Watercare
An Auckland Council Organisation

Consent AUTH131259.01.02

Condition 19 report

June 2026

Document preparation, review and authorisation record

Authored By	Leanne McKenzie (Water Resources Planning Manager)	
Contributors	Chris Allen (Manager – Strategic Planning) Chad Hu (Strategic Planner) Shane Sullivan (Manager -Water Resources) Sarah Dyer (Hydrologist) David Moore (Manager – Smart Systems) Alex Tong (Smart Networks Engineer) Priya Thuraisundaram (Head of Customer Insights)	
Reviewer	Skye Kimura (Kaitaunaki Pakihi, Take Rautaki me te Whakamahere - Te Rua Whetū Strategy and Planning Business Partner)	Date: 22/04/2026
Reviewer	Tim Scheirlinck (Head of Water Planning)	Date: 08/05/2026
Authorised	Priyan Perera (Chief Strategy and Planning Officer)	Date: 26/06/2026

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AGS	Auckland growth scenario
AMP	Asset Management Plan
CCO	Council-controlled organisation
FY	Financial year
km	Kilometres
l/p/d	Litres per person per day
m^3/day	Metres cubed per day
MLD	Megalitres per day
PCC	Per capita consumption
SOI	Statement of Intent
Watercare	Watercare Services Limited
WTP	Water Treatment Plant

1. Introduction

Watercare Services Limited ("**Watercare**") is a lifeline utility providing water and wastewater services to 1.7 million people in metropolitan Auckland and parts of northern Waikato. Its services are vital for life, keep people safe and helps communities flourish. Watercare supplies reliable, high-quality drinking water to homes and businesses. It then collects, treats and manages their wastewater in environmentally responsible ways.

Watercare plans and builds infrastructure to support growth now and into the future. As a council-controlled organisation ("**CCO**"), it is fully owned by Auckland Council. It is also a limited liability company registered under the Companies Act 1993. Principal regulators include Auckland Council, the Commerce Commission, Waikato Regional Council, the Ministry of Health and Taumata Arowai. Watercare's services and programmes are funded through user charges and borrowings. The Local Government (Water Services Preliminary Arrangements) (Watercare Charter) Order 2025 imposes minimum service quality standards and financial performance objectives to incentivise Watercare to provide quality services while operating efficiently.

Watercare produces approximately 160,000,000 cubic metres per year ("**m3/year**") of water. Auckland's metropolitan water supply is currently collected from ten storage lakes, one aquifer and the Waikato Awa. The water is treated at eight Water Treatment Plants ("**WTPs**") and distributed through approximately 9,400 kilometres ("**km**") of treated water mains, 86 reservoirs and 82 pump stations to some 480,000 connections.

Condition 19 of consent AUTH131259.01.02, which expires in January 2043, requires Watercare report the following information to the Waikato Regional Council and share the information with advised representatives of Te Whakakitenga o Waikato Incorporated, Te Taniwha o Waikato, Te Tokanganui-a-noho Regional Management Committee and Hauauru Ki Uta Regional Management Committee, Ngā Wāihua o Paerangi, Te Kotahitanga o Ngāti Tūwharetoa, Raukawa Settlement Trust, Te Arawa River Iwi Trust, Ngāti Tahu–Ngāti Whāoa, and the Waikato River Authority by 30 June in 2026, 2031, 2036 and 2041:

1. The forecast level of demand for the consent holder for the period to the expiry of the consent; and
2. Progress with investigation and implementation of water source options for Auckland municipal water supply, including (but not limited to) groundwater, wastewater reuse and desalination options; and
3. The level of non-revenue water within the Watercare water supply network, including real water losses, apparent water losses and unbilled authorised consumption, and the steps being taken to reduce real water losses; and
4. The level of per capita residential consumption and how this relates to targets set in the Water Management Plan required under Condition 17.

The information reported under this condition must be made publicly available on Watercare's website. This report can be found under "other reports and publications" on Watercare's Environmental Reporting South Water Treatment Plants reports and publications website.

Each of the four matters listed in condition 19 are addressed sequentially in Chapters 3-6 of this report.

This report also outlines how Watercare's approach aligns with Mana Whenua values and Te Mana o te Wai, particularly in relation to water source diversification, demand management, and minimising abstraction pressure on natural water bodies.

The report uses current information, and references documents such as the:

- Auckland Plan 2050.
- Watercare Annual Report 2025.
- Watercare Asset Management Plan 2024-2041.
- Watercare Auckland Efficiency Plan 2021-2025 and
- Watercare's Statement of Intent 2025-2028.

2. Mana Whenua considerations and Te Mana o te Wai

Watercare recognises the important relationship Mana Whenua have with water as a taonga and the obligation to give effect to Te Mana o te Wai. In planning for Auckland's current and future water supply, Watercare seeks to ensure that decisions support the health and mauri of freshwater bodies, reflect Mana Whenua values, and contribute to intergenerational wellbeing.

Engagement with Mana Whenua has informed Watercare's long term water supply and demand management approach, including investigation of future water source options, demand reduction initiatives, and network management. Mana Whenua have consistently emphasised the importance of transparency, early involvement, and partnership in decision making, particularly where water allocation, reuse, and infrastructure development may affect cultural values and river health.

In relation to future water sources, Watercare acknowledges that diversification away from reliance on rainfall dependent sources can support both supply resilience and environmental outcomes. Investigations into purified recycled water, demand reduction, and alternative non rainfall dependent sources are being progressed in recognition of concerns about cumulative abstraction pressure on natural water bodies, including the Waikato Awa.

Water efficiency and leakage reduction efforts also align with Mana Whenua aspirations to use water wisely and reduce unnecessary take. Programmes aimed at reducing non-revenue water, improving network performance, and lowering per capita consumption contribute to minimising abstraction from source waters and support the principle of kaitiakitanga. Watercare will continue to engage with Mana Whenua as investigations progress, ensuring that mātauranga Māori is respected and that cultural, environmental and community considerations are integrated alongside technical and economic assessments. Ongoing engagement will support shared understanding of trade-offs, build trust, and help shape water supply solutions that are resilient, culturally appropriate, and sustainable over the long term.

3. Auckland metropolitan water demand assessment

Consent Requirement:

1) The forecast level of demand for the consent holder for the period to the expiry of the consent

3.1 Overview

Auckland's diverse employment, large market, and strong business clustering give it a unique advantage for attracting high-value economic activity, skilled migrants, and international investment to raise living standards across New Zealand. Auckland serves as New Zealand's principal commercial hub, leading key sectors such as finance, insurance, transport, logistics, and business services. The city is also the country's largest manufacturing centre, with expanding clusters in marine industries, advanced materials, and the food and beverage sector.

Auckland is growing at an unprecedented pace. Over the next 30 years the population could grow by around another 600,000 people to reach 2.3 million. This means around another 240,000 dwellings and another 350,000 jobs. Over the next 10 years, Watercare plans to invest $13.8 billion in water and wastewater infrastructure for Auckland.

Secure and reliable water services are critical to the economic, social, environmental and cultural well-being of Auckland's people and communities, and are a basic human right. It is also a crucial element in the Auckland Council's long-term vision for Auckland to thrive and succeed over the next 25 years as set out in the Auckland Plan 2050 and Auckland Water Strategy 2022-2050. Secure water supplies are also essential for northern Waikato communities where access to other water sources can be limited.

This reinforces that source diversification and recycled water are not just technical choices, but culturally and environmentally informed ones.

3.2 Current Water Supply Situation

Watercare currently supplies Auckland with approximately 160,000,000 m^3/year. Key associated statistics are summarised in Table 1 below. The period 2020-2023 was excluded due to Covid impacts and unusually high rainfall in 2023, making it unrepresentative of typical demand.

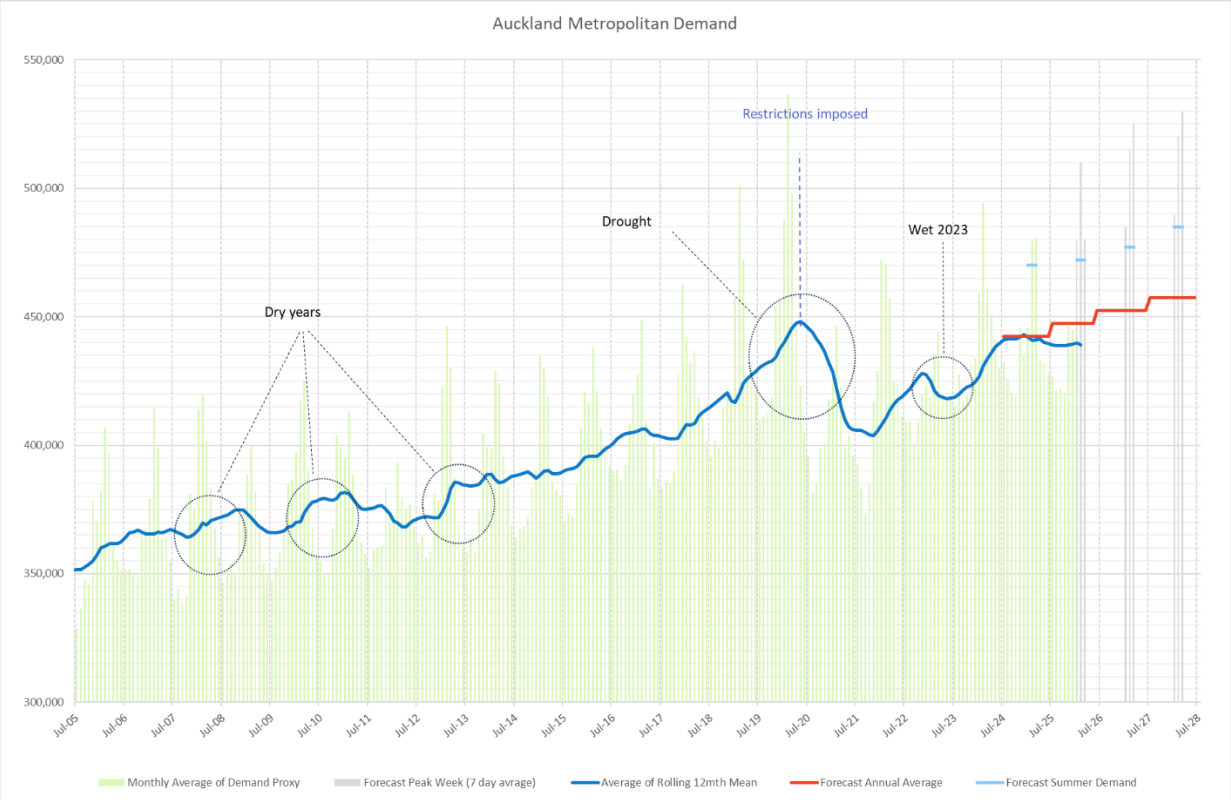
Table 1: Water supply and demand statistics

Parameter	Quantity
Average daily water demand (2024-2026)	439,000 metres cubed per day ("**m^3/day**")
Maximum 3-day peak water demand (2024)	517,000 m^3/day

Gross per capita demand Financial Year (financial year ("**FY**")) 2025	255 litres per person per day ("**l/p/d**")
Maximum anticipated peak water demand (2050)[1]	740,000 – 780,000 m^3/day
Average anticipated daily water demand (2050)[2]	600,000 m^3/day

3.3 Peak and average demand

Monthly average demand is shown in Figure 1**Error! Reference source not found.**. It illustrates that total demand and summer peak demand has grown significantly over the period 2010 – 2020, demand has significantly reduced during the summer months due to restrictions implemented in May 2020 and the reduction in population growth due to Covid restrictions. However, winter (July) demand has also shown a steady increase after Covid restrictions were removed and the population started to grow again. The peak demand reduction and baseline winter demand increase has resulted in a steady annual average demand that is highly reliant on weather patterns. Forecasted annual average demand is due to keep increasing at an average rate of around 5,000 m^3/day over the next few years.



[1] Anticipated water demand for 2050 is a high-level estimate, extrapolated from the same projection data that informed the Watercare Business Plan 2025 – 2034 (page 47).

[2] See previous footnote above.

Figure 1: Monthly Average Demand for financial years 2005 to 2025, plus forecasted average and peak demand

3.3.1 Population Growth

Estimation carried out by Watercare suggests approximately 1.7 million customers connected to the metropolitan water supply network in 2025.

That Auckland's population will continue to grow is beyond dispute – the only question is at what rate. Auckland Council's Auckland Growth Scenario 2023 ("**AGS**") population data that informed the Future Development Strategy identifies projected population growth in Auckland through to 2052, based on a medium growth scenario, as shown in Figure 2. The AGS data is based on a bespoke population projection created for Auckland Council by Statistics NZ in 2023.

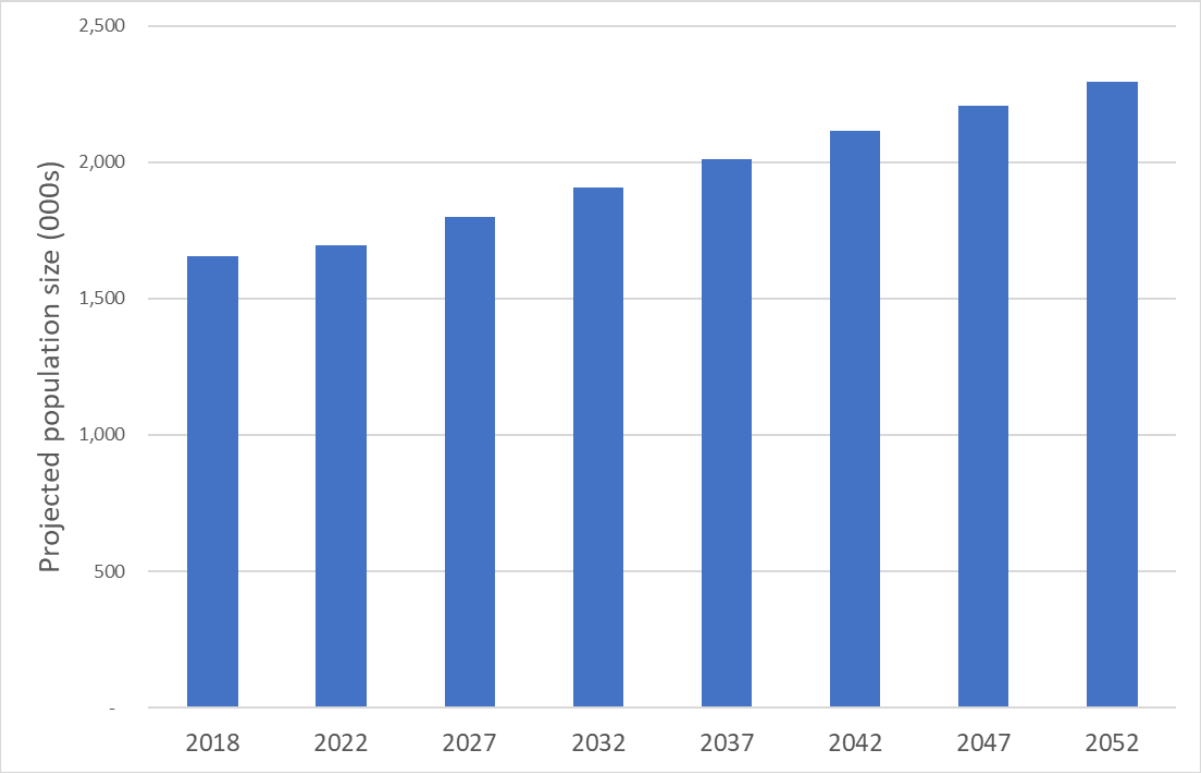


Figure 2: Projected total population in Auckland, at five-year intervals (2018 to 2052)

Under the medium growth scenario there would be around 2.3 million people by 2052, with more than 2.2 million people connected to the metropolitan supply network.

Irrespective of the population projection used, the population serviced by the Watercare network will continue to grow significantly and additional water sources will become necessary to meet the future demand requirements.

Watercare is required to manage its operations efficiently "with a view to keeping the overall costs of water supply and wastewater services to its customers (collectively) at the minimum levels consistent with the effective conduct of its undertakings and the maintenance of the long-term

integrity of its assets"[3]. Watercare has been directed by Auckland Council to use the AGS population projections as the basis for long-term planning. Watercare also incorporates historical records upon which to base its planning in addition to the medium growth scenario, while paying close attention to growth trends. Should higher growth take place, Watercare will bring forward the implementation of alternative strategies to ensure water demands are met. To do this it is important that Watercare has visibility of the growth expectations as they change, to ensure that sufficient lead time is allowed to construct and commission any new infrastructure before the demand is to be met.

It is also important that allowance for contingencies be built into the calculations of Auckland's future water supply needs. Some of those contingencies are foreseeable, and some not.

For example, planned (and unplanned) maintenance serves to reduce water availability. While maintenance is generally scheduled in "off peak" times when water shortages are less likely, this cannot be guaranteed. Furthermore, the possibility of a major longer-term interruption to supply (e.g., from earthquake or storm damage to key infrastructure) cannot be ruled out. For these reasons, it is normal practice to include a contingency figure when projecting future demands.

Watercare has reviewed the planned and unplanned events that reduce the reliability of supply and quantified the risk of these events using an established international methodology[4]. The resultant reduction in supply is called "outage" and has been estimated at 17 megalitres per day ("**MLD**") for annual average daily water supply and 25 MLD for peak supply based on the 2024 outage review.

Watercare has also investigated an appropriate buffer that a prudent water company should allow between supply and demand to cater for specified uncertainties (except those due to outages) in the overall supply demand balance. This is referred to as "headroom" and was also calculated using an established international methodology[5]. For example, the factors used in the headroom calculation include the following:

- Degradation of source water quality.
- Accuracy of supply side data (hydrological records etc.).
- Uncertainty of the effects of climate change on yield.
- Accuracy of demand data (for example metering data).
- Demand forecast variation.
- Uncertainty of the effects of climate change on demand.

Since headroom represents uncertainty, the resulting headroom calculation will vary over time, beginning at 0 MLD at the present, and increasing into the future. For example, the 75th percentile peak headroom allowance for 2030 is estimated at approximately 15 MLD, rising to 27 MLD by 2050.

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3 Section 57(1)(a), Local Government (Auckland Council) Act 2009.

4 For example, UK Water Industry Research. (2009). Estimating the Water Savings for Baseline Water Efficiency Activities. London: UK Water Industry Research Limited.

5 For example, UKWIR 2002, "An Improved Methodology for Assessing Headroom". 02/WR/13/2.

Similarly, the 75th percentile annual drought headroom is estimated at approximately 9 MLD for 2030, rising to 23 MLD by 2050. This needs to be accounted for in future water demand estimates.

It is noted that meeting peak demand cannot practicably be achieved simply by modifying the existing WTPs and conveyance infrastructure to enable a greater instantaneous volume to be sourced from each existing source. Doing so would require replacing a substantial amount of the existing infrastructure and may not represent the best value for money. It would also reduce the sustainable yield of any affected storage reservoir, which, in turn, would increase the average volume required from other sources such as the Waikato Awa.

Whilst population growth is the most important component in any assessment of future water needs, there are numerous other variables that can have a profound effect on those assessments. These include:

- Economic conditions.
- The relative proportion of residential, industrial, commercial, municipal, and other uses, and how fast these sectors grow.
- How much per capita demand can be reduced by water conservation initiatives and other public education measures.
- How outages, headroom and other contingencies are applied.

The discussion below includes comments on these and a number of related matters.

3.3.3 Other Factors

Watercare acknowledges that there is always uncertainty when using projections for future planning purposes including for example (but not limited to):

- The planning assumptions used for population growth will affect the water volume required. For example, under a high growth scenario, more water would be required by 2050 to meet demand than that required under a medium growth scenario.
- If a high growth scenario occurs in practice, then the volume required to meet demand in 2050 would only achieve the peak demand through to around 2030 and average demand through to around 2040[6].
- It needs to be acknowledged that the “high or very high” population growth projections are not “upper bound” or “highest possible” scenarios and that other population growth scenarios could eventuate.

[6] Informed by the bespoke very high growth scenario produced by StatsNZ in 2023, this assumes all other factors remain constant, including percentage of connected population, per capita consumption, climate condition, and current planned investment programmes.

- Despite Watercare's programme to meet the 15 percent demand reduction target, reducing water use is not entirely within Watercare's control. Auckland's per capita use is already amongst the lowest in New Zealand and the effects of the economic environment are difficult to quantify. Should economic conditions improve, it is not unreasonable to expect per capital consumption ("**PCC**") to increase. Should there be no further reductions in PCC, Auckland would require an additional 68,000 m^3/day and 65,000 m^3/day under the medium growth scenario for average and peak demand[7] by 2040, respectively.
- In addition, climate change projections suggest increasing average air temperatures. If temperatures increase, it is not unreasonable to expect PCC to increase, as hotter days tend to lead to an increase in consumption. Similar water volumes could be expected as if economic conditions improve. However, Watercare does not want to be too conservative in its assumptions. These scenarios broadly are included in the headroom allowances in the projected estimates.

Watercare uses conservative growth forecasts to ensure effective management.

In addition, a distinction needs to be made between the time when a financial commitment to a capital expenditure project is made (as set out in the Asset Management Plan, ("**AMP**")) and when it is prudent to secure access to the natural resources necessary to facilitate that investment. Watercare's AMP includes timing and funding allowances for the consenting process, which can add five to seven years to a project prior to any detailed design work progressing.

The AMP is a funding document that includes Watercare's anticipated capital expenditure projects over the next 20 years. It is a forecasting tool and Watercare regularly (at least every 3 years) adjusts project timeframes depending on the company's overall requirements and changing circumstances. Put simply, Watercare considers that it is prudent to be identifying demand requirements on an ongoing basis and to obtaining consent when appropriate for the next source of water needed by Auckland so as to ensure security of supply.

3.4 Summary

Auckland's population will continue to grow, accompanied by an ongoing need for a secure supply of water. Watercare utilises the Waikato Awa as a reliable water source for municipal supply, with additional source(s) expected to be required in the 2040's. Based on population growth and prudent management of infrastructure, there is a reasonable expectation that provision for municipal water supply demand can continue to be sourced from the Waikato Awa.

Watercare will continue to assess what allocation of water from the Waikato Awa will be sufficient to ensure both reliability of water supply to Auckland and that future opportunities for water

[7] Informed by the supply-demand balance analysis adopted for the 2024-2034 Business Plan.

allocation to others are not foreclosed upon. It will also continue to assess alternative options for the supply of water to meet the demand for water from the Watercare network but recognises that in the short to medium term, the Waikato Awa will continue to be the preferred water source to meet growth in demand, in line with existing consent conditions.

4. Future water sources investigations

Consent Requirement:

2) Progress with investigation and implementation of water source options for Auckland municipal water supply, including (but not limited to) groundwater, wastewater reuse and desalination options

4.1 Overview

Within the next two decades Auckland will need additional water sources to ensure we continue to provide safe, reliable and affordable drinking water services to Aucklanders. This is in response to growth and our communities' expectations for water supply resilience. Auckland's water supply currently relies on a number of major sources, and as with a number of large cities across the globe, the majority of our supply is rainfall dependent. The Waikato Awa, which is also rainfall dependent, will play an increasingly important role in our systems supply balance. Population growth and climate change are increasing water demand and increasing the risk of water supply shortfall through more frequent dry periods and higher peak use. While water efficiency measures are helping, reliance on a narrow source base increases exposure to climatic, environmental, cultural and regulatory risks. Securing diverse and resilient future water sources is critical to long-term water security and Auckland's future.

Watercare has already planned water supply upgrades out to the mid-2040's to remain ahead of water demand. Investigations into future source options beyond the 2040's commenced for the metropolitan supply with the Waikato Board of Inquiry submission, which included a high-level assessment of 156 future options for new water sources.

4.2 New water sources commissioned between 2020-2025

Watercare has commissioned new water sources and constructed two new water treatment plants (WTPs) in the last five years that are not reliant on the Waikato Awa.

The Papakura WTP, sourcing water from Hays Creek, was commissioned in 2021 with upgrades in 2023, with a peak production capacity of 12 MLD. The Pukekohe WTP sources groundwater from two bores, with a peak production capacity of 5 MLD. Commissioned in 2020, it was shut down due to flooding caused by the Auckland Anniversary floods. It was returned to service in December 2024.

4.3 Future water sources strategy

To ensure that Auckland has a resilient water supply system, Auckland's portfolio of water sources must be diverse in both nature and geographical location. Options that will be investigated as part of the future water sources strategy include direct and indirect purified recycled water, desalination, groundwater, augmentation of existing dams through increasing the height, and construction of additional dam(s). Considerable growth is forecast for Auckland's NorthShore and the northern

growth nodes. However, there is limited resilience in the North, with supply being a blend of all three WTPs in the south or west of Auckland (Ardmore, Waikato and Huia). Securing a new water source in the North of Auckland would strengthen system resilience (geographically closer) for these communities. Watercare has assessed whether additional (rainfall) dams could be developed in the North, but assessments show there are no feasible catchments to support the sale required.

In parallel, Watercare is investigating interventions to reduce demand for drinking water and extend the timeframe for commissioning a future water source. This includes increased efforts to implement non-potable reuse options, potential small-scale/decentralised water source options, leak reduction and the use of rain tanks.

4.4 Community engagement

Community acceptance is crucial for any future water source, whether traditional or alternative. International experience shows that there is initial hesitation toward purified recycled water, but with time and clear communication, acceptance can be achieved. Watercare will identify and engage with key stakeholder groups, including Mana Whenua. This highly valuable work will support the goal to provide clear context on all future source options, fostering a shared understanding of the challenges and opportunities involved, ensuring recognition of Te Mana o te Wai and the feasibility of any preferred option, and sustainable trust in Auckland's water.

The engagement philosophy for the future sources aligns with the Mana Whenua aspirations and community needs and aspirations outlined in Figure 3:

Figure 3: Future sources key priorities

To date high level engagement has been completed with Mana Whenua, elected members and the wider public. Our approach – our city, our water: shaping the water future together – is designed to appeal to the many different people who call Auckland home as shown in Figure 4. Further engagement will occur as this work progresses.

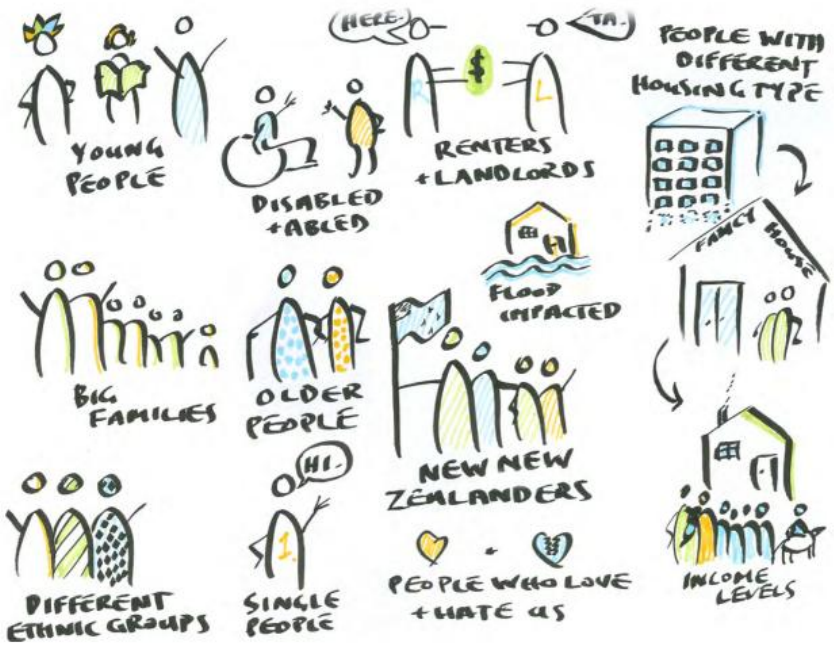

Figure 4: Illustration of the different kinds of people we have engaged with

All feedback contributes to shaping the future sources journey. Below are examples of engagement since 2021, representing a snapshot of community perspectives:

- Watercare commissioned a study in 2021-2022 to understand Aucklander's willingness to pay for water and wastewater services, aiming to inform long-term investment, pricing and communication strategies. The study found customers recognise the need for ongoing investment and are generally amenable to price increases if benefits are clear and fairly distributed, with transparent and tailored communication to build trust and acceptance.
- A Citizens' Assembly was conducted in 2022 where a representative sample of Aucklanders were tasked with debating what the future source for Auckland might include. Costs were considered and explored, looking at options like recycled water, desalination and ongoing education and water efficiency initiatives.
- In late 2024, Watercare extended invitations to all our Mana Whenua partners to join us for a series of breakfast hui, to introduce our Metropolitan Servicing Strategy Kaupapa, including kōrero around the future water sources. While not all were able to attend, those who did expressed a clear interest in being involved in this work. These hui provided a valuable opportunity to connect and reaffirm our commitment to inclusive and transparent engagement. Through kōrero about our engagement insights, we hope to further understand

and elevate the voices of Mana Whenua, which will provide more depth to our decision-making framework and support the development of our servicing strategy.

- Watercare engages with local boards and elected members through a range of formal and informal channels to ensure alignment, transparency, and shared understanding of water and wastewater issues across Auckland. We have maintained an ongoing relationship with all 21 local boards throughout the development of our Metropolitan Servicing Strategy, recognising that the metropolitan network touches every local board area. Ongoing engagement with elected members will be essential to ensure that our strategy reflects the diverse needs and priorities across Auckland. Initial engagement began in 2024, ahead of public consultation, with tailored updates provided to each board. Nine boards provided feedback – the broad themes show support for sustainable, resilient and inclusive water and wastewater services.
- In 2025 engagement on the Metropolitan Servicing Strategy was also completed on what matters most to Aucklanders. This confirmed the top three priorities are building infrastructure that lasts for a long time, recycling and reusing water and resources, and preparing Auckland for severe weather (e.g. droughts, storms and floods). Aucklanders told us that securing a reliable, climate-resilient future water source is essential, and they want planning to start early and be transparent. People are open to exploring rain-independent options such as purified recycled water and desalination, alongside making smarter use of the water we already have, as long as the benefits, safety and costs are clearly explained.

In parallel, initial discussions have commenced with the Water Services Authority, recognising that developing a regulatory framework to support using recycled water and desalination as potential sources (and community trust in Auckland's water) may require significant time and effort.

4.5 Recycled water pilot plant

Watercare has invested approximately $5 million to construct a recycled water pilot plant at the Māngere Wastewater Treatment Plant (Figure 5). This will showcase and prove the reliability of the technology, in the context of Auckland's wastewater.

The pilot plant has been commissioned and will be operated until at least 2030. The data will be used to evaluate purified recycled water as a future water source option; and guide the planning and design of a full-scale plant if we proceed with this source option.

Next steps include substantial water quality monitoring at approximately $400,000 per year, process trials, and community engagement and socialising of recycled water, along with discussions with the Regulator.

Figure 5: Māngere Purified Recycled Water Pilot Plant

5. Managing reticulation networks to minimise water losses

Consent Requirement:

3) The level of non-revenue water within the Watercare water supply network, including real water losses, apparent water losses and unbilled authorised consumption, and the steps being taken to reduce real water losses

5.1 Overview

Watercare actively monitors and manages the water reticulation network for the Auckland water supply to minimise water losses. Watercare's Statement of Intent ("SOI") outlines a target real water loss of <13% for 2026-2028. Progress towards this target is detailed in Watercare's Annual Reports.

The general approach and current initiatives of that active management are summarised below.

5.2 General Approach

The following provides a summary of the strategy set out in Water Efficiency Plan.

Focus Area 1: Making every drop of water count by reducing loss, seeks to reduce Watercare's losses. The target is to hold non-revenue water at or below 186 litres per connection per day. Watercare's current real water loss at the end of FY25 is 115 litres per connection per day.

Focus Area 2: Improving oversight from source to tap:

- District Meter Areas: Watercare continues to invest in new district meter areas which makes it's monitored areas smaller and enables a quicker reaction to leakage outbreaks and thus reducing leak runtimes and water loss.
- Pressure Reduction: Watercare has been retrofitting controllers to its pressure reducing valves and increasing its pressure monitoring across the network. This is allowing improved control and optimisation of the water pressures. This is reducing water loss and leak numbers.
- Leakage Management System: Watercare has developed a leakage management system to indicate on a daily basis where leaks have occurred and enabling effective targeting of active leakage detection resources.
- Active leak detection – We use proactive leak detection in the areas in which we notice higher losses. Contractors use acoustic methods to detect leaks.
- Innovation in leak detection – Watercare is active in working with our peers in New Zealand and overseas to keep abreast of the latest technology and how it might benefit our leakage detection and reduction efforts.
- Using smart meters – Watercare continues to roll out Smart meters across its networks with a focus over the next few years on replacing our commercial customers meters

- Customer data – Customer leaks also represent a significant source of water loss. Smart meters will help customers identify their own leaks earlier than traditional mechanical meters. With the mechanical meters, customers may only become aware that there is a leak when they notice that their bi-monthly bill is unexpectedly high.

5.3 Current non-revenue water performance

Watercare's current leakage performance is outlined in Table 2. At the end of FY25, the real loss was 12.8 percent which meets the SOI target of <13 percent. For the last five years Watercare has been actively decreasing the size of district meter areas and extending active pressure management of the network, which has saved over 10 MLD. This is coupled with the development of a leakage management system which has led to improved targeting of leak detection resources as part of our proactive leakage detection efforts.

Table 2: Leakage performance

Leakage performance	Result
Infrastructure leakage index	2.3
Real losses (%)	12.8%
Real losses (l/c/d)	115

6. Per capita resident consumption

Consent Requirement:

4) The level of per capita residential consumption and how this relates to targets set in the Water Management Plan

6.1 Overview

Watercare provides water services to 1.7 million Aucklanders through more than 480,000 service connections. Of the total water consumed, 74 percent is used by residential customers, with the remaining 26 percent used by commercial customers.

By getting a better understanding of water use practices and/or behaviours, and the factors which influence those practices and behaviours, opportunities for improving water efficiency can be identified and monitored for their effectiveness. A broad range of work has been done to better understand the patterns of water use practices and behaviours in all sectors.

6.2 Gross Per Capital consumption (PCC)

Gross PCC is defined as the total volume of water supplied divided by the total connected population within Auckland Region, and includes residential, commercial and nonrevenue water use. In accordance with the Auckland Water Strategy, Watercare is committed to achieving a gross per PCC target of 225 l/p/d by 2050.

The change in PCC over the period 1990 to 2025 is illustrated in Figure 6, with the red line showing the change in PCC. Despite changes in population, the demand for water has not increased proportionately due reduction achieved in gross PCC, from over 400 litres/person/day forty years ago to approximately 257 litres/person/day in 2025. Figure 6 shows that significant events, such as the 1994 drought, recession in 2008/09 and recent drought in 20/21, and programmes such as demand management measures including the introduction of universal metering can influence and change water use.

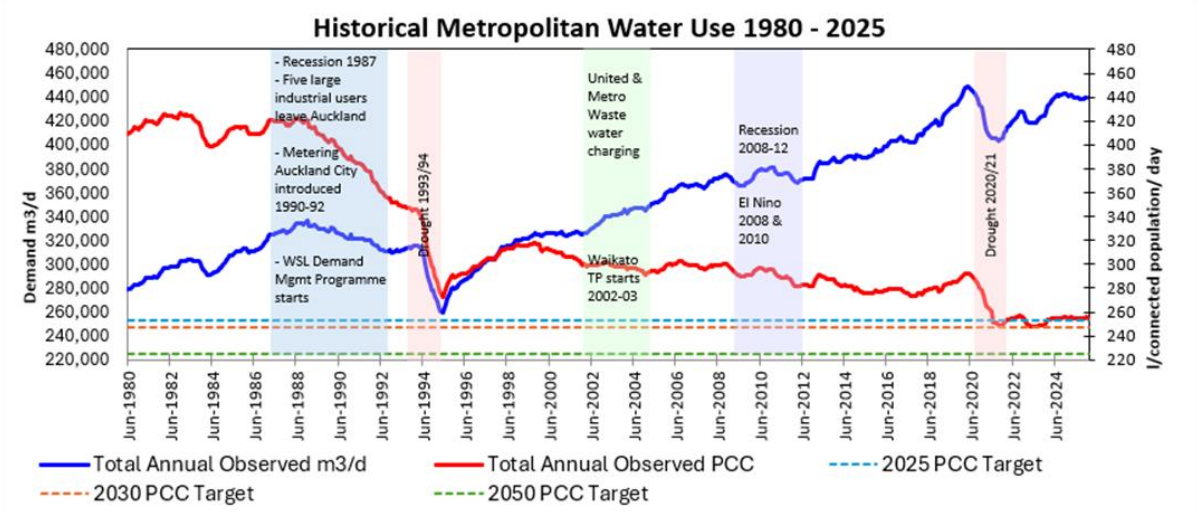

Figure 6: Auckland's historical water use (2025)

Figure 7 shows the sustained reduction in gross PCC since 2004. Watercare achieved its 2025 PCC target of 253 l/p/d (±2.5 percent), with actual performance of 257 l/p/d in 2025, confirming delivery of the targeted 15 percent reduction from 2004 levels.

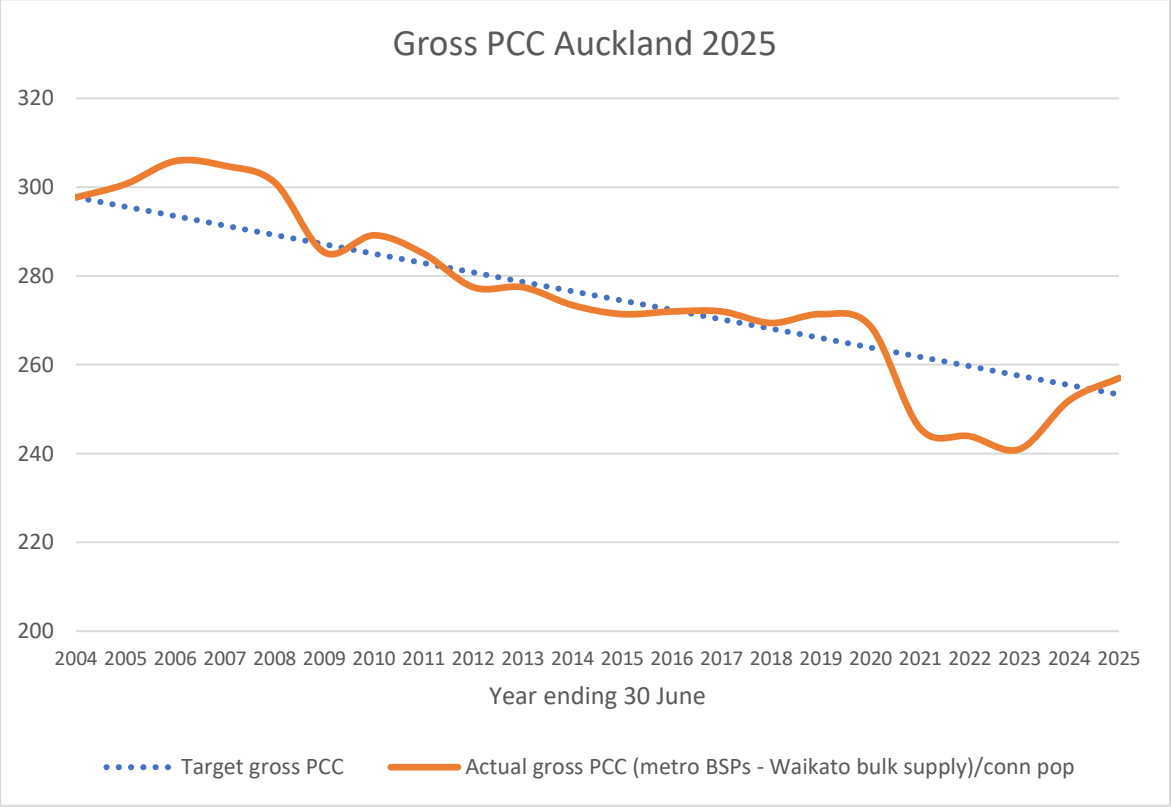

Figure 7: Auckland's demand management savings pathway

Gross PCC is influenced by a range of factors, including population estimates, residential and commercial consumption, climate conditions, Watercare's own operational water use, and leakage.

Having met the 2025 target, Watercare will now work to the glidepath set out in the Auckland Water Strategy, which aims to reduce gross PCC to 225 l/p/d by 2050. Continued demand management initiatives will be required to maintain the downward trend in per capita water use and avoid stabilisation at higher consumption levels. Investment in smart meter rollout and how we enable customers to access this information through an app or portal will enable further reduction. This is outlined in our Water Efficiency Plan.

6.3 Residential Per Capita Consumption

In addition to gross PCC, interim regulation requires Watercare to also report residential PCC, which measures average residential water use per person per day and excludes commercial and non-revenue water. Reporting residential PCC provides greater visibility of household water use and supports more targeted demand management initiatives

Residential PCC has reduced from approximately 167 L/p/d in 2012 to about 162 L/p/d at the end of FY25 in Auckland. Variations in annual residential usage are impacted by water efficiency and by the weather over the summer, with water usage increasing during a drier or hotter summer in comparison with a normal year. Watercare/Auckland's PCC compares well to other cities in New Zealand and Australia.

6.4 Understanding of per capital consumption in Auckland

Watercare continues to monitor and review consumption data to identify trends and uses this information to inform its approach to demand management. Growth investment, for water planning and construction, is based on PCC data. As indicated in the Water Efficiency Plan, trends in usage are integral to informing strategies for driving efficient water use in Auckland.

The breakdown of water use in Auckland homes is shown in Figure 8. Improvements in appliance efficiency has been a primary driver of changes in household water use. In particular, the increasing uptake of smarter and more water-efficient washing machines—especially front-loading models—has led to a notable reduction in water demand. Water use attributed to washing machines has decreased from around 23 percent of household consumption to approximately 13 percent, reflecting the shift away from less efficient top-loading machines.

The Watercare app helps residential customers better understand their water use, whether they have a smart meter or a manual meter. By showing easy-to-understand usage information over time, the app makes it simpler to track consumption, spot changes, and be more mindful of everyday water use.

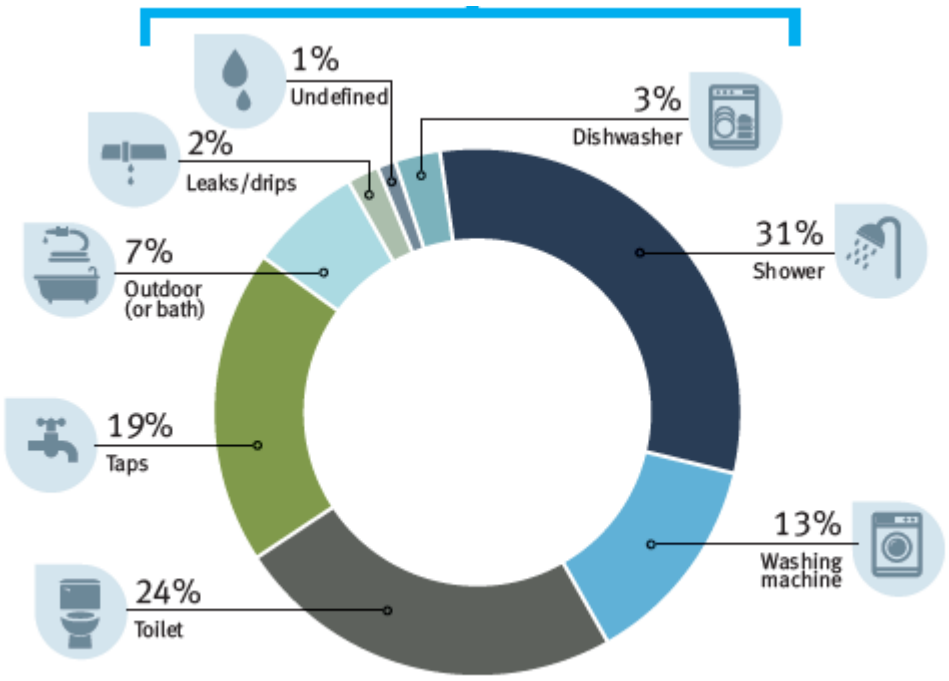

Figure 8: Breakdown of water use in an Auckland home.

The Water Efficiency Plan indicates Auckland's PCC is lower than the national median and compares favourably to Melbourne and Sydney.

6.5 Water Efficiency Plan and savings targets

The purpose of the Water Efficiency Plan is to embed water efficiency as an always on, long-term practice that supports Auckland's water security, reflects the value of water, and aligns with community expectations. The plan is not intended to defer investment, but to ensure water is used wisely and efficiently across the system as Auckland grows and faces increasing pressures from climate change.

Consistent with the plan's background, the focus has evolved toward residential water use as a more meaningful indicator of performance, recognising that residential consumption is where Watercare can most directly influence behaviour and outcomes, while commercial demand more closely reflects Auckland's broader economic activity.

In the commercial sector, the plan emphasises the efficient use of water as part of normal business operations, supporting productivity while reducing avoidable waste. In the residential sector, the focus is on improving water education and literacy, enabling Aucklanders to use water wisely and reinforcing the understanding of water as a taonga that must be protected for future generations.

Overall, the Water Efficiency Plan provides a structured, ongoing framework to drive behavioural change, improve system efficiency, and support long-term water resilience, in line with Auckland's water security targets and the Auckland Water Strategy.

The Water Efficiency Plan sets out four overarching strategies that, together, will support improved water efficiency across Watercare and its customers and contribute to working towards our long-term Gross PCC target of 225 l/p/d by 2050.