

Kāpiti Coast Water Conservation Report
2024/25

FINAL

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Revision History

Revision N°	Prepared By	Description	Date
0	Ben Thompson	Draft for internal review	03/07/2025
	Ben Thompson / Tess Drewitt	Final for GW	25/09/2025

Document Acceptance

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on behalf of	Kāpiti Coast District Council		

Executive Summary

Overview

Kāpiti Coast District Council (the Council) is committed to providing a safe reliable service and achieving the adopted water conservation target. This Water Conservation Report has been prepared to:

- Document performance against the 490 litres/person/day (L/p/d) peak water target and water conservation management activities in 2024/25.
- Meet the reporting requirements of the consents governing the operation of Paekākāriki, Waikanae, Hautere and Ōtaki water supply schemes.
- Set out the proposed water conservation work programme for 2025/26.

Key water conservation activities in 2024/25

In 2024/25, the Council focused on:

- Continued use of water meter-based charging to encourage efficient water use.
- Continued assistance to the district's residents to reduce water use and repair leaks.
- Monitoring network performance and targeted leak location and repair activities.

District peak water met 490 L/p/d again in 2024/25

At a district level, peak demand stayed below the 490 L/p/d target. The Waikanae, Raumati and Paraparaumu (WPR), Paekākāriki and Ōtaki supply all met the 490 L/p/d target. The district wide peak target does not specifically apply to Hautere as this is a rural water supply scheme. Table 1 shows the 2024/25 peak demand (L/p/d). Note that the data is adjusted each year to reflect updated population projections. Figure 1 shows district wide water use throughout the year. District wide water usage has decreased from 2023/24, which reflects the Council's continued effects in leak detection and demand management.





Year	Ōtaki (L/p/d)	Hautere (L/p/d)	WPR (L/p/d)	Paekākāriki (L/p/d)	District-wide (L/p/d)
2016/17	449	1,162	365	365	373
2017/18	552	1,145	377	520	404
2018/19	499	1,026	384	568	401
2019/20	507	1,034	406	643	428
2020/21	529	974	389	419	408
2021/22	616	977	419	371	447
2022/23	580	1,000	442	429	447
2023/24	523	996	370	416	384
2024/25	484	1,103	351	484	368
Target reached for 2024/25		N/A			

Table 1: Comparing peak daily demand for each water supply and the Kāpiti Coast District

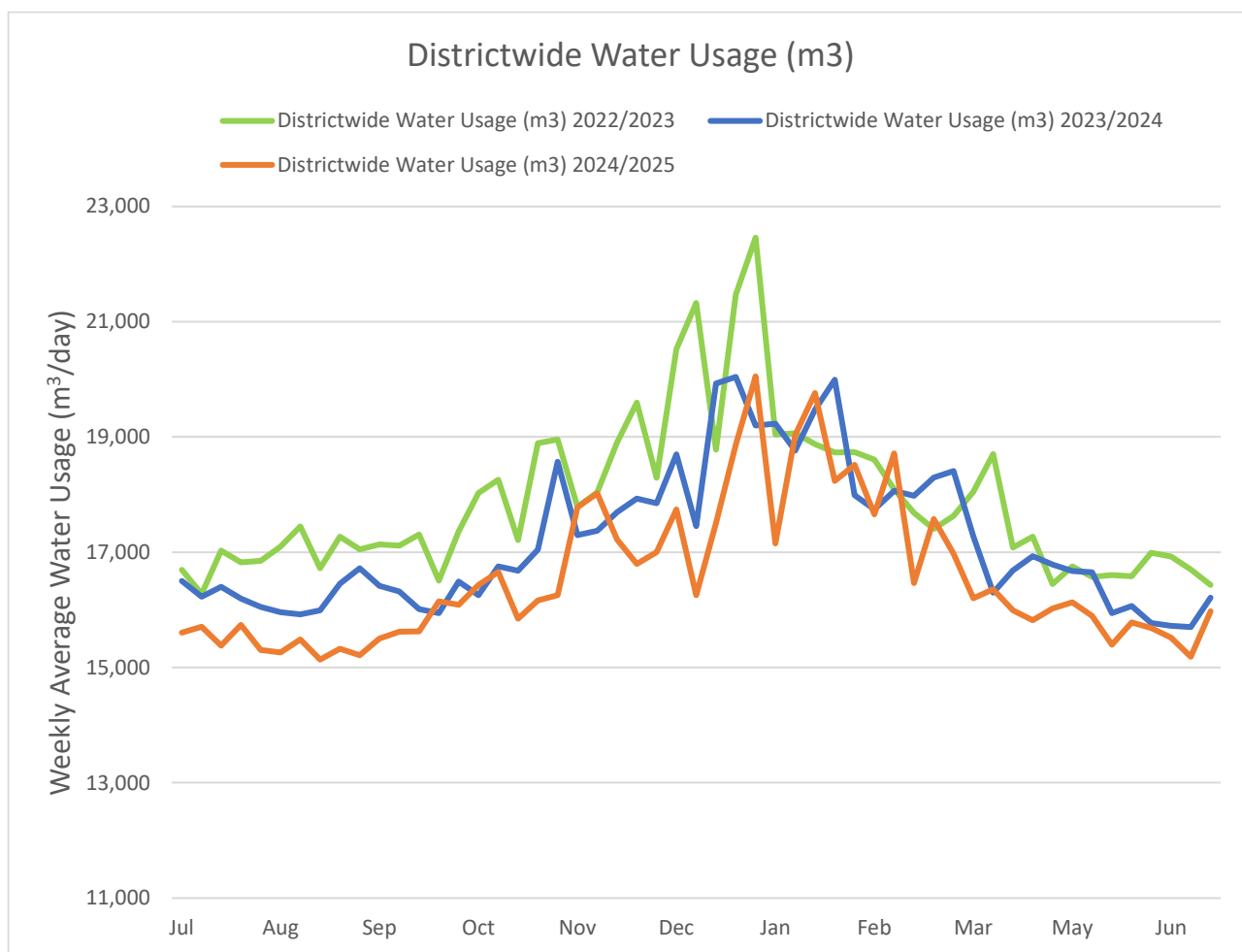


Figure 1: Comparing the District water demand for the last three years.

Investigating and repairing public and private leaks

The Council commissioned leak detection across all the networks apart from the Hautere Supply, Peka Peka DMA and the Waikanae Downs DMA. The investigations covered 450 km, 92% of the 489 km of water networks. The leak investigations identified approximately 910 litres/minute or 1,300 m³/day district wide of water savings.

Onsite rainwater tanks are installed for the developments recently completed and made mandatory for the development being approved. This helps in water conservation, stormwater retention and delayed release towards mitigating the flooding risk.

Estimated water loss lower in 2024/25 than 2023/24

The Council uses the Water loss Benchmark approach to estimate water loss for our water supply schemes. Table 2 summarises the estimated daily water loss for the district over the last three years. In 2024/25, the Council improved both peak and average daily water losses, with an overall annual reduction of 15%. The results for each scheme are set out in Section 4 of this report.¹

The Council will continue to engage specialist leak detection contractors to carry out acoustic leak surveys for 2025/26. The scope of works includes an acoustic ground survey by water zone to test all fittings (meters, valves, hydrants, etc., where practical) using acoustic leak detection instruments.

District Wide	2022/23	2023/24	2024/25
Peak day	(24,763 m ³ /day) or 447 L/p/d	(21,761 m ³ /day) or 384 L/p/d	(21,363 m ³ /day) or 368 L/p/d
Average day	(17,914 m ³ /day) or 324/p/d	(17,203 m ³ /day) or 305 L/p/d	(16,572 m ³ /day) or 285 L/p/d
Current Annual Water Loss	2,000,600 m ³ annually or 255 L/conn/day	1,779,900 m ³ annually or 222 L/conn/day	1,518,900 m ³ annually or 189 L/conn/day
International Leakage Index (ILI)	4.1 (C Band)	3.6 (B Band)	3.1 (B Band)

Table 2: Comparing the performance of The Council water supplies²

Work programme for 2025/26

The Council's focus for 2025/2026 will be to:

- Locate and repair leaks in the Ōtaki, WPR and Paekākāriki.
- Monitor water zones in Hautere network and undertake investigations as needed.
- Continue water mains and laterals renewal programme based on risk conditions and performance information.
- Continue to support the community to use water, wisely.
- Implement long-range, wide area (LoRa) remote metering network and trial installation on high usage properties and multi-primary/check meters to identify leakage.
- Continue installing smart meters on properties with difficult access.

A total of \$955,000 funding is available in 2025/26 for water conservation, water metering, leak repair and demand management activities. Table 11 on page 19 provides more detail on each Council budget related to sustainable water management.

¹ The previous years leakage figures have been adjusted following a comprehensive audit and we have backdated data and this shows an increase from previously reported figures.

² The Council now includes Hautere Water Supply in reported figures.

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1 Introduction

1.1 Introduction

This report provides a summary of the Council's progress towards achieving the Kapiti Coast district's water conservation target of 490 litres per person per day (L/p/d) and provides details of water conservation and demand management activities undertaken in 2024/25 and proposed for 2025/26. This report covers the four water supplies managed by the Council, being Ōtaki Supply, Hautere Water Supply, Waikanae Supply (servicing Waikanae, Paraparaumu and Raumati (WPR)) and Paekākāriki Water Supply.

1.2 Background

The 2002 Sustainable Water Management Strategy (the "Strategy") sets out the Council's vision for water management in the district to 2052. The Strategy recognises that sustainable water management is a district-wide issue and needs to account for residential growth and economic development. The Strategy set a peak water target of 400 L/p/d by 2013/14, with an additional 90 litres for leakage. To reach the target, the Council recognised households, schools and businesses, and the Council itself each play its part.

In 2010, the Council developed the Water Conservation Plan to ensure the community reached the 490 L/p/d per peak day target by 2016. The Water Conservation Plan contains a series of water demand management measures to achieve the target. There are seven action areas in the plan:

- **Council leadership** – The Council needs to demonstrate throughout its activities that is walking the talk. The Council also recognised its role in supporting residents and businesses with good information on saving water.
- **Better data, better results** – with better information on where the water is being used and lost, the Council can better target resources for better outcomes.
- **Managing leaks in public networks and private property** – fixing leaks provides more capacity for future generations.
- **Regulation** – The Council uses the District Plan to ensure new homes should meet the 490 l/p/d target, including requiring all new builds to install rainwater tanks. The Water Supply bylaw to manage summer demand, water pricing and minimising wastage.
- **Financial Assistance** – The Council offers an "interest-free" targeted rate for households to install rainwater or greywater systems to offset public water use. It also offers rates subsidy for hardship.
- **Education** – The Council recognised the importance of students of all ages understanding the importance of their water supply and the role water has in local life.
- **Technical innovation** – The Council recognised the importance of new ideas and technology in assisting local businesses, and residents save water.

The Council met the 490 L/p/day target in 2015/16 with the introduction of water metering and continues to meet this target in 490 L/p/day on a district-wide basis. In addition to the peak water target, the Council's water take resource consents for the district water supply requires the Council to prepare a Water Conservation Report that tracks compliance with the peak target and provides details of water demand management measures in the district.

2 Consent requirements

Several Greater Wellington Regional Council (GWRC) consents held by the Council for the Paekākāriki, WPR and Ōtaki supplies have water conservation consent conditions. The relevant consent conditions that this report addresses are listed below.

WGN130331 [32355] – Paekākāriki Water Supply groundwater and surface take

The Water Permit WGN130331 [3255] does not explicitly require an Annual Water Conservation Report for the Paekākāriki Supply, but the Council will provide the information to be consistent with the Hautere, Ōtaki and Waikanae supply reporting.

WGN160082 [38812] – Hautere Rural Water Supply groundwater take

Condition 7 requires the Council to produce an Annual Water Conservation Report that details water conservation initiatives and leak detection work for the year and planned works for the coming year.

WGN130103 [35973] – Waikanae Water Supply groundwater take

Condition 4 requires the Council to implement water conservation and water demand management measures as necessary to achieve the reductions in water demand necessary to reduce maximum peak daily water demand to 490 l/p/d for the Waikanae, Paraparaumu and Raumati supply area.

WGN130103 [35974] – Waikanae Water Supply surface water take

Condition 4 requires the Council to implement of water conservation and water demand management measures as necessary to achieve the reductions in water demand necessary to reduce maximum peak daily water demand to 490 l/p/d for the Waikanae, Paraparaumu and Raumati supply area.

Condition 25 requires the Council to submit an Annual Water Conservation Report to GWRC by 30 September each year. The Annual Water Conservation Report shall be made available to the public on the Council's website by 30 September each year. Table 3 lists the matters that the Annual Water Conservation Report is required to address and the relevant sections of this report.

Conditions	Section in this annual report
a) Summary of the consent holder's progress towards achieving its water conservation target of 490 L/p/d;	Executive Summary
b) Details of peak summer daily use expressed as L/p/d;	3.1
c) Outcomes of any water conservation measures to reduce peak demand, including but not limited to water meters;	4.1 – 4.7
d) A discussion of any reduction in peak daily demand;	3.2
e) Details of any increases in population;	6.1
f) Investigations and work completed to identify and fix leaking water pipes;	4.2
g) Details of any planned work to identify and fix leaking water pipes in the coming year.	5.3

Table 3: Condition 25 of consent WGN130103 [35974]

WGN050025 [33147] – Waikanae back-up water supply groundwater take

Condition 15b requires the Council's Annual Report submitted by 31 July to include measures undertaken to investigate, implement and manage water conservation methods to reduce water demand on the Kāpiti Coast, including the introduction of water meters, any increase in population, any reduction in peak daily water demand and the achieved results of these measures.

WGN080379 [32187] – Water Supply Tasman Road groundwater take

Condition 11 requires the Council to prepare an Annual Report on the water conservation measures carried out over the previous summer. The report shall assess the effectiveness of the conservation measures and describe the proposed measures to be implemented over the coming summer period. The Annual Water Conservation Report shall be submitted to GWRC by 31 November each year.

WGN080379 [32188] – Water Supply Rangiuru Road groundwater take

Condition 11 requires the Council to prepare an Annual Report on the water conservation measures carried out over the previous summer. The report shall assess the effectiveness of the conservation measures and describe the proposed measures to be implemented over the coming summer period. The Annual Water Conservation Report shall be submitted to GWRC by 31 November each year.

3 Peak day and water loss performance for 2024/25

3.1 District peak water use target met for 2024/25

The Kapiti Coast community maintained the district level peak water target in 2024/25 without the Council introducing water restrictions. The successes in leak detection and water conservation management meant average daily demand decreased from 17,186 m³/day in 2023/24 to 16,548 m³/day in 2024/25, and peak use decreased from 21,749 m³/day to 21,349 m³/day.

Table 4 shows the gross daily peak water use for 2024/25 and the preceding eight years for the four water supplies. The Council achieved the 490 L/p/d target for the district and for each individual water supply network (WPR, Paekākāriki, and Ōtaki), excluding Hautere, which is a community scheme and includes irrigation.





Year	Ōtaki L/p/d	Hautere L/p/d	WPR L/p/d	Paekākāriki L/p/d	District-wide L/p/d
2016/17	449	1,162	365	365	373
2017/18	552	1,145	377	520	404
2018/19	499	1,026	384	568	401
2019/20	507	1,034	406	643	428
2020/21	529	974	389	419	408
2021/22	616	977	419	371	447
2022/23	580	1,000	442	429	447
2023/24	523	996	370	416	384
2024/25	484	1,103	351	484	368
Target reached for 2024/25		N/A			

Table 4: Peak consumption for each water supply since 2015/16

3.2 Performance of each water supply over 2024/25

3.2.1 Overview

This section sets out more detail for the performance of each supply, including:

- A graph comparing daily demand for last three years.
- Average and peak daily demand in cubic meters per day (m³/day) and L/p/d.
- Annual consumption summary of each supply (residential, commercial and leakage).
- Number of days the supply was over the 490 L/p/d target.
- The Current Annual Water Loss (CARL), being the amount of water lost through leakage for the year as a daily amount (results by supply available for the first time this year).

- The International Leakage Index (ILI) grading of the supply.³
- The World Bank Institute performance band and their recommended actions for that band.

The Council has updated the method for how water consumption and water loss is reported over the past few years. The Council shifted from using the reservoirs' flows for Paraparaumu and Waikanae to the flows leaving the Waikanae Water Treatment Plant (WTP). The plant meters are more accurate, and the reporting now includes any potential losses in the mains supplying water to the reservoirs. The Council is now also sanity checking very high and very low demand days to ensure the recorded flows are accurate. Using the new method, the Council updated historic data for consistency.

3.2.2 District-wide results for last three years

The district-wide peak target of 490 L/p/d was met in 2024/25. Figure 2 and Table 5 show the water use trends over the past three years. The data shows a clear decrease in water usage over the past three years due to improved leak detection and water demand management measures.

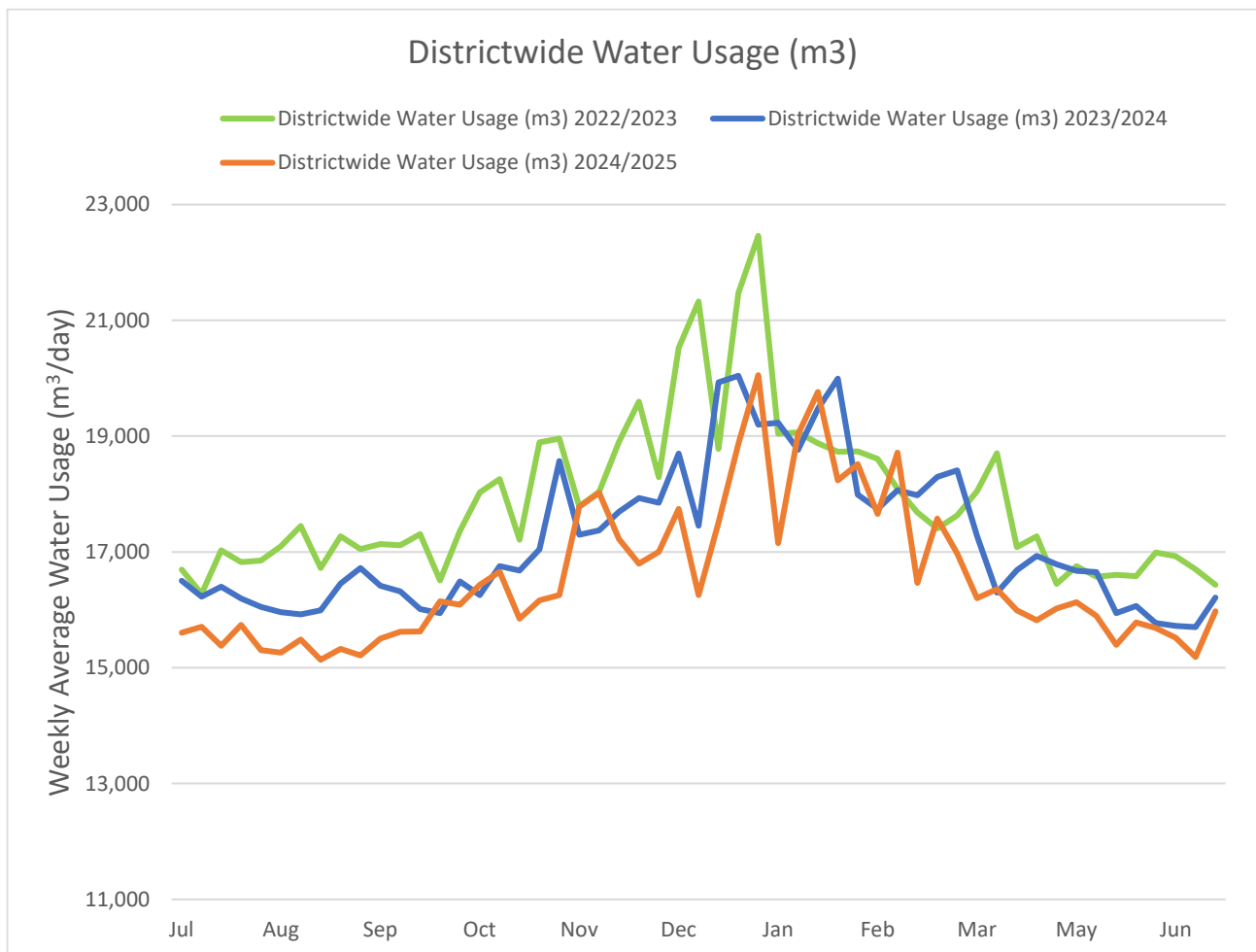


Figure 2: Changes in District-wide water demand for the last three years

³ ILI is the ratio between the amount of water lost for the year and the annual amount of unavoidable water loss. The lower the ratio, the better performing the network is for water loss.

District Wide	2022/23	2023/24	2024/25
Peak day	(24,763 m ³ /day) or 447 L/p/d	(21,761 m ³ /day) or 384 L/p/d	(21,363 m ³ /day) or 368 L/p/d
Average day	(17,914 m ³ /day) or 324/p/d	(17,203 m ³ /day) or 305 L/p/d	(16,572 m ³ /day) or 285 L/p/d
Current Annual Water Loss	2,000,600 m ³ annually or 255 L/conn/day	1,779,900 m ³ annually or 222 L/conn/day	1,518,900 m ³ annually or 189 L/conn/day
International Leakage Index (ILI)	4.1 (C Band)	3.6 (B Band)	3.1 (B Band)

Table 5: Performance of the Council water supplies for last three years

Figure 3 shows the peak and average daily use in Kapiti per year since 2014/15. The average daily water use is remaining constant, and the peak daily water use is fluctuating but has decreased in 2024/25.

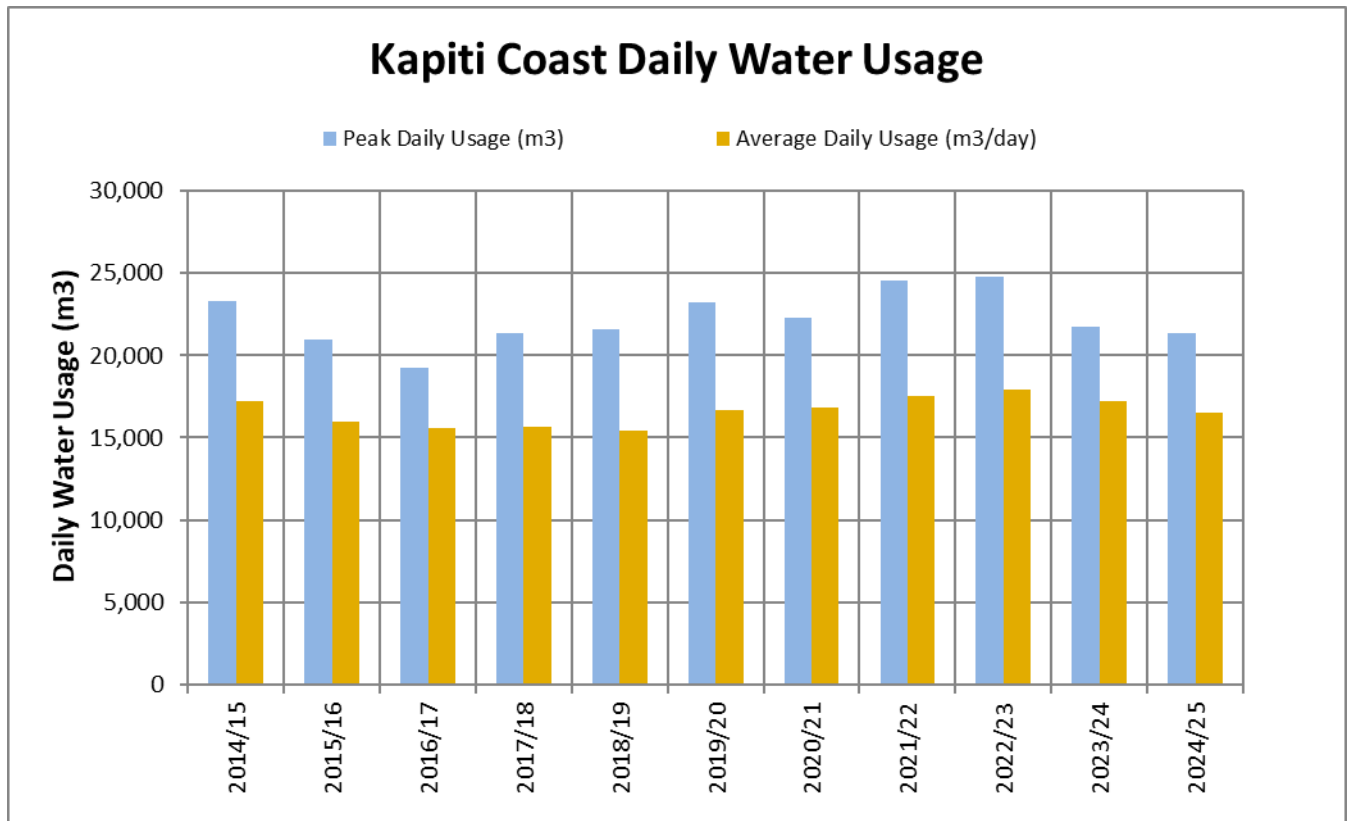


Figure 3: Peak and average daily water useage in Kapiti (2014/15-2023/24)

Figure 4 shows the CARL for Kapiti Coast. Figure 4 shows that losses have decreased by around 6% over the past year, and this is largely due to a decrease in losses within the WPR & Ōtaki networks, to be discussed further in this report.

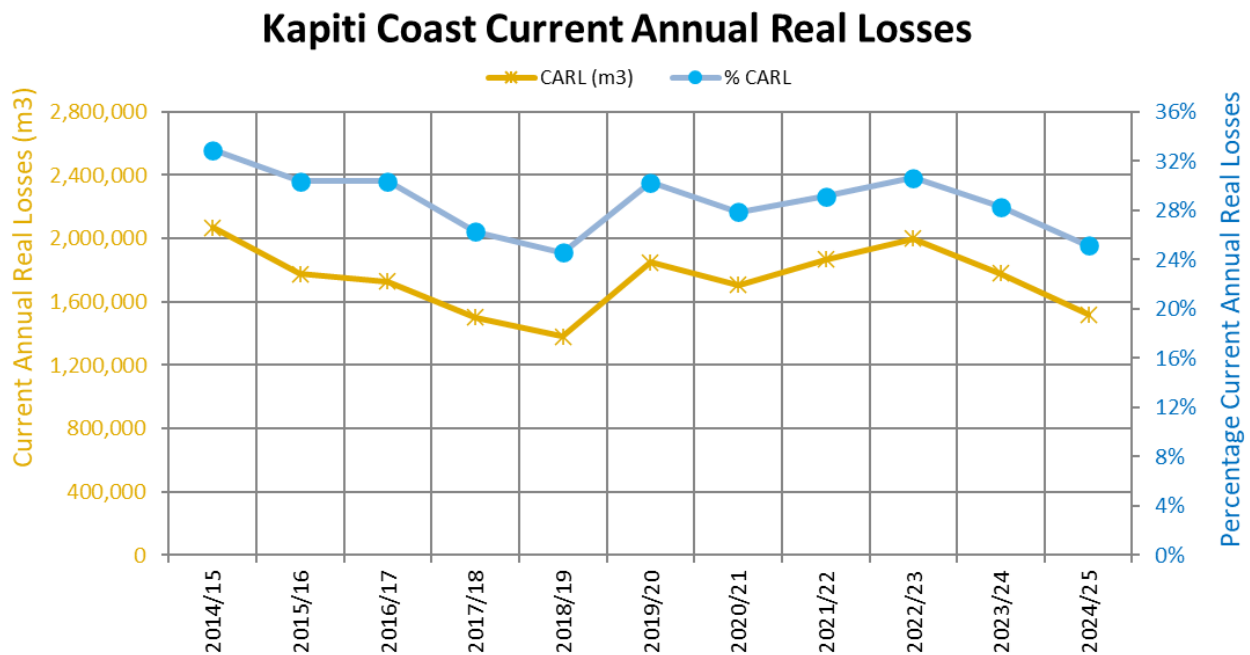


Figure 4: Current Annual Real Losses (CARL) since 2014/15:

For comparison, Figure 5 compares Kapiti District water use with combined water use for the four district/cities managed by Wellington Water (Lower Hutt City, Wellington City, Upper Hutt City and Porirua City). Figure 5 highlights the steady decline in per capita water usage in the Kapiti District since the Council implemented water metering.

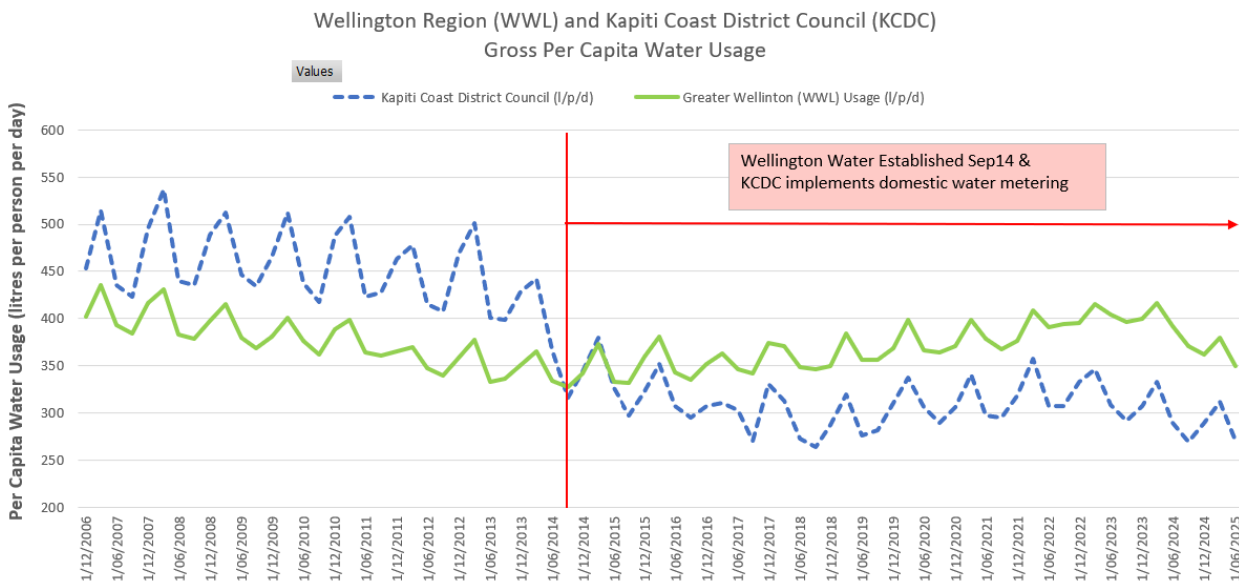


Figure 5: Greater Wellington Region per capita water usage since 2006

3.2.3 Ōtaki Water Supply

Figure 6 and Table 6 show the changes in the Ōtaki Water Supply over the last three years. The peak target was met in Ōtaki in 2024/25, with 0 days over 490 L/p/d peak. The average daily use has also dropped from

378 L/p/d in 2023/24 to 365 L/p/d in 2024/25. Figure 6 shows efforts to reduce leaks over the past few years have started to make a tangible difference in overall water demand in the network. Council contractors swept the entire network over the 2024/25 spring and found an estimated 400m³/day from a mixture of private and public sources; approximately 200m³/day of this was within the Ōtaki network. The Council repaired all identified leaks within the public network.

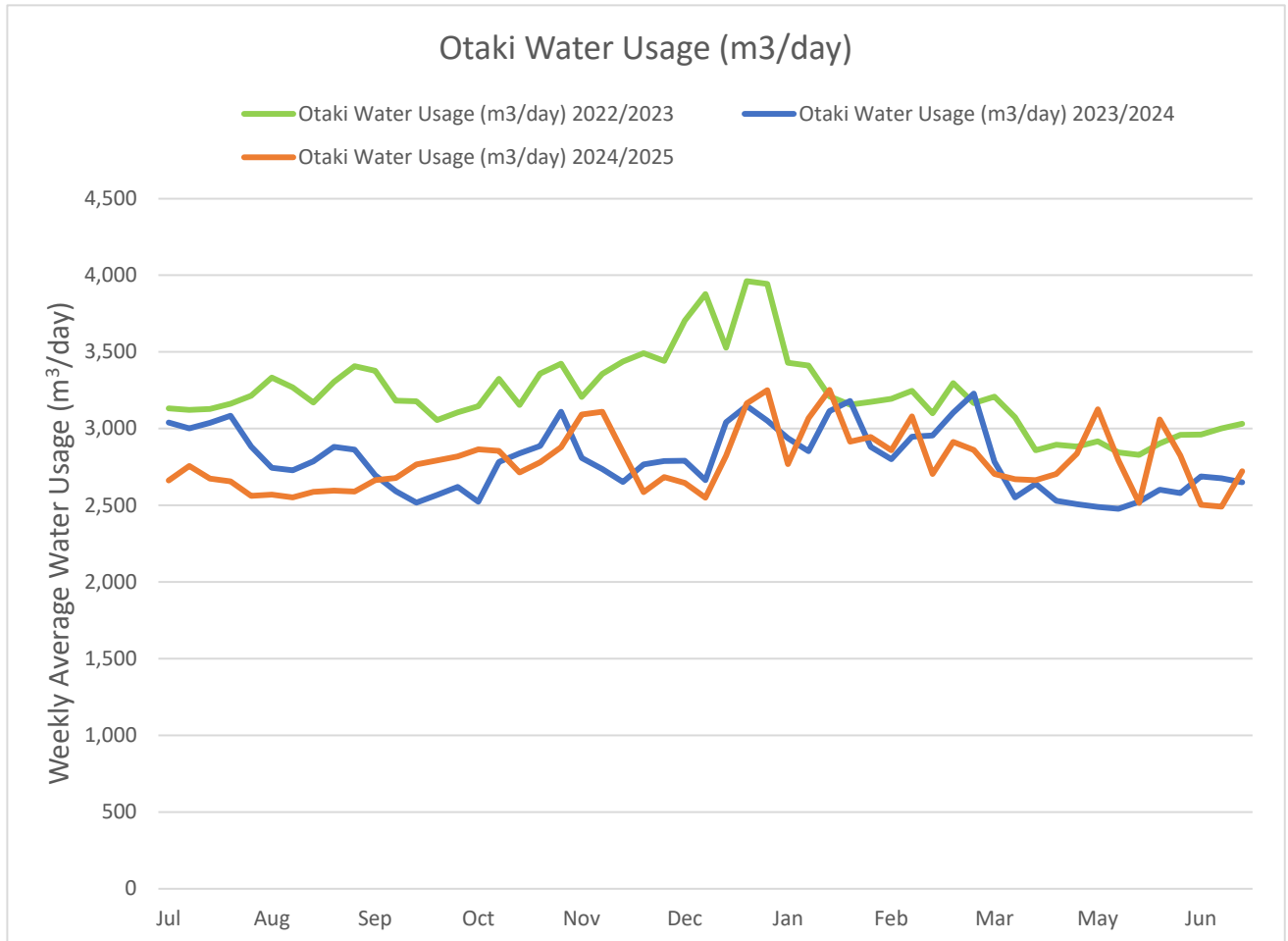


Figure 6: Changes in the Ōtaki Water Supply over the last three years

Ōtaki Supply	2022/23	2023/24	2024/25
Peak day	4,209 m ³ /day 580 L/p/d	3,902 m ³ /day 523 L/p/d	3,738 m ³ /day 484 L/p/d
Days over 490 L/p/d target	26	1	0
Average day	3,234 m ³ /day 446 L/p/d	2,801 m ³ /day 378 L/p/d	2,789 m ³ /day 365 L/p/d
Current Annual Water Loss	519,800 m ³ annually (394 litres/conn/day)	369,600 m ³ annually (269 litres/conn/day)	336,500 m ³ annually (246 litres/conn/day)
International Leakage Index (ILI)	7.0 (C Band)	4.7 (C Band)	4.3 (C Band)

Table 6. Performance of Ōtaki Water Supply for last three years

Figure 7 shows Ōtaki water usage by demand type. Leakage continues to be high in Ōtaki, however it has started decreasing over the past two years in response to leak detection and repair efforts.

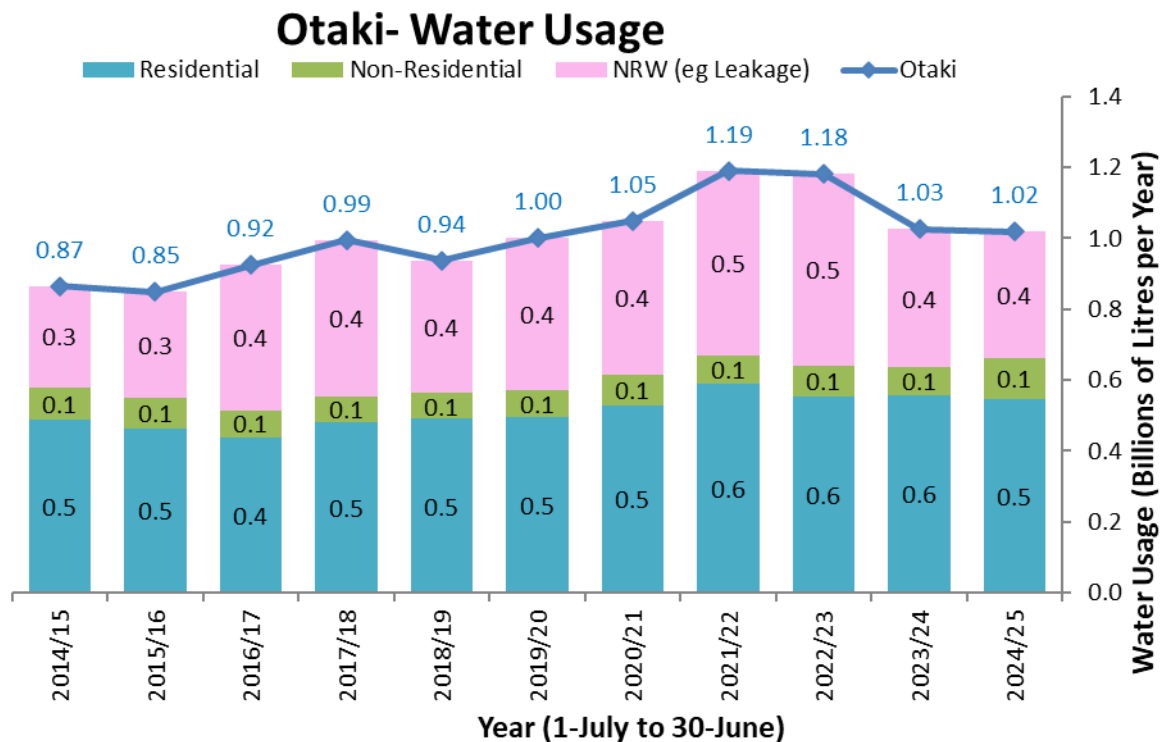


Figure 7: Water use in Ōtaki by demand (2014/15 – 2024/25)

3.2.4 Hautere Water Supply

The Hautere Water Supply is a restricted supply, where the Council restricts water to each property (in multiples of 1000 L/day, depending on allocation). Each customer must provide a tank to contain the water and a pump to provide an on-demand supply to the household for 5 days of supply. Figure 8 tracks water use in Hautere over the past three years, and Table 7 shows key water use indicators for 2024/25.

The district wide peak daily demand target of 490 L/p/d does not apply to the Hautere Water Scheme. Instead WGN16002 requires the Council to undertake water conservation measures and active leak detection when the Ōtaki River flow falls below 4,120 L/s. The Council set up a water conservation trigger using data from GWRC's "Ōtaki Flow at the Pukehinau Site." Table 7 and Figure 9 show that, over 2024/25, the Ōtaki River did not fall below the trigger.

Over 2024/25, the Council installed new pressure and flow sensors within the Hautere water network to create two new monitored areas. The completed works improve the Council's ability to monitor performance and act when leaks identified. Over 2025/26, the data from each zone will help build a more accurate picture of the network's performance and assist the Council to target resources to repair leaks.

Note that Hautere is 51% lifestyle blocks and 39% farming (Primary), 8% residential and 2% community by property type. The properties in the water supply scheme are unmetered so an assumption has been made that water usage is matching the supply allocation with an assumed 30% system leakage. It was overall a dry year in Hautere catchment, and this corresponds with an increased water usage from 2024/25.

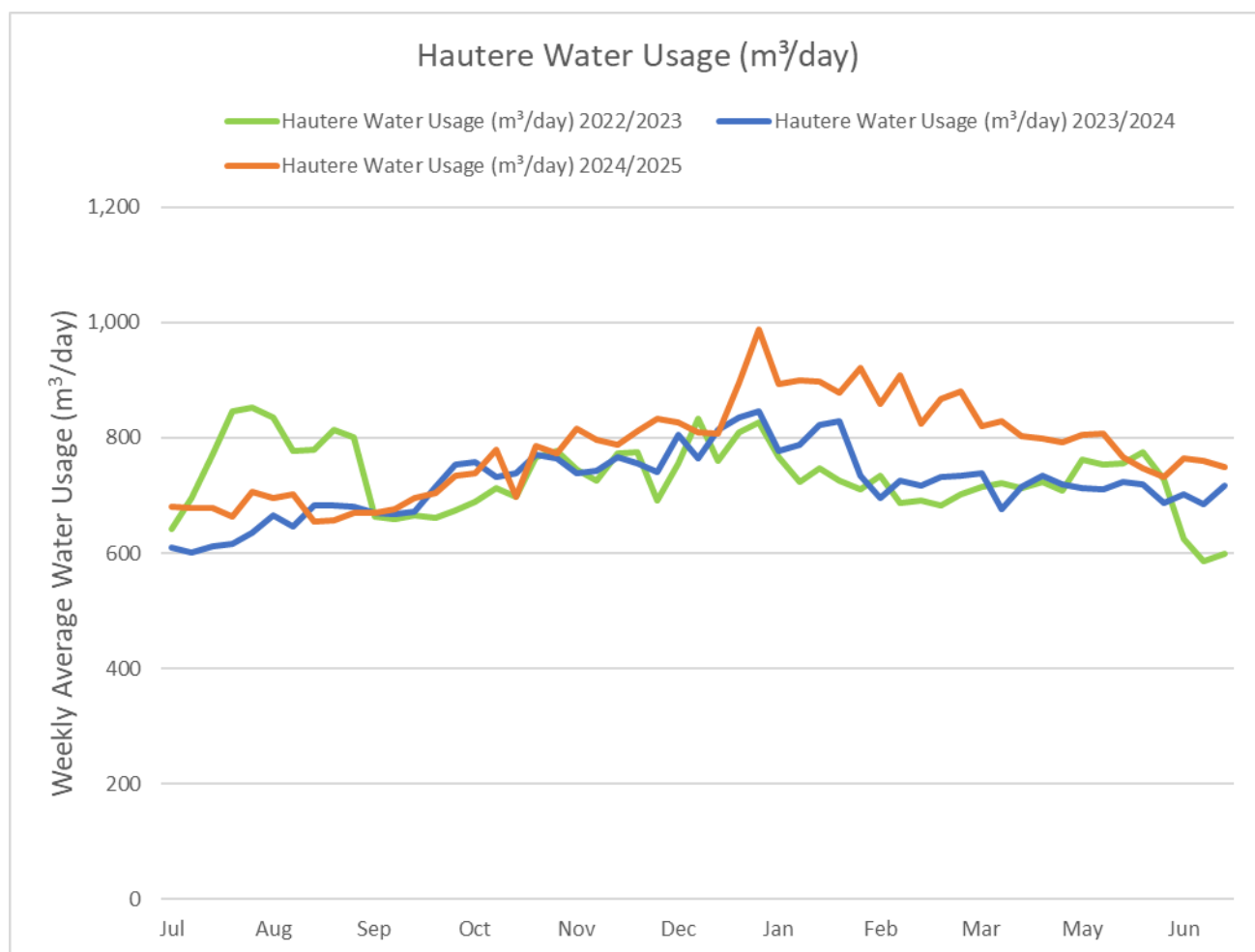


Figure 8: Changes in the Hautere Water Supply over the past three years

Hautere	2022/23	2023/24	2024/25
Peak day	895 m ³ /day 1,000 l/p/d	908 m ³ /day 996 l/p/d	1,027 m ³ /day 1,103 l/p/d
Dates Ōtaki River Fell Below 4,120 l/s	10/10/2022 (4,000 L/s) 11/10/2022 (4,000 L/s)	None	None
Average day	735 m ³ /day 818 l/p/d	722 m ³ /day 793 l/p/d	782 m ³ /day 841 l/p/d
Current Annual Water Loss	58,500 m ³ /year (524 litres/conn/day)	54,100 m ³ /year (483 litres/conn/day)	76,100 m ³ /year (681 litres/conn/day)
International Leakage Index (ILI)	2.6 (B band)	2.4 (B band)	3.5 (B band)

Table 7: Summary of Hautere Water Supply performance for 2024/25

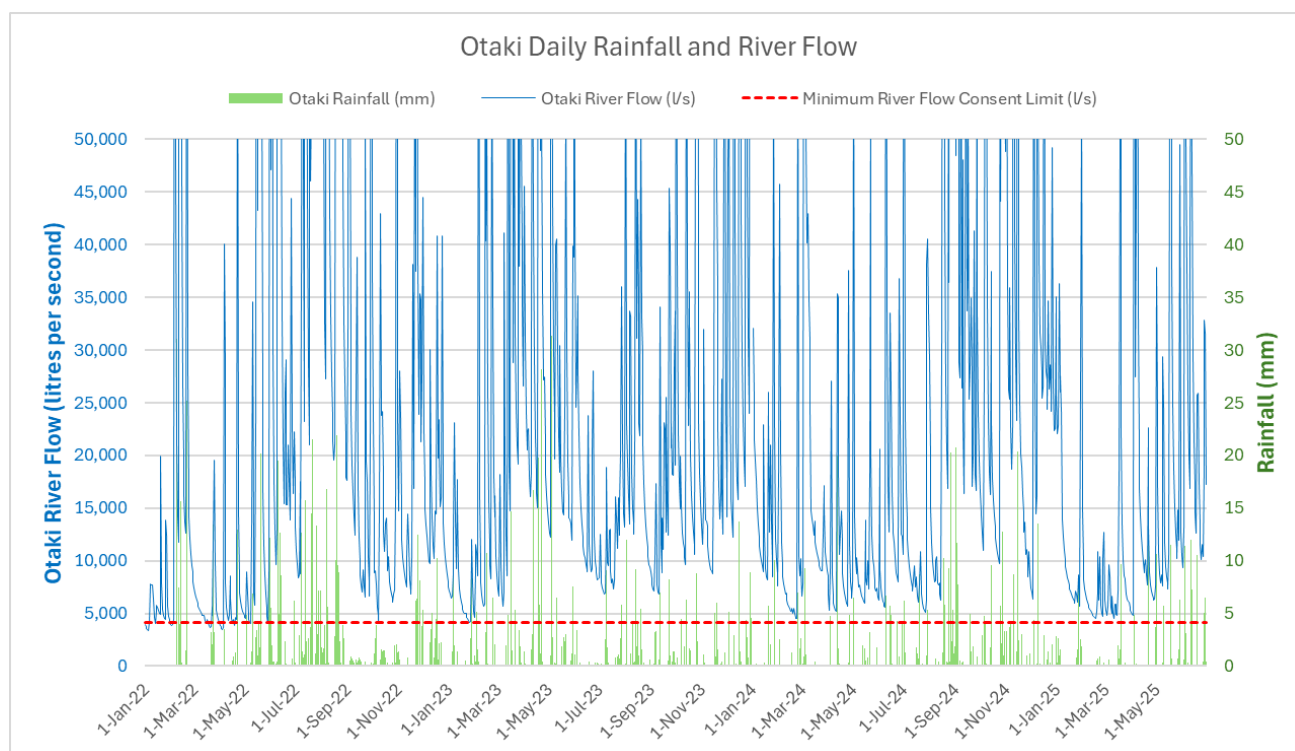


Figure 9: Ōtaki River flow compared to rainfall data

3.2.5 Waikanae/Paraparaumu/Raumati Water Supply

Figure 10 and Table 8 track water use in WPR over the past three years. The Council met the peak target of 490 L/p/d for 2024/25, as with previous years. Annual water losses continue to decrease each year, with water losses decreasing from 209 L/conn/day in 2023/24 to 169 L/conn/day in 2024/25. This decrease is largely due to an increase in leak detection and repair works, with Non-Revenue Water decreasing from 2023/24 to 2024/25, and residential and non-residential water use remaining constant.

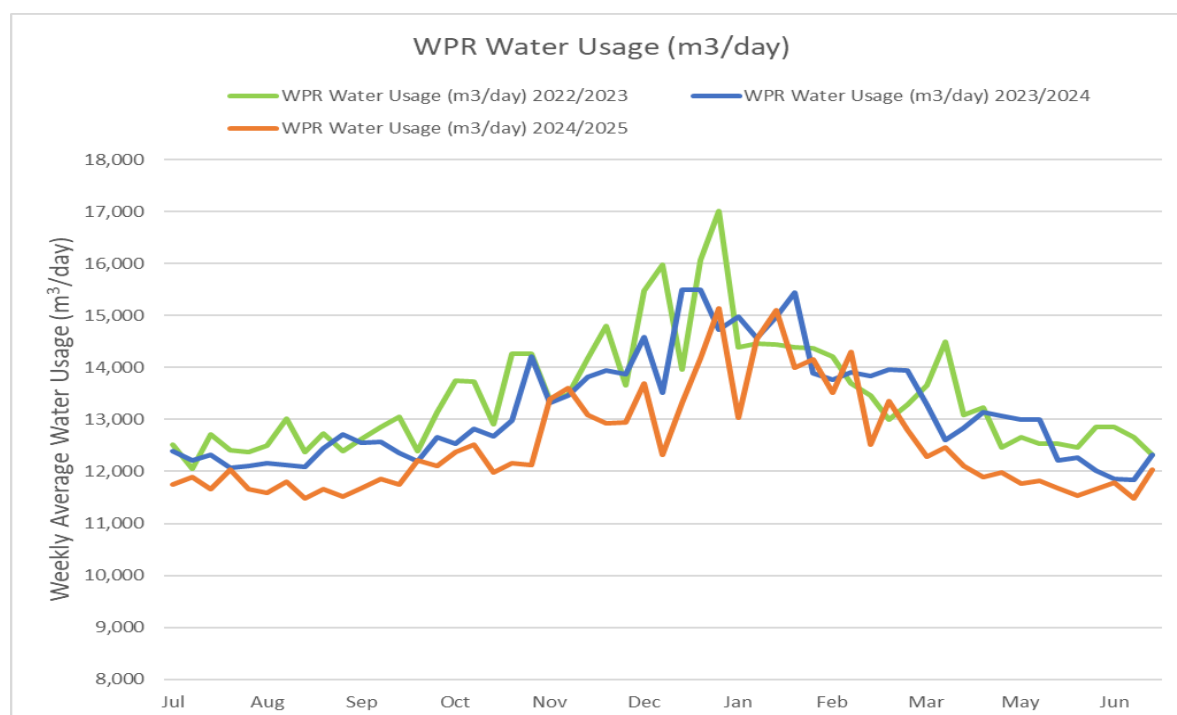


Figure 10: Changes in the WPR Water Supply for the last three years

WPR Supply	2022/23	2023/24	2024/25
Peak day	20,138 m ³ /day 422 L/p/d	17,235 m ³ /day 370 L/p/d	16,735 m ³ /day 351 L/p/d
Days over 490 L/p/d target	0	0	0
Average day	13,484 m ³ /day 296 L/p/d	13,204 m ³ /day 285 L/p/d	12,542 m ³ /day 262 L/p/d
Current Annual Water Loss	1,374,800 m ³ annually or 224 L/conn/day	1,302,800 m ³ annually or 209 L/conn/day	1,056,100 m ³ annually or 169 L/conn/day
International Leakage Index (ILI)	3.7 (B band)	3.4 (B band)	2.8 (B band)

Table 8: Performance of WPR water supply for last three years

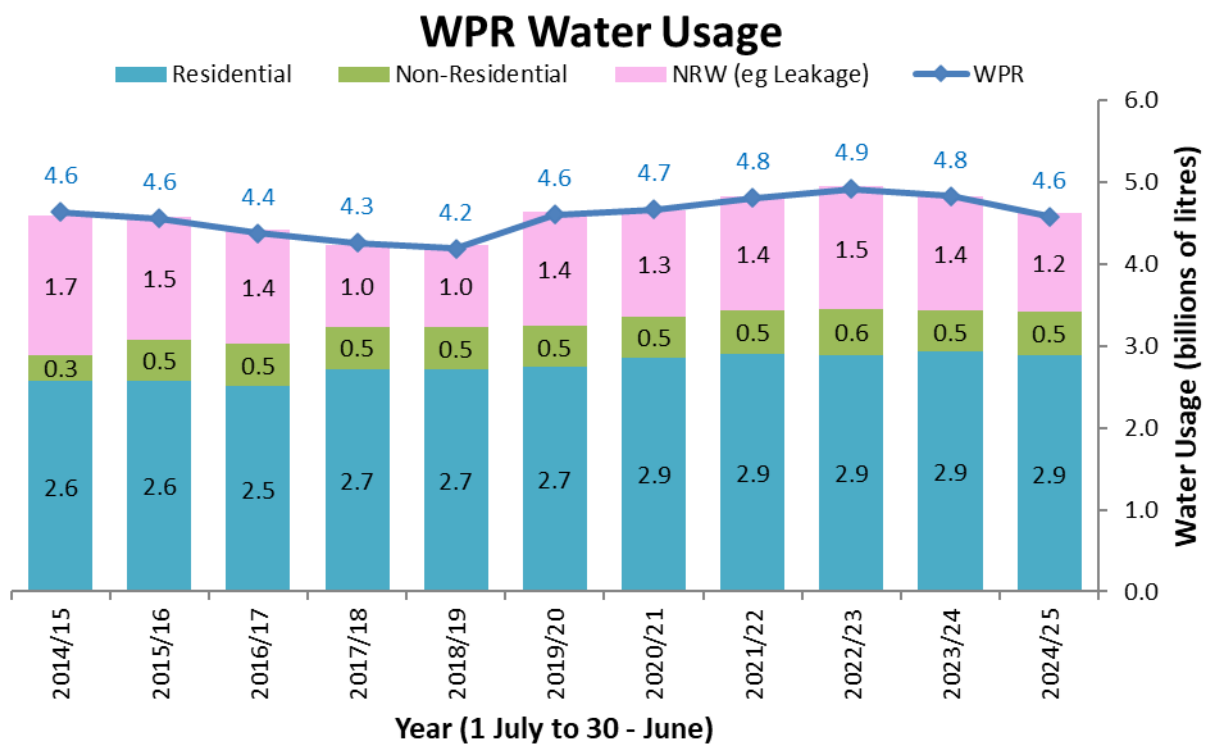


Figure 11. Water use in WPR by demand (2014/15 – 2024/25)

3.2.6 Paekākāriki Water Supply

Figure 12 and Table 9 track water use in Paekākāriki over the past three years. The peak target of 490 L/p/d was met in Paekākāriki for 2024/25. Figure 13 shows water use by demand. Leakage has decreased slightly in 2025/25. The Council will continue sweeping the network in 2025/26 to further reduce leakage.

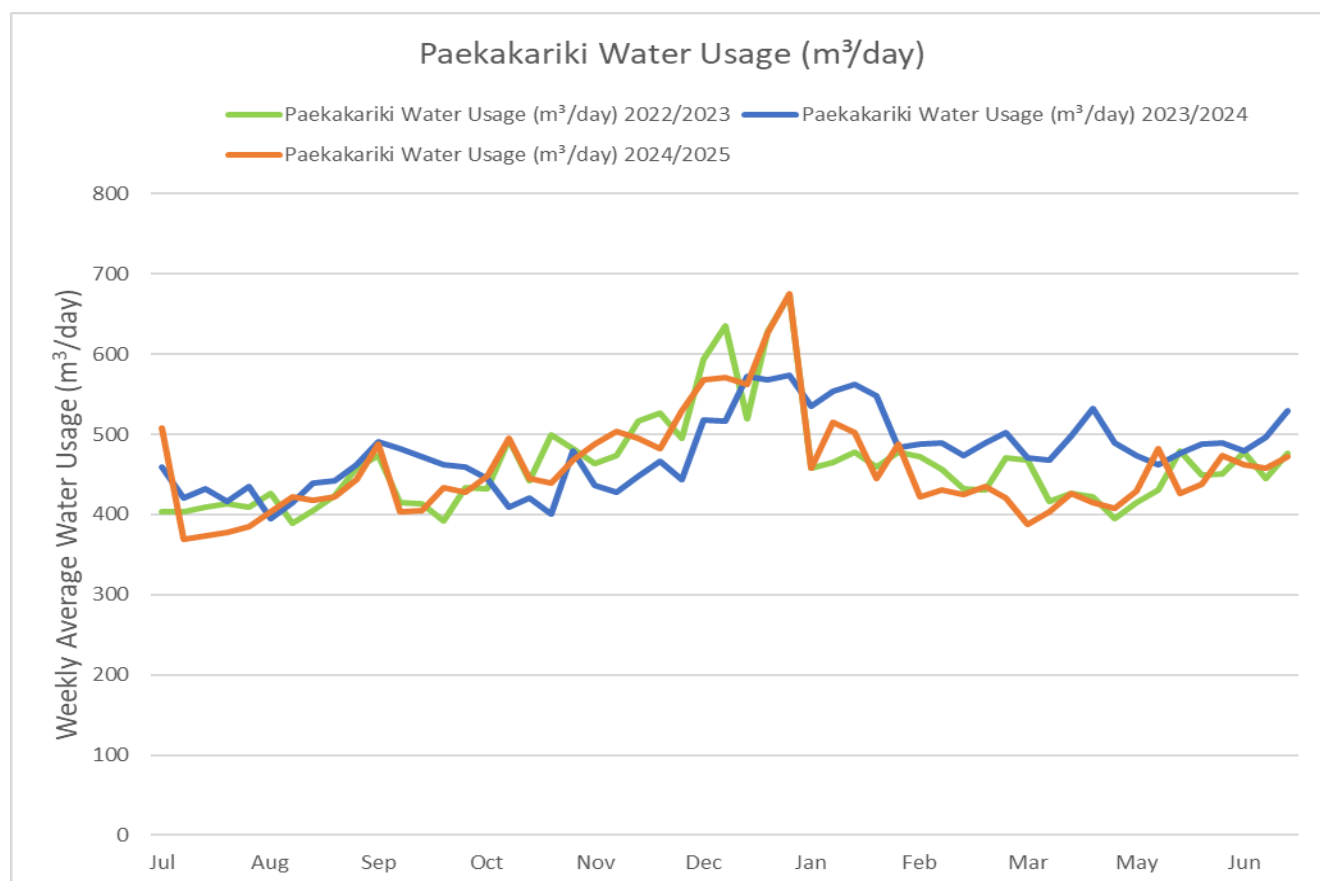


Figure 12. Changes in the Paekākāriki Supply water demand for the last three years

Paekākāriki	2022/23	2023/24	2024/25
Peak day	734 m³/day 429 L/p/d	715 m³/day 416 L/p/d	840 m³/day 484 L/p/d
Days over 490 L/p/d target	0	0	0
Average day	462 m³/day 269 L/p/d	476 m³/day 278 L/p/d	458 m³/day 264 L/p/d
Current Annual Water Loss	47,500 m³ annually 172 L/conn/day	53,400 m³ annually 190 L/conn/day	50,200 m³ annually 175 L/conn/day
International Leakage Index (ILI)	2.8 (B band)	3.1 (B band)	2.8 (B band)

Table 9. Performance of Paekākāriki water supplies for last three years

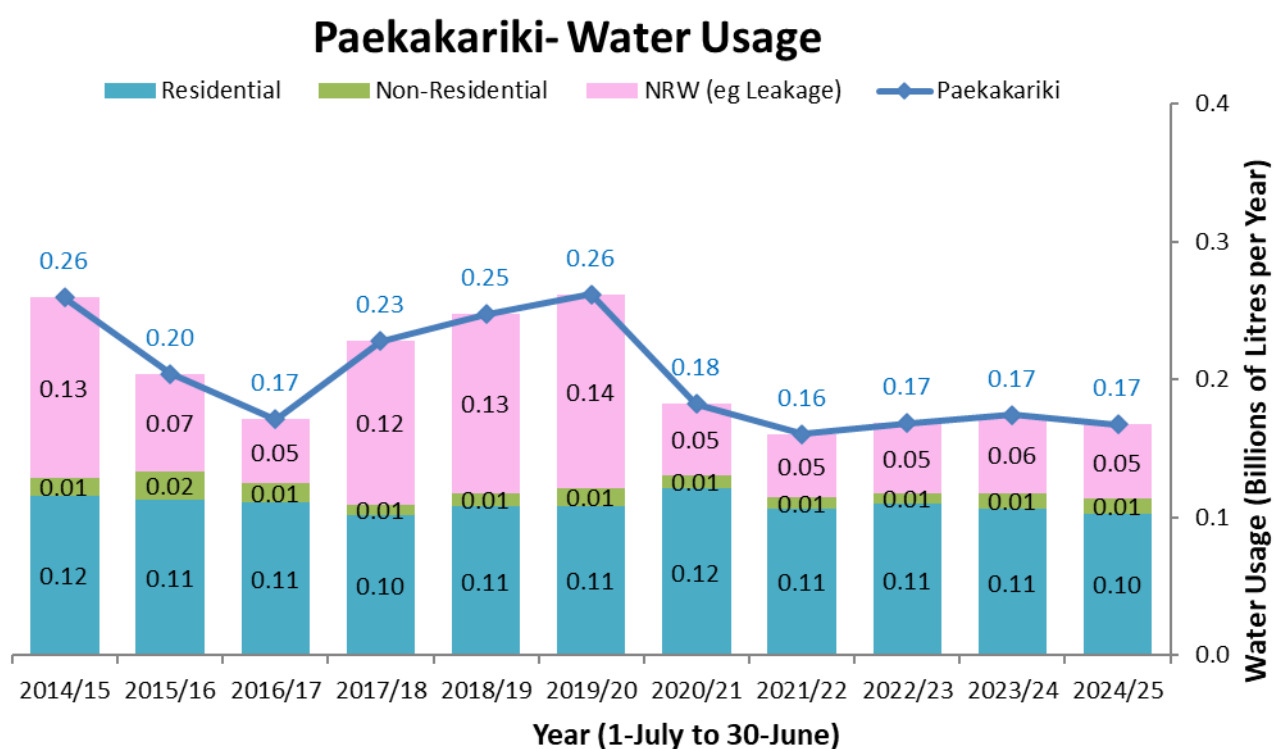


Figure 13. Changes in the Paekākāriki Supply water demand for 2014/15 – 2024/25

4 Water conservation and demand management 2024/25

4.1 Ongoing demand management activities

The Council implements several ongoing water conservation activities, including keeping the community informed, managing the Council's own water use, understand water use trends and leakages, education and fostering awareness. These measures are described in Appendix B and are typically the same year-to-year.

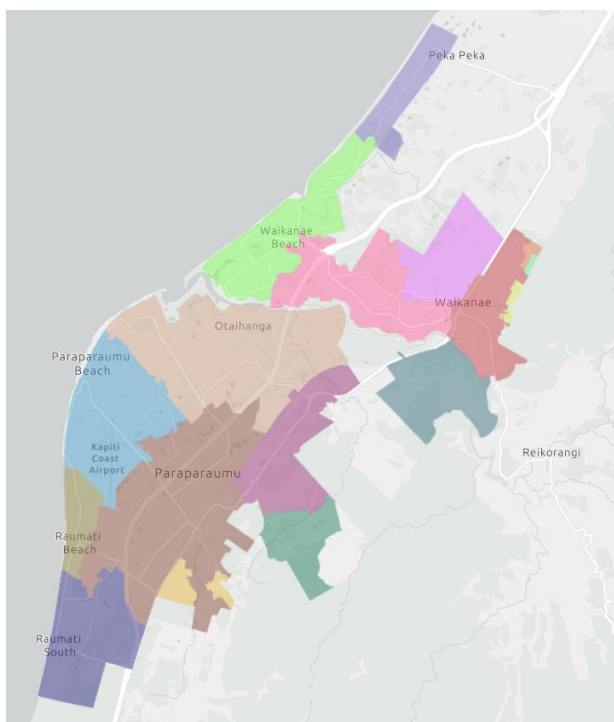
4.2 Finding and repairing public and private leaks

Over 2024/25, the Council informed properties with suspected leaks and investigated approximately 18% of the district's supplies for leaks. Key outcomes include:

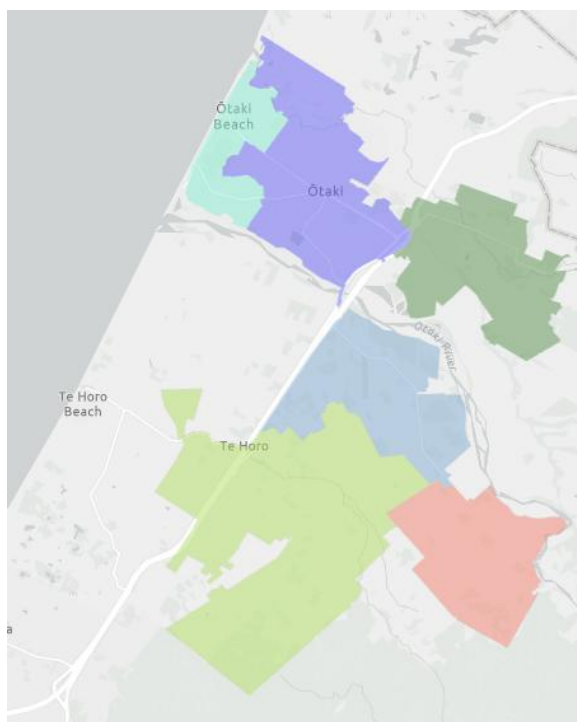
- The Council investigated 18 of the 23 zones, which resulted in 92% of the network length being surveyed for leakage.

4.2.1 Results from planned 2024/25 leak detection

The Council commissioned leak detection across all the networks apart from the Hautere Supply, Peka Peka DMA and the Waikanae Downs DMA. The investigations covered 450 km, 92% of the 489 km of water networks. The leak investigations identified approximately 910 litres/minute or 1,300 m³/day district wide.



WPR DMA Zones



Ōtaki and Hautere DMA Zones

4.2.2 Reactive renewal work undertaken by the Council

Table 10 shows the reactive work undertaken by the Council in 2024/25 on the public networks to resolve leaks as they arose, compared to previous years.

Leak Type	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Burst Water Pipe	25	31	80	49	41	32
Leaking Fire Hydrant	10	22	15	12	14	16
Leaking Water Toby	66	96	71	49	61	72
Leaking Water Valve	2	4	1	3	6	3
Water Leak - Cause Unknown	470	483	514	681	657	611
Water Toby Fault	84	65	70	87	76	67
No Water Supply	63	56	65	58	68	60
Grand Total	720	757	816	939	923	861

Table 10: Reactive leak maintenance on each network over the 1 July – 30 June period for the past six years

Council has setup a [Leak Detection Surveys 2024/2025](#) app to record proactive leak detection. All zones were survey except for Hautere. We have set-up a remote metering system using LoRa in Hautere at the end of June 2025 and this will assist in identifying and managing leaks in this water supply zone.

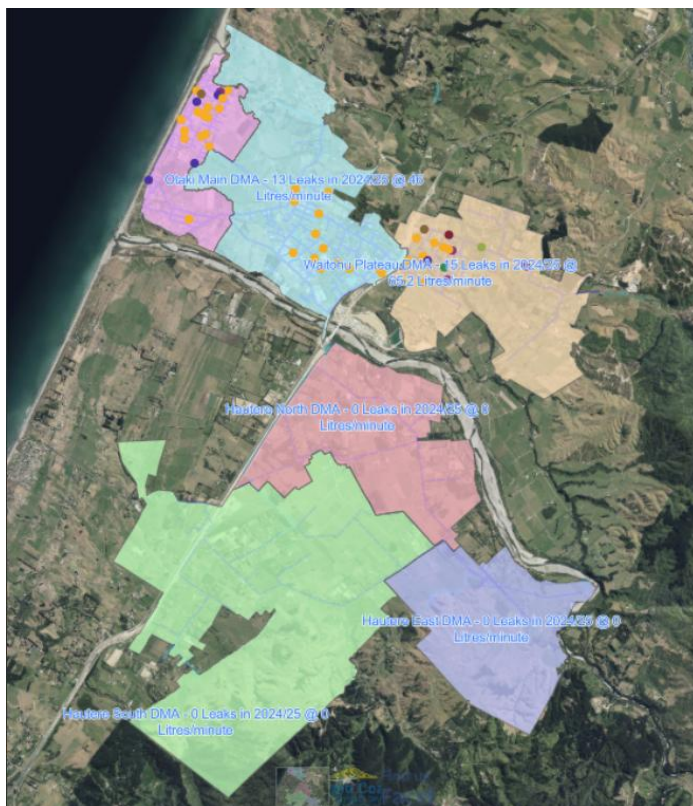


Figure 14: Leak survey areas – Ōtaki

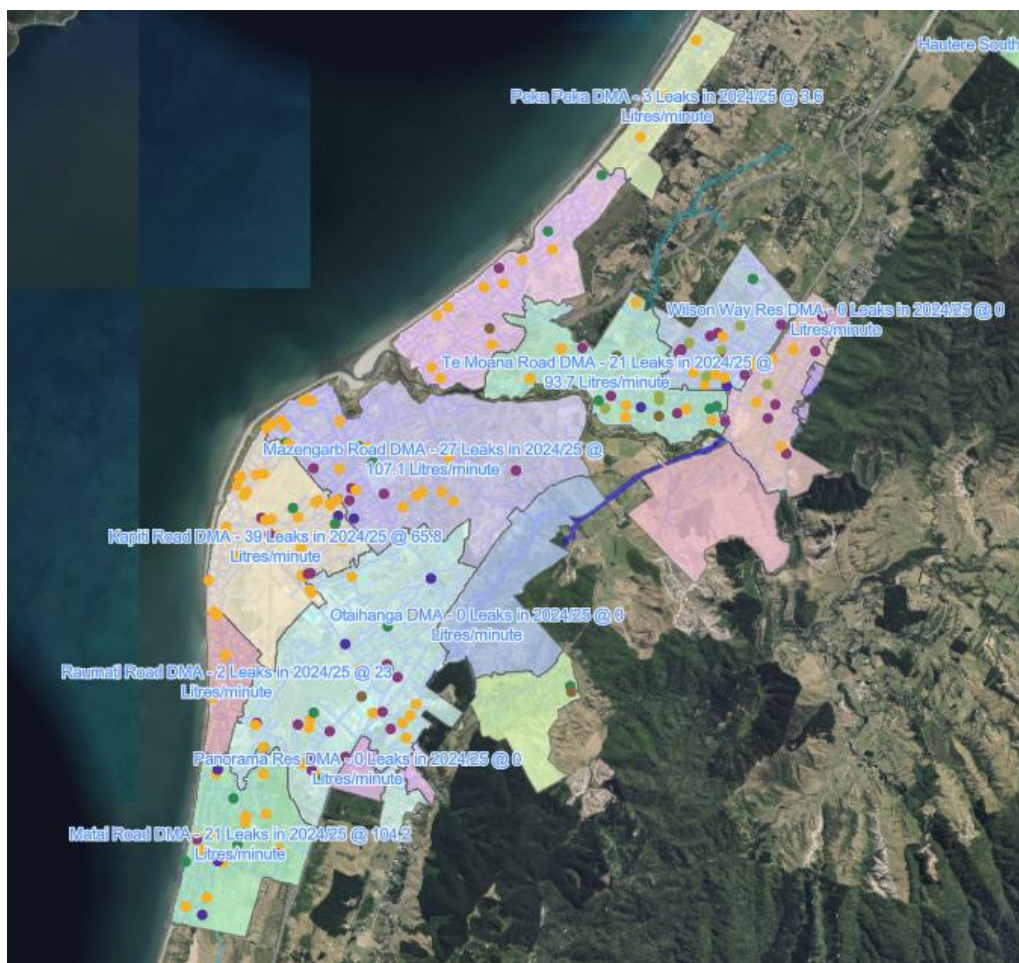


Figure 15: Leak survey areas – WPR

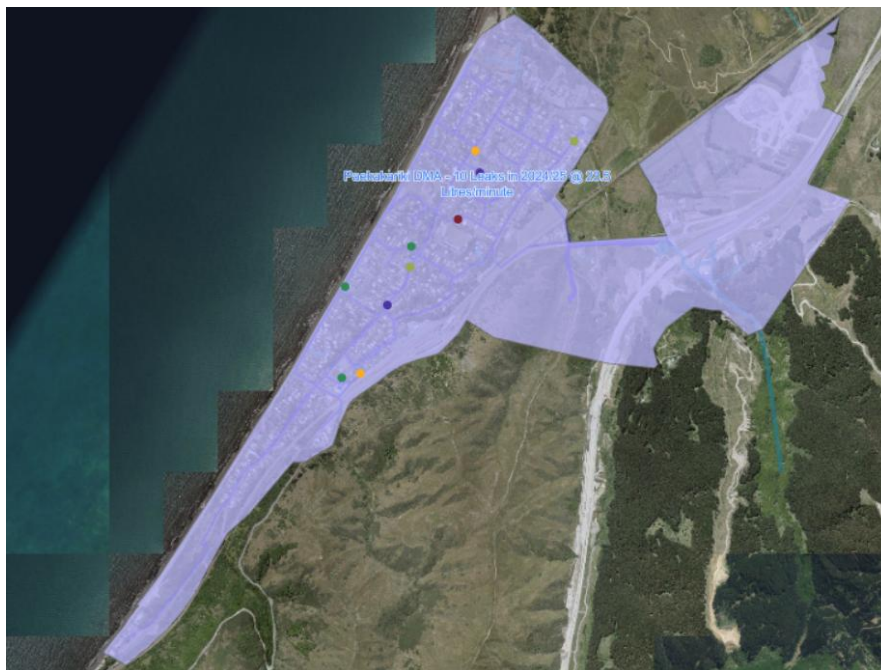


Figure 16: Leak survey areas - Paekākāriki

Figure 17 shows leak detection and associated costs since 2018/19. The number of leaks detected has progressively increased over this time.

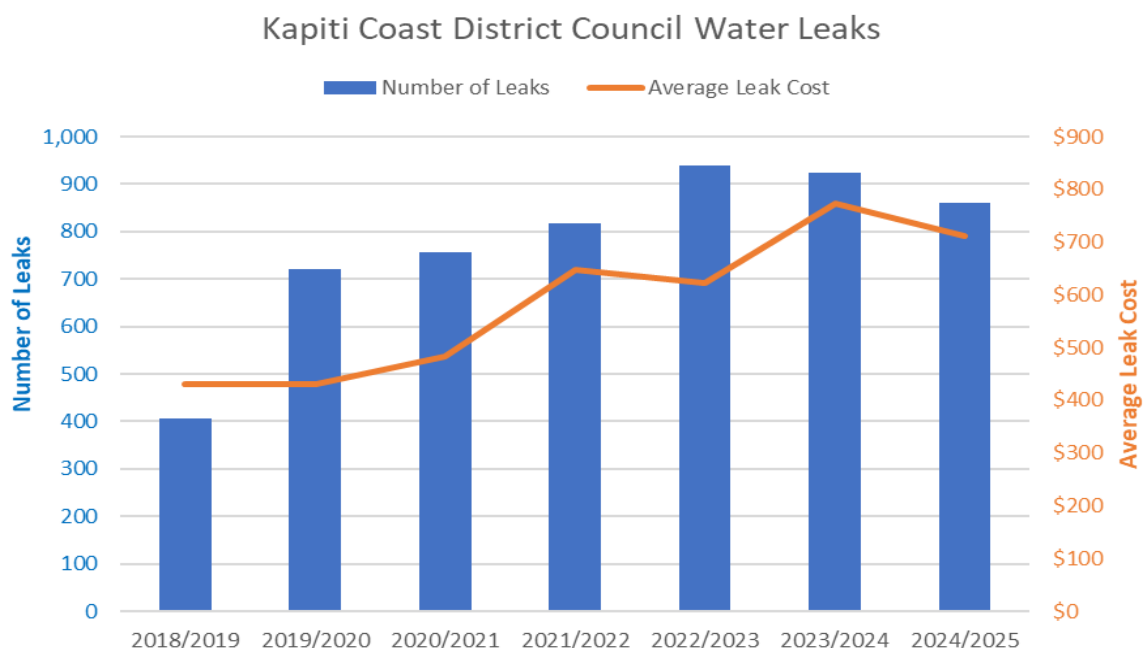


Figure 17. Leak detection and associated cost since 2018/19

4.3 Regulation

4.3.1 New homes

The Council approved 155 District Plan compliant homes across the district water zones over the 2024/25 period. Since 2008, the Council has required all new homes with an on-demand connection to the Council water supply to include one of the following:

- 10,000 L of rainwater storage to supply the toilets and outside taps. When the rainwater level falls below 1,000 L, mains water will top up the tank at a rate of 600 litres/day.
- A greywater diversion device and a 4,000 L of rainwater storage to supply the toilets and outside taps. When the rainwater tank level falls below 1,000 L, mains water will top up the tank at a rate of 600 L/day.
- An alternative solution that demonstrates it can achieve the reduced peak water use targets.

In 2024/25 Council recognised higher density developments did not need 10,000 litre tanks for outdoor usage and they did not have enough space for greywater subsurface irrigation. For these properties, Council allows smaller sized rainwater tanks or large integrated underground tank/s connecting all properties.

4.4 Financial Incentives

4.4.1 Encouraging people to fix leaks on their property

In 2024/25, three hundred and ninety-four (394) property owners received a remission of excess volumetric water rates charges resulting from private water leaks once the leak was repaired. The Council waived a total of \$237,650 (including GST) in private water leak remissions.

Property owners can apply for a credit on their water account if they can provide evidence of fixing their private leak. Successful applicants were not charged for the water lost to leaks. The aim was to encourage property owners to fix their leaks.

4.4.2 Providing financial support to those in need

Over 2024/25, the Council offered three schemes to assist residents in financial hardship:

- Rates Assistance – 1,359 successful applications.
- Temporary Rates Assistance related to water repairs (up to \$300 towards hardship) – 18 successful applications.
- Water Rates Remission for vulnerable households relating to high water use – 3 successful applications.

5 Water Conservation and Demand Management Activities 2025/26

5.1 Council leadership

5.1.1 Keeping the community informed

5.1.1.1 Continue using website and Facebook page to keep people informed on water supply

The Council will ensure it keeps the information current and up to date on water. The Council's Facebook page and other channels will be used to inform the community and identify and answer any questions from the public.

5.1.1.2 Elected members and the Council staff will be kept up to date

Elected members and Council staff will continue to be kept up to date with developments in water.

5.1.2 Providing advice to the community on saving water

The Water Conservation Advisor will continue providing the free water conservation home visit service to offer advice (leaks and water use).

5.1.3 Reduce the Council water use

The Council will monitor and continue to seek ways to reduce water use at properties under its control using the information provided by water metering.

5.2 Better data, Better results

5.2.1 Zone metering

The Council will continue monitoring minimum night flows and prioritise leak detection by a zone's snapshot ILI grade.

5.2.2 Reporting water use and water leaks

The Council will provide a water balance on water used and lost over the year at the district and Supply level.

5.3 Reducing leakage in water supplies

5.3.1 Finding and repairing leaks on the public side of the reticulation network

Using information from the water-use monitoring and reporting tool, the Council will monitor zones weekly to prioritise zones for leak investigation and repairs. Paekākāriki, Ōtaki and Waikanae will be an important focus for 2025/26.

5.3.2 Finding and repairing private leaks

The Council will continue to proactively review the latest billing data for signs of leakage and approach property owners early if an issue is identified.

The Council will use its Water Supply Bylaw to request property owners to fix their private leaks within 21 days of notification. Property owners will still be able to apply for a credit on their water account due to fixing the leak. All identified leaks will be actively monitored, and outstanding leakage pursued.

5.4 Regulation

5.4.1 The Council's District Plan water demand management requirements

Council considered implementing a new Water Supply Bylaw but elected to maintain the same Water Supply Bylaw for 2025/26. Council will be implementing a new Water Supply Bylaw, once the wider policy programme for Local Water Done Well Completed.

5.5 Financial Assistance

5.5.1 Rates relief

Over 2025/26, the Council will continue to provide financial assistance to those in need. The following remissions will be available, being \$340,900 (including GST):

- Rates Temporary Financial Assistance Remission provides up to \$300 towards significant one-off costs causing financial hardship. This includes repairing leaks.
- The Rates Assistance Rates Remission provides up to \$300 of rates remission.
- Water Rate Remission for Vulnerable Households provides rate remission up to \$120 towards the cost of water for households with two or more dependents who receive the Working for Families Tax credit and meet other criteria.

5.6 Education

The Council will continue providing water education resources for local schools.

5.7 Fostering innovation

The Council will continue its "open for business" approach to companies developing new technology by providing feedback on any designs shown or legislation that may apply.

5.8 Investing in water demand management and leak reduction for 2025/26

Table 11 outlines the key funding allocations for water conservation, water metering and leak management work for 2025/26.

Activity (GL Code)	District-wide budget for 2025/26
Keeping community informed (18856)	\$135,000
Financial assistance (rates team)	\$340,000
Water Meter Management (18857&18830)	\$280,000
Leak detection (18846)	\$220,000
Total	\$985,000

Table 11: Planned expenditure for 2025/26 for water demand management and leak reduction

6 Population changes

6.1 Population figures

The Council enlists SensePartners to provide population projections. It uses a similar process to estimate population by overlaying their forecasts over the water supply boundaries. These population were adjusted down based on the latest STATS NZ population estimates for Kapiti and having a small effect of increasing per capita usage and leakage figures. The Sense Partners Zone Population used in previous years were adjusted to match the 2023 StatsNZ Population Projection and the intervening years were backdated to the 2018 Census figures.

Table 12 shows the population figures for each supply and the district (rounded to nearest 10 persons).

Year	Ōtaki	WPR	Paekākāriki	District Total	Hautere
2014/2015	6,370	40,350	1,730	49,310	860
2015/2016	6,570	41,550	1,750	50,730	860
2016/2017	6,760	42,760	1,770	52,160	860
2017/2018	6,950	43,960	1,790	53,570	870
2018/2019	7,020	44,300	1,790	53,970	870
2019/2020	7,090	44,650	1,780	54,370	880
2020/2021	7,150	44,990	1,760	54,770	890
2021/2022	7,220	45,330	1,740	55,160	890
2022/2023	7,280	45,680	1,720	55,560	900
2023/2024	7,520	47,130	1,720	57,300	920
2024/2025	7,760	48,590	1,740	59,020	940

Table 12: Population numbers connected to each water supply

6.2 Calculating per capita water consumption

The flow meters for reservoirs and zones report to the Council's SCADA system, where flows are recorded, and daily totals calculated. The Council calculates the daily per capita water consumption by dividing the daily reading by population to give an average water litres/person/day. This is recorded for the Ōtaki, Hautere, WPR and Paekākāriki.

Appendix A: Assessment of Environmental Effects

1.3 Meeting Water Conservation Targets

Council is implementing the Water Matters Strategy and working towards improving water conservation across the district. The district has historically been a high water consumer in comparison with other districts. The intention is to stabilise daily WPR consumption at 490 litres per person per day (L/person/day), which includes an allowance for water losses. This allowance is for unaccounted water lost from the reticulation, including unauthorised connections and loss through leaks from reservoirs, supply pipes, and connections.

RRwGW has been designed to deliver a peak of 490 L/person/day to an estimated population of between 53,120 and 65,940 by 2060.

“Litres per person per day” is a common measure but does not mean that all of this water is used by individuals at home. The measure is an average figure for all users, including homes, businesses, industry, schools, hospitals, Council facilities, fire fighting, etc.

Peak daily use across the WPR area currently stands at around 590 L/person/day. Within the WPR area, the peak use averages around 550 L/person/day (Paraparaumu/Raumati) and around 720 L/person/day (Waikanae). These usage figures include water losses.

The importance of water conservation has been an ongoing theme during the community consultation for this project, with both Council and the community raising a range of methods to achieve lower consumption rates of drinking water. Council’s water conservation initiatives go hand-in-hand with the water supply project. Council has a wide range of conservation initiatives for reducing demand, from the Green Plumber and the Green Gardener services; the Eco Design Advisor; the Kāpiti Coast Sustainable Home and Garden Show, the Summer On The Coast programme, Plan Change 75 (requiring a water tank/ grey water system for any new or relocated dwelling), education in local schools, water metering and financial incentives that provide loans for installation of non-potable water systems. Water metering is a critical element of Council’s conservation strategy.

The conservation target of 490 L/person/day forms a fundamental design assumption for the Kāpiti Water Supply Project. Council believes it is an important and realistic target and has implemented a range of measures to help ensure ‘water wasters’ and inefficient users of drinking water are mindful of the need to reduce consumption and use water wisely. However, should the target not be achieved by 2016, the benefit of the RRwGW scheme is that its staged delivery can be brought forward if required. Council is committed to seeing its water supply infrastructure and associated consents as part of a long-term framework for water abstraction, environmental monitoring and responsible management of the district’s water resource.

Appendix B: Ongoing Water Conservation Measures

A1.1 Council Leadership

A1.1.1 Keeping the community informed

Online resources

The Council uses its website and Facebook page to inform the community and answer any question raised by the community. The website contains a range of resources, including:

- How to locate a leak
- How to read the water meter and monitor water use
- Good garden practice to create a water efficient garden

Up to date information for frontline staff

Customer services staff remain critical to answering residents' queries. As the front face of the Council, its important customer services team is able to field people's queries efficiently as they are received.

Water Conservation Advisor (WCA)

After each water meter reading cycle, the WCA investigated any property using more than 2,000 litres/day for possible leaks, misreads or high use. The Council sends a leak notice to any property with a leak.

In addition to the advice offered through the water conservation advisor service, a directory of local plumbers (including advice from consumer affairs on engaging a tradesman) was publicly available and included with all leak notifications.

The Council is also investigating any properties with reads that do not change. The Council replaced any faulty meters.

A1.1.2 Council managing its own use of water efficiently

Monitoring water use at the Council's properties

The Council has several properties it owns, manages on behalf of other government agencies or leases to businesses or community groups. The Council uses a water use database to monitor consumption on its properties. The Property Group and Community Service Group receive updates after each reading cycle on water use from each property. The data helps prioritise any maintenance needed, such as repairing leaks or replacing inefficient toilets or taps.

Making new buildings and renovations more water-efficient

When the Council builds new or renovates, it makes every effort to install water-efficient appliances where possible and to use rainwater for toilet flushing and outdoor use.

Minimising public water use on sports fields and amenity areas

All the major Council sports fields use onsite bores as a preferred source of water for irrigation. The Council selects summer hardy plants for much of its amenity planted areas and concentrates annuals around town centre areas. This reduces the amount of water needed in areas with high pedestrian activity.

A1.2 Better data, better results

A1.2.1 Understanding trends in water use and leakage

The Council monitors trends in water use and leakage.

Weekly leak monitoring

The Council uses a weekly minimum night flow “traffic light report” to assess the performance of each network at a District Metered Area (zone) level. Each week, the automated report provides feedback on the ILI performance in each zone, where:

- Anything lower than an ILI score of 3 is green.
- Anything between 3 and 4 is yellow.
- Anything higher than 4 is red.

The Council bases the grading on the World Bank’s leak management bands shown in Table 12. In October, the Council reviewed the performance of each zone and selected those with consistently high ILI for leak detection. Any network with a grade higher than 2 has opportunities for future improvements.

Band	ILI Range	Guideline description of Real Loss Management Performance Categories
A	<2.0	Further loss reduction may be uneconomic unless there are shortages; careful analysis is needed to identify cost-effective leak management
B	2.0 to <4.0	Possibilities for further improvement consider pressure management, better active leakage control, better maintenance
C	4.0 to <8.0	Poor Leakage management, tolerable only of plentiful cheap resources; even then, analyse level and nature of leakage, intensify efforts
D	8.0 or more	Very inefficient use of resources, indicative of poor maintenance and system condition in general, leakage reduction programs imperative and high priority

Table 13: World Bank Institute Bands for Leak Management in Developed Countries

Figure 12 shows three examples from the Waikanae network. In this example, if the results remained unchanged, then Kakariki would be selected for leak investigation, Hemi may if budget permitted, and Te Moana would be left alone.



Figure 12: Examples of how the Council grades a zone's performance week to week

Undertake water balance reports for all water supplies

The Council uses the annual WaterNZ Bench loss tool for each water supply to show:

- Daily water loss.
- ILI grade and World Bank Band for leak management.
- World Bank's recommendations for further improvement.

Monitoring water use at the property level

The Council uses a reporting tool to analyse water use by the customer, zone, network, and District. The Council uses the tool to:

- identify properties with potential leaks or faulty meters.
- understand consumption by user type (such as households, schools, motels etc.); and
- feed annual water uses into the water balance model to determine annual water lost through leaks.

A1.2.2 Finding and repairing private leaks

After each billing cycle, the Council investigate properties with high reads. The Water Conservation Advisor visits the properties to assess if there is a leak, a misread or legitimate high use.

If there is a leak, the Council sends the property owner a leak notification letter to fix the issue within 21 day and a credit due to water loss application form (invites the property owner to apply for a credit on their water account if they fix the leak in a timely manner).

A1.3 Education

The Council has education resources on the website and water testing kits available for schools to use. Staff are available to talk with the school when requested.

A1.4 Fostering innovation

The Council continued its “open for business” approach to companies developing new technology by providing feedback on any designs shown or legislation that may apply.

Appendix C: Infrastructure Leakage Index Water Losses

Water New Zealand has put considerable thought to water network performance measures, which is captured in Water New Zealand's Water Loss Guidelines 2010.

Extract from Water New Zealand's Water Loss Guidelines 2010 – Page 17:

Since the early 1980s, it has been recognised that percentages are unsuitable for assessing the operational efficiency of management of real losses (leakage and overflows) in distribution systems. This is because the calculated percentages are strongly influenced by the consumption of water in each system and variations in that consumption. Non-Revenue Water expressed as a per cent by volume of Water Supplied, although traditionally widely used, also suffers from similar significant problems to % Real Losses when used as a PI. Appendix C provides more information on this topic in the context of the range of consumption data in New Zealand.

Extract from Water New Zealand's Water Loss Guidelines 2010 – Page 18:

Around 2005, the IWA Performance Indicators Task Force began to consider the need to select the most appropriate PIs not only on the basis of Function (Financial, Operational, etc), but also to distinguish (Ref. 8) between:

- **Metric benchmarking** – for more demanding comparisons between Water Suppliers
- **Process benchmarking** –for setting targets and ongoing monitoring of progress towards those targets.

The 2008 Benchloss NZ manual recommends that:

- **Infrastructure Leakage Index (Op 29)** is preferable for **Metric benchmarking**, as it takes account of differences in system specific key parameters (mains length, number of service connections, customer meter location, average pressure)
- **Litres/service connection/day (Op 27) or kl/km of mains/day (Op 28) (depending upon service connection density)** is preferable for **Process benchmarking** of progress towards reaching target for reductions in Real Losses of a specific Water Supplier

The Infrastructure Leakage Index (ILI) calculates the ratio between current annual real losses (m³/year) and unavoidable annual real losses (m³/year) as defined in the Water New Zealand's Water Loss Guidelines 2010. While it can be a bit tricky to explain the concept of ILI calculation, the World Bank Institute leakage management bands give a clear measure of loss management performance for water networks.

Extract of band descriptions from Water New Zealand's Water Loss Guidelines 2010 – Page 18:

Table 2.3 World Bank Institute Bands for Leakage Management in Developed Countries

Band	ILI Range	Guideline Description of Real Loss Management Performance Categories for Developed Countries
A	< 2.0	Further loss reduction may be uneconomic unless there are shortages; careful analysis needed to identify cost-effective leakage management
B	2.0 to < 4.0	Possibilities for further improvement; consider pressure management, better active leakage control, better maintenance
C	4.0 to < 8.0	Poor leakage management, tolerable only if plentiful cheap resources; even then, analyse level and nature of leakage, intensify reduction efforts
D	8.0 or more	Very inefficient use of resources, indicative of poor maintenance and system condition in general, leakage reduction programs imperative and high priority