

# Metropolitan Region Water Loss and Demand Overview



This document provides a high-level summary of the Wellington Metropolitan Region’s estimated annual water loss and total demand (water lost through leaks and customer use). It also includes information on the key factors that have impacted water loss and demand, and what we can expect moving forward.

## Metropolitan regional public and private water loss figures

Estimated Water Loss Percentages on the Public and Private Network				
Council	FY22/23	FY23/24	Reduction	Confidence
WCC	40%	37%	3%	95% confidence intervals of between 28% and 48%.
UHCC	52%	50%	2%	95% confidence intervals of between 41% and 58%.
HCC	46%	44%	2%	95% confidence intervals of between 32% and 56%.
PCC	40%	39.5%	0.5%	95% confidence intervals of between 29% and 50%.
<b>Metro average</b>	44%	41%	3%	95% confidence intervals of between 31% and 52%.

The estimated annual average water loss on the metropolitan public and private network for FY23/24 is **41%\*** down 3% from FY22/23 (44%). The estimated annual average water loss on the public network only for FY23/24 is **32%\*\*** down 2% from FY22/23 (34%). In real terms, this equals a saving of about **4 million litres per day on the public network**.

In the first half of FY2023/24, we experienced the **highest level of leaks** seen across the network in many years. To tackle this, councils increased their investment in finding and fixing leaks. This enabled more leak repairs, and a corresponding reduction in the annual average water loss estimate.

The **methodology** used is the same as the previous year so we have confidence that there has been a genuine reduction in water loss, although there remains significant uncertainty with the true extent of water loss due to the lack of universal metering.

**Increased funding** for many councils wasn’t made available until the second half of the year, and as a result increased leak repair work did not start until quarter 3 or later. This means the average annual water loss estimate may not have reduced as much as some may have anticipated. Additionally, a potential increase in leaks on private property may have offset some of these gains, but due to the lack of residential metering it is hard for us to gauge the extent with certainty.

As these water loss figures are a retrospective average of the entire past financial year (1 July 2023 to 30 June 2024) and leak repairs and water loss reduction work continues, we expect water loss to continue to reduce. This estimate is a **good initial indicator** of the impact that councils’ increased investment into finding and fixing leaks has had.

\*95% confidence intervals of between 31% and 52%.  
 \*\*95% confidence intervals of between 17% and 48%.

## How do we measure water loss and demand?

To measure **water loss**, we use the Minimum Night Flow methodology that aligns with the Water NZ Water Loss Guidelines for areas with low water meters. This provides a lag indicator of water loss reduction activities over this period.

We also track average daily **demand** (use and water loss) on a weekly basis, to gain an overall picture of water demand per capita and how it compares to previous years. Demand is measured by meters which show the total volume of water supplied by Water Treatment Plants.

We cannot accurately track current, or ‘live’ water loss or water use without universal metering.

These two measures work together to help Wellington Water and our council owners better understand:

- *past financial years’ water use and loss*
- *identify any high-level trends*
- *gauge if councils’ investment and Wellington Water’s efforts are having the desired impact, and*
- *guide future investment decisions.*

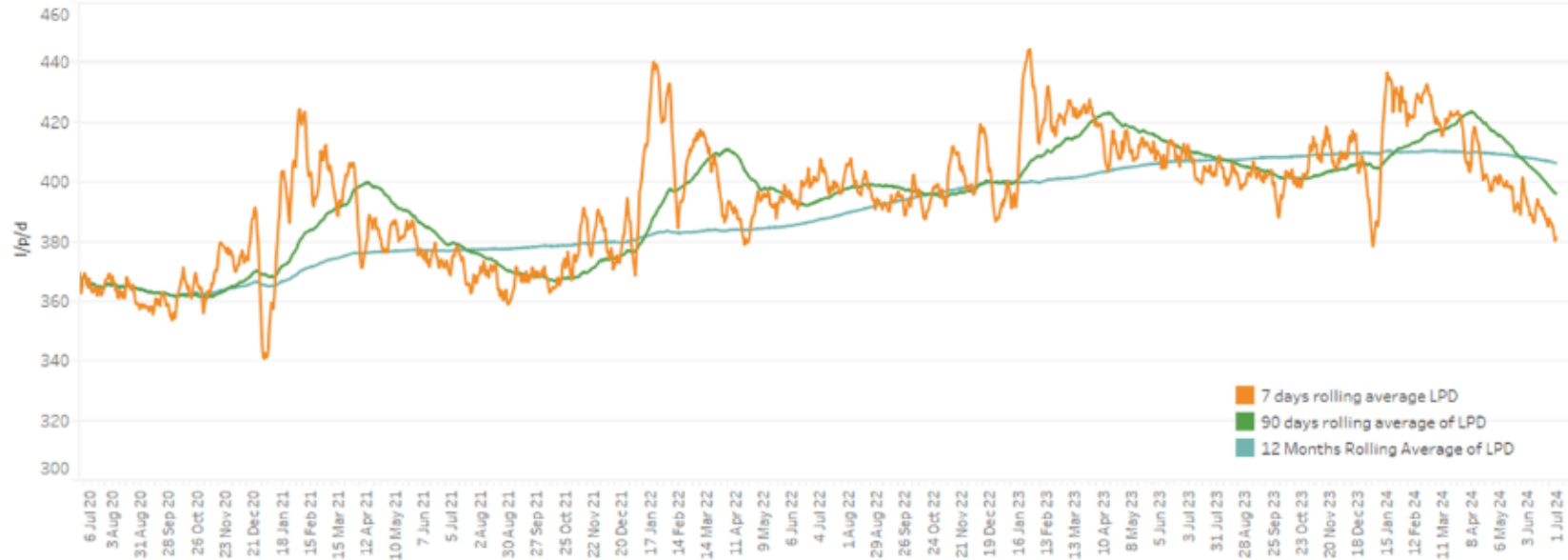
## Water loss on the public network in million litres per day

Council	FY2022/23	FY2023/24	Reduction
WCC	26.5MLD	24.8MLD	1.8MLD
UHCC	9.1MLD	8.3MLD	0.8MLD
HCC	17.6MLD	16.6MLD	1.0MLD
PCC	6.3MLD	5.9MLD	0.4MLD
<b>Metro Region</b>	<b>59.6MLD</b>	<b>55.5MLD</b>	<b>4.0MLD</b>

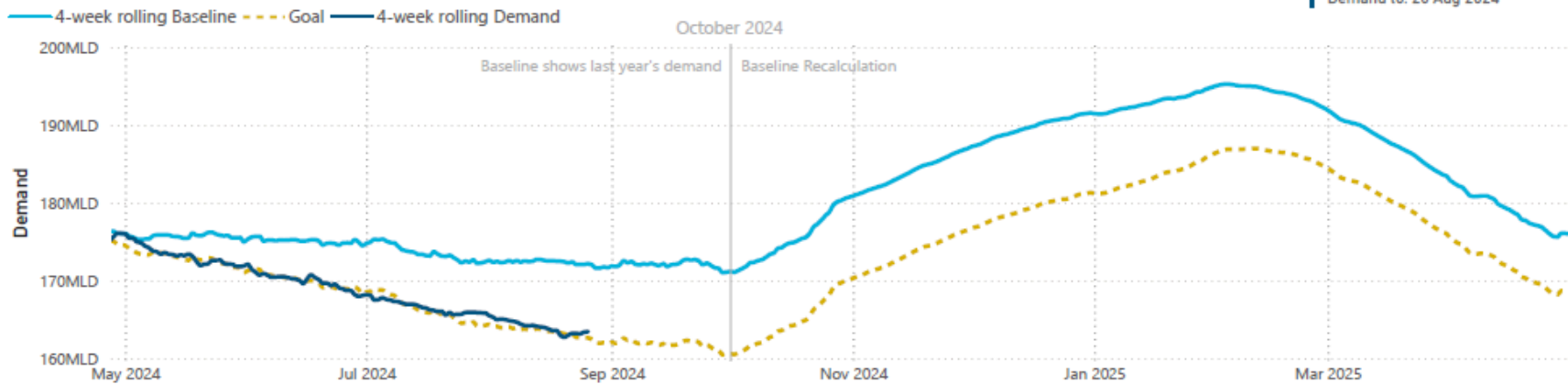
## The Rolling Average

Since July 2024, the twelve-month rolling demand average has shown an encouraging drop, and is continuing to decline.

Council's increased investment and Wellington Water's strong focus on reducing water loss and managing the summer risk has contributed to these results, as well as the effort from residents and businesses to manage and reduce water use through the peak summer period.



## Demand Tracker



## Working towards the region's water savings target for next summer

As we move towards the 2024/25 summer risk period, it is encouraging to see our monthly reporting showing the region tracking well towards the required demand reduction of 7.4 million litres per day.

*This graph tracks current 4-week rolling demand and compares it with the previous 12-month period's 4-week rolling demand as a baseline. The gold dotted line marks the pathway to meet the target. As demand in winter is low and the steady decline aligns with that expected from the recent increased level of leak repairs, we can be confident that the decline shown is directly related to water loss reduction activities across the network.*

*It's important to note that as water demand traditionally increases during summer, to achieve the goal of a 7.4MLD reduction in summer demand we need to exceed that demand reduction during the cooler months to give us a bit more room to account for spikes in water use during the warmer months.*

This will reduce the risk of councils needing to put in place Water Restriction Level 4, as seen in the Demand Tracker graph.

## Moving forward

- While progress is being made on leaks, it's important to note that leak repairs are a 'band-aid' rather than a long-term sustainable solution and are only one piece of the puzzle. Fixing leaks doesn't prevent new leaks from occurring or the backlog from rising if ongoing investment in leak repairs is not maintained.
- The increasing age and deteriorating condition of the network means that we expect the cost of ongoing leak repairs to continue to increase, and significantly increased investment in proactive pipe renewals is needed to prevent leaks occurring in the first instance. This is vital to reduce and maintain water loss at a sustainable level. Currently, pipe renewals are funded well below the recommended level across the region.
- Our forecasting shows that at the current rate of activity, some of our councils' investment into finding and fixing leaks will run out in early 2025. This means councils should expect to see the region's leaks backlog begin to climb again in early to mid-2025. Ongoing and consistent investment into leak detection and repair, along with investment in preventative renewals is needed to prevent the backlog from rising.
- Investment in universal metering will be key to finding leaks faster and help to promote community water conservation. Increasing the drinking water supply through additional storage lakes at Te Mārua will help better balance supply and demand as population growth, climate change and a reduction in water allocation increases strain on the system.

<b>Council</b>	<b>Budget depleted by</b> <i>(estimated based on average cost per leak)</i>
<b>WCC</b>	Currently fully funded
<b>UHCC</b>	End of Jan 2025
<b>HCC</b>	Currently fully funded
<b>PCC</b>	End of April 2025