Combined Tairāwhiti Regional Freshwater Planning Advisory Group and Waipaoa Catchment Planning Advisory Group – Hui 12

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Title of Report: Water Security Programme update

Report No: 2

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Purpose of this report

This report provides an overview of the Council's Water Security Programme and status.

Outcomes sought

To provide an understanding of the Council's work on water security and an opportunity for members to discuss and provide feedback.

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1 Introduction

The Water Security Programme was established in 2021 as part of Council's response to increasing pressures on freshwater. Climate change, government freshwater reforms and the limitations of the current water management framework will compound the challenges associated with freshwater use and allocation.

The goal and challenge of the Water Security Programme is to ensure long-term water security for the Tairāwhiti region. This requires balancing environmental protection, sustainable resource management, and the needs of various stakeholders in the region. It is acknowledged that Council objectives sit alongside a range of community interests best represented by others. The intent is to ensure this is reflected in a 'representative' delivery structure relatively early in the investigations / project development.

2 Background

In establishing the Water Security Programme, Council aimed to:

- better understand how much water we have
- identify how much water we need (municipal supply and more broadly for irrigation and other uses)
- quantify the gap between how much we have, and how much we need
- increase our resilience by developing options for matching supply and demand.

Whilst theoretically simple, this depends on many variables including an evolving understanding of freshwater sources and making assumptions about how demand will change in the future under various scenarios.

The first piece of work completed was a regional freshwater assessment (RWA), which provides a current 'stock take' of supply and demands across the range of uses and to overlay this with projected population growth statistics and climate change scenarios to assess how these dynamics may change in the future.

Key Findings

- **Surface water availability** is close to 100% during winter and spring but declines significantly during the summer months. Projections indicate reduced water availability in catchments like Waipaoa and Waimata due to an 8% decrease in mean annual low flow by 2055.
- **Groundwater availability** is challenging to quantify, with some areas showing little usable groundwater despite theoretical availability based on desktop analysis. Consented groundwater allocations exceed the estimated availability for the Te Hapara Sands and Makauri aquifers.
- On an average annual basis, the **volumes available from surface water are substantially larger than those available from groundwater**. However, to take advantage of this, water storage is required.

- **Climate change will increase irrigation demand** by up to 15% by mid-century due to rising temperatures. **Population growth** will also increase water demand, with the regional population projected to grow by 8,070 by 2055. Most growth will be concentrated in Gisborne City, which relies heavily on impounded dams and the Waipaoa River.
- **Future Water Balance**: Both surface water and groundwater balances are projected to worsen in the next 30 years. Most of the negative changes will come from increased demand rather than reduced supply.

Council's regulatory and three waters functions are clearly defined in legislation. However, Council's role in regard to water supply outside of municipal use is not defined and has been considered differently by councils across the country.

In August 2024, staff sought clarity and direction from Councilors who determined that Council should be taking a direct role in early-stage investigations and development of potential water storage infrastructure options for multiple benefits including that of commercial and municipal water users.

Council's underlying principles focus on:

- **Sustainable** – what is taken is not more than what the environment can give. **Resilient** to climate change impacts – building alternative supply/demand options that can meet and reduce impacts of an increased fluctuation of freshwater supply.
- **Sufficient** freshwater supplies for all – availability to freshwater for reliable, equitable access.

It is unlikely that a silver bullet exists, and it is unlikely that there will be a clear point in the future when our freshwater challenges will be solved. Instead, a system-wide approach to managing water use is needed that considers a broad range of interventions, to the extent that they are available. This will likely be a conversation on choices and trade-offs, and it is anticipated that it is not one single entity/organisation response needed but collective actions.

To consider these complexities, Council is commencing investigations into potential water storage (dams/reservoirs) options. The initial assessment is at a scoping level and will involve canvassing of potentially viable sites with a shortlist based on technical criteria. It is not assumed that suitable dam/reservoir sites will be available. If they are, it presents an option to be considered alongside any other available option (including Managed Aquifer Recharge and recycling). If they are not, then the choices narrow.

This work is currently at a procurement stage only and we will provide an update in relation to the status of this work at the briefing.

3 Appendices

Appendix 1: Water Storage Infrastructure: Project Development Lifecycle (generic)

Note: GDC has committed to invest in a Scoping level study and this work is currently in the planning/procurement stage.