy Efficiency and Conservation Strategy (Expires mid 2022)	The Strategies and plans will be reviewed to determine the impacts on Watercare.	TBC	TBC	TBC	TBC	Low

Upcoming Bills, Government Reforms/Programmes/Policies, Council Plan Changes/Policy Initiatives	Potential implications on Watercare and any associated Watercare actions	Expected date of release/enactment/ submissions due	What will Watercare be doing? Filing submissions? Providing Council feedback? Attending hearing?	Who will hold the pen?	Who in Watercare has been / needs to be involved?	High/ Medium /Low impact?
• Renewable energy strategy work programme						
Auckland Council currently developing a 100-year adaptive policy	Focus - Water-related impacts of climate change. Responding to water-related climate change issue. Adaptive (100 year) policy to be developed We expect Watercare will be invited to contribute.	Delivery 2025 – 2028	TBC	TBC	TBC	Low
Worksafe H2S limits	A reduction in H2S limits is being proposed by Worksafe NZ. These limits could result in costs to make work environments have greater ventilation or less H2S. Watercare is performing work to understand the new limit implications before they are implemented in November 2022.	November 2022.	No submission expected. Australian entities have performed a significant amount of work and Watercare will leverage this.	N/A	H&S, Ops, Strategy	Medium
Fluoridation – Ministry of Health	Watercare has been informed that Fluoridation of all water supplies is being mandated.	June 2023	No submission required.	N/A	Infrastructure & Strategy	Medium

Board meeting | 9 May 2023
Public session

Health, safety and wellbeing update

For discussion

Te pou whenua tuhinga / Document ownership

Prepared by
Bronwyn Struthers
Head of Health, Safety and Wellbeing

Recommended by
Jamie Sinclair
Chief Corporate Services Officer

Submitted by
Dave Chambers
Chief Executive Officer

1. Te tūtohunga / Recommendation

We recommend that the Board notes and discusses this report.

2. Whāinga / Purpose

This report provides a comprehensive overview of health, safety, and wellbeing at Watercare.

3. Kōrero pitopito / The details

3.1 HSW Governance

- Part of keeping our kaimahi safe is to ensure we are prepared for emergencies. All sites are required to undertake fire evacuation drills every six months. In addition, we are introducing rehearsals for non-fire events such as medical events and spills.

  With a tank empty for maintenance, Jonathan Piggot, Wastewater Production Manager South, took the initiative to run a series of rehearsals for deep tank rescue, inviting FENZ, St Johns Ambulance and contractors to participate. As well as having an opportunity to learn and practice, these sessions have strengthened our relationship with emergency services and enhanced their familiarity with our work and this site.

- HSW accreditation is moving from ISO 4801 to ISO 45001. We have been upgrading our HSW Management System over the last nine months and start the accreditation audit process in May 2023. The upgrade to 45001 brings a stronger focus on kaimahi consultation and engagement, continual improvement and a risk-based approach. We have used this kaupapa to review and improve readability of all HSW documents and to upgrade our sharepoint internal communication platform to make the HSWMS and supporting documents more accessible.

3.2 HSW metrics – March 2023

From this month, incident metrics will be split between Watercare and contractors to provide more clarity.

3.2.1 Watercare incidents

	Note	2023			2022								
		Mar	Feb	Jan	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr
No. of recordable injuries	1	5	7	4	0	2	5	4	2	4	5	2	6
Critical risk/all incidents	2,3	3/30	12/73 *	4/49	4/29	16/58	17/45	7/40	8/54	18/62	17/74	20/76	14 /60
High-Potential Critical events	2	-	-	-	-	-	-	-	-	-	1 Driving	-	-

1. In March, there were five recordable injuries to Watercare kaimahi.

Two recordable injuries to Watercare staff resulted in time away from work, two required medical treatment and one resulted in restricted duties.

2. Of the 30 Watercare incidents recorded in March, five required first aid on site, six needed no treatment, and 14 resulted in no injuries.

* Prior to March 23, a combined WSL/Contractor number was reported

3. Critical Risk Exposures: There were no high potential critical incidents or close calls in March. There were 3 incidents involving critical risks, none of which resulted in injury.

Hazardous materials 2 Mobile plant 1

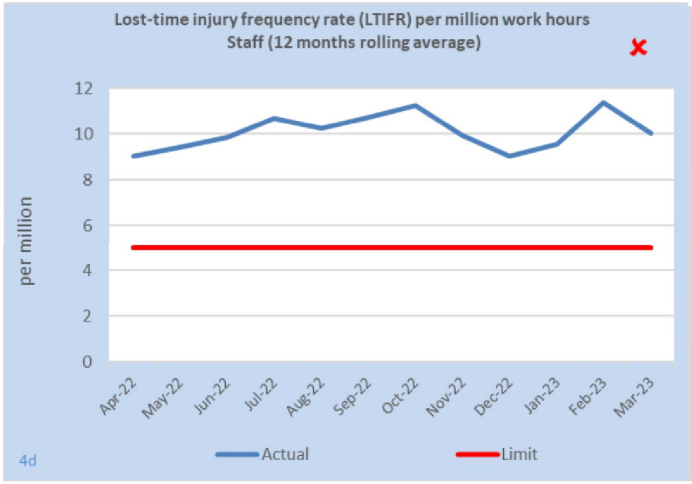
Hazardous materials 2

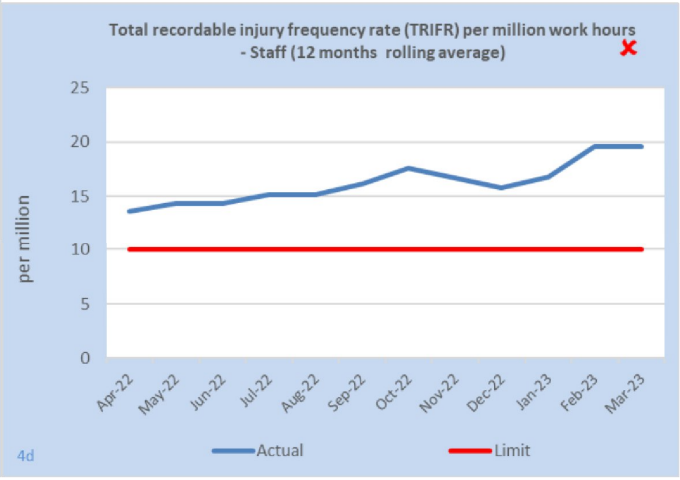
- In one incident, chlorine was found to be leaking from a valve. Kaimahi identified the leak and rectified on site.
- The second incident involved splashes of product during a work task that was washed and managed on site.

Mobile plant 1

- When using a mobile pump, an electrical fault caused the equipment to start to smoke. The pump was shut down and sent for repair.

3.2.2 LTIFR / TRIFR Measures





3.2.3 Contractor incidents

	Note	2023			2022								
		Mar	Feb	Jan	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr
No. of recordable injuries	1	4	8	6	3	3	7	5	4	9	6	8	8
Critical risk/all incidents	2,3	20/45	12/73 *	4/49	4/29	16/58	17/45	7/40	8/54	18/62	17/74	20/76	14 /60
High-Potential Critical events	2	-	-	-	1 Suspend-ed load	-	-	1 Mobile plant	-	-	-	-	-

1. In March there were four recordable injuries to contractors.

One of these injuries resulted in lost time, two required medical treatment, and one injury required restricted duties.

2. Of the 45 contractor incidents recorded in March, eight required first aid on site, one needed no treatment and 32 resulted in no injuries.

* Prior to March 23, a combined WSL/Contractor number was reported

3. Critical Risk Exposures: There were no high potential critical incidents or close calls in March. There were twenty incidents involving critical risks; one requiring treatment for a grout burn and four which required first aid treatment on site.

Hazardous materials	2	Mobile plant	5	Fire	1	Working in live traffic	2	Isolations	2
Service strike	5	Electricity	1	Suspended load	2				

In coming months we will split the critical risk events between Watercare and contractor exposures so we can more clearly see where our risks lie.

Hazardous materials 2

- Both incidents involved grout splashing onto skin during concreting. In one case, the grout led to a burn which was treated at the medical centre.

Mobile plant 5

- There were two minor derailments in the tunnel at the California switch. This switch has been problematic and is being redesigned. Until that work is complete, kaimahi are excluded from this part of the walkway when the train is passing to ensure no-one is hurt.
- One incident involved a small excavator that lost traction when tracking down a grassy slope
- Two incidents involved plant that had minor failures that have been repaired

Fire 1

- A spark from a welder landed on the operator's overalls. It was seen by the fire watch who turned off the gas and doused the flame. First aid was provided on site.

Working in live traffic 2

- A driver clipped a traffic management barrier during a turn. The barricading was modified to ensure drivers were unable to turn too early.

- A Watercare branded vehicle sped through a site prior to work starting. The truck was unrelated to the work and was a contractor vehicle. The incident was discussed with the driver.

Isolations 2

- In one case, a grout line isolation failed and an operator was sprayed with grout.
- In a second case, work was carried out by a contractor on a production site without isolations or an approved permit.
- Watercare has started a review and update of isolation procedures which will take three months. Discovery sessions have been scheduled in May.

Service strike 5

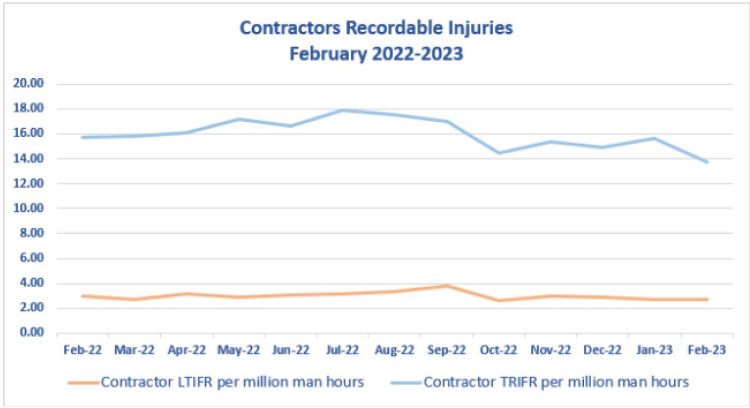
- In one case, during repair of a water lateral, contact was made with a gas line. Repaired that day.
- In four other instances, services were struck when they were in unexpected locations. All were repaired on the same day.
- In May, a workshop is being held with Chorus and relevant Watercare contractors to improve the number of Chorus strikes.

Electrical 1

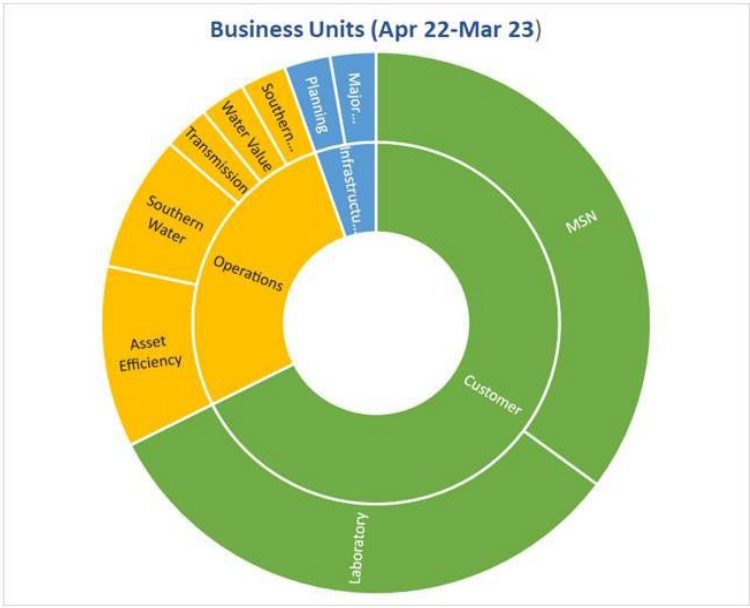
- During site set-up, an electrical line feeding a residential property was snagged and brought down. Vector attended site to repair and reinstate power.

Suspended load 2

- Both instances occurred during material delivery to site. Loads were only lifted a short distance but in both cases, the load became insecure. Rigging procedures and competency are being reviewed with contractor sites.



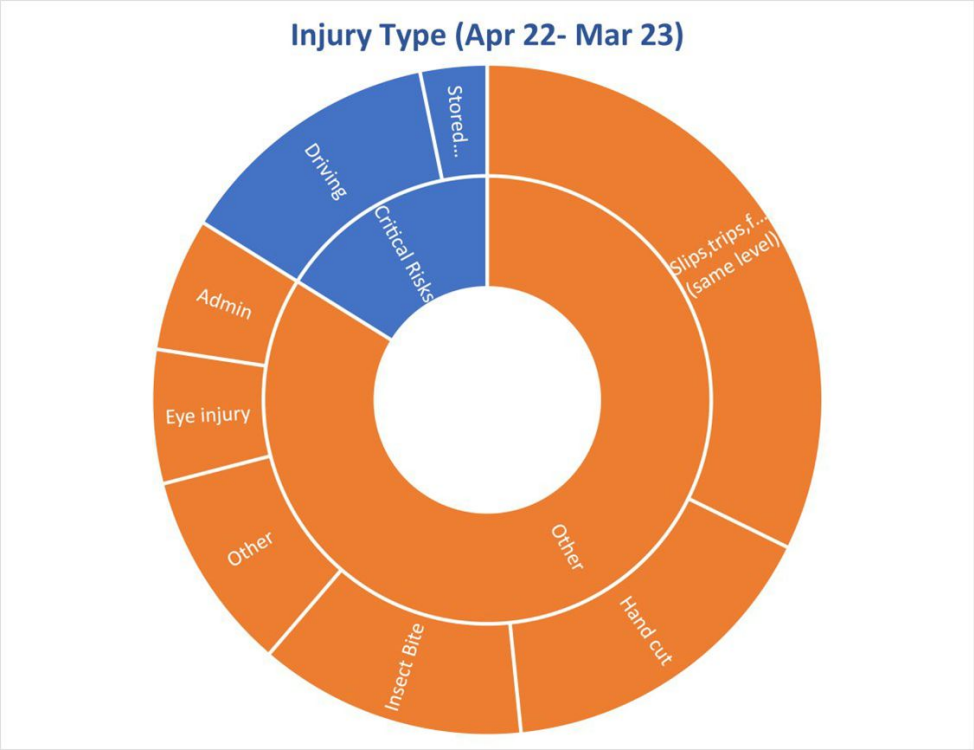
Injuries by Business Unit – Last 12 months



Exec	Transition	1
Customer	Laboratory	12
	MSN	13
Infrastructure	Major Projects	1
	Planning	1
Operations	Southern Waste	1
	Southern Water	3
	Asset Efficiency	4
	Northern Water	0
	Water Value	1
	Transmission	1
	WDC	4
	Production	2
Corporate Serv.	Finance	1
		45

	Hours Worked
Ops	51,848
MD	17,017
Lab	19,694
MSN	14,735

Injury type and mechanism – Last 12 months



Critical Risks	Driving	4
	Stored Energy	1
Other	Admin	2
	Slips,trips,falls (same level)	10
	Other	3
	Eye injury	2
	Hand cut	5
	Insect Bite	4
		45

8

3.3 Critical risk review – Fixed Plant and Equipment

What is fixed plant and equipment?

Fixed plant is heavy machinery, equipment, or apparatus used for a permanent or semi-permanent industrial activity. Examples of fixed plant at WSL are: valves, tanks, silos, treatment vessels, gantry, pumps, conveyors.

Equipment is a portable tool/set of tools with a mechanical aspect (not a hammer) – power tools, compactors, pneumatic drill/jack hammer, concrete saw etc.

What are the biggest risks for Watercare and how frequent are these risks encountered?

All of Watercare's sites and offices use some type of fixed plant or equipment, with some posing greater risks than others.

There is, therefore, a high level of exposure; however, serious injuries and events are uncommon.

Which parts of the business are affected and how big is our exposure to these risks? (Contractors or WSL staff)

Infrastructure sites: Fixed plant is quite rare on infrastructure sites (CI uses conveyor and gantry system). Powered equipment and mobile plant are very common.

Operation sites: Wastewater and Water treatment plants work with a lot of fixed plant - process equipment, valves, and treatment vessels. Powered tools, mobile plants as well as fleet vehicles are used by our Maintenance Delivery, Network, MSN teams to conduct our services i.e. Repairs, maintenance, and operations. They also use a variety of powered equipment.

What are our controls and which controls are working well/need improvement?

- **Prevention Controls –** guarding, inter-locked guards, noise/vibration insulation, emergency cut-offs, alarms and self-regulating controls, audible alarms, motion sensors, lights, radio sensing devices, lock out tag out (LOTO).
- **Process Controls –** inspections and maintenance, standard operating procedures, job safety analyses, risk assessments and training
- **Recovery Controls –** emergency stops, emergency response plans, PPE, emergency response kits e.g. Spill kits

What needs work – Isolation process/Lock out – Tag out (LOTO) needs attention to ensure consistency across the business. We have recently seen incidents/near misses involving isolations and work needs to be done to make it better.

The HSW Team have begun a full review of the isolations and LOTO processes with a series of Learning Teams.

Board meeting | 9 May 2023
Public session

Auckland Drought Management Plan

For approval

Te pou whenua tuhinga / Document ownership

Prepared by
Andrew Lester
Water Rescource Manager

Recommended by
Mark Bourne
Chief Operations Officer

Submitted by
Dave Chambers
Chief Executive Officer

1. Te tūtohunga / Recommendation

It is recommended that the Board approves Watercare's Auckland Drought Management Plan (March 2023) , which was endorsed by Auckland Council's Planning, Environment and Parks Committee on 30 March 2023.

2. Whāinga / Purpose

This report briefs the Board on the Council endorsed 2023 Drought Management Plan (DMP), which updates the 2020 DMP. The update was informed by the 2019-2021 Auckland Drought and to take into updated climate data, and changes to the water supply system.

The updated 2023 DMP remains consistent with Watercare's Drought Standards and the corresponding Levels of Service, and reflects the following key updates:

- Learnings from the 2019-2021 Auckland Drought after an extensive review and engagement with stakeholders.
- The additional Water Sources that have been developed, initially in response to the drought and now to support growth.
- Greater clarity of roles and responsibilities between Watercare, Auckland Council, and Customers.

3. Kōrero pitopito / The details

- The Drought Management Plan (DMP) is a tactical plan that guides Watercare, and the role of our customers should take when we need to respond to drought.
- The DMP is designed to ensure sufficient water is available to meet Aucklanders' core needs and to comply with the overarching Drought Standard set by Auckland Council.

- Following the 2019-2021 Auckland Drought, an extensive review and consultation process was undertaken with key customers, Council staff, and the Mana Whenua Kaitiaki Forum. In response, the updated 2023 DMP was developed. The 2023 DMP is an evolution of previous DMPs, however the formatting and language has changed to improve accessibility and clarify the roles and responsibilities between Watercare, Auckland Council, and customers. The DMP was also workshopped and endorsed by the Planning, Environment and Parks Committee of Auckland Council, noting that Council staff and Watercare will now work collaboratively to develop a Peak Demand Management Plan and ensure integration with any drought response is in alignment with the Auckland Water Strategy.
- Drought Trigger levels have been developed for those areas that have some component of their supply provided by surface water (dam and/or rivers) with the DMP being activated by changes in levels that signal drought conditions. The DMP then guides operational responses to be triggered as these levels lower. Responses include early communications and engagement with customers and the public to reduce demand as much as possible to mitigate the need for water use restrictions. Should water use restrictions be required, Watercare's communication will respond accordingly.
- Watercare's methodology for setting trigger levels uses current climate trends and results in seasonal variations to the storage trigger levels. For river water sources, these trigger levels are constant throughout the year.
- In contrast, our non-metropolitan communities – Warkworth, Snells/Algies, Muriwai, Bombay, and Waiuku – that draw their supplies from groundwater under conservative allocation regimes, are generally not susceptible to short or medium-term drought conditions.
- Watercare's role is to monitor supply and demand to identify when a drought has been triggered, and the Council's role is to approve the introduction and lifting of water use restrictions at Watercare's recommendation.
- The DMP is updated on average every two years, although trigger levels may be reviewed annually when changes to system configuration impacts the headroom between water demand and water available for supply.

4. Ngā whakaaweawe ki a Watercare / Impact on Watercare

There is limited impact on Watercare in approving the 2023 DMP as it reflects Watercare's current operating environment. The DMP will be published on the Watercare website.

5. Ā muri ake nei / Next steps

Once approved, the 2023 DMP will replace the existing 2020 DMP. The operative 2023 DMP will put the new trigger levels in place with the associated schedule of water use restrictions.

6. Te whakapiringa / Attachment

Attachment number	Description
1.	Auckland Drought Management Plan (March 2023)

Attachment 1

9.1

Auckland Drought Management Plan

March 2023

Document control

Document responsibility

Requests for change to this document are to be submitted to the Water Resources Manager and recommended by the Head of Water Value. All changes are to be approved by the Chief Operations Officer, Chief Corporate Services Officer and Chief Customer Officer prior to release.

Recommended for issue

Title	Signature	Date
Head of Water Value		

Authorised for release

Title	Signature	Date
Chief Operations Officer		
Chief Customer Officer		

Distribution

Title	Controlled copy number
Water Resources Manager	
Communications Manager	
Head of Customer Insight	
Head of Commercial Customer	
Head of Water Value	
Head of Operations Excellence	
Head of Production	
Head of Service Delivery	
Head of Risk and Resilience	
Operations Manager, Waikato District Council	
Auckland Council	
Veolia	

Amendment register

Version	Description of changes	Changed by	Date
Version 2	Adopted the feedback from Council, as discussed and agreed	Mark Bourne	23/08/2022

Introduction

The Auckland Drought Management Plan consists of two parts:

Part A is a summary that provides the context, planning framework and drought management responses.

Part B provides detailed information that supports the management responses.

Part A – Summary of the Auckland Drought Management Plan

Context

Watercare Services Limited (Watercare) is an Auckland Council controlled organisation (CCO) that provides water and wastewater services to 1.7 million people in metropolitan Auckland and nearby communities. The water supply system is designed and operated to meet two Council-endorsed levels of service (LoS) which require Watercare to supply unrestricted demand unless circumstances impact their capacity to do so. The first LoS, also called the drought standard, is that unrestricted demand is to be met while keeping the volume in Auckland's storage lakes above 15%. Known as total system storage (TSS) this volume is the combined amount of water currently stored behind the Waitākere and Hūnua Range dams. During a drought, restrictions on certain uses of water may be imposed so that Watercare can prudently manage supply and reduce the likelihood of reaching 15% TSS which would trigger an emergency. The hydrologic model on which the water supply system is based predicts no more than a 5% chance of restrictions being needed in any given year. That probability is the second LoS.

Levels of service:

- Meeting demand while keeping storage volumes above 15%
- No more than a 5% chance of restrictions being needed in any given year

Two consecutive years of low rainfall in 2019 and 2020 demonstrated how fast storage lake levels can fall, especially when combined with high rates of customer demand during hot dry summers. A structured approach to managing short-term rainfall deficits – 'hydrological droughts' – is therefore essential for Watercare. This Drought Management Plan (DMP or 'the/this Plan') fulfils that purpose by specifying the activities Watercare undertakes at each stage of a drought, including planning during non-drought times and when low rainfall persists, as well as after a drought has ended. Watercare's approach to this water supply continuum are shown in Table 2.

The DMP is not a strategic plan for long-term water security, but rather a tactical plan that guides Watercare personnel and communicates how the Auckland community plays their part in managing drought. The *Auckland Water Strategy*, released in early 2022, is Auckland Council's 30-year blueprint to protect and enhance *te mauri o te wai*, the life-sustaining capacity of water. Among other important objectives, the Water Strategy outlines how water security will be strengthened to meet the challenges of climate change and population growth. Short- and medium-term actions under the Water Strategy will build on water security plans already developed by Watercare, such as the *Asset Management*

Plan 2021-2041, Water Efficiency Plan 2021-2025 (WEP), and *Demand Management Plan 2013-2016*.

Framework

Figure 1 below shows the framework within which the Drought Management Plan operates. The strategy plans in each level respond to the directions/shifts enunciated in the level above:

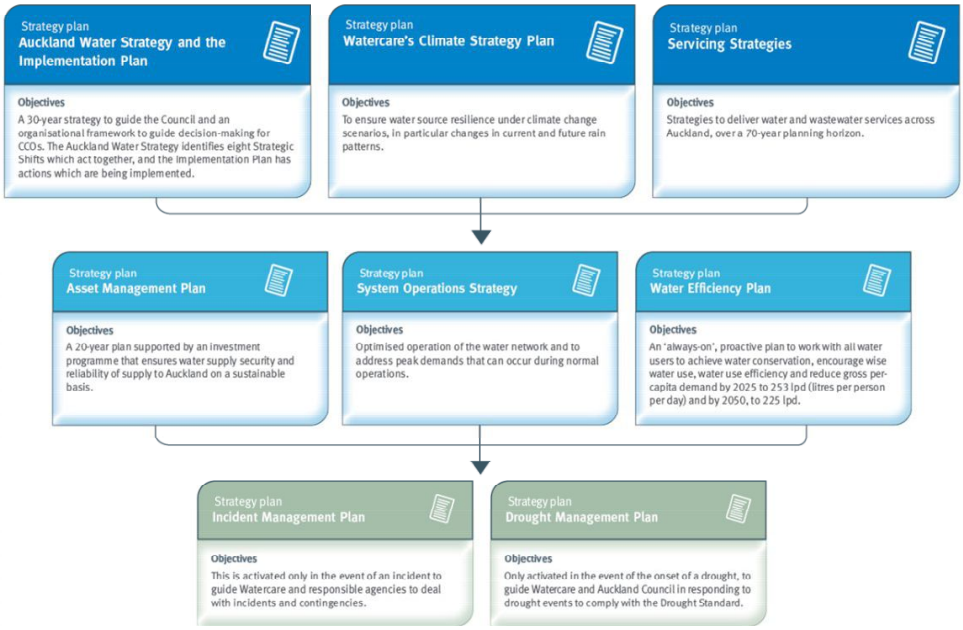


Figure 1. The hierarchy of Strategy Plans for water security and reliability of water services

This DMP is an update of the 2020 version and it:

- incorporates learnings from previous Auckland droughts and from drought management specialists in other jurisdictions
- builds on previous drought management work by Watercare and others to broaden the evidence base (key information sources are listed in **Appendix A**)
- revises the projections for annual average, summer, and peak-week water demand (in megalitres per day (ML/d))
- incorporates new supply sources (additional raw water volumes plus increased treatment and transmission capacity) and improved system operation
- reflects the relationship and partnership-based approach of Watercare with its customers and the community in managing demand
- builds on Watercare's engagement with residential and non-residential customers during non-drought times to enhance water use efficiency, seek alternative water sources for non-potable uses, and reduce overall baseline consumption
- specifies the supply-based triggers for each stage of a drought and how Watercare and its customers need to respond
- modifies the restricted water uses should they be required to manage a deepening drought.

Watercare developed a set of guiding principles (Figure 2) to facilitate the updates to the Plan. The guiding principles reflect leading practice in planning for drought management and water security more broadly.

Figure 2: Guiding principles for updating the DMP

Drought resilience is a shared responsibility between Watercare, all water users and Auckland Council. The DMP update has considered the experiences from the most recent drought, feedback from previous reviews and has been prepared in consultation with Council, commercial and residential customers. In developing the management responses to drought, the DMP addresses supply side measures, demand side measures and operational measures.

The DMP is to be reviewed every two years and/or after each drought event and/or after changes in Watercare's operating environment or the planning framework. This provides assurance that the DMP remains contemporary and effective. Future DMP updates will address the objectives, targets and performance measures identified in the *Auckland Water Strategy*.

The DMP applies to all customers who use water from Watercare's supply system. This includes people who rely on private tankers that source water from Watercare's network. The area currently serviced by Watercare is shown in Figure 3. Most customers access potable (drinking) water from the metropolitan bulk water supply network. There are also smaller communities supplied by stand-alone sources. Those communities may experience hydrological drought at different times or have water supplies that are not highly susceptible to drought conditions.

Please note, the DMP does not preclude the procedures contained within this plan being used to manage other non-drought events that require a significant reduction in water supply consumption.

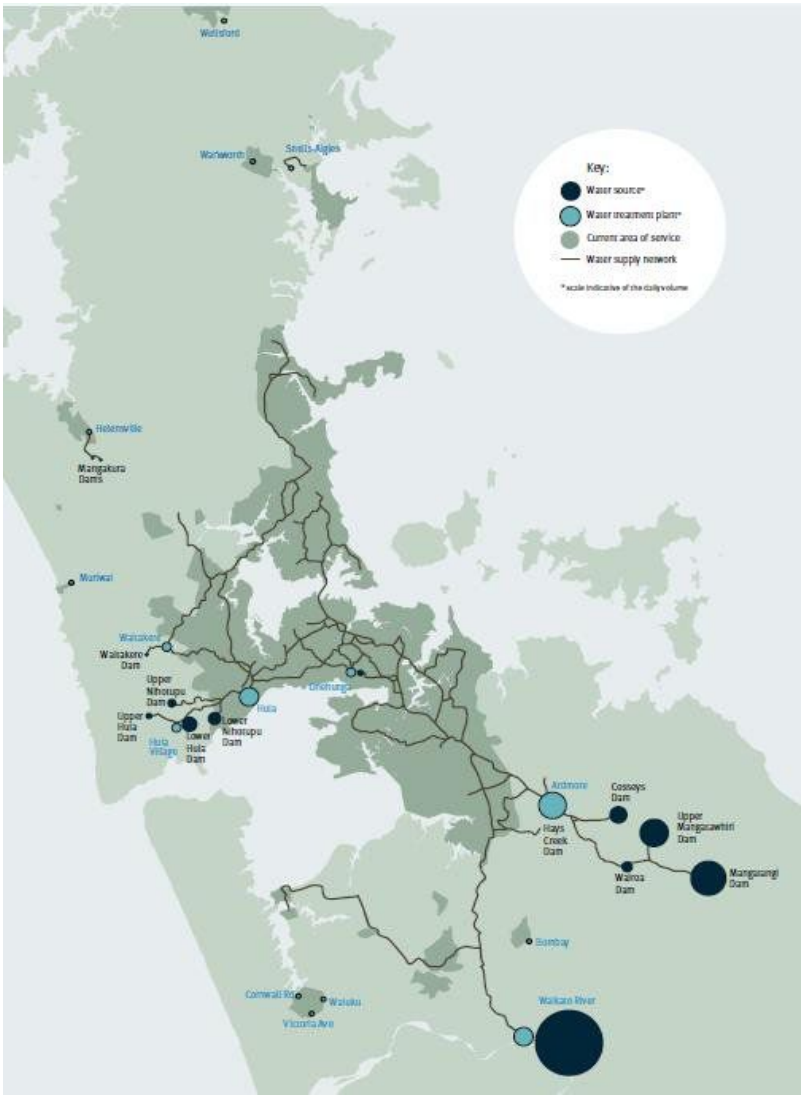


Figure 3: Map of Auckland water supply area subject to the DMP

(includes metropolitan and non-metropolitan areas)

Watercare has recently invested in a range of new supply sources and network operating efficiencies to enhance Auckland's resilience to drought. While supply and operational improvements are business-as-usual for Watercare, the focus of managing short-term droughts is about reducing demand via:

- demand management programs, e.g., communication campaigns on how to conserve water, targeted education programs, direct engagement with large water users to enhance efficiency and seek alternative sources for non-potable uses
- formal water restrictions if TSS falls to certain trigger levels.

Implementation of actions in the WEP aims to achieve a 5% reduction in daily water use, thus creating a new (lower) baseline demand. Together with additional supplies from non-dam sources, particularly the Waikato River, the drought trigger levels now occur at lower TSS percentages than in the previous DMP. In other words, supply sources other than the Waitākere and Hūnua Range dams (on which the

drought standard was based) now supplement supply so that the dams can be drawn down further before drought responses are triggered. This provides more reliability to Watercare customers.

The seasonal triggers that apply to metropolitan Auckland for each drought stage, based on TSS percentages, are shown in Figure 4. The data that underpin this graph are revised regularly as part of normal planning cycles to reflect changes in population and any new supply sources. These trigger levels may be updated independent of this drought management plan. Drought triggers for applicable non-metropolitan customers on stand-alone supplies are provided in **Appendix B**.

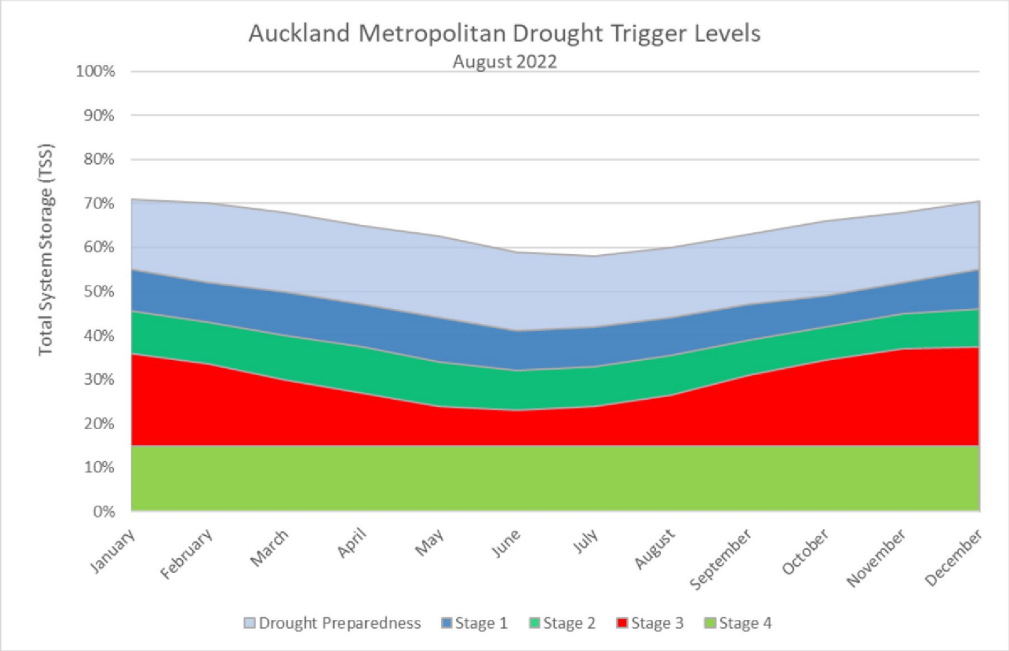


Figure 4: Metropolitan Auckland drought trigger levels (updated August 2022)

Management Responses

Table 2 outlines the range of Council approved activities and measures undertaken in response to each drought stage except Stage 4[1], as well as under normal operating conditions and in the recovery period after a drought. The responses involve all aspects of water security – supply, demand, and system operation – where reducing demand offers the greatest opportunity to manage the effects of hydrological drought.

The drought preparedness stage includes communications campaigns aimed at raising awareness of impending water scarcity and encouraging the voluntary uptake of water saving measures. The more successful this stage is, the longer Aucklanders can defer, or even avoid, the introduction of water restrictions should the rainfall deficit continue.

Table 1: Savings targets per drought stage

Phase	Performance objective	Water saving measures	Savings target per stage	Cumulative savings
BAU combined with drought preparedness	WEP targets	**Voluntary**	5%	New baseline
Stage 1 restrictions	5% probability of occurring	**MILD** Mandatory residential and voluntary non-residential	5%	5%
Stage 2 restrictions	2% probability of occurring	**MEDIUM** Mandatory residential and non-residential	5%	10%
Stage 3 restrictions	1% probability of occurring	**HIGH** Mandatory residential and non-residential	5%	15%
Stage 4 restrictions	0.5% probability of occurring	**CRITICAL**	TBC	TBC

Stage 1 sees the introduction of **mandatory** outdoor water restrictions for **residential customers** and **voluntary** demand reduction targets for **non-residential customers**.

Stages 2 and 3 introduce more restrictions progressively and the savings are incremental and cumulative. The 5% savings targets appear uniform but it is acknowledged that reducing demand becomes progressively harder, once the outdoor use is minimised. Stages 2 and 3 will trigger:

- **mandatory** restrictions are introduced for **non-residential** customers,
- *outdoor and/or non-core-business related uses of potable water* for **all customers** are restricted further, and
- *indoor water use efficiency* is strongly promoted to encourage behaviour change and wise water use.

Implementation of the DMP is a shared responsibility of Watercare and Council, and is governed by legislation and protocols. Once activated, the Incident Management Plan will direct response actions. The DMP is designed to be proactive, thus reducing the need for reactive enforcement.

Further guidance on permitted non-essential water uses under the different water restriction stages is provided in Appendix C.

[1] Stage 4 constitutes a state of water supply emergency that would require extreme interventions by Council and Government. There is a very low probability of TSS falling below 15%.

Table 2: Drought management responses

		Operational Phase					
		Normal operations	**Drought preparedness**	**Drought - Stage 1**	**Drought - Stage 2**	**Drought - Stage 3**	**Drought recovery**
Weather conditions		No rainfall deficit	Dry seasons/ potential drought	Rainfall deficit	Worsening rainfall deficit	Severe rainfall deficit	No rainfall deficit
Drought Triggers – Metropolitan Auckland	Total system storage (refer to Figure 3)	Above the drought preparedness range for the time of year	Within the drought preparedness range for the time of year, trending down	Within the stage one range for the time of year	Within the stage two range for the time of year	Within stage three range for the time of year	Above the drought preparedness range for the time of year
	Waikato River levels	River flows above minimum rates specified in consent conditions	Abstraction from the Waikato River may be restricted by 15%.				River flows above minimum rates specified in consent conditions
Consumption Monitoring	Reduction Targets	WEP 2025 to achieve ~253 L/p/d (~430 ML/d total production) and Water Strategy 2050 to achieve ~225 L/p/d		**5%**	**10%**	**15%**	WEP 2025 to achieve 253 L/p/d (~430 ML/d total production) and Water Strategy 2050 to achieve ~225 L/p/d
Planned response	Drought Management Team	Not applicable	Drought Management Team in place with monitoring	Drought incident and response team in action			Post drought review

		Operational Phase					
		Normal operations	**Drought preparedness**	**Drought - Stage 1**	**Drought - Stage 2**	**Drought - Stage 3**	**Drought recovery**
	Resource management and supply projections	Baseline monitoring - daily abstraction data, rainfall and dam levels, river flows and groundwater	Increase to weekly monitoring, start tracking against early warning indicators and resource trigger curves, enhanced water level and quality monitoring. Increase to monthly resource projections	Daily monitoring and resource tracking. Projections on request (Drought Management Team)			Return to monitoring as per normal operations
	Environmental Monitoring	Adherence to resource consent conditions					
	Communications	Always on: Waterwise campaigns, delivered through multiple channels	Strengthen messaging in communications and target key customer groups with owned (e.g. company websites /apps /newsletters /social media) and earned (e.g. mainstream media) channels	Continue to strengthen messaging in communications, target key areas including paid for activity and increase frequency	Combination of reach and targeted activity across all paid, owned and earned channels on a frequent basis with escalations as and when required		Share case studies of customer initiatives/innovations to save water; and thank customers for their savings efforts
	Pressure and leakage management	Always on: Leak detection and pressure management	Proactive leak management and increased resources for reactive work	Increase investment in leak detection and resources to unplanned work. Commit to faster service level agreements on leaks			Return to leak detection and pressure management as per normal operations
	Source and plant optimisation	Routine operations	Review need for proactive maintenance, abstraction regimes Prioritise drought related investment, optimise abstraction regimes				Routine operations

		Operational Phase					
		Normal operations	**Drought preparedness**	**Drought - Stage 1**	**Drought - Stage 2**	**Drought - Stage 3**	**Drought recovery**
	Non-potable Sources	Monitor demand for existing non-potable services	Investigate additional locations to set up non-potable sites	Set up for commercial customers	Mandated for commercial segments such as construction and cleaning services		Monitor demand for existing non-potable services
RESTRICTIONS							
Residential		**Communications** Always on: Waterwise campaigns, delivered through multiple channels	**Communications** Strengthen messaging in communications and target key customer groups with owned (e.g. company websites /apps /newsletters /social media) and earned (e.g. mainstream media) channels Engage with Council to prepare for the triggering of water restrictions under Clause 12 of the *Water Supply and Wastewater Network Bylaw 2015*.	Outdoor water use only permitted with irrigation system, trigger nozzle on hand held hose, or bucket on alternate days with recommended time of day. Indoor water saving messages will be promoted.	Outdoor water use only permitted with irrigation system with a moisture sensor, trigger nozzle on hand held hose or bucket. Exterior house washing only by a qualified water efficient exterior cleaner Indoor water savings tips will be promoted heavily.	Total ban of irrigation sensors and trigger nozzle. Only use of bucket is allowed outdoors unless for health and safety reasons. Indoor water savings tips and water resuse will be promoted heavily.	Always on: Waterwise campaigns, delivered through multiple channels

	Operational Phase					
	Normal operations	**Drought preparedness**	**Drought - Stage 1**	**Drought - Stage 2**	**Drought - Stage 3**	**Drought recovery**
Non-residential	**Communications** Always on: Waterwise campaigns, delivered through multiple channels Water savings plans developed with segmented customers where needed	**Communications** Strengthen messaging in communications and target key customer groups with owned (e.g. company websites /apps /newsletters /social media) and earned (e.g. mainstream media) channels	Commercial voluntary savings 5-10% Indoor water saving messages will be promoted	Commercial sectors who can use non-potable water for their core business must use it, e.g. construction, cleaning, car washers Potable water cannot be used for non-core business activities, e.g. garden watering, vehicle washing Exterior building washing only by a qualified water efficient exterior cleaner, i.e. Exterior Cleaning Industry Association (ECIA) member following water efficient cleaning standards. Indoor water savings tips will be promoted heavily	Water efficiency audits in place and customised water savings plans agreed with top 50 water-using customers Remaining commercial customers 15% mandatory savings	Always-on: Waterwise campaigns, delivered through multiple channels Water savings plans developed with segmented customers where needed

Part B – Management Response

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Figures

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Glossary

Term	Meaning
Abstraction	The pumped or gravitational release of water from a supply source into the water treatment and distribution system.
Aquifer	An underground body of water between layers of rock; water sourced from an aquifer is called groundwater.
BAU	'Business as usual'; refers to normal system operations.
Catchment	The area of land where rainfall collects and drains into a waterway. Water supply catchments are those that collect rainfall which drains into a storage lake behind a dam or any other waterway that is used as a source for human water supply.
Critical customers	Customers, such as dialysis patients, who rely on water availability more than most.
Cumecs	Cubic metres per second; an engineering and hydrological term for measuring the flow rate of water flowing past a certain point.
Dam	A constructed barrier in a waterway to hold back water for later use
Demand management	A suite of measures to reduce daily water consumption by both residential and non-residential customers to prolong existing water supplies; an important tool during times of drought.
Drinking water	Water that has been treated to a standard that is safe for human consumption. Drinking water is also called potable water.
Drought	A shortage of rainfall that has caused or threatens to cause depletion in water storage lakes or other raw water sources to levels that may lead to an imbalance between supply and demand. A Severe drought is modelled to have a 1% (1 in 100) probability of occurring in any given year.
Drought standard	See Level of service
Drought yield	Drought yield is used to quantify the maximum yield available from a source during drought conditions. The maximum yield could be limited by the yield derived from the stochastic data set for periods of drought, capacity constraints of the infrastructure connected to the water supply or consent limits.
EPA	Environmental Protection Authority (NZ)
Fit-for-purpose water	The level of treatment of water required for its intended use. Often used to describe the amount (and associated cost) of retreatment (or recycling) of wastewater to a standard that is suitable (i.e., fit) for its subsequent purpose.
Gross demand	The volume of water (in ML) produced by all WTPs combined over a 24-hour period, minus the portion of bulk water stored in reservoirs across the network for use the following day
Gross per capita demand	See L/p/d
Hydrological drought	An extended meteorological drought (lower than normal rainfall) that affects urban water supply.
Integrated Source Management Model (ISMM)	A computer model used by Watercare to make daily decisions on the most efficient and cost-effective supply source to abstract water from (when used in Real Time mode). Other modes enable the model to be used for different planning processes and timeframes.

Term	Meaning
kL	Kilolitre (one thousand litres), equal to cubic meters
kL/d	Kilolitres per day
Level of service	Risk-based framework that the metropolitan water supply system is designed and operated to meet. Referred to as LoS.
L/p/d	Litres of water per person per day. A gross per capita consumption figure calculated by dividing the total volume of drinking water produced (in ML/d) by the current Auckland population. It is not a measure of actual use by each person because the daily production volume also includes non-revenue water and water for the non-residential sector. Individual residential consumption would be a much lower figure.
Mains water	Treated drinking water supplied to customers directly through a metered connection to the public water reticulation system. It includes tankered potable water taken from the Watercare system.
m^3	Cubic metre (one cubic metre equals one thousand litres), equal to kL
ML	Megalitre (one million litres)
ML/d	Megalitres per day
Non-residential use	Water used for commercial, industrial, public open space and other purposes not associated with residential homes.
Non-potable water	Water that is not safe for humans to drink.
Non-revenue water	Treated water produced and distributed but does not pass through a meter and therefore is not paid for; most non-revenue water is leakage (e.g., burst water mains), the rest includes emergency uses (e.g., from fire hydrants), operational use by Watercare, faulty meters and unauthorised use.
Potable water	Water treated to a standard that is suitable for human consumption; it is often referred to as 'drinking water'.
Rated capacity	The maximum capacity of a treatment plant to produce output water to the required quality, at a point in time. Rated capacity may vary in response to factors such as change in raw water quality (e.g., increased sediment after heavy rain), or temporary mechanical problems.
Raw water	Water in its natural state that has not been treated.
Reservoir	Large storage tank for treated water within the distribution network. Reservoirs assist network operators to balance variations in demand at different locations across the service area so that supply is maintained evenly.
Residential water use	Water used by householders either within the home or outdoors. Can also be called domestic use.
Restrictions	Water restrictions are a key demand management measure that specifies water uses not permitted. Restrictions may become more severe as droughts deepen.
Run-off	Water that accumulates on the ground surface when it rains and flows down the surface. In water supply catchments, run-off is

Term	Meaning
	collected and stored in dams, thus increasing the volume in the storage lake. Urban run-off (also called stormwater), such as from roads, is channelled into the stormwater drainage system.
Run-of-river	A situation where water is abstracted directly from a naturally flowing river without an in-stream barrier or dam to hold back water.
Smart water meter	A water meter that communicates water consumption to a computerised reader. Smart meters enable Watercare to routinely read meters much more efficiently.
Spilling	When a dam / storage lake is full, additional inflow from rainfall causes water to passively 'spill' from the dam to the downstream environment.
Spillway	An engineered structure at the top of a dam wall designed specifically for the spilling of water.
Standpipe	A free-standing potable water supply point. Fire hydrants are a type of standpipe. If water shortages become very severe, emergency standpipes can be installed to manage usage.
Storage lake	A body of water held behind a dam constructed in a waterway for the purpose of water supply.
Total system storage (TSS)	The quantity of water available in Auckland's water storage lakes at a given time, expressed as a percentage of the total combined volume of all lakes when they are full.
Water Efficiency Plan (WEP)	Watercare's Plan to achieve water efficiency across its system. As at April 2022 the WEP 2021- 2025 was in effect.
Water Savings Plans (WSP)	Plans developed by commercial customers to achieve and maintain water efficiency within their premises or operations. Sometimes referred to as Water Efficiency Management Plans (WEMP)
Water meter	Mechanism at each customer connection to the mains water supply that measures the volume of water used. Meter readings are the basis of customer water bills.
Water recycling	The re-treatment of water already used for one purpose to a standard that is fit-for-purpose for one or more subsequent purposes. Where the purpose does not require potable-standard water, such as industrial cooling, the use of recycled water reduces demand on the potable water supply.
Water reuse	The reuse of water already used for one purpose for another without active retreatment. For example, household 'grey water reuse' refers to water first used in the laundry, kitchen or bathroom (excluding the toilet) that is collected and subsequently reused for garden watering or other non-potable purposes. Stormwater harvesting and reuse schemes are examples of larger/municipal scale collection and reuse of urban run-off for non-potable uses such as irrigating sporting fields or other open spaces.
WTP	Water treatment plant
WWTP	Wastewater treatment plant

1 Context for drought management

Watercare defines drought as a shortage of rainfall that has caused or threatens to cause depletion in water storage lakes or other raw water sources to levels that may lead to an imbalance between supply and demand. An extended meteorological drought that affects urban water supply is termed 'hydrological drought'.

Drought management is a challenge for all water utilities, particularly as weather patterns are becoming warmer and more unpredictable because of climate change. Every drought is different in terms of its duration, severity and frequency, therefore Watercare constantly monitors supply levels, daily demand, and network operations to allow sufficient preparation time should periods of low rainfall persist.

Being a short-term tactical plan, the DMP is based on prevailing supply, demand and operational parameters, and updated when they change. This section provides an overview the water supply system that services Auckland's metropolitan and non-metropolitan customers.

1.1 Levels of service

The Auckland's metropolitan water supply system is designed and operated to meet the following two levels of service (LoS):

- **LoS 1** – often referred to as the Drought Standard
  Annual average demand within the metropolitan supply area can be met in a severe drought (modelled to have a 1% probability of occurring in any year) while leaving 15% residual capacity in its water supply lakes. Watercare can supply the required volume of potable water to meet demand during a severe drought while keeping the combined lake storage volume of all Auckland's water supply dams (total system storage or TSS) above 15%. 'Watercare would expect to impose some restrictions during this event (see LoS 2).
- **LoS 2** – demand restrictions
  Proactive demand restrictions will be required no more frequently than that required for an event with a 5% probability of occurring in any given year. The modelled peak supply/demand balance is designed to show the forecast peak demand (without restrictions) during a dry summer with a 5% (1 in 20) probability. Under drier conditions (leading to higher demand), Watercare could impose restrictions to reduce peak demand while continuing to meet the LoS.

1.2 Current water supply system

Water for Auckland's metropolitan region comes from three main source types:

- Surface water storage (dams) in the Waitākere Range west of the city, and the Hūnua Range to the south
- Groundwater
- Run-of-river flows

The non-metropolitan communities are supplied as follows:

- Helensville/Parakai – Mangakura Dam and groundwater (Sandhills Spring)
- Warkworth – groundwater
- Wellsford – run-of-river flows
- Snells/Algies – groundwater

- Muriwai – groundwater
- Bombay – groundwater
- Waiuku – groundwater

Table summarises the volumetric contributions of metropolitan water sources.

Table 3: Raw water sources for metropolitan Auckland

Source	Total usable[2] volume (ML)	Sustainable drought yield (ML/day)
Dams – Waitākere Range		
Waitākere Dam	1,760	14.8
Upper Nihotupu Dam	2,200	14.3
Lower Nihotupu Dam	4,600	23.5
Upper Huia Dam	2,200	11.7
Lower Huia Dam	6,400	27.7
Dams – Hūnua Range		
Cosseys Dam	14,030	37.1
Wairoa Dam	11,600	28.1
Upper Mangatāwhiri Dam	16,200	57.9
Mangatangi Dam	35,300	97.5
Hays Creek Dam	1,100	6.2
Total dam supply	**95,390**	**313.6**
Groundwater sources		
Kaawa Aquifer (Pukekohe)	N/A	5
Run-of-river source		
Waikato River[3]	150 (Consent 960089)	150 or 127.5[3]
	150[4] (Consent AUTH 131259.01.01)	150 or 127.5[4]

A customised risk-based model – the Integrated Source Management Model (ISMM) – is used to inform the operating strategy and enables decisions to be made that maximise the yield of the water supply system while minimising the cost of operation. The model generates an 'optimised' abstraction

[2] For dams, the total usable volume is the amount of water that can be physically drawn from the storage lake behind each dam. It is calculated as the volume (in megalitres (ML)) between the spillway at the top and the lowest abstraction point at the bottom. Any remaining water below the abstraction point is called dead storage. The sustainable drought yield per day is the volume of water that is available – through modelling the whole supply system and rainfall dynamics – while meeting the adopted LoS.

[3] Both resource consents contain a condition that under designated low flow rates upstream at Rangiriri, maximum daily take by Watercare is reduced by 15%.

[4] The second 150 ML/d consent was granted in early 2022. Permanent water intake works are yet to be constructed to utilise this volume.

rate from each source per day over a one- to four-week timeframe through input data on how full each storage is, how wet the catchments are, the expected demand, any operational constraints, and forecast rainfall. For example, if the dams are relatively full and normal rainfall is forecast, the model will likely indicate greater abstraction volumes from dams than the Waikato River because dam abstraction is gravity fed (minimal cost) whereas water from the Waikato River needs to be pumped 30 km which requires substantial energy. As a drought progresses, the proportion of water from the Waikato River increases to preserve dam storage for as long as possible. Likewise depending on forecast weather patterns water from the western dams may be abstracted in priority over water from the southern dams and vice-versa.

Watercare operates six water treatment plants (WTPs) that produce drinking water for the metropolitan network plus eight small stand-alone WTPs for non-metropolitan communities. Operators adjust production output from each metropolitan WTP to meet daily and seasonal fluctuations in overall demand as well as daily demand peaks and troughs experienced in different zones within the metropolitan service area. Cost efficiency is also factored into decisions on sources and production locations.

Drinking water produced at the metropolitan WTPs is distributed throughout the city via bulk transmission pipelines then into local distribution networks.

Note, the Onehunga Aquifer has been taken out of service due to water quality issues. This has no material impact on the DMP, or the activities undertaken.

1.3 Demand for water

1.3.1 Overview of demand

Demand refers to the volume of drinking water used by Watercare's customers over a specified timeframe. There are many ways to express demand, all of which depend on the type and veracity of data available.

Watercare generally quantifies demand as the overall volume of water consumed per day. Known as 'gross' demand, it equates to the volume of water (in ML) produced by all WTPs combined over a 24-hour period, minus the portion of bulk water stored in reservoirs across the network for use the following day.[5] In some circumstances, Watercare also uses gross per capita demand in litres per person per day (L/p/d) as a baseline or target demand figure[6].

Gross demand in the Auckland metropolitan area has grown from a rolling 12-month average of 326 ML/d in 2000 to about 420 ML/d in 2020. Actual usage fluctuates from day-to-day and there are marked seasonal increases during the summer.

Water demand in metropolitan Auckland comprises:

- residential demand
- non-residential demand
- bulk water sales

[5] Also referred to as the 'demand proxy' when used for forecasting future demand.

[6] Gross L/p/d is calculated by dividing the gross daily treated water production by the current Auckland population. While it may be useful for assessing trends in daily water usage, it should not be interpreted as residential usage per individual because almost one-quarter of gross daily production is used by the non-residential sector.

- non-revenue water.

The volumes and percentages of daily water used by the above demand segments, averaged for the month of November 2020, are shown in Figure .

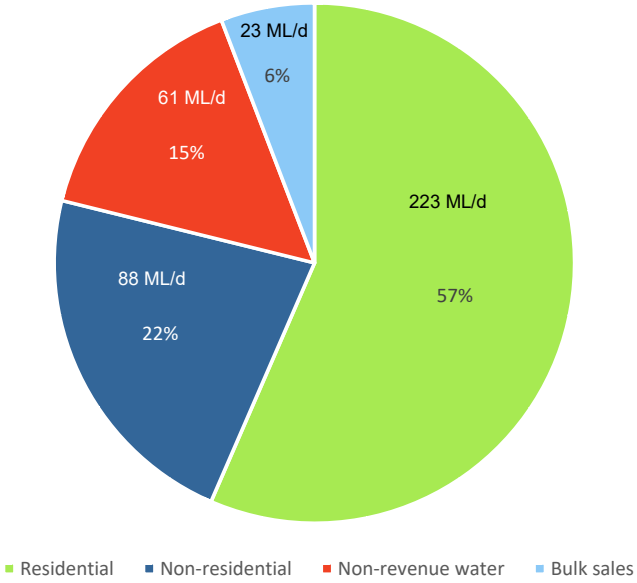


Figure 5: Breakdown of demand, November 2020

1.3.2 Residential water use

About 57% of the total volume of water produced is used by the residential sector in freestanding houses or townhouses. This figure does not include many multi-unit dwellings where water bills are paid by body corporates which are classified as commercial (non-residential) customers.

Residential demand applies to individual households which have metered connections to the network and covers all water use inside and outside the home. Outdoor uses include garden and lawn watering, swimming pool filling and topping up, property maintenance, and washing vehicles or recreational craft.

In 2008, Watercare commissioned research to better understand how household water was used. Conducted by BRANZ, the water end-use study of 51 Auckland homes over summer and winter periods revealed the breakdown (averaged over the two seasons[7]) in Figure .

[7] Note that the averaged outdoor water use (12%) was made up of 6% in winter and 18% in summer. The much higher percentage over summer is an important factor in drought management where restricted water uses target outdoor use particularly in drier summers when overall consumption increases across the community.

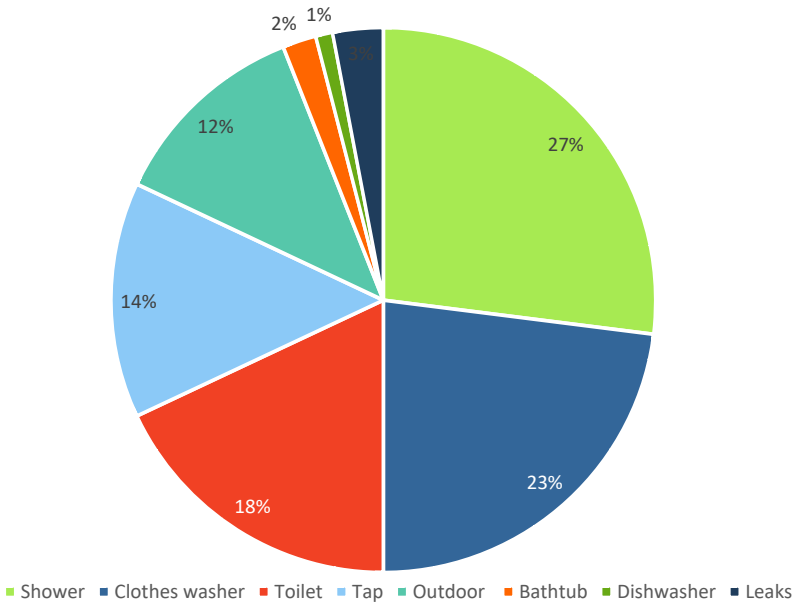


Figure 6: Breakdown of residential water use in Auckland (BRANZ, 2008)

1.3.3 Non-residential water use

Non-residential demand makes up the next largest segment, and comprises:

- **the commercial sector**[8] – shopping centres, office buildings, hotels, laundromats, restaurants, entertainment venues, etc.
- **the industrial sector** – food and beverage processing and packaging, manufacturing, refining, warehousing, distribution, chemical, textiles, and printing
- **the institutional sector** – power stations, airports, government organisations (Auckland Council is a major water user), hospitals, universities, colleges, schools, sporting facilities, etc.
- **'other'** – small percentage of customers outside the above three classifications.

[8] Multi-unit dwellings where water bills are paid by body corporates are classified as commercial (non-residential) customers.

An indicative breakdown of consumption by these sectors is provided in Figure , adapted from the *Auckland Regional Water Demand Management Plan 2013-2016.*

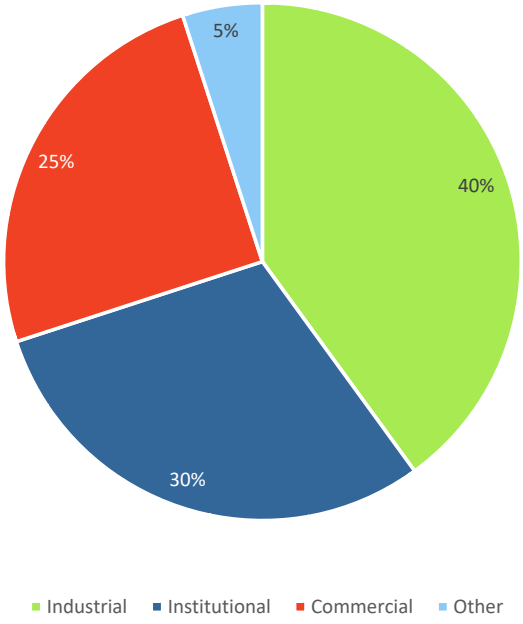


Figure 7: Breakdown of Auckland's non-residential water use

1.3.4 Bulk sales

Watercare sells bulk drinking water via Bulk Water Agreements to other water utilities who on-sell to their customers. Currently, Veolia purchases bulk water for distribution to the community of Papakura, and Waikato District Council on-sells bulk water to Pōkeno and Tuakau. Under the supply agreements, these communities are subject to the same drought response measures as metropolitan Auckland.

Drinking water is also available to water tanker operators who have access to 14 filling stations across the city. Tankered water can be purchased by residents of properties that are not connected to the main metropolitan network for filling rainwater tanks during dry periods. It is also commonly used in the road and building construction industry for dust suppression and other onsite purposes.

1.3.5 Non-revenue water

Non-revenue water is the volume of treated water produced and distributed but not paid for. It includes emergency uses (e.g., fire hydrants), operational use by Watercare, faulty water meters that provide lower-than-actual readings, unauthorised take, and finally leakage, (known as real loss). Real losses form most of the non-revenue water and 12% to 13% of gross demand. Watercare's recent corporate target has been to keep leakage below 13%. With implementation of the WEP, that target is reduced to below 12%.

1.4 Demand forecast

Planning for water security, including for short-term drought management, requires a baseline forecast of likely demand. By starting with baseline demand, various drought response measures can be tested to determine their impact on the water balance. Figure shows metropolitan Auckland's actual water usage (historical demand) since 2000, and the demand forecast adopted for the DMP. Three different forecasts are plotted:

- **Annual average demand – typical year** – the rolling 12-month average projected using the 2000 to 2019 trend line
- **Summer demand** – average projected demand over December, January and February each year
- **Peak week demand** – seven-day rolling averages, based on the 2020 peak weeks.

All the above forecasts assume full implementation of the WEP and the demand savings it aims to achieve (5% to 2025).

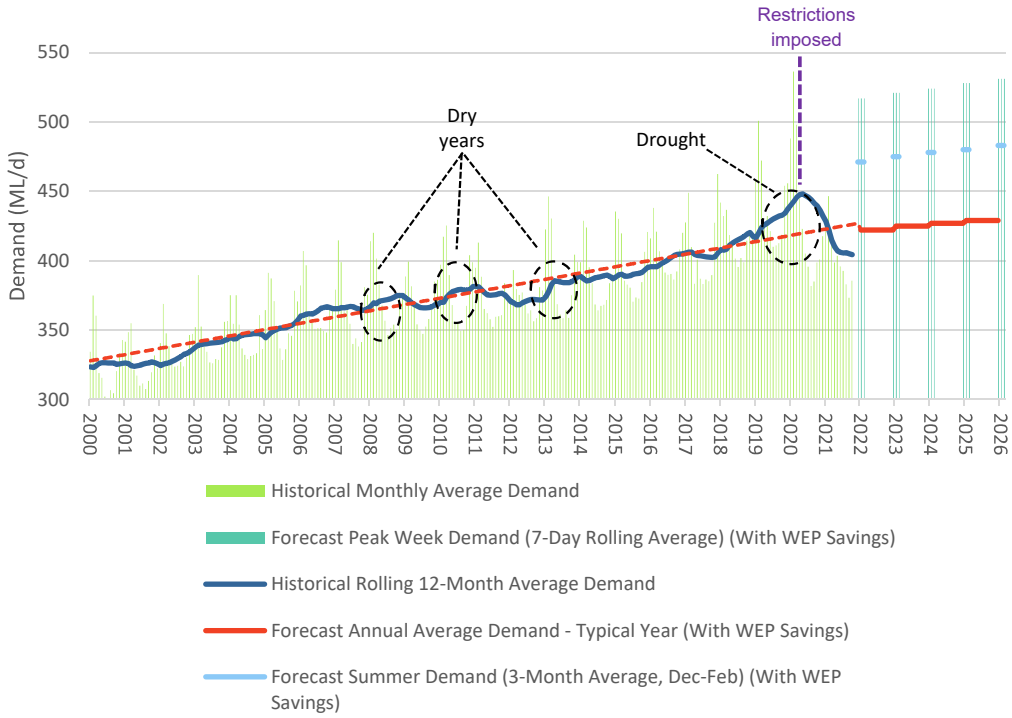


Figure 8: 20-year historical demand and 2022 – 2026 demand forecast

2 Options for managing drought

Drought management refers to the cycle of planning and preparing for droughts as well as responding to and recovering from droughts. Any management options must aim to enhance 'drought resilience' which means the combined capability and capacity of Council, Watercare, and the community to manage through future droughts by taking a collaborative approach.

2.1 Three potential levers

Resilience to drought can be enhanced through adjusting one or more of the three interdependent components (often referred to as 'levers') of the water supply system, i.e., increasing supply capacity, optimising system operation, and managing (i.e., reducing) demand (Figure 9). Supply-side measures, demand-side measures and operational measures work together to achieve the LoS.

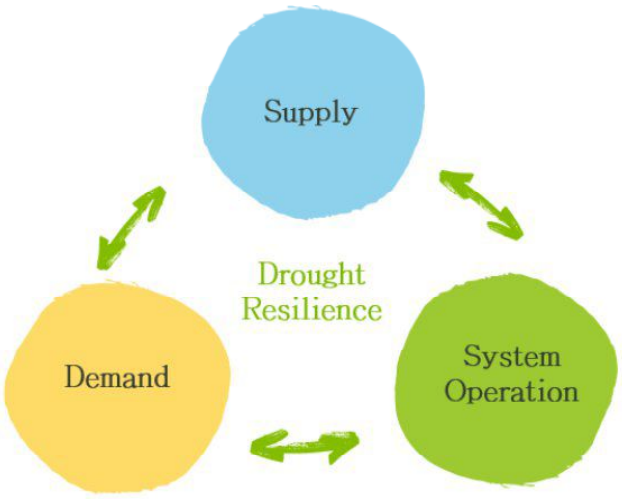


Figure 9: Three interdependent levers to enhance drought resilience

2.1.1 Augment / increase supply

Since the onset of the 2019-2020 drought, Watercare has undertaken an extensive program of supply augmentation through new or upgraded WTPs and securing a resource consent for additional supply from the Waikato River. Table summarises the current drought yield available from the system as identified within the *Asset Management Plan 2021-2041*, including any sources accelerated in response to the 2019-2020 drought.

Table 4: Auckland water supply system drought yield

Supply source	Current drought yield (ML/d)	Notes
Surface Water Storages		
Dams – Waitākere Ranges	87	Reflects the sustainable yield of the Waitākere dams
Dams – Hūnua Ranges	227	Reflects the sustainable yield of the Hūnua dams
Groundwater		
Kaawa Aquifer (Pukekohe)	5	
Run-of-river		
Waikato River	255	Reflects the two 150 ML/d resource consents reduced by 15% during low flow periods. Until a permanent intake is constructed to abstract under the second (issued in 2022) consent, the drought yield is half the 255 ML/d stated (127.5ML/d).
Total	**574**	See notes above

2.1.2 Optimise system operation

As outlined in Section 1.2, Watercare optimises the daily mix of raw water sources via the Integrated Source Management Model (ISMM). This model is a key tool during hydrological drought to extend the total volume of water in Auckland's storage lakes for as long as possible.

Operators of the water treatment and distribution system can adjust WTP production in real time to meet demand variations. This flexibility in the operating system also extends to the movement of water around the network and use of network reservoirs (tanks) in certain supply zones to store treated water in anticipation of higher demand than in other zones, particularly the peak demand at certain times of the day. Ring mains also provide supply resilience and greater operational flexibility.

2.1.3 Reduce demand

Reducing demand is the responsibility of all water consumers, even though the specific actions for each sector may be different. Watercare takes two approaches to facilitate the reduction of demand:

1) Demand management programs, e.g., implementation of the WEP, mass media messaging on how to conserve water, targeted education programs, direct engagement with large water users,
2) Formal water restrictions when TSS reaches certain trigger levels.

Managing **residential** demand requires reductions both inside and outside homes. Most indoor water uses are essential for daily life, but there are many ways for customers to reduce the water used. For example, replacing old and water-wasting shower heads, toilets, taps, and clothes washers with newer, more efficient ones can save hundreds of litres per week per household. Alongside those

technological solutions, changing water-use behaviour also has a significant impact on water consumption. Shortening the time spent in the shower, turning taps off while brushing teeth, and only washing clothes when there is a full load all help to save water.

Outdoor water use is often called ‘discretionary’ use and is typically more of a lifestyle choice, rather than being an absolute necessity especially when water becomes scarcer. Greater scope exists to reduce outdoor use and is the reason that formal water restrictions address these uses first.

Reducing **non-residential** demand requires methods that are tailored to different sectors because their water end uses vary greatly and some businesses and industries may have greater scope than others to reduce consumption while maintaining their core business.

Watercare focuses efforts to encourage water savings through engagement with customers who have the highest usage rates. During the 2019-2020 drought these customers were supportive of investigating ways to reduce their consumption. As with residential customers, discretionary uses by non-residential customers are also subject to mandatory water restrictions.

3 Drought responses

This section provides a greater level of detail to the summary of drought management responses presented in Table 2.

3.1 Drought triggers

Watercare has a drought warning system in place for its bulk water storage system. The combined TSS level for its metropolitan surface water storages is used as an indicator of drought risk and is routinely monitored against drought trigger levels[9]. Figure 10 shows the seasonally adjusted trigger levels for each phase of drought response, including an initial phase (drought preparedness) for Watercare to ramp up drought planning and preparation and communication. This graph is revised regularly as part of normal planning cycles to reflect changes in population and any new supply sources. These trigger levels may be updated independent of this drought management plan.

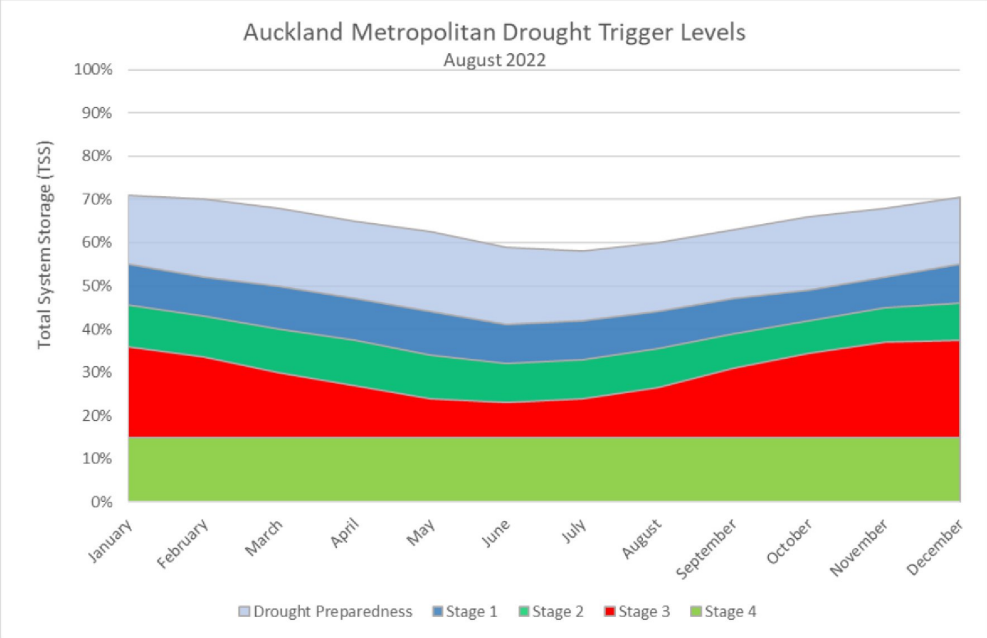


Figure 10: Auckland metropolitan drought trigger levels based on total system storage (updated August 2022)

[9] Although the TSS percentage is the metric used for drought response triggers, water from other sources, e.g., Waikato River, is part of the model and therefore factored into the rate of TSS depletion during hydrological drought.

The TSS trigger levels incorporate the reduction in demand required to ensure there is no system failure due to shortage of water. The following assumptions were made in the calculation of these trigger levels.

- Dry weather demand is higher, including increased demand for tankered water for non-reticulated domestic use.
- The Waikato Water Treatment Plant follows historical reliability.
- There is variation during summer/autumn historical low flow periods.
- There are four weeks of lead time for savings attributable to particular water saving measures to be realised.
- Current maximum outputs of storage lakes and WTPs were used.

3.2 Objectives and targets

A key update since the previous (2020) DMP is the release and implementation of the WEP. The WEP aims to sustainably reduce water demand to a lower baseline for Auckland by improving water use data, optimising network pressure, reducing losses, and increasing residential, community and commercial water efficiency. Overall, the WEP is targeting a reduction of 36 L/connection/day (or achieving gross per capita consumption[10] of 253 L/p/d by 2025). This DMP assumes that the WEP savings will be achieved as part of the BAU and drought preparedness phases, outside of water restrictions.

As dam levels can fall very quickly in dry periods, a phase of ramped up drought preparedness activities is triggered first. Drought preparedness includes communications campaigns aimed at raising awareness of impending water scarcity and encouraging the voluntary uptake of water saving measures. The more successful the voluntary stage is, the longer Aucklanders can defer, or even avoid, the introduction of water restrictions should the drought continue. The performance objectives and total savings target of 5% per drought stage remain unchanged from the previous DMP, as summarised in Table . Water savings realised at each phase may exceed these targets, and if so, place the community in a better water security position.

In Stage 1 **mandatory** outdoor water restrictions are introduced for **residential customers** and **voluntary** demand reduction targets for **non-residential customers**. In Stages 2 and 3 more restrictions are introduced progressively and the savings are incremental and cumulative. The 5% steps in savings targets appear uniform but it is acknowledged that reducing demand becomes progressively harder, once the savings in outdoor water use have been achieved. Restriction measures and their expected outcomes must be easy to implement, measure, monitor and communicate widely, demonstrating effectiveness, equity and fairness. The accuracy of measuring savings over such short time steps combined with the low resolution of end-use demand are inadequate to fine-tune restrictions.

Stages 2 and 3 will trigger:

- **mandatory** restrictions are introduced for **non-residential** customers,
- *outdoor and/or non-core-business related uses of potable water* for **all customers** are restricted further, and
- *indoor water use efficiency* is strongly promoted to encourage behaviour change and wise water use.

[10] Gross consumption is the volume of treated water produced each day divided by the Auckland population. As it includes non-residential consumption and non-revenue water, it is not a measure of everyone's domestic consumption per day. The Auckland Water Strategy's longer-term target is to achieve 225 L/p/d gross consumption by 2050.

Table 5: Savings targets per drought stage

Phase	Performance objective	Water saving measures	Savings target per stage	Cumulative savings
BAU combined with drought preparedness	WEP targets	Voluntary	5%	New baseline
Stage 1 restrictions	5% probability of occurring	MILD Mandatory residential and voluntary non-residential	5%	5%
Stage 2 restrictions	2% probability of occurring	MEDIUM Mandatory residential and non-residential	5%	10%
Stage 3 restrictions	1% probability of occurring	HIGH Mandatory residential and non-residential	5%	15%
Stage 4 restrictions	0.5% probability of occurring	CRITICAL	TBC	TBC

Note: Stage 4 restrictions are required in an emergency when the drought standard (LoS 1) cannot be met. Commencement of detailed planning regarding Watercare's emergency response to Stage 4 restrictions would be based on forecast drought risk. Community engagement regarding minimum expected standards of water supply will help to inform the critical restrictions.

The metropolitan drought management approach will also be applied to those non-metropolitan communities supplied from local stand-alone sources. The formal schedule of restricted water uses will be implemented in a consistently staged approach, using tailored drought response triggers to match the localised risk of shortfall. **Appendix B** provides an overview of triggers for each of the communities where a drought trigger is applicable.

3.3 Drought Management Team

Activating the Drought Management Team – also referred to as the Drought Incident and Response Team – is the first major action Watercare undertakes should the drought-preparedness stage be triggered. This action is a requirement of Watercare's *Incident Management Plan* which comes into play when any 'non-normal' situation or event has the potential to negatively impact achievement of Watercare's operational and strategic objectives. Drought is categorised as an event to be escalated within the incident management framework.

The Drought Management Team brings together all relevant expertise within the organisation to focus efforts on the drought response in a coordinated way.

3.4 Monitoring water sources

Monitoring water supply levels is integral to Watercare's standard operations. However, if a drought is triggered, monitoring efforts are increased because they are the basis upon which decisions for greater investment in the drought response are made.

Baseline monitoring of water availability under normal operations includes short- and long-range weather forecasts, actual rainfall in the dam catchments, dam storage levels, river flow rates, groundwater levels and daily abstraction data. During the drought preparedness stage, these data are collated and reported weekly to enable closer tracking against water resource trigger curves and the preparation of monthly resource projections.

If a drought enters stage 1, 2 or 3, the frequency of resource availability monitoring increases to daily, thus enabling supply projections to be prepared at any time.

Environmental monitoring including water quality and any other parameters required by resource consent conditions, occur in parallel under normal operations and drought conditions.

3.5 Monitoring demand

As outlined in Section 2.1.3, the reduction of demand is a key lever in drought management. Different responses are required to reduce the different components of demand, e.g., restrictions to manage residential and non-residential consumption, and leakage management to reduce a major portion of non-revenue water.

Watercare continues to invest in technologies such as smart meters for customer consumption and at key nodes in the distribution network to detect leaks. Being able to monitor consumption and losses more efficiently enables targeted and timely responses.

3.6 Communications

3.6.1 Continuing to strengthen relationships

Engaging with stakeholders and the general Auckland community is critical to the successful implementation of any future drought response. Valuable lessons were learned during the 2019-2020 drought which places Watercare in a good position to build on increased water literacy that developed from the collective drought experience.

Ongoing communication about the value of water is important to maintain water saving behaviours established during the drought and to inform new residents that come to the city. Watercare is continuing the water saving conversation with regular meetings with residential customer and via the web page “Water for Life” **https://www.waterforlife.org.nz/water-saving-tips** where there are numerous tips on how to save water in the home and garden. The WEP identifies greater engagement with residential customers as a key mechanism to promote the adoption of water-efficient fixtures and appliances.

Targeted engagement with large consumers in the commercial, industrial, and other organisational sectors is also vital to embedding water efficiency in preparation for droughts. Watercare is continuing one-on-one engagement with the top 100 non-residential customers to facilitate the uptake of water saving practices, ranging from small changes such as trigger nozzles on hoses to larger potential investments such as onsite water reuse or recycling.

3.6.2 Drought communication and engagement

Watercare will undertake a range of communication and engagement activities associated with each stage of the drought response. Each stage has a specific engagement campaign aimed at supporting all sections of the community as they endure increasingly severe restrictions. Watercare has a particular duty of care to maintain a safe and secure water supply to critical customers such as hospitals and those on home dialysis. The staged implementation program also has requirements for

greater frequency of public reporting of Auckland's water security position and how daily demand is tracking.

Managing drought is a shared responsibility so a partnership approach involving Watercare, Auckland Council, Government, businesses, and the community is the philosophy that underpins communication and engagement programs. Communications will be clear, consistent, and suitable for a range of audiences with varying levels of general and water literacy. Messaging can have greater reach through graphics and comparing water savings to tangible items such as buckets or bathtubs for litres and swimming pools for megalitres.

Auckland Council is a key stakeholder in the drought response, owing to its legislative power to impose restrictions, enforce compliance and lift water restrictions under Clause 12 of the *Water Supply and Wastewater Network Bylaw 2015*. If TSS is trending toward the Stage 1 trigger, Watercare will instigate the necessary processes and Council engagement to facilitate timely implementation of restrictions. Similarly, when Watercare's water security assessment indicates the drought exit is appropriate, proactive engagement with Council is necessary to formally lift restrictions in a timely manner.

3.7 Source and plant optimisation

In responding to the 2019-2020 drought, Watercare brought forward several projects to augment supply and associated treatment and distribution capacity. These included:

- recommissioning a disused dam
- upgrading and constructing new water treatment plants
- constructing a new reservoir to improve the efficiency of treated water distribution
- obtaining additional short-term water allocations
- applying for a significant long-term additional surface water allocation.

The ISMM is a 'living' model that is updated and refined as more and/or better data become available. Such refinements can optimise abstraction regimes even further in future droughts. The ISM informs the DMP response measures for the near term. Long-term climate change will be incorporated into the Drought Standard and the DMP will be progressively revised accordingly.

The *Asset Management Plan 2021-2041* guides future investment in water supply (and wastewater treatment) infrastructure. As it is periodically updated, there is the potential to bring forward some augmentation projects to respond to short-term droughts. Medium to long-term objectives in the *Auckland Water Strategy* for diversifying water sources to enhance water security, e.g., rainwater tanks, water reuse and recycling, will also support drought management efforts.

3.8 Non-potable sources

Several non-potable water sources, e.g., recycled water schemes, are currently available for non-residential uses such as irrigation, manufacturing and plant cooling. Watercare promotes these sources during normal operating conditions but ramps up efforts to directly support commercial customers in accessing non-potable supplies during the drought stages. Access points are established by Stage 1, and the use of non-potable water for certain commercial uses, e.g., construction and cleaning services, is mandatory under Stages 2 and 3.

Auckland Council's objectives for greater on-site water capture and reuse, in residential and non-residential settings, will enhance drought resilience.

3.9 Restrictions

Implementation of measures to reduce consumption will help to 'flatten the curve' of demand over time and therefore extend availability of water supplies during times of drought. During the 2019-2020 drought, voluntary water saving measures over the 2019-2020 summer followed by Stage 1 restrictions from autumn 2020 saw demand reduce markedly (Figure 1). Even though winter to spring rain in 2020 bolstered TSS, demand remained at a much lower level throughout the 2020-2021 summer when rainfall was again much lower than average. If the high demand experienced over the 2019-2020 summer had been repeated the following summer, TSS would have dropped to potentially critical levels.

The 2019-2021 experience demonstrated the value of voluntary and mandatory restrictions in maintaining water security during Auckland's hydrological droughts and intervening periods.

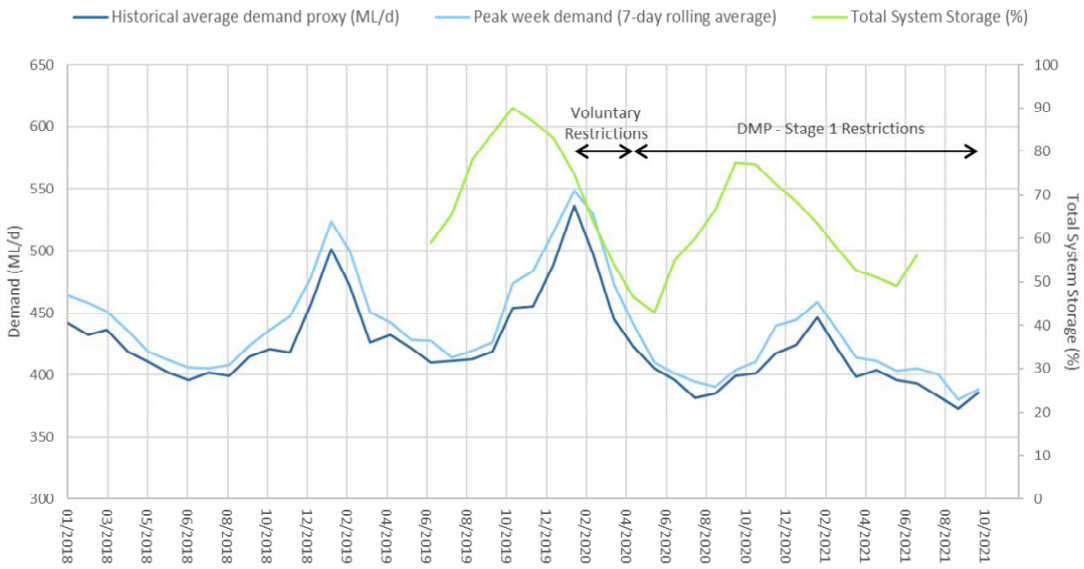


Figure 1: Impact of restrictions on water balance in 2019-2020 drought

Under the DMP, measures to reduce residential and non-residential consumption will be introduced using a staged approach, proportionate to the availability of water supplies. This means that if the drought worsens, measures including restrictions will increase in severity, with the goal of further flattening the curve to keep demand below the limit of supply.

The schedule of restrictions has been revised for this DMP.

- **Stage 1** sees the introduction of mandatory outdoor water restrictions for residential customers and voluntary demand reduction targets for non-residential customers.

- If **Stages 2 and 3** are triggered,
    - mandatory restrictions are introduced for non-residential customers
    - outdoor and/or non-core-business related uses of potable water for all customers are restricted further
    - indoor water use efficiency is strongly promoted to encourage behaviour change.

More detailed guidance on permitted and non-permitted water uses (from Table 2 in Part A) under the different restriction stages is provided in **Appendix C**.

3.10 Drought recovery

3.10.1 Staged exit

Like the stages of a deepening drought, a staged approach will be taken to exit and recover from drought, however the triggers have not been specified. Instead, the decision to ease the drought response measures will be determined using an adaptive management approach, considering the following factors:

- storage levels and hydrological conditions
- short and long-range weather forecasts
- time of year and historical seasonal trends
- trends in demand and consumption behaviours
- likelihood that restrictions will have to be reintroduced over the subsequent months to avoid de-activating and re-activating drought response measures
- economic impact of easing or continuing restrictions.

The storage levels for relaxing restrictions may not necessarily occur at the same storage levels that they are imposed at. When a decision is made to ease restrictions, this will usually occur one stage at a time. For example, if assessment of the above factors results in a decision to ease restrictions while Auckland is currently in Stage 2, customers will transition to Stage 1 restrictions before any subsequent decision is made to lift all restrictions.

Watercare and Auckland Council will need to collaborate closely to manage actions associated with drought recovery, and to ensure the formal declaration by Council of any restriction changes occur at the right time according to Watercare's advice on the water supply situation. This gradual easing allows better outcomes when drought recovery is slow and can account for the lead times of easing and restarting each measure.

Actions to be taken upon easing of drought restrictions include:

- community and customer engagement regarding changes to restrictions
- public communications and media to inform the community about changes to restriction stages
- evaluation and review of drought response performance, including assessment of supply, demand and system operation measures implemented.

3.10.2 Post-drought evaluation

3.10.2.1 Types of evaluation

The DMP should be evaluated each time it has been implemented and updated so that it remains relevant, responsive, and improves over time. Business needs will determine the type of evaluation Watercare undertakes; options include:

- Outcome evaluation – the degree to which the actions achieved their desired outcomes
- Impact evaluation – the degree to which implementation of the Plan met its overall objectives

- Process evaluation – the extent to which the Plan was implemented as designed.

All phases of the staged Implementation Plan are to be evaluated, including BAU/drought preparedness where planning work is important to the success of the drought stages. Sample questions Watercare may use for each of the above evaluation types are provided in Table 6. Watercare will tailor the evaluation questions to those where quantitative and qualitative data (if appropriate) are obtainable in the required time and quality. Watercare has the option of conducting evaluations internally or outsourcing the task.

Table 6: Sample evaluation questions

Evaluation type	Sample evaluation questions
Outcome evaluation	Has a water end user analysis study been conducted and how effective will the outcomes be in informing future demand management programs?
	Have the staged engagement campaigns been developed and tested on a pilot group of customers for feedback and improvement? What was the feedback and how have the campaigns been improved?
	How appropriate were the trigger levels, given the additional water sources that have been brought online since the 2019-2021 drought?
	How well did Stage 1 restrictions achieve 5% savings?
	How well did Stage 2 restrictions achieve a further 5% (overall 10%) savings?
	How well did Stage 3 restrictions achieve a further 5 % (overall 15%) savings?
	Could the level of compliance with restrictions be improved and how?
Impact evaluation	How well did the implementation of restrictions prevent a worsening of water security?
	How well did residential customers respond to restrictions?
	Were there social impacts of restrictions that could be better managed in future droughts?
	Were there economic impacts of restrictions that could be better managed in future droughts?
	Were there environmental impacts of restrictions that could be better managed in future droughts?
	Were there cultural impacts of restrictions that could be better managed in future droughts?
Process evaluation	Did the drought management team find the DMP straightforward to implement or are there areas for improvement?
	How well did the community respond to messaging about water savings
	How well did early engagement with Council result in restrictions being imposed when needed?
	Was Watercare adequately resourced to manage the drought in accordance with the Plan?

3.10.2.2 Monitoring and reporting

To carry out an evidence-based evaluation, appropriate data must be available. By having clear links between the objectives of the DMP and the questions to be answered during the evaluation, the required monitoring and data collection becomes apparent.

Data on overall daily consumption are readily available via WTP production volumes adjusted for network storage changes. As Watercare undertakes further research into the breakdown of residential and non-residential consumption, better data will be able to inform evaluations of the effectiveness

and impact of demand management on specific water use behaviours. Already, the rollout of smart meters is enabling real-time consumption data to be recorded.

Reporting of the water security situation throughout a drought is embedded in each stage. This has been shown in other jurisdictions to be successful in keeping the decision-makers as well as the community focused on water scarcity and how they can play their part. It often becomes part of daily conversations about the weather.

Evaluation reports will be the basis of continual improvement in drought management and water security more broadly. In support of the partnership approach, Watercare will share key evaluation findings.

4 Future updates

The DMP is to be reviewed every two years and/or after each drought event and/or after changes in Watercare's operating environment or planning framework or significant investment is made in infrastructure or the system. This provides assurance that the DMP remains contemporary and effective.

Future DMP updates will address the objectives, targets and performance measures identified in the Auckland Water Strategy 2022-2050.

Appendix A: Information sources – public

Anglian Water: *Drought Plan 2022 – Draft March 2021*.

Auckland Council: *Auckland Plan 2050 – Overview*, Auckland Council, July 2018.

Auckland Council: *Our Water Future Tō tātou wai ahu ake nei - a discussion document*, February 2019.

Auckland Council: *Auckland Water Strategy 2022-2050*

Auckland Council: *Auckland Water Strategy Implementation Plan 2022*

Auckland Council: *Review of Auckland Council Controlled Organisations*, Independent Panel appointed by the Governing Body of Auckland Council, July 2020.

Auckland Council: *Water Supply and Wastewater Network Bylaw 2015*, Governing Body of Auckland Council, Resolution number GB/2015/62, 25 June 2015.

Beal, Cara, Stewart, Rodney Anthony: *South East Queensland Residential End-Use Study: Stage 2 final report and summary of water consumption trends from 2010 to 2014,* Griffith University 2014.

BRANZ: *Auckland water use study – monitoring of residential water end uses*, Building Research Association of New Zealand (SB10, Paper 51) 2008.

NSW Department of Planning, Industry and Environment: Draft Lower Hunter Water Security Plan – August 2021, NSW Government.

Queensland Department of Regional Development, Manufacturing and Water: *Drought Management Plans and Water Restrictions – guideline for development Version 1.00*, Queensland Government, 05/04/2021.

Seqwater: *Water for Life – South East Queensland's Water Security Program 2016-2046 (Version 2),* Queensland Bulk Water Supply Authority, March 2017.

Thames Water: *Draft Drought Plan 2022 – March 2021*

Urban Utilities: *Water Restrictions Schedules 2020.*

Watercare: *Asset Management Plan 2018-2038 (1 July 2018 to 30 June 2038).*

Watercare: *Asset Management Plan 2021-2041 (1 July 2021 to 30 June 2041).*

Watercare: *Auckland Metropolitan Drought Management Plan February 2020*.

Watercare: *Demand Management Plan 2013-2016.*

Watercare: *Incident Management Plan*, 25 November 2019.

Watercare: *Statement of Intent 2020-2023*.

Watercare: *Water Efficiency Plan 2021-2025.*

Watercare (for Waikato Resource Consent Application), various reports:

- Assessment of Environmental Effects
- Water Source Alternative Options Assessment for the Metropolitan Supply – Demand Forecast
- Water Source Alternative Options Assessment for the Metropolitan Supply – Outage, headroom and the supply/demand balance
- Water Source Alternative Options Assessment for the Metropolitan Supply – Waikato River Refresh Application.

Appendix B: Non-metropolitan area drought triggers

Of non-metropolitan supplies, only Wellsford and Helensville/Parakai have drought triggers defined by river flow rates or dam storage capacity (see tables below). The other non-metro communities – Warkworth, Snells/Algies, Muriwai, Bombay and Waiuku – draw their supplies from groundwater under allocation regimes and generally are not susceptible to short- or medium-term drought conditions. However, should the impact of dry weather lead to consumption that exceeds their specified allocation regime, Watercare may introduce measures to manage demand.

Wellsford

Phase	Definition/Trigger	General Response
BAU / Drought preparedness	Inferred flow* in Hōteo River of 0.290 m^3/sec @ Wilsons Road based on Gubbs Flow Station	Weekly review of the situation, incorporating data from Oldfields rainfall gauge, Hōteo flow gauge at Gubbs and weather forecasts. Flow gauging at Wilson Road to confirm inferred relationship.
Stage 1 restrictions	Inferred flow* in Hōteo River of 0.175 m^3/sec @ Wilsons Road based on Gubbs Flow Station	As per Auckland Drought Management Plan.
Stage 2 restrictions	Inferred flow* in Hōteo River of 0.112 m^3/sec @ Wilsons Road based on Gubbs Flow Station	As per Auckland Drought Management Plan.
Stage 3 restrictions	Inferred flow* in Hōteo River of 0.085 m^3/sec @ Wilsons Road based on Gubbs Flow Station	As per Auckland Drought Management Plan.

* 7 day rolling average continuously below for ten days.

Helensville and Parakai

Mangakura Dam 1 and Sandhills Spring supply raw water to the Helensville Water Treatment Plant which supplies treated water to Helensville and Parakai. The storage lake behind Mangakura Dam covers about 4 hectares and has a catchment area of about 200 hectares.

The drought triggers apply if the Sandhills groundwater source is unavailable for a period exceeding four weeks. The most critical activity for this community is the re-instatement of the Sandhills source. The following table only applies if the Sandhills groundwater source is not available.

Phase	Trigger (Mangakura Dam storage)^
BAU / Drought preparedness	100%
Stage 1 restrictions	95%
Stage 2 restrictions	87%
Stage 3 restrictions	83%
Stage 4 restrictions	78%

^ Owing to short timeframes for storage depletion, multiple restriction stages could be triggered and implemented simultaneously.

Appendix C: Detailed guidance for water restrictions

Residential restrictions*

No.	Water end use	Stage 1	Stage 2	Stage 3
R1	Watering lawns and gardens in residential premises	Only permitted with irrigation system, trigger nozzle on hand-held hose, or bucket in line with the following schedules: (a) Odd numbered properties – before 7am and after 7pm – Mondays, Thursdays and Saturdays (b) Even or un-numbered properties – before 7am and after 7pm – Wednesdays, Fridays and Sundays A bucket or watering can may be used at any time or any day.	Only permitted with irrigation system (with moisture sensor), trigger nozzle on hand-held hose, or bucket for watering gardens (**but not lawns**) in line with the following schedules: (a) Odd numbered properties – before 7am and after 7pm – Mondays, Thursdays and Saturdays (b) Even or un-numbered properties – before 7am and after 7pm – Wednesdays, Fridays and Sundays A bucket or watering can may be used at any time or any day.	Total ban on all irrigation systems and hoses. Only watering cans and buckets can be used.
R2	Cleaning hard surfaces in residential premises	Cleaning of hard-stand (paths, roads, driveways, etc.) or outdoor artificial surfaces is not permitted except spot cleaning for health and safety or biosecurity purposes, using a high-pressure water cleaner or water from a bucket.	Continue Stage 1 measures.	Continue Stage 1 measures.

No.	Water end use	Stage 1	Stage 2	Stage 3
R3	General outdoor cleaning (other than hard surfaces) in residential premises	General outdoor cleaning can occur at any time using: a) a bucket, or b) a high-pressure water cleaner for no longer than 10 minutes a day. General outdoor cleaning includes (but is not limited to): • exterior of building • landscaping (e.g., retaining walls) • entertainment and eating areas • vehicles (e.g., cars, boats, caravans, trailers, bikes, buses, trucks) • outdoor furniture and related equipment • rubbish bins • tools and related equipment • animal enclosures / kennels.	General outdoor cleaning can occur at any time using a bucket. Permissible activities as per Stage 1 except exterior building cleaning Exterior building washing is only permitted by a qualified water efficient exterior cleaner, i.e., Exterior Cleaning Industry Association (ECIA) member following water efficient cleaning standards.	Total ban on all use of potable water for general outdoor cleaning, except where required for health, safety, hygiene purposes, and graffiti removal - which can occur at any time by any suitable means.
R4	Swimming pools, spas and recreational water use in residential premises	Topping up an existing pool or spa to replace water lost is authorised using a handheld hosepipe or bucket only. Filling of new or renovated pool or spa pool (volume >500 L) is allowed only if a permanent pool/spa cover is in place to reduce evaporation.	As per Stage 1 for existing pools or spas, provided a permanent cover is used. Pools and spas without covers may only be topped up if an engineer certifies that this is required for structural or health and safety reasons.	Continue Stage 2 measures.

No.	Water end use	Stage 1	Stage 2	Stage 3
		Paddling or temporary pools holding more than 500 L may not be filled.	Paddling or temporary pools may not be filled.	
R5	Use of tankered drinking water	Tankers can only source drinking water from approved Watercare filling stations. Tankers supplying the wider Auckland region for essential uses only are permitted to fill from the Watercare system. Residential customers that receive water from tankers that source water from Watercare filling stations are subject to the same restrictions as Watercare's customers on the network.	Tankers can only source drinking water from approved Watercare filling stations. Tankers supplying the wider Auckland region for essential uses only are permitted to fill from the Watercare system. The volume delivered to each property will be limited to the Auckland average per capita consumption per household resident. A reasonable allowance for animal drinking water is also permitted.	Continue Stage 2 measures.

*General provisions:

- No unattended hosepipes for any purpose once restrictions are imposed.
- These restrictions also apply to the use of water from cisterns and tanks filled from Watercare's drinking water supply network.
- Limited time-of-day restrictions on watering/irrigation are intended to maximise water uptake by plants and minimise losses via evaporation.
- Alternative water sources such as rainwater, stormwater, and recycled water may be used for the restricted water uses at any time.
- 'Vehicles' include all types of cars, trucks, buses, rolling stock, trailers and boats.

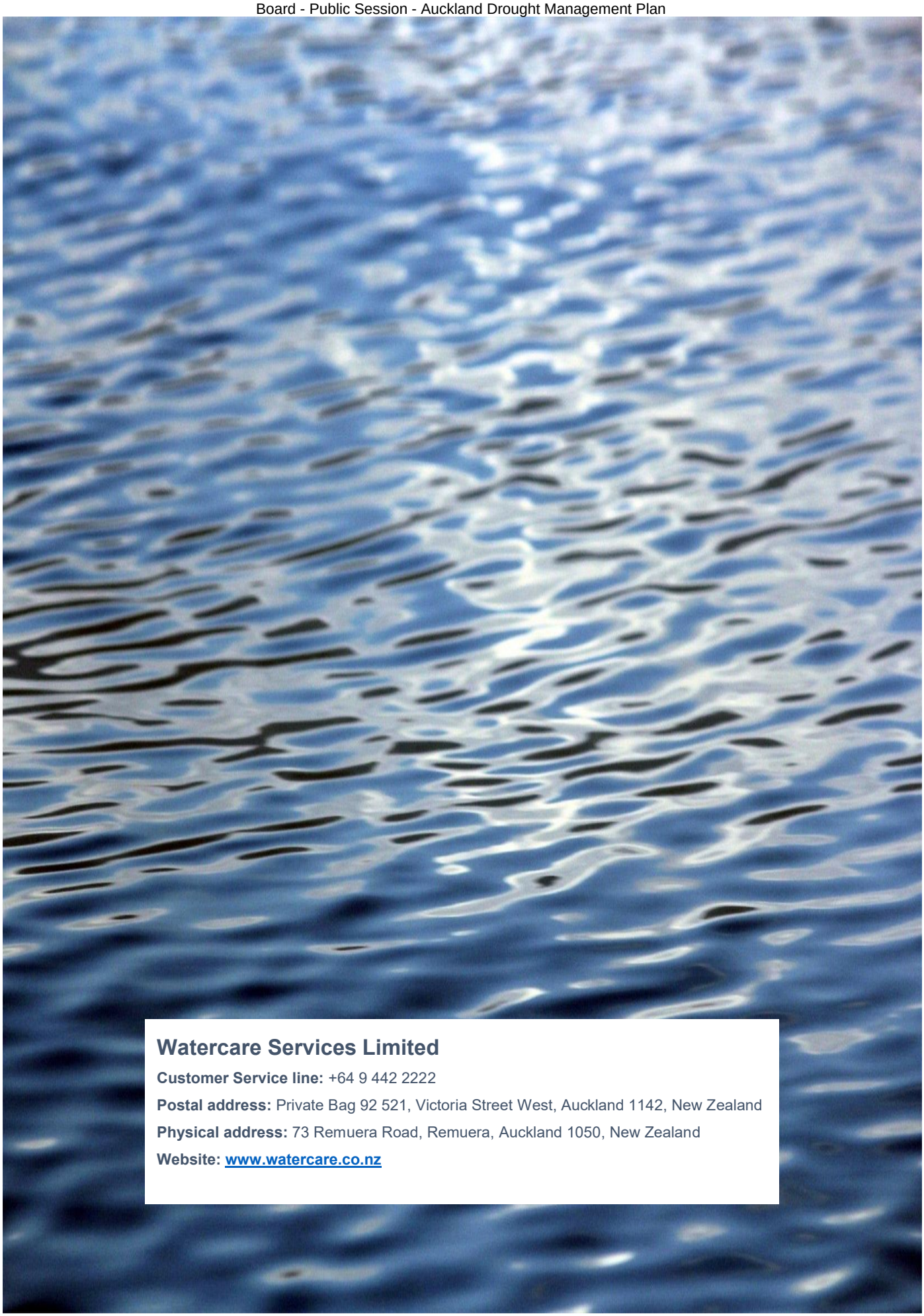
Non-residential restrictions*

No.	Water end use	Stage 1	Stage 2	Stage 3
N1	Watering lawns and gardens in non-residential premises	Voluntary savings target of 5-10%	Potable water cannot be used for watering if it is not the customer's core business	Continue Stage 2 measures
N2	Non-business-related cleaning	Voluntary savings target of 5-10%	Potable water cannot be used for cleaning except where required for health, safety, hygiene purposes Exterior building washing only permitted by a qualified water efficient exterior cleaner, i.e., Exterior Cleaning Industry Association (ECIA) member following water efficient cleaning standards.	Potable water cannot be used for cleaning except where required for health, safety, hygiene purposes
N3	Commercial business functions	Voluntary savings target of 5-10%	Potable water cannot be used for non-core business activities, e.g., garden watering, vehicle washing, other discretionary cleaning except where required for health, safety, hygiene purposes. Commercial sectors who can use non-potable water for their core business must use it, e.g., construction, cleaning, car washers	Water efficiency audits must be in place and tailored water savings plans agreed with top 50 water-using customers Remaining commercial customers - 15% mandatory savings
N4	Agricultural and horticultural uses	Replace potable water with alternative sources wherever possible. Irrigation watering permitted only as required using a handheld hose with a	Continue Stage 1 measures.	No potable water use allowed other than for stock watering and domestic use.

No.	Water end use	Stage 1	Stage 2	Stage 3
		trigger nozzle, watering can or bucket, or an irrigation system with an automated weather adjustment, rain sensor or soil moisture sensor.		
N5	Use of tankered drinking water	Tankers can only source drinking water from approved Watercare filling stations. Tankers supplying the wider Auckland region for essential uses only are permitted to fill from the Watercare system. Non-residential customers receiving water from tankers that source water from Watercare filling stations are subject to the same restrictions as Watercare's customers on the network.	Continue Stage 1 measures	Continue Stage 2 Measures

*General provisions:

- Managers of public open spaces, e.g., sporting fields, parks and gardens, are assumed to already be engaging with Watercare to reduce potable water consumption for watering and other external uses.
- No unattended hosepipes for any purpose once restrictions are imposed.
- These restrictions also apply to the use of water from cisterns and tanks filled from Watercare's drinking water supply network.
- Alternative water sources such as rainwater, stormwater, and recycled water may be used for the restricted water uses at any time.
- 'Vehicles' include all types of cars, trucks, buses, rolling stock, trailers and boats.



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		May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24
Meetings	Board	9-May	13-Jun (Statutory Public Meeting)	4-Jul	8-Aug	5-Sep	10-Oct	7-Nov (Statutory Public Meeting)	12-Dec		8-Feb	5-Mar	9-Apr	7-May (Statutory Public Meeting)	12-Jun 25-Jun
	Audit and Risk Committee	23-May			16-Aug 30-Aug			21-Nov			2-Feb		3-Apr	21-May	21-Jun
Running the Business	Financial	SOI financials	Board approval of Insurance proposal Board approval of 2023/2024 Budget	Auckland Council and Watercare to review 30 June Treasury Interest rates	Approve Auckland Council Reporting Pack (via an out of cycle resolution)	Approve 2022/23 accounts Delegate final sign off of Annual Report 2023		Auckland Council Draft Annual Plan - approve Watercare input			Approve half year accounts	Approve financials for Draft SOI including projected 24/25 price increases Approve long term financials for Auckland Council modelling			Board approval of Insurance proposal Board approval of 2024/2025 Budget and updated SOI financials
	Statement of intent		Present shareholder SOI feedback at public meeting. Public deputations to be received. SOI to be approved	Final 2023-2026 SOI issued to shareholder by 31 July 2023	Final 2023-2026 SOI adopted by Auckland Council Q4 Performance Report - due to Council by 25 August 2023		Q1 Performance Report - due to Council (date TBC)	2022/2023 SOI Results to be presented to Board at Public Meeting. Public deputations to be received. Q1 Performance Report due to Council (date TBC)	2024/25 Letter of Expectations to be received		Q2 Performance Report - due to Council by TBC	Draft 2024-2027 SOI for Board's approval - to be sent to Council by TBC		Present shareholder SOI feedback at public meeting. Public deputations to be received.. Q3 Performance Report - due to Council by TBC	
	HSW Deep Dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives		Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives	Critical risk - deep dives
	Community and Stakeholder Relationships		Stakeholder	Iwi	Stakeholder	Iwi	Stakeholder	Iwi Progress update from Infrastructure, Operations and Customer teams on the recommendations of the Citizens' Assembly	Stakeholder		Iwi	Stakeholder	Iwi Progress update from Infrastructure, Operations and Customer teams on the recommendations of the Citizens' Assembly	Stakeholder	Iwi
	Governance	Q3 Statutory compliance Sensitive Expenditure Policy Update on Auckland flood recovery	Corporate Governance charter Audit and Risk Committee Charter review Update on Auckland flood recovery	Enterprise Risk Report (Board then Council)	Q4 Statutory compliance	Update on Auckland flood recovery		Enterprise Risk Report (Board then Council) Q1 Statutory compliance Delegations to the CE Policy	Board Delegations to CE Update on Auckland flood recovery		Enterprise Risk Report Q2 Statutory compliance	Update on Auckland flood recovery	Enterprise Risk Report	Q3 Statutory compliance	Update on Auckland flood recovery
	Karakia	Graham Darlow	Julian Smith	Frances Valintine	Margaret Devlin	Nicola Crauford	Brendon Green	Hinerangi Raumati-Tu'ua	Graham Darlow		Julian Smith	Frances Valintine	Nicola Crauford	Brendon Green	Margaret Devlin
Deep Dives - aligned to the five priorities		Capital programme - Steve Webster/Hamish Corbett, and Priyan Perera	Operations - Mark Bourne/Nathaniel Wilson, Sharon Danks and Peter Rogers	Finance - Jamie Sinclair/Angela Neeson, Nigel Toms and Chantelle Subritzky	Partnerships - Richie Waiwai, Amanda Singleton, Brent Evans and Andrew Chin	Our customers - Amanda Singltone/Priya Thuraisundaram and Rachel Hughes	Our people - Sarah Phillips,/Jamie Sinclair	Capital programme - Steve Webster/Hamish Corbett, Chris Thurston and Priyan Perera				Operations - Mark Bourne/Nathaniel Wilson, Sharon Danks and Peter Rogers	Finance - Jamie Sinclair/Angela Neeson, Nigel Toms and Chantelle Subritzky	Partnerships - Richie Waiwai, Amanda Singleton, Brent Evans and Andrew Chin	Our customers - Amanda Singltone/Priya Thuraisundaram and Rachel Hughes
Confidential					A year end progress update for CE's KPIs AMP Implementation Report			CE's KPIs			CE's KPIs AMP Implementation Report			CE's KPIs	
Audit & Risk Committee		Present plan for Year end to A&R A&R approve isurance proposal Approval of 2023/24 Budget & updated SOI Financials Audit and Risk Committee Charter review Review tax ahead of year end			Auckland Council FY23 Reporting Pack (16 August meeting) Approval of Financial Statements FY23 (29 August meeting)			Board Delegations to CE			Approve FY24 half year accounts			Present plan for Year end to A&R A&R Approve Insurance Proposal Approval of 2024/25 Budget & updated SOI Financials Audit and Risk Committee Charter review Review tax ahead of year end	
Lutra Limited	Statement of intent	Present shareholder SOI feedback at public meeting. Public deputations to be received. Draft SOI 2023-2026 to be presented to the Watercare Board		Final 2023-2026 SOI to be sent to Council	Final 2023-2026 SOI adopted by Auckland Council			2022/2023 SOI Results to be presented to Board at Public Meeting. Public Deputations to be received.				Draft SOI 2024-2027 to be presented to the Watercare Board		Present shareholder SOI feedback at public meeting. Public deputations to be received.	

10

Board meeting | 9 May 2023
Public session

Directors' meeting attendances

For information

Te pou whenua tuhinga / Document ownership

Prepared and recommended by
Emma McBride
Head of Legal and Governance

Submitted by
Dave Chambers
Chief Executive Officer

1. Te tūtohunga / Recommendation

We recommend that the Board notes this report outlining meeting attendances.

2. Take matua / Key points

- This report details directors' attendance at the Board and Audit and Risk Committee meetings.
- This information is included in Watercare's Annual Report.

3. Kōrero pitopito / The details

Attendance at the Board meetings and the Audit and Risk Committee meetings for 2023 is detailed in the table.

Table 1: Attendance at Board and committee meetings in 2023 is detailed in the table below:

Attended ✓ **Did not attend ✘** **Not on the committee ■**	**Attendance at Board meetings**											**Attendance at Audit and Risk Committee meetings**				
	8 February 2023	**7 March 2023**	**4 April 2023**	**9 May 2023**	**13 June 2023**	**4 July 2023**	**8 August 2023**	**5 September 2023**	**10 October 2023**	**7 November 2023**	**12 December 2023**	**3 February 2023**	**23 May 2023**	**16 August 2023**	**30 August 2023**	**21 November 2023**
Margaret Devlin	✓	✓	✓									✓				
Nicki Crauford	✓	✓	✓													
Brendon Green	✘	✓	✓									✓				
Hinerangi Raumati-Tu'ua	✓	✓	✓									✓				
Frances Valintine	✓	✓	✓													
Graham Darlow	✘	✓	✓									✓				
Julian Smith	✓	✓	✓									✓				
Dave Chambers[#]																

 # The Board has appointed Dave Chambers as acting chief executive until Entity A is stood up. Dave is therefore on sabbatical from the Board (effective from 7 February 2023) whilst acting chief executive.

Board meeting | 9 May 2023
Public session

Disclosure of Directors' and Executives' interests

For information

Te pou whenua tuhinga / Document ownership

Prepared and recommended by
Emma McBride
Head of Legal and Governance

Submitted by
Dave Chambers
Chief Executive Officer

1. Te tūtohunga / Recommendation

We recommend that the Board notes the directors' and executives' interests.

2. Take matua / Key points

Section 140 of the Companies Act 1993 requires all directors to keep an Interests Register, which must be disclosed to the Board of the company.

One of key principles of good governance is transparency and having an open and honest approach to working with the wider community. Watercare not only maintains an Interests Register for its directors, but also voluntarily maintains an Interests Register for our executives.

3. Kōrero pitopito / The details

3.1 Watercare Services Limited's Directors' Interests Register

- The Board has appointed Dave Chambers, one of our directors, as acting chief executive until Entity A is stood up. Dave is on sabbatical from the Board (effective from 7 February 2023) whilst acting chief executive.
- All new additions in 2023 are in Blue.
- All deletions in 2023 have been ~~struck out~~.

DIRECTOR	INTEREST
Margaret Devlin	• Director, Waikato Regional Airport • Director, Titanium Park (wholly owned subsidiary of Waikato Regional Airport) • Director, Waimea Water Limited • Director, IT Partners Group • Chair, Advisory Board Women in Infrastructure Network • Chair, Hospice Waikato • Chartered Fellow, Institute of Directors • Member, Institute of Directors, Waikato Branch Committee • Director, Dairy NZ Limited • ~~Director and Chair, Lyttleton Port Company Limited~~
Nicola Crauford	• Chair, GNS Science Limited • Chair, Electricity Authority • Director and Shareholder, Riposte Consulting Limited • Trustee, Wellington Regional Stadium Trust • Director and Chair, Burgundy Holdco Limited (owner of StraitNZ Holdings)
Brendon Green	• Director, Kaitiaki Advisory Limited • Director, Tainui Kawhia Incorporation • Director, Hiringa Energy Limited • Director, Hiringa Refueling Investments Limited • Management contract, Tainui Kawhia Minerals • Australia-NZ representative, Wattstock LLC (USA) • Representative of Waipapa Marae, Kawhia, Te Whakakitenga o Waikato Tainui • Runanga Manukau Institute of Technology, Te Whakakitenga o Waikato representative • Advisor, Taumata Aronui – Ministry of Education • Adjunct Senior Fellow, University of Canterbury – Department of Chemical Engineering • Co-chair, Waikato Regional Skills Leadership Group • Member, Construction and Infrastructure Workforce Development Council • Director, Scion Research Institute registered as New Zealand Forest Research Institute Limited

DIRECTOR	INTEREST
	• ~~Member, Waikato District Council – Infrastructure Committee~~
Hinerangi Raumati-Tu'ua	• Chair, Ngā Miro Trust • Director, Taranaki Iwi Holdings Management Limited • Director, Te Puia Tapapa GP Limited • Chair, Tainui Group Holdings Limited • Executive Member, Te Whakakitenga O Waikato • Director, Genesis Energy Limited • Director, Reserve Bank of New Zealand • Director, Pouarua Farms Limited
Frances Valintine	• Director ~~and CEO~~, The Mind Lab Limited • Director ~~and CEO~~, Tech Futures Lab • Director and Shareholder, Harcourt Jasper Limited • Director and Shareholder, Pointed Tangram Limited • Director and Shareholder, Harper Lilley Limited • Director and Shareholder, On Being Bold Limited • Director and Shareholder, Sandell Trustees Limited • Selection Advisor, Edmund Hillary Fellowship • Board of Trustee, University of Silicon Valley • Shareholder, Thought-Wired Limited • Director, Academy EX Limited • Director, Earth Futures Lab • Director, Edlab Limited
Graham Darlow	• Business Executive, Acciona Infrastructure NZ Limited • Director and Shareholder, Brockway Consulting Limited • Chair, Frequency NZ Limited • Director, Hick Bros. Civil Construction Limited • Director, Hick Bros. Infrastructure Limited • Director, Tainui Auckland Airport Hotel GP (No.2) Limited

DIRECTOR	INTEREST
	• Director, Hick Bros. Heavy Haulage Limited • Director, Hick Bros. Holdings Limited • Director, Holmes Group Limited • Chair, The Piritahi Alliance Board
Julian Smith	• Advisory Board Member Vadacom Limited • Board Trustee, Look Good Feel Better Trust • Director and Shareholder of JTB Enterprises Limited • Committee member of Institute of Directors, Auckland Committee • Chair, Institute of Directors Te Tai Tokerau, Northland Sub-Committee • Committee member of Body Corporate Chairs Group NZ, Auckland Committee • Body Corporate Chair, The Residences, Auckland • Body Corporate Committee member, The Connaught Residential Apartments, Auckland • MyCareerBrand • ~~Board Trustee – Auckland Philharmonia Orchestra~~

3.2 Watercare's Executives' Interests Register

- All new additions in 2023 are in Blue.
- All deletions in 2023 have been ~~struck out~~.

EXECUTIVES	INTEREST
Dave Chambers	• Director, Paper Plus New Zealand Limited • Director, Turners and Growers Fresh Limited • Director, GB & DD's Outfit Limited • Director, Watercare Services Limited (on sabbatical since 7 February 2023)
Jamie Sinclair	• Director and Shareholder, Sinclair Consulting Group Ltd • Chair, Lutra Limited
Shayne Cunis	• Director, Lutra Limited • ~~Director, The Water Research Foundation (USA)~~
Amanda Singleton	• Director, Die Weskusplek Pty Limited (South Africa) • Trustee, Te Motu a Hiaroa (Puketutu Island) Governance Trust
Nigel Toms	• Director, TRN Risk & Resilience Consulting
Steve Webster	• Director, Howick Swimgym Limited
Mark Bourne	• Trustee, Watercare Harbour Clean Up Trust • Trustee, Te Motu a Hiaroa (Puketutu Island) Governance Trust
Andrew Chin	• Nil
Sarah Phillips	• Nil
Richard Waiwai	• Director, and owner of Te Hautapu Consultants Limited • Trustee of Te Rana Te Araroa Waiwai Whanau Trust • Relatives work for Waikato Tainui, the Department of Internal Affairs and Three Waters National Transition Unit • Manager Strategic Relations, on secondment to the National Transition Unit
Angela Neeson	• Director, Tranquillo Properties Limited