Three Waters

Quarterly Report

April to June 2025

ccc.govt.nz/water-and-drainage

Christchurch City Council

Contents

Addington Brook – June 2025.

Executive summary

Our latest Three Waters Quarterly Report provides an update on our ongoing efforts to deliver safe and reliable water services to Christchurch and Banks Peninsula residents.

This quarter, our teams were very busy responding to the State of Emergency during wet weather and flooding across the district in late April and early May.

In addition to our business-as-usual and emergency response works, we also had teams out in the elements doing wet weather sampling for our stormwater and waterways monitoring plans. This involves taking samples city-wide during the event so we can accurately assess how our stormwater systems respond and the impact on our waterways. We also carry out similar monitoring for our water supply and wastewater systems. A big thanks to all who worked during this event.

The Huritini Halswell Stormwater Management Plan was approved by Environment Canterbury this quarter – a big milestone reflecting a lot of work from our teams.

We've also been very busy this quarter providing extensive feedback for several national and local legislative changes:

- National Wastewater Environmental Performance Standards
- Resource Management National Direction Package
- Three Waters Service Delivery Plans
- Trade Waste Bylaw review
- Zone Committees review
- Consultation on proposed changes to drinking water acceptable solutions.

More detailed Three Waters project and financial information is available in reports from the Health and Safety Committee, PMO and finance.

Te Kuru Wetland – April 2025.

Water storage below Christchurch Adventure Park – April 2025.

Local Water Done Well

In May Christchurch City Council confirmed that it will retain direct control of drinking water, wastewater, and stormwater services, deciding on an In-House Delivery Model as part of the Government's Local Water Done Well reforms. The decision followed detailed analysis and public consultation, with strong community support for keeping water services under Council control.

Under the Local Water Done Well framework, all councils are required to submit a Water Services Delivery Plan to the Department of Internal Affairs by 3 September 2025, including its proposed water services delivery model. Our teams are contributing to the preparation of this plan, which will outline how Christchurch will sustainably deliver and fund its water services, while meeting the Government's strengthened regulatory and performance requirements.

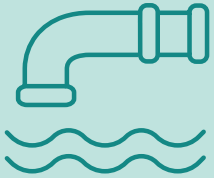
A snapshot of our network

We’re responsible for more than you might think...

Our three waters network

Christchurch City Council owns and operates the city’s water supply, wastewater and stormwater network.

Water supply

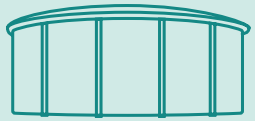


Wastewater

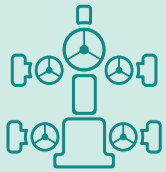
Stormwater

Strengthening our networks

Pump stations



Reservoirs



Well heads

Pipes

Treatment plants

Drainage

Helping our communities

Education

Community engagement

Flood control

Customer service

Growth planning

Incident response

Looking after our environment

Waterways

Stormwater basins

Wetlands lake openings

Our water supply network

Christchurch City Council owns and operates a network of wells, intakes, treatment plants, reservoirs and pipes that deliver water to our residents. We do regular testing and maintenance to make sure our water is safe, and we're also carrying out upgrades to comply with the Government's drinking water rules.

What we did, in numbers – April to June 2025

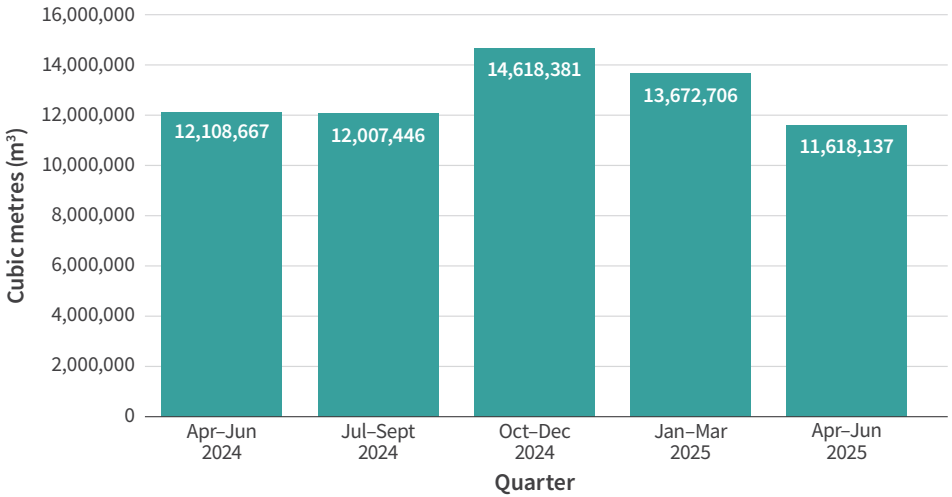
99% (397 out of 401)
of water supply resource consent conditions are compliant.

11,618,137m³
Water supplied across the district

The total water supplied across the district showed a 4% decrease compared with the same time period last year (April to June). An added benefit of reducing our water use is reducing the electricity (and associated greenhouse gas emissions) needed to pump it throughout the network.

Quarter	Year	Water supplied (m³)	
		Christchurch	Banks Peninsula
April–June	2024	12,002,194	106,473
July–September	2024	11,911,761	95,686
October–December	2024	14,492,641	125,740
January–March	2025	13,556,104	116,602
April–June	2025	11,518,720	99,417

Water supplied in Christchurch and Banks Peninsula per quarter



Asset planning advice

Our asset planning teams are continuously working to provide expert advice and approvals for new developments and subdivisions across Christchurch and Banks Peninsula.

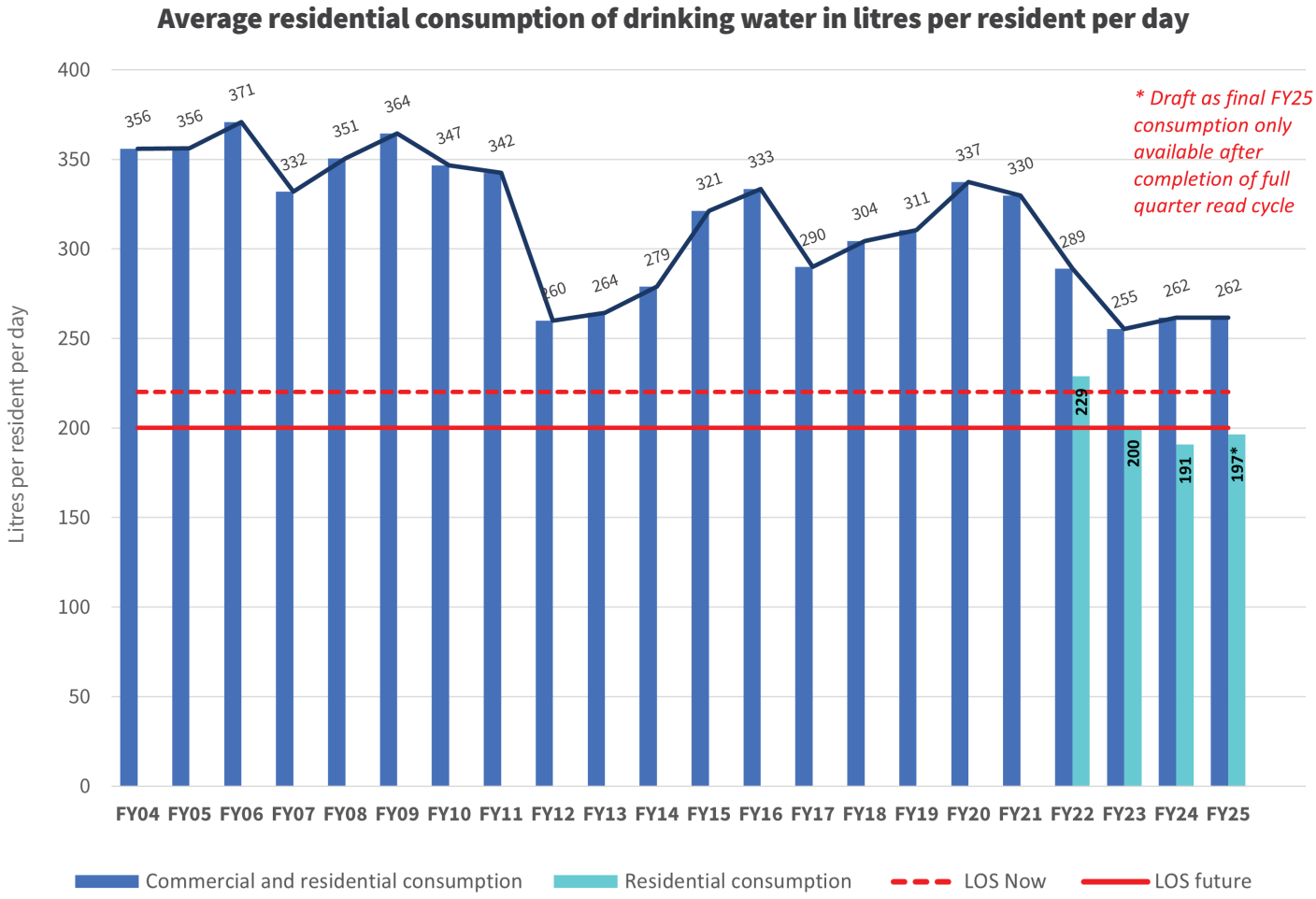
Asset planning advice		April–June 2025
Water supply	Capacity reviews for new development	171
	Subdivisions consented	6
	Engineering reviews and acceptance for new subdivisions	12
	Cost share development agreements concluded	2

8 incidents
reported to the Water Services Authority – Taumata Arowai (more about this on page 10).

Diving into the data

Water consumption

The Council encourages residents to use less water through the smart water metering programme, excess water use charging and education. While these have an impact on customer behaviour there are also other factors, including rainfall and temperature, which have an impact. This graph shows average drinking water consumption rates for Christchurch city (average litres per resident per day).



The consumption in this chart shows the residential consumption as well as the combined residential and commercial consumption.

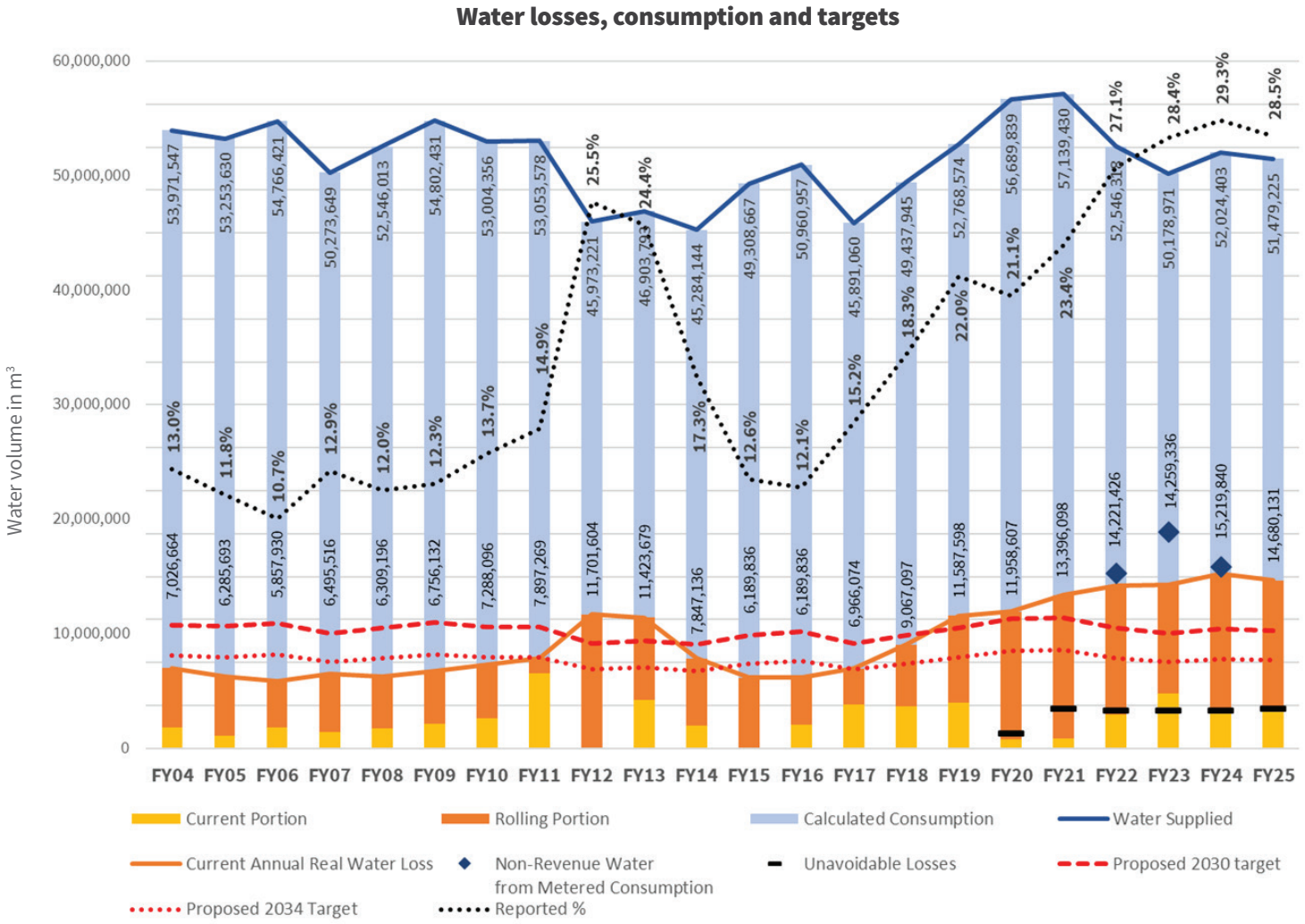
We calculate the consumption as the water supplied to the system minus the real losses, and then we divide it by the population.

The chart also shows the current and future targets for the residential consumption.

Diving into the data (continued)

Achieving future targets

This year we not only saw a reduction in real losses, but also in the water supplied in Christchurch city. This chart shows historical data and the journey to achieve future targets.



Our water loss contract works across the whole city on a four year cycle.

The current portion represents the annual real losses for the portion of the city we worked on that particular year, while the rolling portion represents the rest of the city.

The calculated consumption is the water supplied minus the calculated water real losses.

Non revenue water from metered consumption represents the water supplied minus metered consumption (residential and commercial).

We are working to achieve the targets for the Current Annual Real Losses (CARL):

- 2030 proposed target: CARL = 20% of water supplied to the system
- 2034 proposed target: CARL = 15% of water supplied to the system.

Diving into the data (continued)

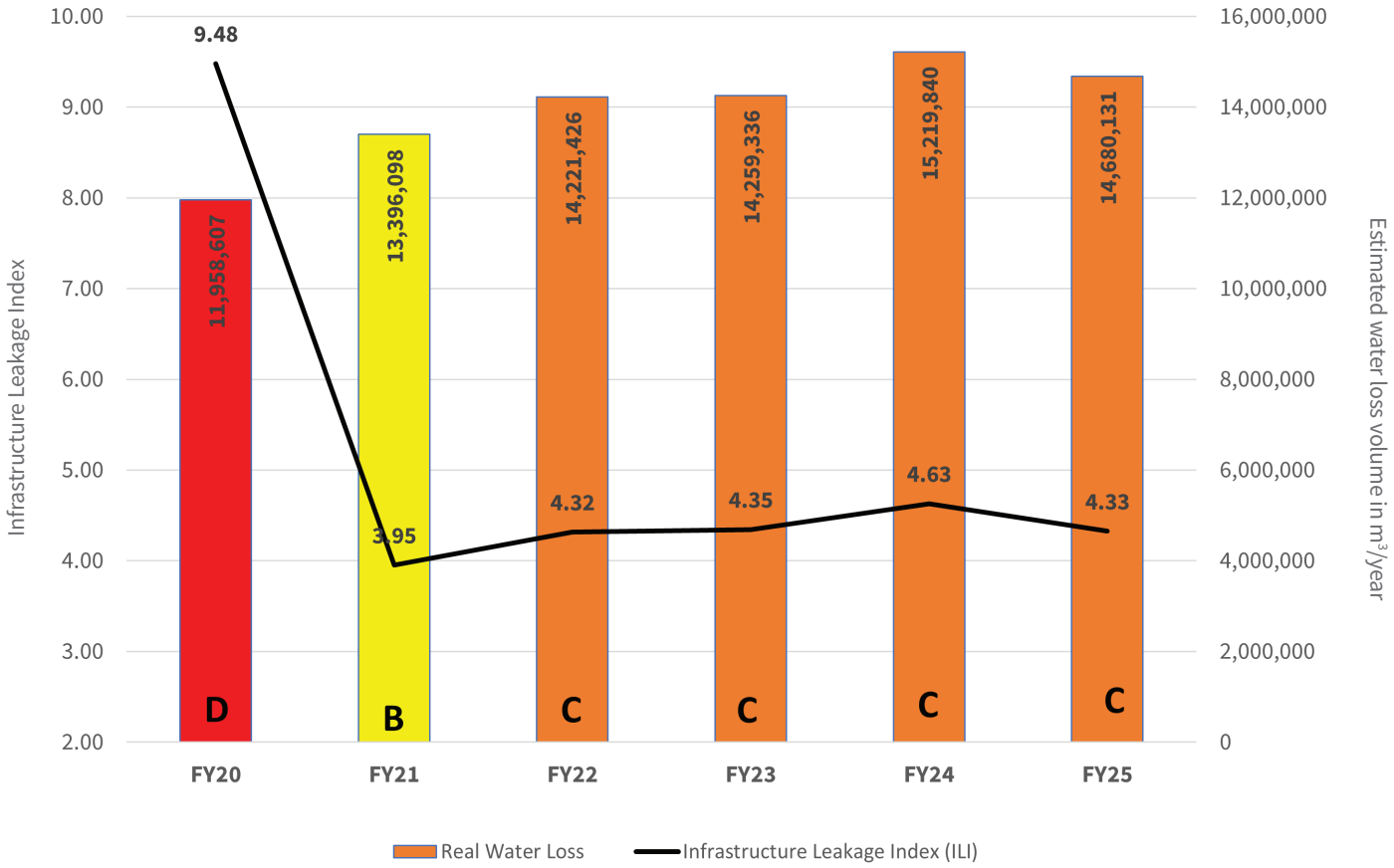
Water loss

We are seeing a reduction in the estimated real water losses since 2024.

For example, in Christchurch:

FY24 = 15,219,840m3/year

FY25 = 14,680,131m3/year



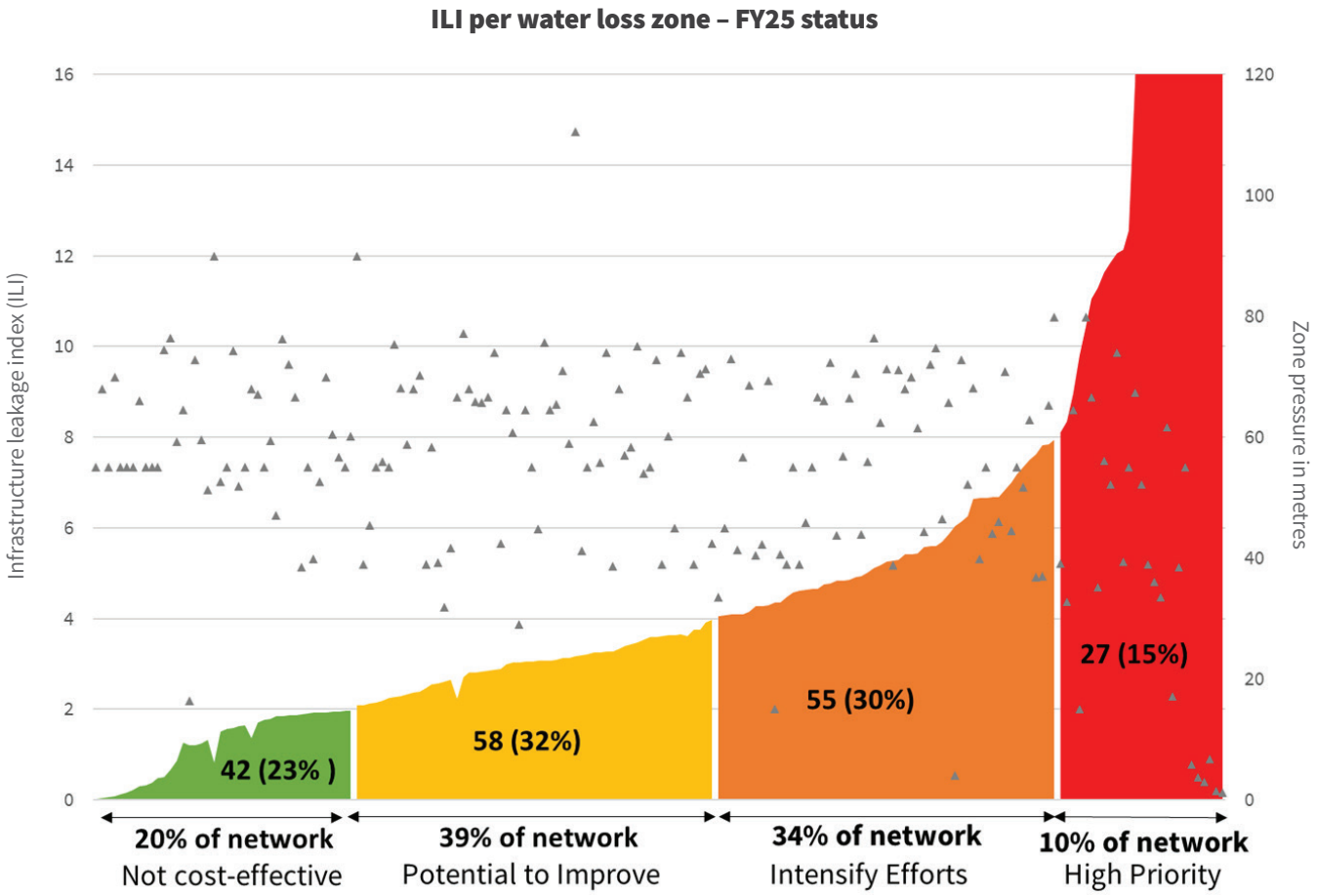
The water loss management efforts implemented last year have led to a reduced water loss volume (FY to date) and a lower infrastructure leakage index at an overall Category C.

Diving into the data (continued)

Water loss

This year we focused our work on identifying and repairing leaks in zones with Infrastructure Leakage Index (ILI) equal D, this means the zones where we have higher volume of water losses. As a result, we have a total of 9 less water loss zones in the D category.

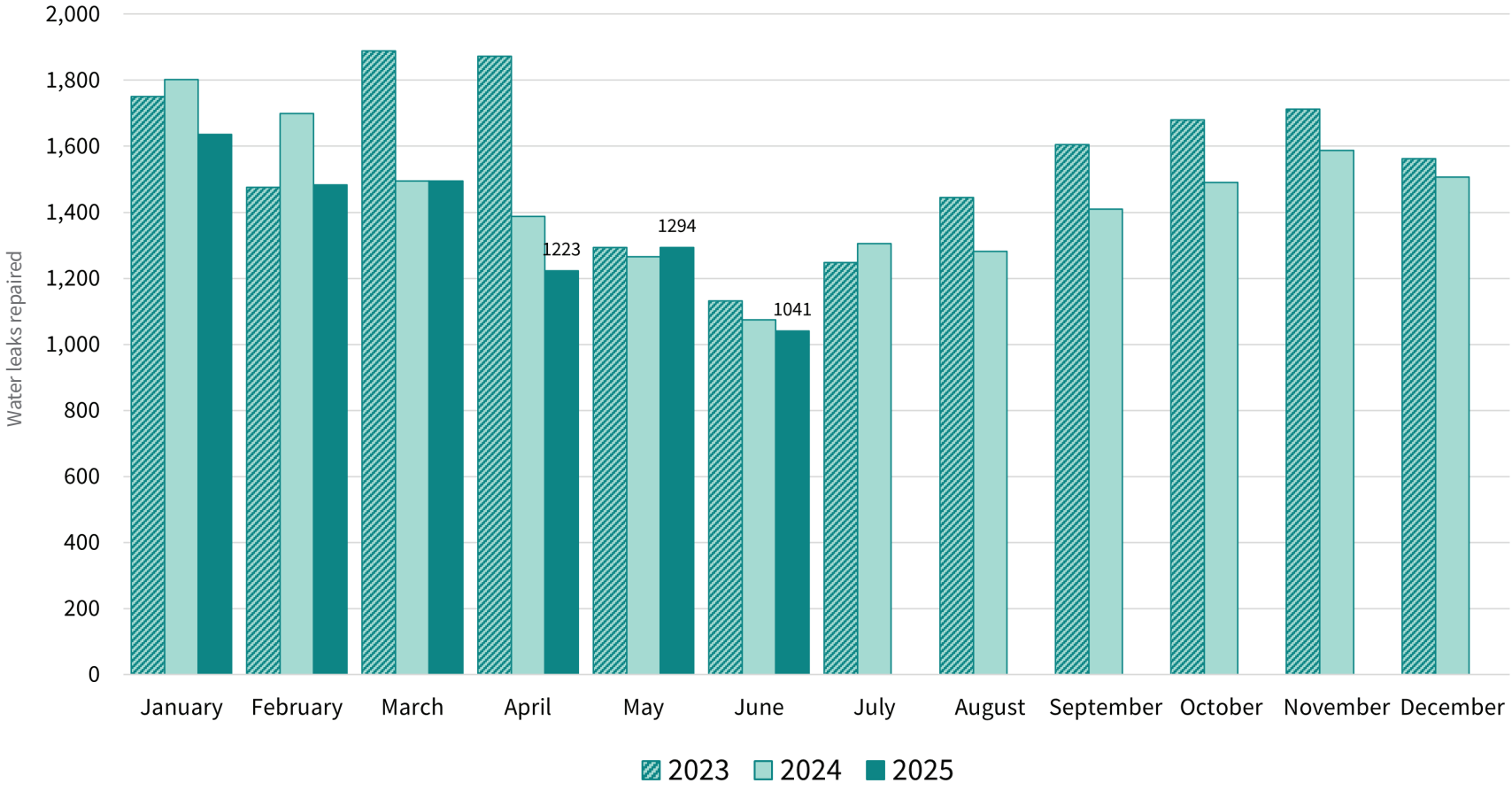
Our overall ILI (including Christchurch and Banks Peninsula) was reduced from 4.62 in FY24 to 4.26, keeping us in the C band, but showing an improvement.



Band	ILI Range	Real Loss Management Strategy
A	< 2	**Further loss reduction may be uneconomic** unless there are shortages; careful analysis needed to identify cost-effective improvement.
B	2 to < 4	Potential for marked improvements; consider pressure management, better active leakage control practices and better network maintenance.
C	4 to < 8	Poor leakage record: Tolerable only if water is plentiful and cheap; even then, analyse level and nature of leakage and **intensify leakage reduction efforts.**
D	≥ 8	Very inefficient use of resources; leakage reduction programmes imperative and **high priority.**

Diving into the data (continued)

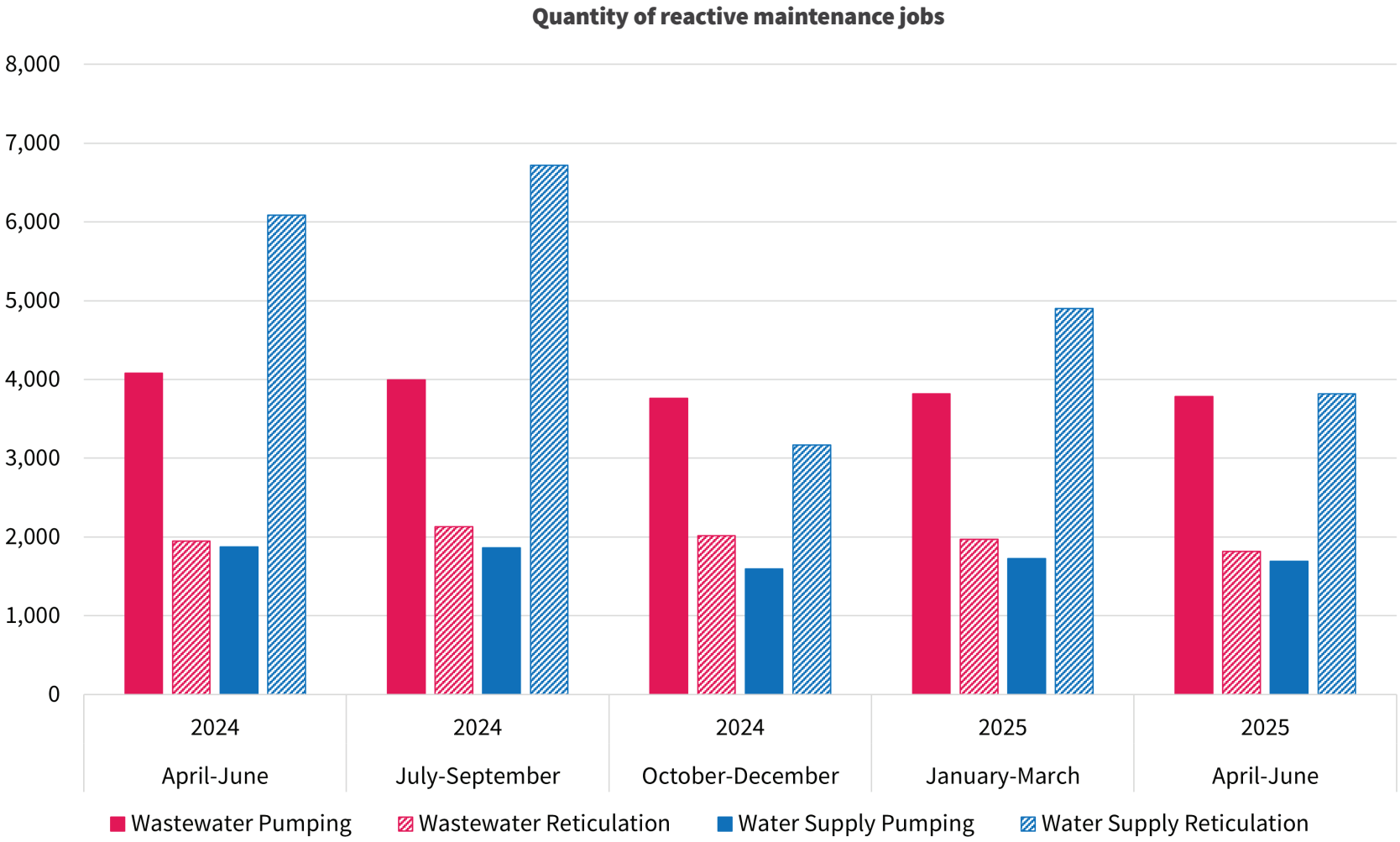
3558 Water leaks repaired



Diving into the data (continued)

Reactive maintenance

Most of our three waters maintenance costs are incurred via two maintenance contracts with CityCare Water. One contract is for **water and wastewater** and the other is for **land drainage** which incorporates stormwater and flood protection activities.



Drinking water compliance

We manage a high-quality and safe water supply network, which we monitor closely so we can quickly respond to any issues. Christchurch and Banks Peninsula water supplies are chlorinated to meet New Zealand drinking water laws. We're also working on additional upgrades to our water supply network to ensure we meet all Government rules and regulations.

While we upgrade our water supply network there are areas where our water supply isn't compliant. However, the requirement to treat our water with chlorine means our water has an extra level of protection against contamination. Many of the non-compliances will be resolved once we have completed upgrades to assets or completed longer term testing to confirm the quality of our water.

While we acknowledge that our water supply has non-compliances, we're focused on doing the work needed to achieve compliance while continuing to provide safe drinking water.

The Drinking Water Quality Assurance Rules include a range of rules, the most significant of which relate to the source (S rules), distribution (D rules) and treatment of water (T rules), which are key to making our supply compliant.

There are other non-compliances that aren't related to the S, D and T rules. These will also be resolved over time.

Here's how we're tracking:

S Source rules relate to the quality of water at its source.

All but one Christchurch and Brooklands/Kainga water treatment plants have now demonstrated Class 1 status for their source, which means that additional treatment barriers for protozoa aren't required.

100% of our Class 1 sampling programme

to demonstrate the protozoa compliance of Class 1 sources was completed on 30th April 2025. **This involved the collection of 3432 water samples over two years.**

44/46 treatment plants

across the Christchurch and Brooklands-Kainga supplies are now classified as Class 1 and are therefore protozoa compliant.

For water sources that don't meet the Class 1 status criteria we have work under way to make the supplies compliant. This includes:

The Christchurch Supply (including Brooklands/Kainga)has two water treatment plants (Main Pumps and Tanner) that require UV treatment to comply with the protozoa rules.

- Main Pumps has UV in place and is therefore protozoa compliant.
- We're currently working on installing a protozoa barrier at Tanner, which will be compliant by the end of the year.
- On Banks Peninsula water is mostly sourced from streams and requires protozoa treatment. The exceptions are Birdlings Flat and Wainui, where water is sourced from aquifers.
- Birdlings Flat already has UV system in place, and because the Wainui Treatment Plant bore is shallower than 30m it also requires a protozoa barrier. A project is underway to install a UV barrier at the Wainui Treatment Plant. Once complete all Banks Peninsula supplies will have compliant protozoa barriers in place.

D Distribution rules relate to water in the distribution network.

They require a low level of chlorine to be present in water distributed across our network from treatment plant to tap.

13/17 distribution zones

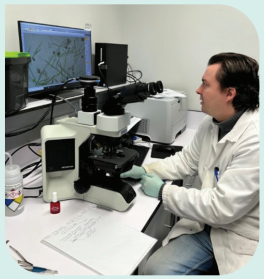
were compliant during the quarter.

T Treatment rules relate to protection against bacteria and protozoa.

We're non-compliant with these rules while we upgrade our water supply, but have other protections in place to keep our water safe.

To achieve compliance, we need to install continuous water quality monitoring as well as complete some treatment plant upgrades in Banks Peninsula and Christchurch.

Our laboratory



Our laboratory team has completed training on cyanobacteria (toxic algae) identification for our source water in Banks Peninsula. The combination of this training and the purchase of a new microscope means we can now carry out the first phase of identification before sending the samples to external labs to analyse them.

This means we don't need to outsource further analysis if we identify there is no risk of possible cyanotoxin release, saving time and money. If we do identify a risk we can also narrow down the type of cyanotoxin analysis we need to outsource, which saves us even more money.

Quarterly water supply controllable non-compliances

We test the water regularly to ensure it is safe to drink. When we do have controllable non-compliances, we take immediate action to assure the water supply and notify Water Services Authority - Taumata Arowai.

Controllable non-compliances are those we can control and avoid by improving our processes and procedures. To reduce the amount of these, we analyse the cause and undertake an action plan so they don't happen again.

These are the controllable non-compliances recorded during the last quarter:

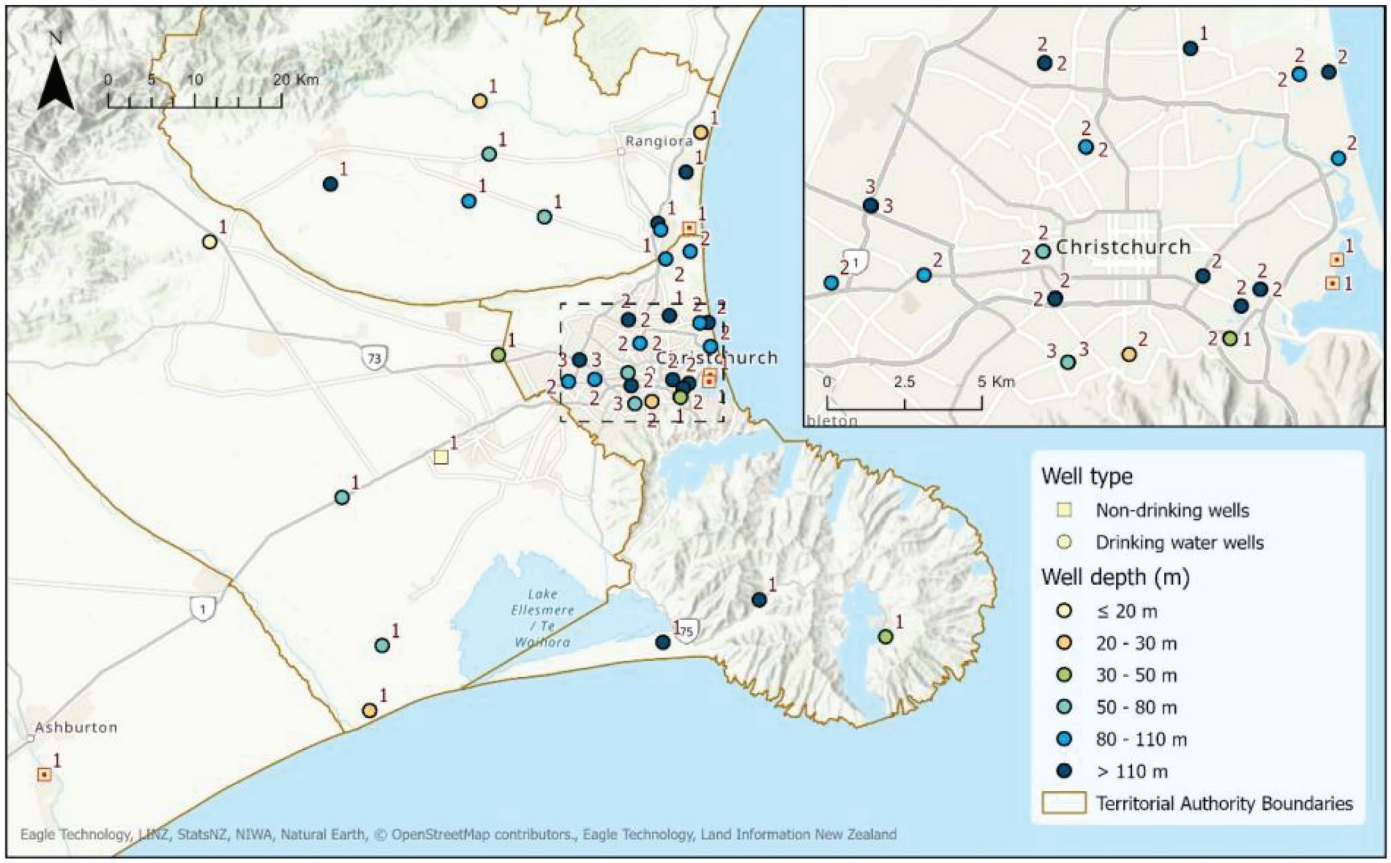
Supply details	Drinking water safety, compliance or sufficiency category	Notification ID	Date	Details
BRO013 Brooklands Kainga	Water is non-compliant	NOT-00009190	04/04/2025	FAC in water leaving the Brooklands Treatment Plant was measured to be less than 0.1 mg/L for a short period while trialling continuous monitoring water quality instrumentation.
CHR009 Christchurch	Water is non-compliant	NOT-00009196	03/04/2025	FAC in a sample collected at 4 Allied Rd in the West Distribution Zone was measured to be less than 0.10 mg/L which is non-compliant with rule D3.19.
CHR009 Christchurch	Unplanned restricted or interruption longer than 8 hours	NOT-00009370	04/05/2025	Main repair on AC pipe in Northwest Zone took longer than 8 hours to complete.
CHR009 Christchurch	Water is non-compliant	NOT-00009426	13/05/2025	FAC in a sample collected at 54 Bournemouth Cr in the Rawhiti Zone was measured to be less than 0.10mg/L which is non-compliant with rule D3.19.
DUV001 Duvauchelle	Ability to maintain sufficient water is at imminent risk	NOT-00009271	22/04/2025	Duvauchelle Treatment Plant Reservoir dropped to 3 percent due to a combination of high demand (long weekend), poor source water quality which prevented the treatment plant from operating, and not being able to tanker enough water from other supplies.
LIT001 Little River	Water is non-compliant	NOT-00009231	10/04/2025	FAC of water leaving the treatment plant was measured to be less than 0.5 mg/L (result: 0.46 mg/L) which is non-compliant with rule T2.6.
PIG001 Pigeon Bay	Ability to maintain sufficient water is at imminent risk	**NOT-00009569**	09/06/2025	A leak on the pipeline up to Starvation Gully Reservoir led to the level of the reservoir dropping to 3 percent.
PIG001 Pigeon Bay	Water is non-compliant	NOT-00009583	11/06/2025	FAC in water leaving the treatment plant was measured to be less than 0.5 mg/L which is non-compliant with rule T2.6.

The quarter ahead

July to September 2025

We're working with Water Services Authority – Taumata Arowai, ESR and Environment Canterbury on research into viruses in groundwater. We're hopeful this research could inform future changes to the Drinking Water Quality Assurance Rules requirements in relation to groundwater.

We have collected over 90 water samples from Christchurch, Selwyn and Waimakariri districts, having testing over 260,000 litres of Christchurch city groundwater. The research is going well, with no indication of human viral contamination in any of these samples.



Our wastewater network

Christchurch City Council maintains wastewater systems to provide the community with a safe and healthy environment through the appropriate treatment and discharge of wastewater.

What we did, in numbers – April to June 2025

96%
(714 out of 747)
of wastewater resource consent conditions are compliant.

The Trade Waste Bylaw 2025 was adopted by Council on 7 May 2025 and came into force on 1 July 2025.

This quarter we had
31 wastewater overflows
For comparison, in the last quarter we had a total of 4 overflows (2 wet weather and 2 dry weather).

Wastewater overflows		
Weather conditions	**Number of overflows**	**Cause**
Wet weather	26	High rainfall
Dry weather	5	4 – blocked sewer (fat, rags, roots) 1 – burst pipe due to high rainfall

Asset planning advice

Our asset planning teams are continuously working to provide expert advice and approvals for new developments and subdivisions across Christchurch and Banks Peninsula.

Asset planning advice		April–June 2025
Wastewater	Capacity reviews for new development	272
	Subdivisions consented	6
	Engineering reviews and acceptance for new subdivisions	8
	Cost share development agreements concluded	0

Non-compliance figures – April to June 2025

We didn't have new significant non-compliances recorded during the last quarter.

The quarter ahead
July to September 2025

Our team of highly skilled technical experts is always working hard to stay up to date with the latest industry developments and to share our knowledge and experience with the wider industry. Two of our papers have been accepted for the Water New Zealand Conference to be held in Christchurch in December. The team will be working on the final papers to provide impactful presentations highlighting the exceptional and highly skilled team we have at the Council.

Christchurch Wastewater Treatment Plant

We work hard to keep the damaged Christchurch Wastewater Treatment Plant operating, while keeping odours to a minimum for residents.

The team is working to finalise the design for the new activated sludge reactor, so it is ready to go out to tender by the end of July. The aim is to have everything wrapped up from a design perspective by the end of September. Additionally, we have been on the market for Construction Management/Construction Administration (CM/CA) and are currently evaluating the responses.

Preparations are underway to undertake further work on clarifiers 3 & 4 next summer. These will be far more significant than this year's repairs, and will involve dewatering of the site and emptying the clarifiers. Additional aerators are in the process of being procured and installed to assist with the additional loading to the oxidation ponds when the essential clarifier repairs are underway.

This year's pond transition from summer to winter mode resulted in longer and more persistent odours than anticipated. Reviewing the data during and after the odour event, assessed the cause as being the additional loading the ponds received over the summer due to the clarifier repairs which necessitated a temporary reduction in the capacity of the temporary activated sludge plant. The odour event resulted in a warning letter (no action required) being received from Environment Canterbury. The Odour Management Plan has been updated and additional steps have been put in place to try and mitigate the situation next year.

We continue to provide monthly updates to the Waitai Coastal-Burwood-Linwood Community Board.

Monitoring and ops

17 million m³
total treated wastewater.

1635
webpage views.

949 MWh
electricity generated from waste / $$ saved.

5
e-newsletters.

0 times
H_2S went over 0.03ppm.

1
school visit.

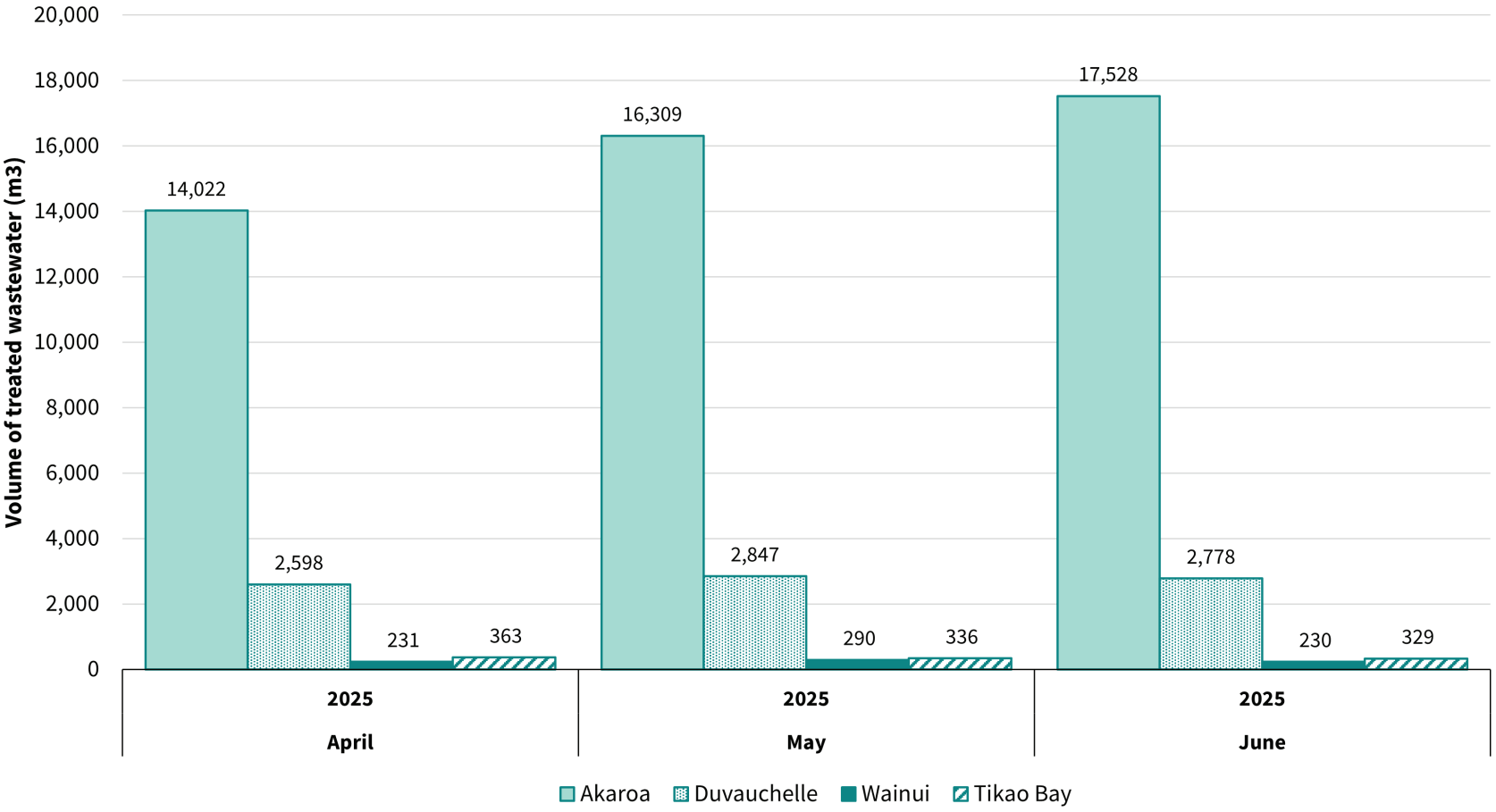
Trickling filter – November 2024

Clearing the trickling filter site – December 2024

Cleared trickling filter site – June 2025

Banks Peninsula wastewater treatment plants

Our Wastewater Treatment Plants in Banks Peninsula are managed by our staff. The team was very busy and managed to successfully keep the plants running while coping with high inflows during the flooding events.



Our stormwater network

Our stormwater system is being continually maintained and improved to make the city a safer and healthier place to live. The network includes open drains, pipes, pump stations, stopbanks, basins and more.

What we did – April to June 2025

Our activities

- Pūharakekenui Styx River Weed Management Report completed.
- Groundwater monitoring chapter for Environmental Management Plan completed, submitted to Environment Canterbury.
- Huritini Halswell Stormwater Management Plan approved by Environment Canterbury.
- Pūharakekenui-Styx River Stormwater Management Plan submitted to Environment Canterbury for final approval.
- The 15 required Industrial Stormwater Discharge License audits have been completed for the 24-25 FY.
- Community Waterways Partnership's new website is in development and nearing completion.
- Mother Of All Clean Up beach and river clean up completed by the Community Waterways Partnership.
- Instream Contaminant Containment Model (ICCM) has been handed over to Council. The ICCM (also known as MEDUSA) uses a built-in hydraulic model to bridge the gap between stormwater contaminant loads (based on land use) and water quality in surface water. This is an important part of determining the effects of stormwater on the receiving environment so that ecological outcomes are protected and enhanced.
- Targeted wet weather monitoring of the Charlesworth Drain, Nottingham Stream and Bells Creek.

100%

(1060 out of 1060)

of stormwater resource consent conditions are compliant.

Stormwater facilities put to the test

The city received over 140mm of rain during a storm in late April/early May.

Te Kuru, a large new wetland facility on Cashmere Road, was holding back a huge amount of rain from flooding downstream areas in the Heathcote catchment at the same time it won two awards at the Aotearoa New Zealand Public Works Engineering Excellence Awards.

Te Kuru was named Best Public Works Project Over $5 million and won the award for Excellence in Environment & Sustainability. Congratulations to the team behind this project!

We operate the stormwater network under a resource consent from Environment Canterbury.
We didn't have new significant non-compliances recorded during the last quarter

Asset planning advice

Our asset planning teams are continuously working to provide expert advice and approvals for new developments and subdivisions across Christchurch and Banks Peninsula.

Asset planning advice		April–June 2025
Stormwater	Floor levels reviews and advice	2165
	Discharge approvals	247
	Subdivision reports/conditions	36
	Cost share development agreements concluded	2

The quarter ahead

July to September 2025

This quarter we'll present the Te Pātaka o Rākaihautū Banks Peninsula Stormwater Management Plan to the Community Board and Council for approval before submitting it to Environment Canterbury for their certification.

The Community Waterways Partnership (CWP)

The Community Waterways Partnership supports the development of community-based initiatives to improve the ecological health, indigenous biodiversity, cultural, and amenity value of our urban waterways. The Partnership involves Christchurch City Council, Canterbury Regional Council, Department of Conservation, Ministry for the Environment, Canterbury District Health Board, universities, schools, industry representatives, river care and other community groups

What we did

Mother of All Clean Ups 2025

The annual Mother of All Clean Ups, now fully funded by the CWP, has grown steadily since the inaugural event in 2015 with five participating community groups. The event on Saturday 10 May 2025 saw 47 community, business and school groups collecting rubbish from 56 sites along the estuary edge and waterways. Over 440 bags of rubbish were collected – a great result for our waterways. As the Avon-Heathcote Ihutai Estuary Trust now hands this event over to the CWP to run going forward, we wish to congratulate the Trust on growing such an incredible event over the past decade.

Linwood Waterways Celebration Day

The CWP supported Te Whatu Ora, along with our other partners Avon-Heathcote Estuary Ihutai Trust and Te Tuna Tāone plus several different local community groups, to host the 'Linwood Waterways Celebration Day'. Over 160 students from Linwood Avenue School attended, as well as an estimated 200 people from the local community. The event included a variety of stalls promoting caring for the waterway and it was an opportunity to connect people to their local environment. Ideas for enhancing the waterway and constructing an educational mural were collected plus several people signed up to take part in future riparian working bees. Putting this event together has enhanced relationships between community members, Linwood Avenue School, and different Council teams.

Mother of All Clean Ups 2025

Linwood Waterways Celebration Day

What people are telling us

During this quarter water supply was the third most common service request category after wheelie bins and animals.

Our team received a total of

6755
service requests
related to water and drainage.

The most common requests related to:

water leaks
2837

water supply
1108

water meter boxes
816

surface water not draining or being blocked
302

sewer leaks
202

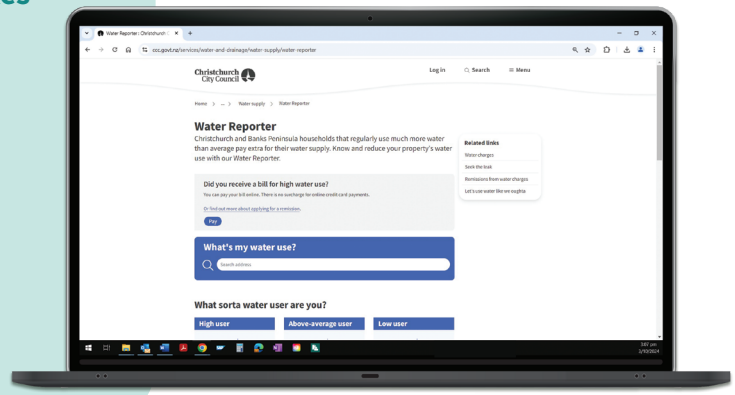
Reaching our communities

During the last quarter:

We published ten Newsline stories related to Three Waters.

The stories covered:

- A liveblog providing emergency updates on the wet weather event. This included 40 updates between 30 April and 5 May.
- A liveblog providing updates on the critical water shortage in Duvauchelle. This included five updates between 22 and 28 April.
- Three stories on the Council's decision on an in-house model for the delivery of water services under Local Water Done Well.
- The completion of the class 1 sampling programme.
- A promising study investigating whether viruses that impact human health are present in Christchurch groundwater.
- Addington Brook's renewal.
- The Council's briefing on an ocean outfall alternative for the Akaroa wastewater scheme.
- Water and transport infrastructure upgrades around Parakiore.



We had 77,349 views across our water webpages.

This represented **3.59%** of total views across the website, and **33,455 less views** than the previous quarter.

The top five pages were:

1. Water Reporter - used by residents to check their water use **(16,275)**
2. Our floor level map for building and resource consents, flood risk and property information **(14,570)**
3. Three waters asset network map showing where three waters assets are located **(5972)**
4. The water status map showing real-time water shut-off information **(4279)**
5. Water charges page with useful information **(3040)**