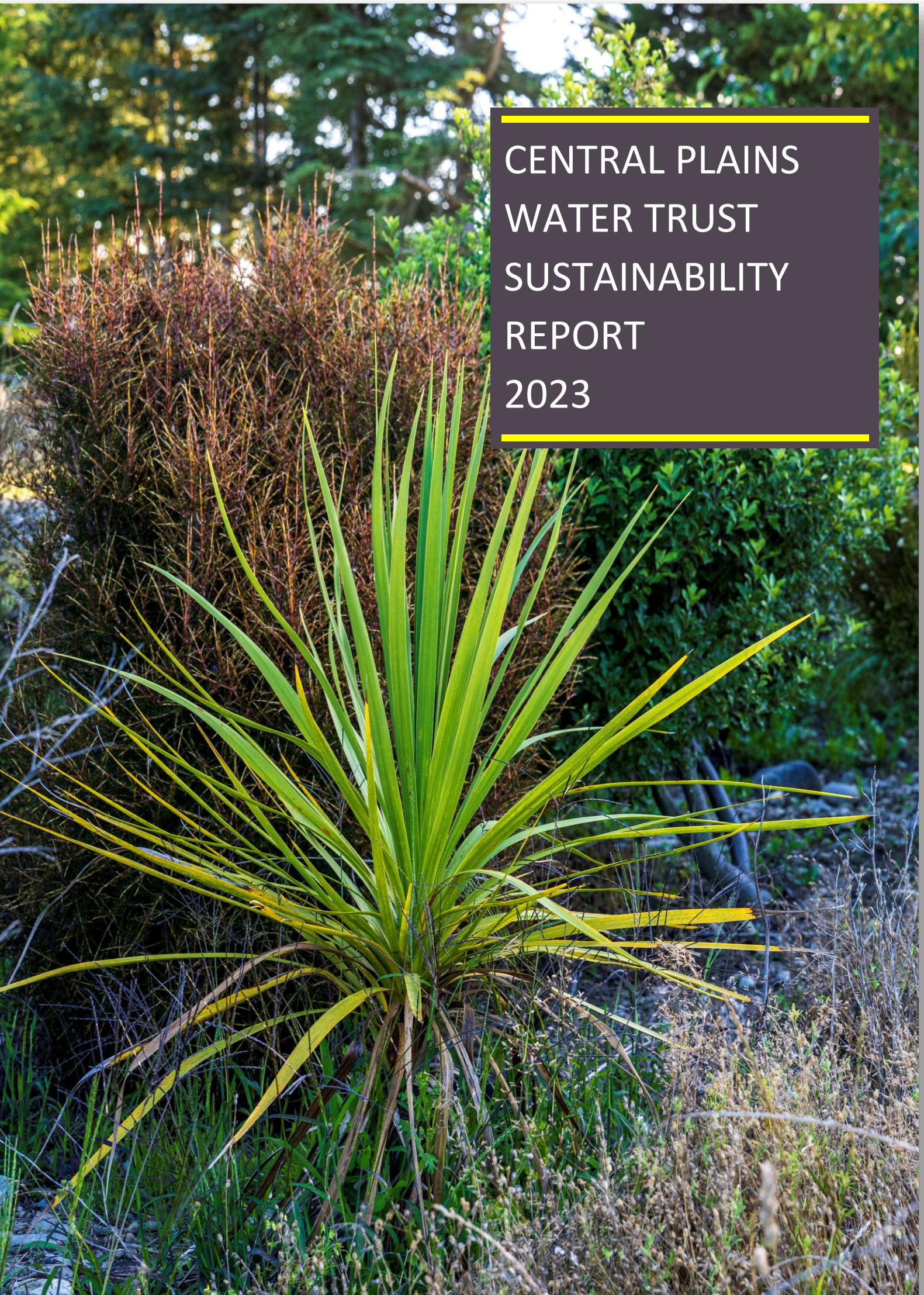


CENTRAL PLAINS WATER TRUST SUSTAINABILITY REPORT 2023

Contents

1.0 Foreword

1.1 Central Plains Water Trust mountains to the sea/ki uta ki tai

Welcome to Central Plains Water Trust (**CPWT**) Annual Sustainability Report (**Report**) for the 12 months to 30 June 2023. As we consider a year that included multiple challenges such as severe weather events, supply chain interruptions, rising costs on farms, we report on the role we play in having a positive impact on Canterbury and Aotearoa. As one of Aotearoa's early adopters of sustainability principles, Central Plains Water Limited (**CPWL**) has made considerable progress in the areas of sustainable water management, best practice agriculture, and climate resilience.

CPWT was jointly settled by the Christchurch City and Selwyn District Councils and builds on the groundwork laid by the Central Plains Water Enhancement Steering Committee. The purpose of CPWT is to facilitate the sustainable development of Central Canterbury's water resources, ensuring there is a net gain to the cultural and ecological health and biodiversity of the catchment.

CPWT is unique in that it holds the resource consents of the Central Plains Water Scheme (**Scheme**) and licences their use to CPWL. CPWT's obligation under that licence is to report annually on the Scheme's environmental, social, and economic results.

Sound governance is integral to maintaining our licence to operate. A cornerstone to our ability to create shared value, CPWT's governance composition reflects a diverse range of expertise across agriculture, commerce, and resource management. Trustees have been chosen to ensure a comprehensive skill set, including appointments made based on recommendations from the Parliamentary Commissioner for the Environment and Te Rūnanga O Ngāi Tahu, underscoring the commitment to incorporating varied perspectives.

Ngāi Tahu and Ngā Rūnanga are manawhenua and hold a kaitiaki role and responsibilities within the Rakaia, Waimakariri and Te Waihora catchments. CPWT take a stewardship role, ensuring all actions of CPWL are not just aligned with principles of sustainability, but are also interconnected with the natural environment/te taiao and the integrated management of land and water from the mountains to the sea/ki uta ki tai.

This Report has been prepared by CPWT for the Christchurch City and Selwyn District Councils, tangata whenua, and the general public. We have taken a more evolved approach this year to deliver a broader overview of the net-positive environmental outcomes of the Scheme.

You can access CPWL water monitoring data here.

2.0 Economic, environmental, and social impact

Irrigation is an important contributor to Aotearoa's *agricultural success, now, and in the future. Irrigated land contributes an estimated $2.5 billion a year in increased value at the farm gate – over and above equivalent dryland farms. This doubles as the increased production is processed for export and domestic consumption*.*

2.1 Economic impact

Water supplied by CPWL has been good for both the environmental, social, and economic, cohesiveness of communities. Sustainable use of surface water has delivered flow-on effects throughout the region's industries, businesses, and employees.

Overall, in 2022, the direct and indirect impacts of the Scheme contributed a total of $340 million* to the Canterbury GDP and the creation of 2,135 full-time equivalent jobs*, adding to economic resilience. Increased labour requirements attracting new families and immigrant workers bring diversity, a rich addition to the cultural fabric of the surrounding communities.

2.2 On-farm environmental impact

CPWL operations are aligned with the vision of the Canterbury Water Management Strategy (**CWMS**), with a deep commitment to delivering on CWMS outcomes. CPWL delivers widespread environmental benefits by guiding shareholders towards more sustainable and efficient farm practices, alongside managing nutrients and on-farm management plans.

Shareholders are addressing environmental concerns head-on with 100% of CPWL farms having an independently audited Farm Environment Plan (**FEP**), which includes a nutrient reduction target. 94% of these farms have an A or B FEP audit grade. 2023 benchmarking confirmed nitrogen lost below the root zone is 29% lower than the pre-CPWL level.

The collective efforts of CPWL shareholders are now starting to be being seen in the shallow aquifer, with average nitrogen concentration starting to trend down. This is due to the adoption and continual improvement of best on-farm management practices.

2.3 Wider environmental benefits

The reliability of CPWL surface water has allowed shareholders to move away from their reliance of groundwater. On-farm, there has been a 50 – 70% reduction in the utilisation of groundwater. Which have seen the natural aquifers replenished and improved lowland streams that feed into Lake Ellesmere/Te Waihora.

- 2014/2015 (pre-CPWL operating)
    - 99,000,000m3 groundwater used by CPWL shareholders.
- 2022/2023 (all stages operational)
    - 32,000,000m3 groundwater used by CPWL shareholders **[68% reduction]**.
    - 18,500,000m3 groundwater annual volume on consents surrendered.

Figures from the CPWL Business and Economic Research Limited Report (BERL**) 2022.*

2.4 Social impact through climate resilience

The Canterbury Plains have traditionally been tinder dry over the summer season. In the summer before the Scheme was operational, there were 199 fires.

By hydrating vegetation and providing a defence system against rural fires, by way of greener pastures, there has been a 53% reduction in rural fires across the Canterbury Plains, with only 67 fires in the 2021/2022 summer season.

2.5 Central Plains Water Environmental Management Fund

Central Plains Water Environmental Management Fund (**EMF**) was established as part of the CPWT consent. To date the EMF and CPWL environmental initiatives have contributed over $1.63 million across a variety of projects that enhance biodiversity through the creation of native corridors thriving with native flora and fauna, further enhancing mahinga kai values.

The EMF funding stream is calculated on the CPWL yearly water use charges from 1 January to 31 December, and applicants must follow the adoption of EMF guidelines. To date, the EMF has received $2.21 million in applications, and has distributed $725,000 to projects including 78,000 native plantings, wetland restoration, and research.

Delivering long-term outcomes and positive impact to communities through different projects across the catchment is starting to make an environmental impact. Native birds are returning to the foothills and riverbeds across the Canterbury Plains, signalled by the sound of bellbirds/korimaki and the continuous chattering of branded dotterel/pohowea in the vegetated riverbeds along the Waimakariri River.

In 2023, CPWL installed two additional continuous nitrate sensors and contributed $20,000 to the Ellesmere Sustainable Agriculture Incorporated Jollies Brook Fish Passage engineering and hydrology investigations project.

2.5.1 Supporting wildlife

CPWL have engaged an Avifauna Ecologist to undertake bird surveys in CPWL's Rakaia River and Waimakariri River intake areas. The bird surveys occur from September through to February each year, looking for breeding birds and nest sites to ensure birdsong is restored for today, tomorrow and the long term.

The species and location (including GPS coordinates), date and time of sighting, number of individuals, habitat and breeding behaviour or stage are recorded for each sighting. Description and location of breeding birds are mapped, risks are identified, and setbacks are established to ensure the birds are not disturbed.

2.5.2 Birds species

Within the Scheme area, particularly around the operational zones of the Rakaia River and Waimakariri River intakes, CPWL seeks to protect the South Island pied oystercatcher, black stilt, piped stilt, wrybill, branded dotterel, black-fronted dotterel, spur-winged plover, paradise shelduck, grey duck, NZ shoveler, grey teal, NZ scaup, black-billed gull, red-billed gull, caspian tern, white-fronted tern, black-fronted tern, white-winged black tern, Australasian bittern, marsh crake, spotless crake and cormorant/shag colonies.

2.6 Lake Ellesmere/Te Waihora

Fed by the Selwyn River, lowland streams, and the groundwater system Lake Ellesmere/Te Waihora is a coastal lake that is culturally and ecologically significant and recognised as an important birdlife wetland. The lake is in poor health because of interventions since human settlement including lowering the lake level, use of groundwater, and nutrient loading.

Selwyn-Waihora stakeholders, including iwi, Selwyn-Waihora Zone Committee and CPWL, identified a vision for the area – to restore the mauri of the lake while maintaining the prosperous land-based community.

To date, $350,000 has been contributed by CPWL towards the restoration of the lake, with a further $160,000 contributed towards ensuring the lake can be opened to the sea.

Openings tend to align with fish migration periods and other habitat values. Tuna and freshwater eels come in from April to June via drains or a full opening. Flounder, whitebait, sea-run trout, and other species enter the lake around September and October.

A number of factors are considered for lake opening such as:

- Access to traditional mahinga kai including the gathering of swan's eggs.
- Avoiding low lake levels in summer and desiccation of wetland margins.
- The need for variation in lake levels to support complex and diverse wetland flora and fauna habitats.
- Managing land inundation (including wind effects) and the effects of high lake levels on drain networks and infrastructure.

3.0 Water stewardship

CPWL recognises the need to play their part in helping to protect, restore and renew water sources. The CPWL environmental team continue to achieve good water and land resource management, working towards a more sustainable future so people today and the generations to come can thrive in Aotearoa.

The Scheme is a significant infrastructure project, designed to offer a reliable water source thereby reducing groundwater reliance and alleviating stress on the upper plain's aquifers. The Scheme's impact includes groundwater recharge, water quality management, and reducing groundwater overallocation.

Groundwater abstraction before CPWL accounted for more than 95% of the allocated volume of water in the Selwyn-Waihora catchment. If the ecological and cultural flows sought were solely delivered by revising the consented allocation, it was projected at the time that there would need to be an 80% reduction in the allocation across both the Selwyn-Waimakariri and Rakaia-Selwyn Waimakariri catchment.

Excessive groundwater abstraction historically led to aquifer water level declines, prompting the CPWL Scheme to address overallocation by replacing groundwater with run-of-river water.

3.1 Ground and surface water

The Selwyn-Waihora catchment is a significant area known for its agriculture, horticulture, and unique environmental values. The quality and quantity of groundwater has been declining since the 1970s. The increase in agriculture and groundwater abstraction for food and fibre and the expansion of urban and rural communities have played a role in the decline, prompting the development of the Central Plains Water Enhancement Scheme.

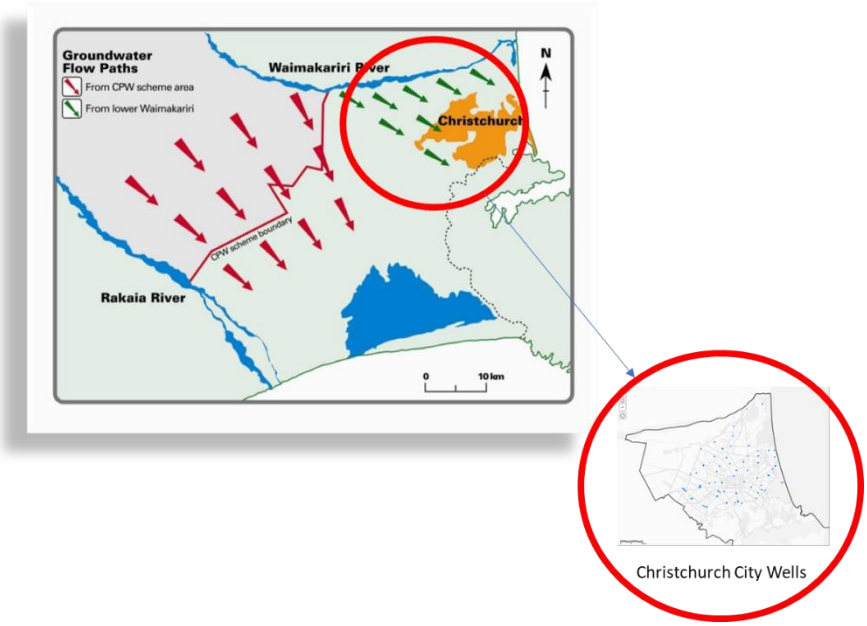
Environmental monitoring from the foothills to Lake Ellesmere/Te Waihora considers baseline conditions and short-term climate variations and has been occurring since before the Scheme became operational. Consent conditions establish trigger levels, ensuring corrective actions if exceedances occur. CPWL's monitoring addresses groundwater, surface water, and lake water quality and quantity.

It is important to note that climate variations significantly impact water quantity and quality in the Scheme area. The 2022/2023 period experienced higher-than-average rainfall, reducing irrigation requirements. Understanding climate influences is crucial for sustainable water management.

3.2 Groundwater quality and quantity

Groundwater in the catchment is vital for irrigation and drinking water. Twelve years ago, CPWL installed over 20 bores, and has monitored water levels and quality since that time ensuring adherence to standards and providing invaluable insights into the long-term sustainability and effectiveness of the scheme.

The catchment features several aquifers, such as the shallow gravels (lower catchment) and the deeper artesian aquifers (upper catchment including the CPWL command area). The quality of water in these aquifers can vary. The groundwater aquifers in Central Canterbury flow from the mountains to the sea, and the aquifers to the north of Christchurch City are influenced by the Waimakariri River. As such, the CPWL Scheme command area excluded the West Melton Zone, which influences the city groundwater aquifers.



Nitrate concentration: Since the 1970's groundwater in the catchment has shown elevated nitrate concentrations both in the upper catchment aquifers, and the lowland streams due to agricultural activities. Refer to Section 3.4 for trend in average nitrate concentration in groundwater.

Reducing groundwater over allocation: Excessive groundwater abstraction for irrigation use has led to water level declines in some areas, which can affect the sustainability of the resource and nearby surface water bodies. The effective consented allocation for the Selwyn-Waihora groundwater zone prior to CPWL in 2014 was 487.3 million m3 and 2,246 takes. Actual use was in the order of 40 to 55% of this[1]. The combined groundwater allocation limit set by Environment Canterbury was 336 million

m3 in the Natural Resources Regional Plan 2011 meaning there was a 45% over allocation of groundwater.[1]

Groundwater users changing to CPWL run of river water supply were expected to reduce or discontinue abstracting groundwater. 33,000 ha of groundwater users have become CPWL shareholders resulting in a decline from 99 to 32 million m3 of groundwater being used. Approximately 25,000 ha of dryland farming has converted to irrigated farming.

Groundwater recharge: CPWL aims to recharge shallow aquifers by reducing groundwater abstraction in the upper plains. CPWL are also able to supply water from the Rakaia River during the shoulders of the season to the Environment Canterbury-funded Near River Recharge (**NRR**) basin, which enables river water to be discharged and slowly permeate through the river gravels into the aquifers. (Refer NRR case study page 15). To date the NRR has not been used operationally.

Groundwater levels: Recent monitoring indicates elevated groundwater levels, benefiting spring-fed streams. Selwyn River flows remained high, supporting the effectiveness of the CPWL Scheme. Groundwater quality exhibits short-term variability, emphasising the need for continuous monitoring.

3.3 Surface water quality and quantity

Surface water bodies in the Selwyn-Waihora catchment such as Lake Ellesmere/Te Waihora, Selwyn River, Irwell, and Hanmer Drain are vital for both ecological health and recreational purposes. Surface water quality trends vary, with nitrate concentrations showing a mix of increasing and decreasing patterns. CPWL monitors surface water quality across the catchment to address these concerns. Key points related to surface water quality include:

1. **Lake Ellesmere/Te Waihora:** This large coastal lake is a prominent catchment feature. Historically, it has experienced issues with water quality due to nutrient loading from the catchment, particularly phosphorus and nitrogen, which can lead to algal blooms and reduced water quality. The lake is very susceptible to run-off (phosphates/sediment) from the surrounding land. Lake Ellesmere water quality triggers were exceeded, but results remained within historical ranges.

2. **Selwyn River:** The Selwyn River, which flows into Lake Ellesmere/Te Waihora, can be subject to reduced flow during dry periods and can carry sediment and nutrient loads from agricultural runoff, affecting the overall health of the river and the lake.

3. **Ecosystem health:** High nutrient levels in surface waters can impact aquatic ecosystems and result in water quality problems, such as oxygen depletion and habitat degradation for native species.

[1] Integrated Surface and Groundwater Management Preferred Approach. Selwyn-Waihora sub-regional section of the proposed Land and Water Regional Plan. Report No. R14/9. Report prepared for Environment Canterbury by Elemental Geoconsulting 2014.

4. **Percentage of water taken:**

The below image shows the CPWL Waimakariri River intake to supply the Sheffield Scheme which is constructed following 'natural' design principles. Of the 2.6 billion m3 of water that flowed in the Waimakariri River over the past year, CPWL shareholders utilised 0.24% to grow food and fibre.

The below image shows the CPWL Rakaia River intake built with limited hard materials, to supply water Stage 1 and 2 of the Scheme. Of the 5.3 billion m3 of water that flowed in the Rakaia River over the past year, CPWL shareholders utilised 2.0% to grow food and fibre.

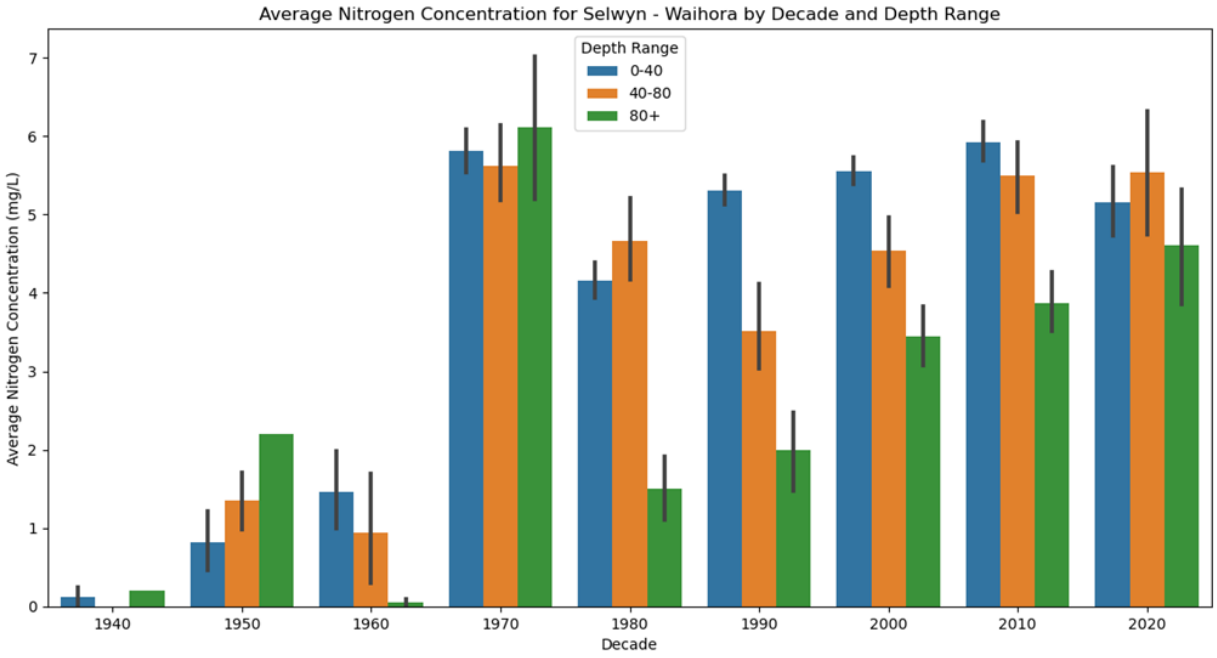
3.4 What do the 2023 monitoring results mean?

Annually, an independent expert review panel review CPWL's water quality and level monitoring data. Their detailed report tracks year-to-year trends and evaluates CPWL's impact on contaminant levels in ground and surface water, as well as surface mounding triggers. The 2023 monitoring results indicate ongoing efforts to address nitrogen concentrations and other contaminants. The full detailed report that includes the data and tracks individual monitoring sites is available under Company Documents on the CPWL website.

The effects of land use management are observed rapidly in shallow groundwater but take much longer to reach deeper levels of the aquifer, and conversely, will take longer to reverse. Continuously improving farm environmental practices has reduced the discharge of nitrogen below the root zone. It was expected that the conversion of dryland farming to irrigation, despite good management practices, would initially lead to increased nitrogen leaching into the aquifers. This is primarily attributed to irrigation, which elevates soil moisture content. During rainfall, oversaturation can occur, causing surplus nitrogen from fertiliser or animal urine in the soil profile to leach.

In November 2023, CPWL and Environment Canterbury jointly funded Aqualinc to update the ***average nitrogen concentration for Selwyn-Waihora by decade and depth range*** graph (below). The graph provides a useful illustration of time lags in average nitrogen in the Central Plains groundwater system and overall changes in groundwater quality across the Central Plains over recent decades, noting that local results can be more complicated.

The data shows nitrate concentrations in shallow groundwater (less than 40 m below ground level) have reduced over the last decade and stabilised in wells 40 to 80m, with similar effects yet to be seen in deeper groundwater due to the longer lag. The results also explain the higher nitrogen concentrations and greater variability we see in CPWL monitoring (samples taken at the water table) compared to ECan monitoring wells (typically screened well below the water table) in which short-term variability is moderated, and trends occur over a longer timescale.



4.0 LWP Ltd Independent Assessment

Brydon Hughes has independently prepared this section, of LWP Ltd and is an independent assessment of CPWL monitoring data and compares the results back to 2015 when the Scheme commenced operation of Stage 1.

Prepared by Brydon Hughes, LWP Ltd

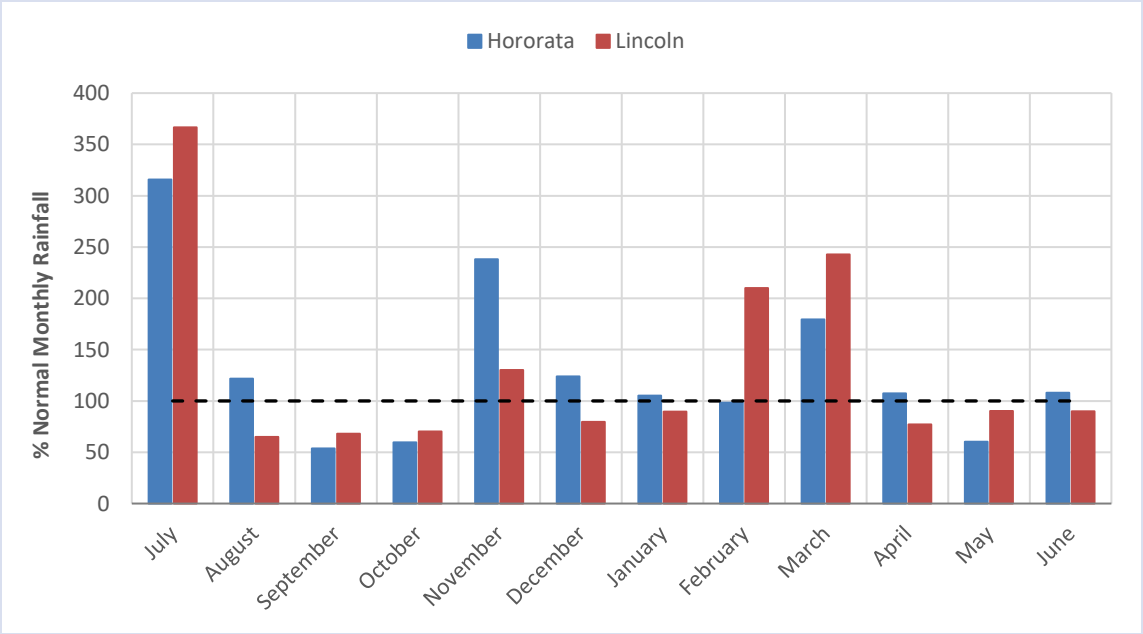
Climate

Irrigation is utilised to maintain agricultural productivity during periods when rainfall is insufficient.

Due to variations in climate (particularly rainfall but also temperature and wind) requirements for irrigation vary between individual growing seasons. Variations in climate can also influence the quantity and quality of groundwater and surface water across the Central Plains area.

The 2022/2023 saw rainfall across the Central Plains area approximately 30 percent higher than the long-term average. For example, at Hororata, 2022/2023 rainfall was the 8th highest recorded since 1891 (132 years).

Much of the excess rainfall during 2022/2023 was associated with large rainfall events recorded in July and November 2022 and during February/March 2023. Rainfall was generally close to, or slightly below, average for the remainder of the year.



Environmental Monitoring

Conditions of consent require CPWL to undertake extensive monitoring of groundwater levels and quality, surface water quality and lake water quality both within and downstream of the Scheme area.

The Central Plains area has a long history of agricultural land use. As a result, prior to commencement of CPWL Scheme operations, water quantity and water quality differed appreciably from 'natural' conditions. Due to the slow rate at which groundwater flows under the Central Plains, there can be a significant delay (commonly referred to as 'lag') between changes in land use and corresponding effects on water quality.

The state and trends in water quality observed prior to CPWL operations (referred to as 'baseline' conditions) therefore must be considered when interpreting the subsequent monitoring data. Monitoring results can also be influenced by short to medium-term variations in climate (e.g., large rainfall events or extended periods of above or below average rainfall).

Groundwater in the Central Plains Area

Water stored in roils and rocks beneath the land surface is referred to as groundwater. Geological materials containing significant quantities of groundwater are called aquifers.

The Central Plains area is underlain by an expansive aquifer system which extends from the foothills to the coast.

Groundwater in the Central Plains area is sourced from a combination of rainfall (plus a limited contribution from irrigation) and infiltration from foothills rivers.

Groundwater levels across the central Plains vary from less than 2 metres below ground around the margins of Lake Ellesmere / Te Waihora to close to 100 metres below ground in further inland. Groundwater levels in some inland areas can vary by as much as 30 to 40 metres over time in response to extended periods of above or below-average rainfall.

Groundwater from the Central Plains area generally flows in a south-easterly direction towards Lake Ellesmere / Te Waihora. Little to no groundwater from the Central Plains area flows under Christchurch City.

Groundwater flowing through the aquifer mainly discharges to lowland streams around Lake Ellesmere / Te Waihora, with a minor component discharging offshore. Due to the time taken for water infiltrating from the land surface to reach the water table and the slow rate of groundwater flow, it may take decades for groundwater recharged in inland areas to reach lowland rivers and streams.

CPWL consent conditions also establish trigger levels for environmental monitoring results. If a specific trigger is exceeded a specified procedure must be followed to identify if the monitoring results represent a departure from 'baseline' conditions and, if they do, specific steps which must be followed to investigate and mitigate the potential cause of the trigger level exceedance.

Water Quantity

Following two relatively wet seasons, groundwater levels across the Central Plains areas were the highest recorded since the late 1970s. While beneficial for flows in spring-fed streams, elevated groundwater levels increase the potential for drainage issues in lower-lying areas around Lake Ellesmere/Te Waihora.

Flows in the Selwyn River (and tributaries) remained close to, or above, the historical range throughout 2022/2023. Particularly during mid-summer, flows during 2022/2023 were the highest since the CPWL Scheme started operating.

As we move into a drier El Niño period in late 2023, the Near River Recharge project can be utilised to help maintain flows in the Selwyn River.

Near River Recharge Project

The Waikirikiri/**Selwyn** Near River Recharge project is a multi-million-dollar scheme to enhance cultural, environmental, and recreational values in the region by discharging clean Rakaia River water from the CPWL Scheme into the ground near the Waikirikiri/ Selwyn River during dry periods. The discharge of clean water to ground helps to increase local groundwater levels and maintain flows in the Waikirikiri / Selwyn River and Hororata River.

Due to the natural filtering action of soils and gravels, water discharging to the groundwater system and adjacent rivers and streams is very high quality. In addition, the application of water to the ground surface does not result in the direct mixing of waters from different catchments and has been assessed against Papatipu Rūnanga values

Water Quality

Groundwater Quality

Groundwater quality varies spatially and with depth across the Central Plains area. Groundwater quality can also be significantly influenced by large rainfall events which mobilise soluble ions from the soil into underlying groundwater.

CPWL monitors groundwater quality at 20 sites distributed across the area. The CPWL monitoring sites are specifically designed to enable samples to be collected immediately below the water table to provide a 'worst-case' measure of water quality resulting from overlying land use. As a result, sample results from CPWL monitoring sites may differ from those recorded in nearby domestic, stock or farm supply bores which are often constructed to draw water from depths well below the water table.

Many CPWL groundwater monitoring sites exhibit elevated groundwater Nitrate concentrations. However, the monitoring data tends to exhibit significant short-term variability with large 'spikes' in Nitrate concentrations often recorded after significant rainfall events. This variability tends to obscure longer-term trends in Nitrate concentrations. Episodic detections of indicator bacteria (E.coli) are also recorded at many CPW monitoring sites, often following heavy rainfall.

During 2022-2023, many CPWL groundwater monitoring sites recorded a short-term 'spike' in Nitrate concentrations following heavy rainfall in June 2022, with concentrations returning closer to the 'normal' range during the remainder of the year. Several sites in the Stage 2 area continue to exceed

Nitrate trigger levels established for the Scheme. However, Nitrate concentrations at these sites are similar to those recorded prior to the commencement of CPWL operations.

CPWL has installed instruments to continuously monitoring Nitrate concentrations at many monitoring sites and is undertaking further work to better understand factors influencing spatial and temporal variations in Nitrate concentrations across the Central Plains area.

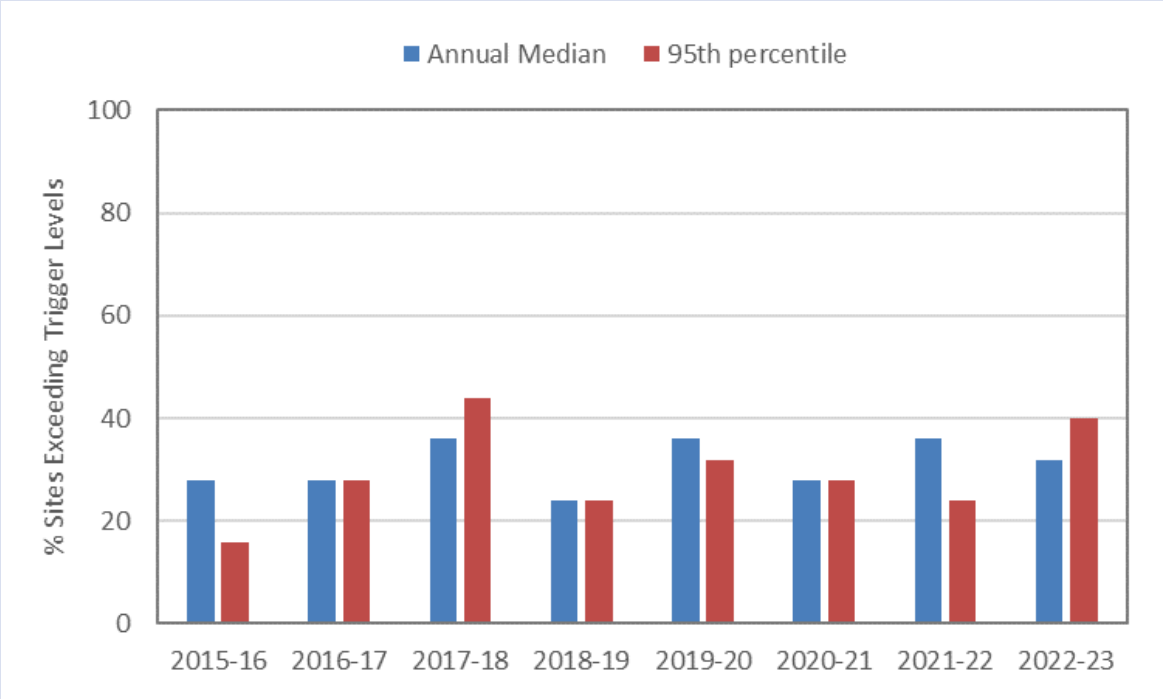
Surface Water Quality

CPWL monitors water quality in rivers and streams at a total of 25 sites located upstream, within and downstream of the CPWL area. The primary focus for monitoring is Nitrate concentrations.

Surface water quality monitoring results vary from year to year, with water quality influenced by climate (particularly large rainfall events or extended periods of low flows).

Overall, sites upstream of the CPWL Scheme exhibit a general decline in Nitrate concentrations, while those in the Scheme area exhibit variable trends (some increasing, some decreasing). Most lowland streams exhibit decreasing Nitrate concentrations in their headwaters, with predominantly increasing trends in their lower reaches.

Trigger levels for CPWL surface water quality monitoring is set for annual median and 95th percentile Nitrate concentrations. During 2022-23 these triggers were exceeded at 32 and 40 percent of monitoring sites respectively. This level of exceedance is within the historical range and like that recorded prior to CPWL operations commencing (particularly during seasons with one or more large rainfall events).



Lake Water Quality

CPWL consents have trigger levels established for water quality in Lake Ellesmere / Te Waihora. During 2022-2023 water quality triggers were exceeded at all monitoring sites. However, monitoring results remained within the historical range recorded prior to commencement of the CPWL Scheme operations.

5.0 Case Study: Near River Recharge and Environmental Conservation

5.1 Delivering resilience to climate change and providing kaitiakitanga opportunities to tamariki

Global climate models predict impending increase in drought conditions across Canterbury in the next two decades. The forecast suggests heightened frequency and potentially more severe droughts due to elevated temperatures, diminished average rainfall, and increased rainfall variability. Without timely interventions the quality and quantity of waterways in the region are at risk, underscoring the urgency of addressing the decline in Canterbury's water biodiversity.

Natures playground

A significant initiative in response to the impending crisis is the Selwyn/Waikirikiri NRR project. This multimillion-dollar investment aims to bolster cultural, environmental, and recreational values by channeling clean Rakaia River water into the groundwater system via an infiltration basin near the Selwyn/Waikirikiri River during dry periods. This project is understood to be the largest NRR project globally with a primary focus on safeguarding and enhancing cultural, environmental, and recreational objectives while replenishing and sustaining local ecology.

Alignment with Papatipu Rūnanga values

The project's core objective is replenishing water in the groundwater system near the Selwyn/Waikirikiri River during dry spells. The method of applying water to the ground surface avoids the mixing of waters from different rivers and aligns with Papatipu Rūnanga values. The natural filtration system involving soils, gravels, and plant roots mimics the efficiency of a wetland filtration system.

Endangered Canterbury mudfish kōwaro

Elevating groundwater levels and flows during dry periods in the Selwyn/Waikirikiri River and Hororata River, the project looks to create a more favorable habitat for the endangered Canterbury mudfish/kōwaro, considered a taonga species. To further support biodiversity, native seedlings and plant species have been strategically planted along the edges of the recharge basin, fostering an environment conducive to native bird nesting.

Integral to the Canterbury Management Strategy, the NRR project received endorsement from the Selwyn-Waihora Water Zone Committee and was incorporated into their Zone Implementation Programme Addendum in 2103. With a price tag of approximately $2.8 million, the project secured funding from Environment Canterbury and the Ministry for the Environment's Freshwater Improvement Fund, with additional in-kind support from Central Plains Water Limited.

Official opening

In September 2020, a diverse group of stakeholders, including representatives from Environment Canterbury, Taumutu Rūnanga, Selwyn-Waihora Water Zone Committee, CPWL, Department of Conservation/Te Papa Atawhai, project contractors, and the Selwyn District Council, gathered to commemorate the official opening of the Selwyn/Waikirikiri NRR alongside students from Greendale School.

Recharging the aquifer

Using water from the Rakaia River through the Central Plains Water Scheme, the water undergoes regulation in a purpose-built valve house before entering a sizable, permeable basin. At the basin's far end, an overflow channel helps water percolation into the groundwater system, recharging the aquifer and augmenting flows in the lower Hororata River springs and the lower Selwyn/Waikirikiri River, thereby enhancing the Chamberlains Fordand Coes Ford recreation area.

Coes Ford recreation area.

Living classroom and thriving habitats

In addition to its significant environmental impact, the NRR project underscores a commitment to ecological restoration. At the Near River Recharge site, lizard-friendly rockpiles have been strategically set up, contributing to the creation of thriving habitats.

Community collaboration and educational impact are at the heart of the NRR. Students from Greendale School have adopted the area as a living classroom, embracing a dynamic learning opportunity through rich real-life experiences with a unique opportunity to explore stewardship/ kaitiakitanga while developing an understanding of the critical importance of biodiversity.