

Laura Bowman

From: Official Information
Sent: Friday, 16 December 2022 9:52 am
To: 7(2)(a)
Cc: Official Information
Subject: Final Response - LGOIMA 295268 - 7(2)(a) - information on city water issues in light of future urban growth in Hamilton

Importance: High

Kia Ora,

I refer to your **information request below**, Hamilton City Council is able to provide the following response.

Your request:

I'm interested in city water issues in light of future urban growth in Hamilton. I'm just trying to find out more as to how much capacity we have for fresh water treatment (ie intake treatment) given we have been hitting record consumption highs in summer (91 million litres etc!).

Do you have any more information on this.. given the likely projected growth for the city in the future?
I know the wastewater treatment plant is undergoing an upgrade on the other side of things.. so that should cover us until around 2030

Our Response:

Hamilton's capacity to provide potable (drinking) water to its community is dependent on a series of interconnected factors, which must be considered together when assessing the city's ability to provide for current and future needs. Capacity in one area can be impacted by increased demand in another.

- Availability of raw water
- Authorisation to abstract water under Waikato Regional Council consents
- Treatment capacity of the city's sole water treatment plant
- Network water loss
- Demand levels and effectiveness of water conservation measures
- The big picture

1: Availability of raw water

Hamilton is dependent on the Waikato River as its sole raw water source. The water treatment plant receives water through a fixed river intake structure, which places the city's water supply at risk if river levels drop below it. In recent years river levels have at times fallen to critical levels due to drought and extended dry periods in the Lake Taupo catchment which supplies the river.

Climate change forecasts suggest seasonal river levels are likely to further reduce. The long-term solution will be changes to the abstraction point and/or an alternative source. The interim solution is the Low River Contingency, a floating pumping platform capable of maintaining the abstraction of water from the river into the treatment plant so water can continue to be supplied to water supply to the city during periods of low river levels.

Following funding approval in February 2015, the project has been completed and is deployed for testing on a regular basis. [Low River Contingency Project – Waters NZ Paper](#)

2: Authorisation to take water under Waikato Regional Council consents

Council's consent authorises it to take water from the Waikato River for domestic and municipal supply until its expiry in 2044. The consent enables Council to apply to Waikato Regional Council (WRC) to increase the maximum daily take volume to a specified volume every six years. The final step allows HCC to obtain a maximum daily take volume of 146,315 cubic metres per day* from December 2038. The 'stepped' take volumes were based on forecasted growth at the time of consent in 2009.

This ensures an efficient and sustainable approach to use of the resource in that the amount of water Council can take from the Waikato River can be increased to meet demand as the population of Hamilton grows over time. It also frees up water for other users in the short to medium-term, until such time as growth in Hamilton necessitates the additional take authorised by the consent.

In recent years peak water abstraction has been around 93,000 cubic metres per day. In July 2020 Council secured a step up to a maximum daily take volume of 125,315 cubic metres per day.

**Note: consents are measured in cubic metres. When we reference usage, we refer to millions of litres. 125,000 cubic metres equates to 125 million litres.*

3: Treatment capacity of the Waiora Treatment Plant

Our water supply network services more than 51,600 households and around 5,560 commercial, industrial and rural premises. Water from the city also supplies several thousand properties in the Waikato area and more than 100 properties in the Waipa area.

While we currently have an allocation within our resource consent to take up to 125 million litres of water from the Waikato River each day, we are only able to sustainably process approximately 85-90 million litres of treated water a day through the plant.

Operating the treatment plant and network at high levels for an extended period of time puts pressure on our water treatment plant and network operations and reduces our resilience should an unexpected event occur.

An upgrade at the Waiora Treatment plant to lift plant capacity to 140 million litres per day is currently underway and is expected to be completed by December 2023.

The volume of raw water abstracted is always higher than the amount of water able to be supplied to the network as water is lost through the treatment process for flushing, washing and cleaning etc as well as water used at the site.

4: Network water loss

Managing leaks within the network is an important part of reducing the amount of water we need to treat. Under our Water Conservation and Demand Management Plan, we continue to implement discrete water demand zones, which help identify areas where we are losing water.

From April through to June 2021, the Fairfield, Ruakura and Maeroa Water Supply Zones were created. Future work includes splitting the Ruakura Water Supply Zone into smaller areas demand zones for further refined analysis, as well as creation of Hamilton South (Peacockes), Newcastle & Pukete Supply Zones.

We continue to improve the way we monitor flow and pressure in the water supply network to better understand where our water is going and to help us target consumption issues such as leakage. We are also working on creating enhanced alarm systems to notify us of significant flow and pressure changes so that we can respond more promptly to network issues.

In recent years Council has used Government funding under the Water Stimulus package to bring forward or increase the scope of these projects.

5: Demand levels and effectiveness of water conservation measures

There is a requirement within our water allocation resource consent to ensure that the water is used sustainably.

Regardless of consent requirements however, it makes sense we reduce waste and the costs associated with the ability to provide more treated water than necessary.

During summer and periods of hot weather, based on the volume of water received at the wastewater treatment plant (indicative of water used inside and then returned to the wastewater system), we know that at some times over 50% of the water processed during summer is being used outside. Therefore, summer water restrictions are focused on outdoor water use. We focus on sprinkler use as we know the average sprinkler can use in excess of 1000 litres of water every hour and they are often turned on and left.

To encourage sustainable water use, we have a year-round education and engagement programme delivered through our shared Sub-regional Smart Water team. Further information on the Smart Water programme is available at www.smartwater.org.nz

Water restrictions help everyone play their part and are put in place to guide sustainable use and ensure there is enough water for everyone to use.

6: The big picture

There is no single factor which can guarantee Hamilton has sufficient water for its community. Careful management of the combination of the above factors (and others such as new investment, storage capacity, maintenance, and emergency response), are essential to ensure Hamilton is well placed to respond to current and future needs.

Water conservation, especially at periods of high demand, is the most critical factor in ensuring the city can continue to provide high quality drinking water to its community and remain within both its consent limits and the ability of its treatment plant to treat raw water.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Kind Regards,

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