Kānoa
Regional Economic Development
& Investment Unit

HAWKE'S BAY
REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

Regional Water Assessment – key take outs

Jointly funded by Kānoa – Regional Economic Development and Investment Unit and Hawke's Bay Regional Council, the Regional Water Assessment (RWA) investigates how much water the region currently has, how is used, and how much we will need in future.

The RWA is the first time the System of Environmental-Economic Accounting for Water (SEAA-Water) approach has been used in New Zealand to account for the water supplies of a region. The SEAA approach splits freshwater into three categories; surface waters, groundwater, and soil water.

Accounting for water in this way helps us understand and plan for the future of freshwater management by assessing the amount of water we extract, use and return to the environment against the overall quantity of water that passes through the environment.

Freshwater Policy context

Central Government has set out its direction for freshwater management through Te Mana o te Wai, which puts the health of the water ahead of human health and other uses, and the National Policy Statement for Freshwater Management.

Hawke's Bay Regional Council is giving effect to these policy changes through the Kotahi Plan, which it is talking to the community about over the next few years.

The Regional Water Assessment informs the Kotahi Plan process on what options we have for ensuring "long-term, climate-resilient, and secure supplies of freshwater, for all."

How much water we have now

The report focused on July 2019 to June 2020, in which Hawke's Bay received 79% of average annual rainfall for the year. It is estimated that the region's groundwater systems were recharged by 10.3 billion cubic meters of water, but overall ended this very dry period with 677 million cubic meters less water than the start of the year.

This provides a useful reference point for us to start the assessment of high demand use in a fully-allocated system. In that year:

13.9b m^3

Of water carried by our rivers. Of that 2.4b m^3 was from other regions and 11.4b m^3 internal flows (predominantly run-off.

16.3b m^3

Of rain fell in Hawke's Bay.

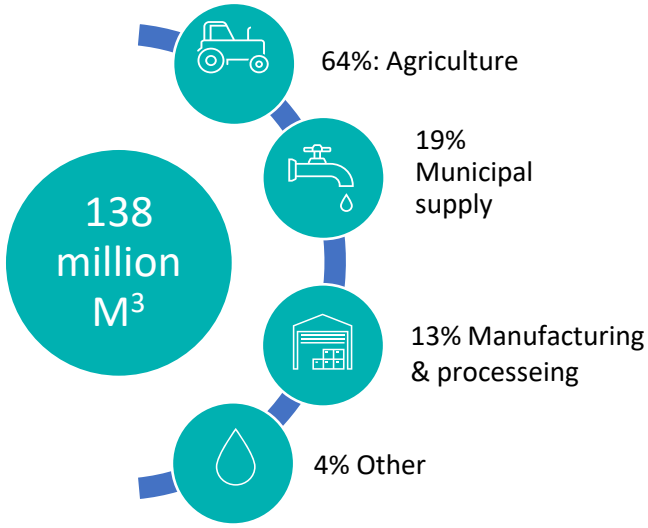
23.3b m^3

Transferred between various surface, ground and soil water systems within

How water is used

In 2019/20 Hawke's Bay used 138 million cubic metres of water.

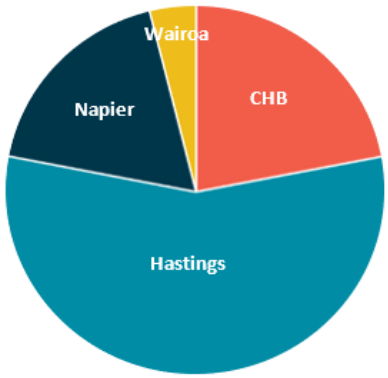
Measuring water use we found that, as our economic engine room, Hastings is the highest water user in the region, with Central Hawke's Bay and Napier using similar amounts of water, and Wairoa the least. However, Central Hawke's Bay used the most per capita of all districts.



Overall Water Use by District

This shows a breakdown by cubic metre, and the percentage by each district.

	(000s m^3)	% of total
CHB	41,262	22%
Hastings	105,506	56%
Napier	32,997	18%
Wairoa	7,541	4%

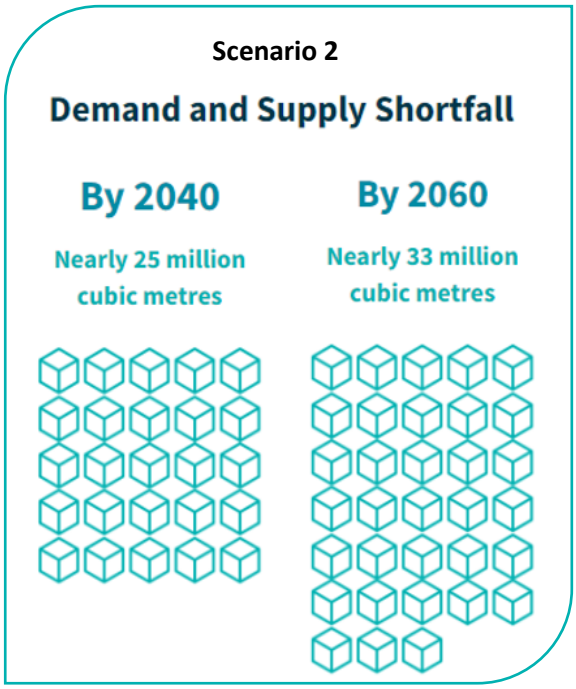


Growing gap between supply and demand

The United Nations body assessing the impacts of climate change, the International Panel for Climate Change projects that the East Coast of the North Island will see drier conditions, caused by stronger westerly winds, in winter and spring. While there could be more rainfall in increasingly less predictable summers, there will be less rainfall over the year and droughts more likely

The RWA report forecasts future gaps between supply and demand by developing scenarios built on current demand, climate change projections, and economic forecasts.

The first scenario (left, on the following page) shows what the gap between demand and supply could be based on *no change* to how we use water, compared with the second scenario (right) which is dependent on *significant improvements* in water use efficiency and conservation.



What this means for the future

In short, we have enough water entering the system in Hawke's Bay, it's just not spread evenly across the year.

This means we need to both reduce the amount of water we use, as well as hold water in the environment for longer, so it's available when we need it.

The report provides practical options for sustainably managing freshwater supplies through increasing supply and reducing demand, and highlights the use of water pricing on top of all of these to further manage demand.