Coliban WATER

# Coliban Regional Rural Water Efficiency Project Socio-economic Impact Assessment

Summary Report

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# 1. Introduction

This report is a summary of the final socio-economic report prepared by Jacobs Consulting and provided to Coliban Water in February 2025.

The purpose of the summary is to interpret the report in easy to understand, non-technical terms for consumption by the broader community.

Coliban Water's Rural System is located in the upper Campaspe River catchment in north-central Victoria. It is managed and operated by Coliban Water, a Victorian water corporation, and distributes irrigation and rural water for 1,345 active licenced customers through a network of 500 kilometres of open channels and pipelines.

The system (excluding the modernised Harcourt system) generates an estimated $22.3 million for the regional economy each year and supports businesses that directly employ around 1,000 people. Rural water is also supplied to recreational sites including golf courses, ovals, and horse racing tracks providing benefits for the local community.

# 2. The need for change

More than 60% of the network was built in the 19th century and still relies on open channels, rock and brick-lined tunnels, and privately maintained channels that are increasingly prone to water loss, contamination, and structural failure following extreme weather events.

This can result in the cancellation of services leaving agricultural customers without water access during critical periods.

These events are likely to increase in frequency and severity. Climate change predictions suggest streamflow into storages in the upper Coliban catchment could decline between 84% and 100% by 2104.

On average, approximately 47% of the water distributed in the legacy component of the Coliban Rural System is lost from seepage, evaporation, and leakage before it reaches metered customer outlets.

An additional 34% of inflows are estimated to be lost in customer-side private channels, drains, and natural waterways conveying water from the outlet to the customer property boundary. This equates to 80% in total losses across the public-private distribution system.

Compounding the issues of ageing infrastructure, a significant proportion of the Coliban Rural System is located in areas with restricted access due to land tenure constraints, which limits the type of maintenance and repair activities that can be conducted. These restrictions increase maintenance costs and impede the ability to keep infrastructure in optimal condition.

**Project drivers:**

- High water loss
- Poor water quality
- Low supply reliability
- Changed customer profile
- Reduced urban water security
- Barriers to future urban growth

Bendigo's growth has resulted in open rural channels within the urban landscape, including residential streets and backyards. This poses public health issues, including an increased risk of snakes or mosquitos following channel runs.

It has also resulted in the duplication of piped potable water and rural channel infrastructure, increasing Coliban Water's costs and complexity for operations and maintenance.

The increased number of lifestyle properties serviced by the rural supply network means the Rural System is being increasingly used for private gardens and non-potable in-house use, rather than for its original purpose to service high value agriculture.

These households rely on rainwater storage for drinking supplies, except for customers serviced by both the rural network and the potable supply. In some instances, these customers hold a greater entitlement than is required for household and garden purposes.

Since 2010, approximately 94 kilometres of rural channel on the urban boundary, or in underutilised areas, has been retired from the Rural System evidenced by the increasing demand for rural residential dwellings to shift to a better quality, more reliable potable supply.

| Avoidable water losses in the rural network directly impact urban water security, as both rural and urban systems rely on the same critical water sources. |
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| Inefficiencies in the rural network affect agricultural users and also pose risks to urban water security.<br>Greater Bendigo and other regional centres in the Coliban catchment draw water from shared sources, including Lake Eppalock and the Goldfields Superpipe. With population growth, inefficiencies in the Rural System and strain on shared resources, threaten the long-term security of urban water supplies. |

| Without intervention, these problems will worsen over time, exacerbating water scarcity and limiting the region's ability to sustain and grow its rural and urban economies. |
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| These inefficiencies create three main challenges:<br>• High water losses and poor water quality due to outdated and unsafe open channels.<br>• Low supply reliability, hampering agricultural productivity and increasing economic insecurity.<br>• Urban water security risks due to avoidable water losses in the Rural System that share the same water sources with growing urban centres like Bendigo. |

# 3. The proposed project

Modernising the outdated open-channel system is essential to reduce water losses and secure a sustainable supply for both urban and rural communities.

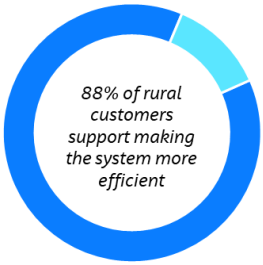
The Coliban Regional Rural Water Efficiency Project addresses these needs by transitioning to a pressurised, piped system that will support sustainable development, ensure water security in an evolving climate, and enable Coliban Water to meet the needs of a rapidly growing population in an efficient and resilient manner.

The project will focus on the key sections of the Rural System that have not been previously updated, with eight of the twelve rural subsystems being proposed for replacement and modernisation.

Most customers will be supplied from the rural networks via pipelines, while some customers will be removed from the rural supply network and transitioned to potable water supply.

Finalisation of the designs is still to be confirmed and will require consultation with customers.
A modernised system could save up to five gigalitres of water each year (equivalent to the annual average use of around 16,500 households).

# 4. Customer and stakeholder consultation




Coliban Water has engaged a broad range of stakeholders to help shape the development of the project and ensure future needs, concerns, and drivers for change are understood. The engagement process has included rural customers, First Nations people, government, industry, and community.

A range of engagement activities have been completed, including the distribution of information packs, customer preference surveys, community drop-in sessions, a project website, newsletter updates, and meetings. Consultation will continue with input used to help co-design the final project solutions.

# 5. Project funding

Coliban Water is seeking funding from the Australian Government to assist with the capital cost of implementing a modernised system and to reduce the upfront cost burden for Coliban Water customers.

Any water efficiency projects submitted to the Commonwealth for funding must show that the project will have neutral or positive socio-economic outcomes for communities. To address this requirement, Coliban Water has completed a Socio-economic Impact Assessment as part of its funding submission.

Key findings from the Impact Assessment against the Commonwealth evaluation criteria are summarised in the following section.

# 6. Regional socio-economic outcomes as result of the project

The Coliban Regional Rural Water Efficiency Project meets core objectives around water security and efficiency and contributes to the social, cultural, and environmental goals at multiple levels of government. This broad alignment highlights the project's role in supporting Greater Bendigo's long-term growth, resilience, and sustainability.

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| **Water savings** | The project's water savings have been independently calculated, a share of which will be returned to the Commonwealth as water for the environment from the Goulburn system.<br>This water will be used to restore the health of waterways and wetlands in the Murray-Darling Basin, first passing though the Goulburn River, and then being re-used at other sites as it flows downstream. |
| **Future water security** | By retaining the project's water savings in the Coliban system, water will be retained to provide a more secure water supply for Coliban Water's rural customers and urban customers in major regional centres such as Bendigo, Kyneton and Castlemaine.<br>With Bendigo's population expected to grow by over 30% by 2036 and water demand projected to double by 2070, improving the efficiency of the rural water network will help to support future urban water needs.<br>A reliable future water supply is also critical for future business planning and to build confidence to invest in production expansion. The potential for growth within the Coliban Rural System is high, however this is constrained by the current reliability of supply and the risk of interruptions to supply from critical asset failure. Much of the rural system deliveries are scheduled, with only 23% of rural customers having access to a secure, year-round supply. |
| **Water quality** | The current open channel system has issues with water quality. Around 75% of survey respondents expressed concerns about water quality, predominantly high turbidity and the threat of algal blooms and contamination due to runoff from roads and other farms.<br>For agricultural customers, the transition to a closed piped supply will provide a source of high-quality water essential to maintain productivity levels. Additionally, it will provide peace of mind for rural residential households who rely on the rural supply for non-drinking household use. |

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| **Economic** | By providing a reliable and higher quality water supply, the modernisation will directly boost agricultural productivity in the region.<br>Coliban Water's rural customers rely heavily on water for intensive agriculture, particularly piggeries, broiler farms, and hatcheries – industries that are well positioned to grow in the future.<br>The proximity of the Rural System to major regional towns, coupled with Bendigo's designation as a UNESCO City of Gastronomy, excellent road network, connections to Melbourne, and ready access to a labour force, provide a real opportunity for the emergence of niche industries that reduce food miles and further contribute to the vibrancy of central Victoria.<br>Once implemented, the project is estimated to deliver an agricultural benefit of around $4 million per annum.<br>Improved water security can underpin population growth in central Victoria, the construction of new homes to meet residential demand, and contribute to the regional economy.<br>When viewed from the residential sector alone, recent analysis has found that $1 million of residential building construction output supports around $2.9 million of industry output and consumption and nine jobs across the broader economy1.<br>Given the forecast demand for an additional 37,500 homes by 2050, addressing water constraints to growth plays a key role in realising regional economic benefits. |
| **Avoided costs and licencing burden** | Existing rural channel infrastructure within the Greater Bendigo National Park and Regional Park will need to be licenced going forward and this process has commenced with Coliban Water.<br>The process of licencing the public channel network will be complex, costly, and outside the skill set of most rural customers. The ongoing operation and maintenance of this rural water infrastructure in forested areas will remain difficult and require ongoing assessment of environmental impacts, further increasing the cost of running an ageing system for both Coliban Water and rural customers.<br>The high cost of running the Rural System in its current state are largely driven by Coliban Water labour costs for manual operation and maintenance.<br>As part of investigating the feasibility of a modernised system, a review of tariff implications for rural customers has been completed, and the willingness to pay tested through customer surveys.<br>The current tariff structures involve cross-subsidisation from urban to rural customers, reducing the cost burden for rural customers by shifting that burden to urban customers.<br>As the system is modernised, becoming potentially more capital-intensive, a transition to cost-reflective tariffs is anticipated, reducing urban subsidies and increasing rural contributions to align with updated infrastructure costs.<br>Ongoing consultation will examine specific tariff structures, informed by principles of transparency and cost recovery while ensuring affordability for rural customers. |
| **Environmental** | The project delivers a net environmental benefit by retiring over 300 kilometres of channel from the public land reserve and creating water savings that will be retained locally to improve the ecological health of the Coliban River. This includes water that will be specifically set aside to improve flow in the Coliban River, which provides important habitat for platypus, rakali (water rats), and small-bodied native fish such as flat-headed gudgeon and mountain galaxias.<br>The existing systems provides a minor source of water for native fauna through access to water in channels when they are running and top-ups to man-made dams across the reserve.<br>A holistic look at changes to water sources for native fauna will be undertaken in Stage 2B of the project to identify potential risk areas and possible mitigating strategies.<br>Other adverse outcomes may be the provision of suitable burrowing habitat for rabbits and foxes in the decommissioned channel banks. Pest control is an ongoing part of forest |

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| | management activities. An increase in the rabbit or fox burden is not anticipated as a consequence of the project. |
| **Social** | A share of the project's water savings will be retained to improve the security of water for major regional centres who draw their water from the same headworks storages as the Rural System.<br>Key outcomes will include improved liveability through enhanced water security for recreational facilities, such as sports grounds and parks, providing green spaces to reduce heat island effects, and allowing these areas to remain functional during dry periods.<br>By simplifying the ongoing maintenance requirements, the potential for disquiet amongst neighbouring rural customers can be reduced.<br>Moreover, the physical effort required by an ageing customer base to operate and maintain the private channel system will be lessened.<br>A closed, modernised system will prevent water theft, reduce enforcement costs, reduce tension between neighbours (particularly when water is in short supply), and create a more equitable system where available water is shared amongst entitlement holders who bear the cost of that system. |
| **Cultural** | A share of the water savings generated by the Coliban Regional Rural Water Efficiency Project will be provided to support the cultural, environmental, and economic objectives of the Djaara and Taungurung peoples who have played an active role in the design of the project.<br>Key outcomes include the creation of cultural water entitlements and the removal of a threatening process to cultural heritage within the crown reserve. |
| **Operator and customer safety** | A modernised Rural System will lead to improved safety outcomes for Coliban Water's Rural Operations Team, as well as for the rural customers responsible for maintaining the private channel component of the system.<br>As some areas can only be accessed by foot, the manual task of clearing channels risks personal injury such as ankle sprain.<br>Open channels adjacent to roads and footpaths in urban area pose trip hazards and have the potential to increase the severity of vehicle accidents. Grass growing around channels increases fire risk and provides shelter for snakes attracted by the moist environment, increasing the risk of bites.<br>As a regional city surrounded by native forest, the threat of bushfire is a real risk for these communities and is predicted to increase with climate change. The modernised Rural System will offer ready access to water for firefighting and improve bushfire resiliency and emergency preparedness. |

# 7. Summary

The Coliban Regional Rural Water Efficiency Project represents more than an infrastructure upgrade, it is a comprehensive transformation rooted in 150 years of history, evolving community demands, and a forward-looking vision.

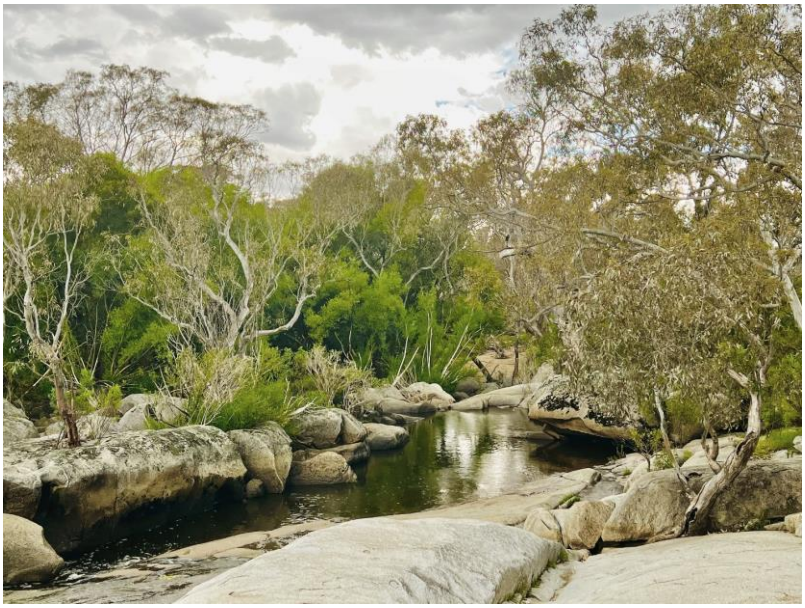
At its core, the project seeks to create a sustainable and resilient rural water network that aligns with the needs of growing communities, respects cultural and environmental obligations to Traditional Owners, and supports urban water security in the face of climate change and population growth.

Through extensive customer and stakeholder engagement, Coliban Water has refined the project to align with technical, economic, and community priorities, creating a path toward a sustainable water future.

# 8. Images


Spring Gully Channel, showing access issues due to terrain and vegetation (photo: Melanie Tranter, Sequana)

Bluestone lined channel near the Number 7 Reservoir (photo: Melanie Tranter, Sequana)



The Coliban River near Metcalfe (photo: Melanie Tranter, Sequana)

Crusoe Reservoir Kangaroo Flat, connected to the Northern Coliban supply system (photo: Melanie Tranter, Sequana)

Failing infrastructure on the Specimen Hill Channel (photo: Melanie Tranter, Sequana)