

# Regional Water Assessment FAQs

## 1. What is the Regional Water Assessment?

Work done by the National Institute of Water and Atmospheric Research (NIWA) shows that rivers in the Heretaunga and Tukituki catchments will be some of the worst hit by climate change in Aotearoa New Zealand. We needed more information to determine what those impacts are likely to be and how we might address them in future to protect our environment and our access to freshwater.

The Regional Water Assessment is the first region-wide account of water in Aotearoa New Zealand, using the UN System of Environmental-Economic Accounting - Water (also referred to as SEEA-Water). The report uses the July 2019-June 2020 as a baseline for the Hawke's Bay region, a year that was particularly dry so is a useful proxy for the climate change impacts we are likely to face in future.

The report explored the water security challenges facing the region, changes to national policy for water, mahi the Regional Council is doing to improve water security and the science behind our water.

It investigated:

- How much water do we have now (as represented by the 2019/2020 year)?
- How much water are we using now and who is using it?
- How much water might we have in future?
- How much water might we use in future?
- How can we better manage demand?
- What options do we have to increase supply?

Climate Change trends demonstrate a more volatile climate, with more intense weather events but less rainfall over the year likely.

This means how we use water needs to change. Our waterways already have no more to give, but pressure on our supplies is set to increase. As a community we need to decide how we balance the need to reduce our demands on freshwater, with the opportunities to increase supply.

The task is not choosing one option over the other, but finding a new direction altogether for how we manage freshwater in Hawke's Bay.

## 2. Why was it done?

Work done by the National Institute of Water and Atmospheric Research (NIWA) in 2020 showed that rivers in the Heretaunga and Central Hawke's Bay catchments will be some of the worst hit by climate change in New Zealand. We needed more information to determine what those impacts are likely to be and how we might address them in future to protect our environment and our community's access to freshwater.

## 3. How is the Regional Water Assessment funded?

The Regional Water Assessment is funded from a co-funded package, including a \$450,000 Provincial Growth Fund grant from Kānoa, the Government's Regional Economic Development and Investment Unit.

The report development includes specialist reports that contribute to the main report, scoping investigations for demand reduction and increasing supply interventions, engagement with mana whenua and key stakeholders on the report, and the development of the report itself.

#### 4. What does it tell us?

The report uses the July 2019 - June 2020 year as a baseline for the Hawke's Bay region, a year that was particularly dry, making it a useful proxy for the climate change impacts we are likely to face in future.

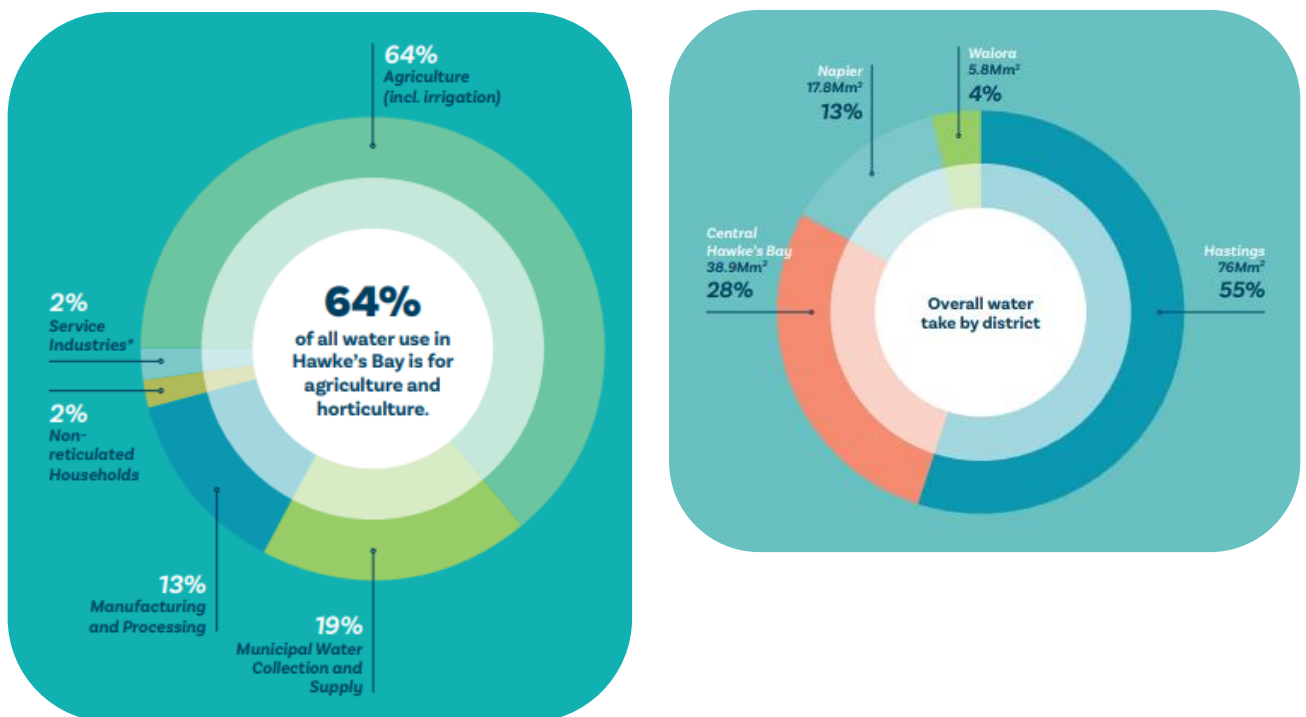
A key finding of the report is that our waterways have no more to give, while at the same time pressure on our water supplies is only set to increase as climate change requires more water be retained in the environment, and our community and economy continue to grow.

On the surface of it we have a lot of freshwater flowing through our region, but we don't have enough water at the time when it's needed – during the dry periods when demand is highest.

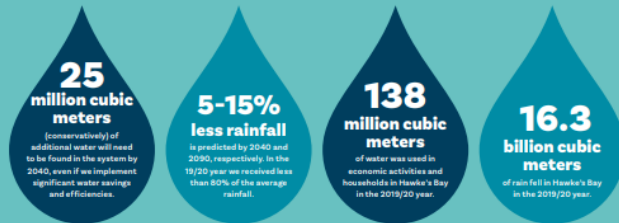
In future, we can expect our seasons to get drier and hotter, and while more intense rainfall will occur, there will be less rain overall due to climate change. This means our unsustainable use of water needs to change.

The gap between supply and demand in future was modelled and showed that if Hawke's Bay doesn't change its water use behaviour at all, our region could face a potential shortfall of nearly 115 million cubic metres by 2060. Even if we implement significant water savings and efficiencies (1% per year), we could need nearly 25 million cubic metres more water by 2040, increasing to 33 million cubic metres by 2060.

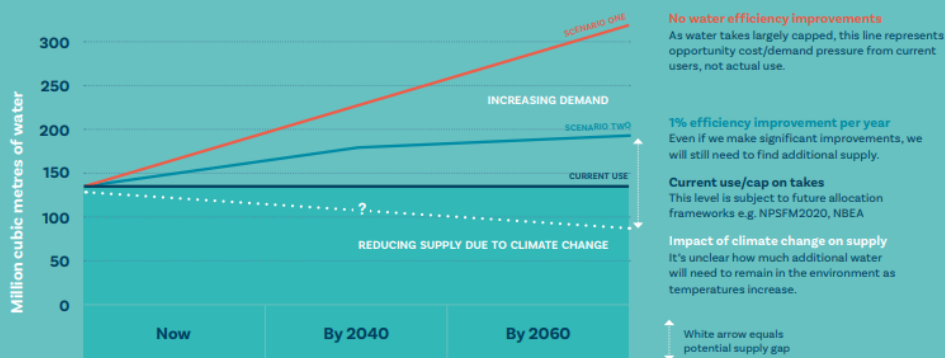
We don't yet know how much more will need to be retained in the environment due to climate change, so that gap could be bigger again – as demonstrated in the graph below.



## He karapatanga ki te Aromatawai Wai ā-Rohe Regional Water Assessment at a glance



Growing gap between the future supply and demand of freshwater



The RWA investigated and outlined options for reducing demand and using freshwater more sustainably, including:

- Improved irrigation efficiency and conservation in agriculture and horticulture
- More efficient agriculture and horticulture land use
- Manufacturing and processing industry best practice efficiency and re-use
- Urban conservation and efficiency measures, such as leak reduction and water metering.
- Economic instruments, such as water pricing

It also outlined options for increasing supply, including:

- Community-scale water storage investigations for Heretaunga
- Managed Aquifer Recharge pilot for Central Hawke's Bay
- Encouraging further economic growth in areas with ample water supply, such as Wairoa
- Promoting holding more water in the environment through protecting and enhancing wetlands
- Water capture and reusing water through promoting rainwater tanks or re-using grey water.

### 5. Is the RWA telling us what we should do?

No. The aim of the Regional Water Assessment is to provide key information for our freshwater management planning and policy - producing an objective, evidence-based view on how much water we have, how much we use and what this is projected to be in the future.

The Regional Water Assessment gives options for demand reductions, to lessen the gap between water demand and supply, and investigates supply solutions that could be valuable tools to support environmental outcomes.

These options are for the councils, tangata whenua, rural and urban communities, the primary sector and manufacturing and processing industry to work through collectively, considering the needs of our community as a whole and the needs of future generations.

Hawke's Bay's community leaders will need to make decisions that embed transformational water use change through council policy, including regional and district plans, industry best-practice and community behaviour change, based on conversations with the community.

## 6. Why is it important to the community?

Our region is already facing the challenges of climate change impacting freshwater – either too much, like Cyclone Gabrielle, or not enough, like the increasingly severe droughts we've experienced in recent years.

Data in the RWA shows that if we don't significantly change how we manage water, we will increasingly feel the impacts on our environment, communities, and economy.

The lives of our whānau now, and our mokopuna and communities in future will be impacted by the decisions we make now.

Doing nothing is not an option and tinkering around the edges will not be enough – we need transformative change. We cannot delay on making decisions around water, we need to prepare now.

## 7. How are you engaging with mana whenua on this?

As Treaty Partners and kaitiaki of our waterways, iwi and hapū have a significant voice in the direction we take in freshwater management within the freshwater plan, through giving effect to Te Tiriti o Waitangi and Central Government's framework for freshwater management, Te Mana o te Wai (TMotW).

Giving effect to Te Mana o te Wai (TMotW) requires Regional Council to work with mana whenua and communities to determine their values, interests, and priorities for each waterway and, involve mana whenua in the decision making of how that vision is implemented.

This approach is supported by recent announcements on the proposed form of the Natural and Built Environments Bill (NBE) and Spatial Planning Bill (SPA), which seek to further strengthen the role of Māori in resource management decision-making and delivery.

The National Policy Statement for Freshwater Management 2020 (NPSFM), which will embed TMotW, requires all regional councils to notify freshwater catchment plans.

Regional Council is working with tangata whenua and key stakeholders on freshwater planning, including water security, to complete those plans.

The Regional Water Security Programme team is committed to working with tangata whenua to ensure the mauri of our rivers and aquifers is protected and enhanced, especially hapū directly impacted by water security issues and closely linked to water security investigations and initiatives.

## 8. What does this mean for farmers, horticulturalists and manufacturing and processing industries?

Regional Council is working with key stakeholders to look at the options for reducing demand. The RWA provides some high-level options, but more work needs to be done.

Specific reports are being completed on irrigation efficiencies and demand reduction opportunities with local Councils and large industrial water users.

Regional Council's freshwater planning will inform the policy levers that could be implemented to support these efficiencies.

## 9. What's next and how can I get involved?

Regional Council is working with tangata whenua and key stakeholders on freshwater planning, including water security issues, including local councils, horticulture and agriculture organisations, industrial water users and interest groups.

The National Policy Statement for Freshwater Management 2020 (NPSFM) requires all regional councils to notify freshwater catchment plans.

The community will be engaged throughout that process – so keep an eye out for how you can get involved.

In the meantime, you can help by:

- Reducing your demand on our water supplies through water conservation, efficiency and re-use. Remember, every drop we don't use stays in the environment.
- Learn more about what our freshwater future looks like by visiting [hbrc.govt.nz](http://hbrc.govt.nz) and searching #watersecurity to:
  - Read the full Regional Water Assessment
  - Read the summary Our Freshwater Future
  - Learn more about the work of the Regional Water Security Programme and its work

## 10. What if we don't change how we do things?

Doing nothing is not an option and tinkering around the edges will not be enough – we will need transformative change. We cannot delay on making decisions around water – we need to prepare now. If we don't plan for water security, we are likely to see:

### **Environment:**

- Water levels in rivers, streams and aquifers falling in summer due to reduced rainfall and increasing temperatures, meaning more water will need to be retained in the environment;
- More volatile rainfall across all the seasons, leading to more extreme events causing serious flooding, slips and erosion. Despite that, we'll have less rain overall;

### **Communities:**

- Dropping river and aquifer levels could see more shallow rural bores run dry and urban supply under pressure;
- Waterways drying and under pressure impacts recreational and cultural values.
- Reducing access to water creates social inequity and widens the gap between those who have water and those who don't;

### **Economy:**

- Reducing volumes of water available to our world-class primary sector, could see the following impacts:
  - Reduction in jobs available across our primary sector (which currently employs a significant portion of the Hawke's Bay population).
  - Decrease in reliability of water impacting sectors confidence to invest and potential reversion to lower value land uses that are not so greatly impacted through loss of water supply reliability.

## 11. You've used a dry year as an example – isn't this misleading?

No. The July 2019-June 2020 year was particularly dry, and looking at the projections for weather in the future it is a useful proxy for the climate change impacts we are likely to face in future.

## 12. If water ways have no more to give, why are we talking about growth?

We have a thriving Hawke's Bay community and economy. There are opportunities to re-think the way we use water to support our environment, while continuing to grow sustainably as a community and economy.

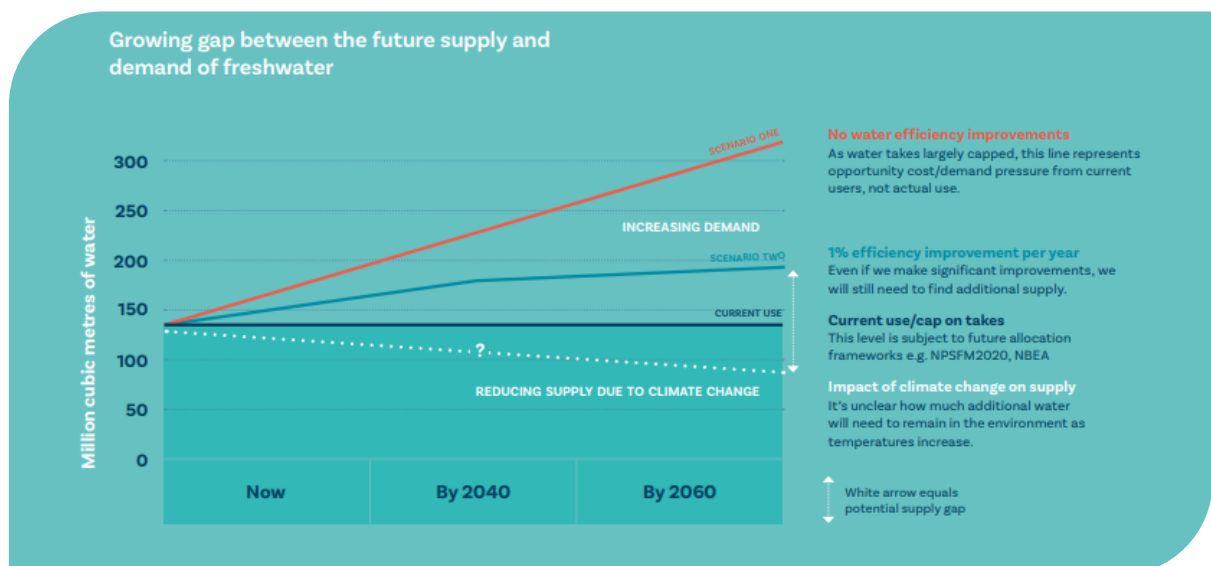
The RWA talks about the growing gap between supply and demand (see following graph).

Supply is capped at current levels through Council policy but is subject to future allocation frameworks, through work supporting the NPSFM 2020 or Natural and Built Environments Bill (NBE).

Supply is also likely to reduce as the environment needs to retain more water due to the increasing impacts of climate change.

While the *consented* volumes are capped, the RWA predicts growing pressure to use what we have better or increase supply. This pressure on demand may manifest in a number of ways:

- Water users hold consents, but they probably don't currently use every drop they are consented for – this is the difference between *consented* use and *actual* use. In future, they will likely need to use more of their allocated volume as crops come under pressure from climate change. It is worth noting that consented allocations and how they are used are subject to any future policy changes.
- The RWA talks about opportunity cost – it's difficult to quantify the reduction in investment due to uncertainty around freshwater supply but we know this is already impacting business decision-making in our region.



### 13. Why are we talking about increasing supply, before we've done everything we can to reduce demand?

Hawke's Bay received 16.3 billion cubic meters of rain in the 2019/2020 year and we used just 138 million cubic meters of that. However, most of that falls in winter and rushes out to sea, so there isn't enough available when we need it – when it's dry.

The RWA outlines a range of practical solutions to slowing water down, including both above ground – a dam on a tributary of the Ngaruroro in Heretaunga - and below ground water storage – Managed Aquifer Recharge pilot in Central Hawke's Bay. These investigations are to determine if we have viable options to increase supply. Other initiatives to slow water down could be improving wetlands so water stays in the environment longer.

Any viable solutions to store water would be used firstly to ensure our environment has what it needs to thrive by increasing summer flows in rivers and streams; secondly, to secure water for drinking, food preparation and sanitation supplies for our communities; and thirdly, to increase reliability for extractive users – such as horticulture, agriculture and industry.

If any supply options were possible, the priority would be to supplement the aquatic ecosystems of our rivers and lowland streams, building greater reliability and resilience to climate change. Any viable supply options would only go ahead with the support of the community.

Reducing our demand is not optional, but viable supply options would help us manage the scale and pace of implementing demand restrictions. If supply options are ruled out, then the community will understand how big the collective effort will need to be to reduce our demand.

### 14. We've just had Cyclone Gabrielle which brought far too much water. Why are we talking about not enough water now?

Water scarcity, at worst severe, multi-year drought, is just one side of the climate change coin. Flooding – too much water – is the other side of the coin.

Not only are these weather events becoming more severe but the volatility of lurching between these extremes will also increase.

The summer of 2022/23 was already the wettest on record, brought on by the global phenomenon of Lā Ninā which brings warm, wet weather systems to New Zealand, when Hawke's Bay was hit by Cyclone Gabrielle.

At the time of writing the RWA, the El Niño-Southern Oscillation was moving from La Niña to neutral, but it was predicted that El Niño conditions would develop during winter 2023, potentially bringing dry weather and possibly drought.

While our region's focus in the short term will naturally be on recovering from the event and enhancing the region's environmental resilience to future rain events, we are obliged to ask ourselves, "If this is the destruction a significant flood event can cause, what will be the impact of a significant multi-year drought event?"

Both floods and drought are likely to be more frequent in coming decades due to climate change. As Hawke's Bay mobilises to "build back better, safer and smarter", it would be a mistake to focus on only one-half of the problem bearing down on our region.

## 15. Is the RWA part of Three Waters?

No. The Regional Water Assessment is not part of Three Water Reforms. Three Water Reforms focus on the delivery of drinking water, wastewater and stormwater, whereas the RWA is focused on the quantity of freshwater in our waterways and how we interact with that.

## 16. Is the RWA part of the TANK Plan?

No. The Regional Water Assessment is not part of Tutaekuri, Ahuriri, Ngaruroro, Karamū Plan (also called Plan Change 9 or TANK for short).

The aim of the Regional Water Assessment is to provide key information for our freshwater management planning and policy - producing an objective, evidence-based view on how much water we have, how much we use and what this is projected to be in the future.

The TANK plan manages current water allocation and use in the Tūtaekurī, Ahuriri, Ngaruroro and Karamū catchments and identifies some water bodies in these areas as already being over-allocated.