Goulburn-Murray WATER

WWW.GMWATER.COM.AU

ISSUES AND OPPORTUNITIES

Pumped Irrigation Districts
Future Services Strategy

Contents

Introduction

Background

The Goulburn-Murray Water (GMW) Pumped Irrigation Districts Future Service Strategy (the Strategy) is being developed to address the growing challenges affecting the long-term sustainability of water delivery in the Nyah, Tresco and Woorinen districts of northern Victoria.

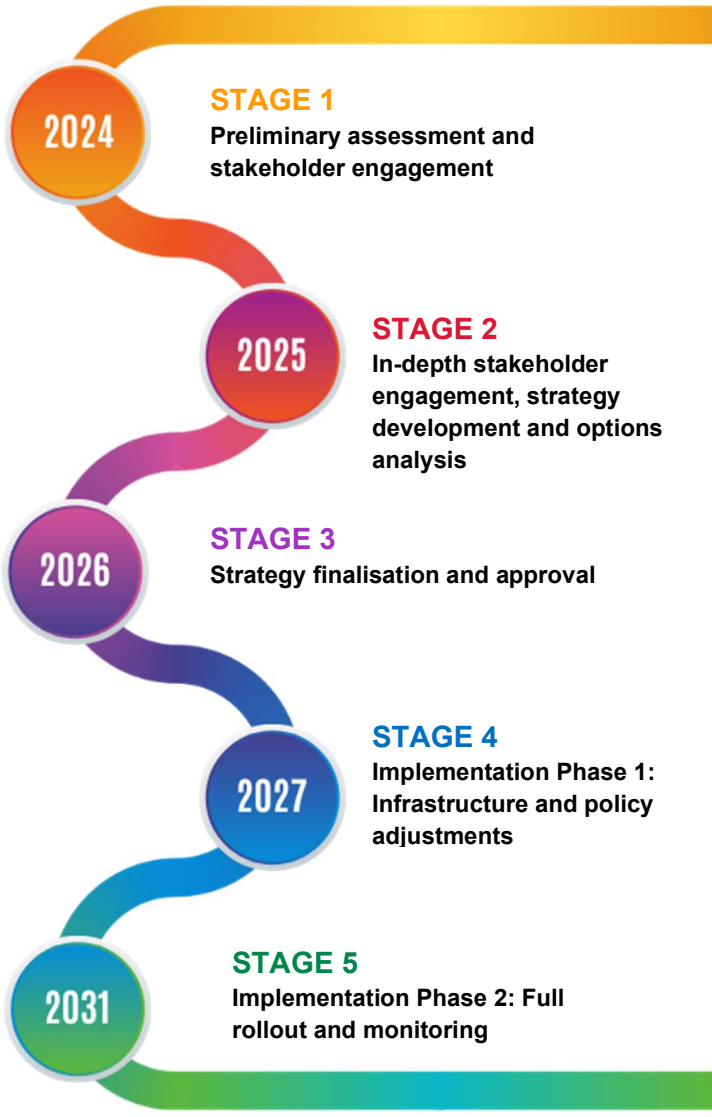
These districts rely on pumped pipeline infrastructure to deliver water to a diverse range of users, including domestic and stock supplies, irrigation, rural lifestyle properties and a broad mix of enterprises – from small businesses to well-established, multi-million dollar agricultural producers who are significant national suppliers.

Ageing infrastructure, particularly in Nyah and Tresco, shifting water demand, financial constraints and climate variability are placing increasing pressure on existing service provision. The Strategy will consider a range of future scenarios as we seek to understand how the districts may progress over the next 30 years.

The irrigation delivery systems in Nyah and Tresco were originally converted from channel systems to low-pressure pipelines in the 1960s and 1970s. Today, much of this infrastructure is reaching the end of its serviceable life, requiring significant attention to maintain service reliability. Although Woorinen was converted from open channels to a pipeline in the late 1990s and early 2000s, the district still faces challenges related to affordability.

Across Nyah and Tresco, declining water use and a growing number of service points with low or no recorded usage are raising concerns about the long-term viability of their delivery systems. Financial sustainability for both GMW and its customers is an increasingly critical issue, with customers highlighting affordability challenges and the need for a clear, transparent investment framework.

Climate variability, increased competition in the water market and commitments to environmental recovery are contributing to a long-term trend of reduced water availability and rising prices. While prices are expected to increase over time, they will also continue to fluctuate significantly from year to year.



Purpose

The Issues and Opportunities Paper is an initial step in shaping the Strategy. It brings together current understanding of the key challenges and opportunities for the pumped irrigation districts of Nyah, Tresco and Woorinen, building on initial research and stakeholder engagement.

As a starting point for discussion, the paper highlights the key issues, risks and opportunities that must be considered and provides a foundation for further consultation, analysis and refinement. Future versions will incorporate stakeholder feedback and additional data to support well-informed, long-term decision-making.

Introduction

Focus area

The Strategy focuses on the Nyah, Tresco, and Woorinen districts, as well as the surrounding rural areas that play a vital role in the region's broader water management and agricultural landscape.

The Strategy acknowledges the interconnected nature of water use, land management and economic activity across the region, ensuring that broader impacts and dependencies are considered in the development process.

Future Services Strategy context

Irrigation and domestic and stock (D&S) customers, landholders and local communities have a range of perspectives on the future of the pumped irrigation districts, including how water services should be delivered, what infrastructure investments are viable and how changing land use should shape future planning. Navigating these complexities requires open consultation, transparency and practical decision-making.

The Strategy will assess the long-term viability of irrigation services and explore practical, sustainable pathways for the future. Difficult decisions may be necessary, but we are committed to working with our customers and stakeholders to shape the final recommendations.

To prepare for, and deliver the Strategy, GMW will:

- Assess the viability of current infrastructure and service models and share the evidence behind our findings, highlighting both the challenges and opportunities.
- Explore options for modernisation, restructuring or transitioning to alternative service models that better reflect future needs.
- Identify financially sustainable solutions that balance infrastructure investment with customer affordability.
- Consult with communities and stakeholders to test potential service options and gather feedback.
- Ensure transparency by providing clear and accessible opportunities for engagement throughout the process.
- Engage with Traditional Owners to ensure their rights, interests and cultural values are respected and integrated into service planning.
- Provide regular updates and insights to keep customers and stakeholders informed as we progress toward final recommendations.

District Profiles

Nyah district

Overview

Located along the Murray River near Swan Hill, Nyah has a rich and well-established agricultural heritage. The region has traditionally been recognised for its high agricultural productivity, particularly in horticulture. Proximity to the Murray River has provided reliable irrigation, supporting the cultivation of a diverse range of products, including fruit and vegetables.

The availability of water infrastructure has long been a cornerstone of Nyah's farming success. However, in recent decades the area has experienced gradual changes in land use patterns, shaped by fluctuating water availability, shifting economic conditions and demographic change.

While irrigated agriculture continues to play an important role in the Nyah district, the landscape has evolved to include a greater mix of land uses. These now incorporate small-scale farming operations, rural residential properties and lifestyle blocks. This changing dynamic reflects broader trends across the region, balancing traditional agricultural production with the growing demand for rural living and diversified land use opportunities.

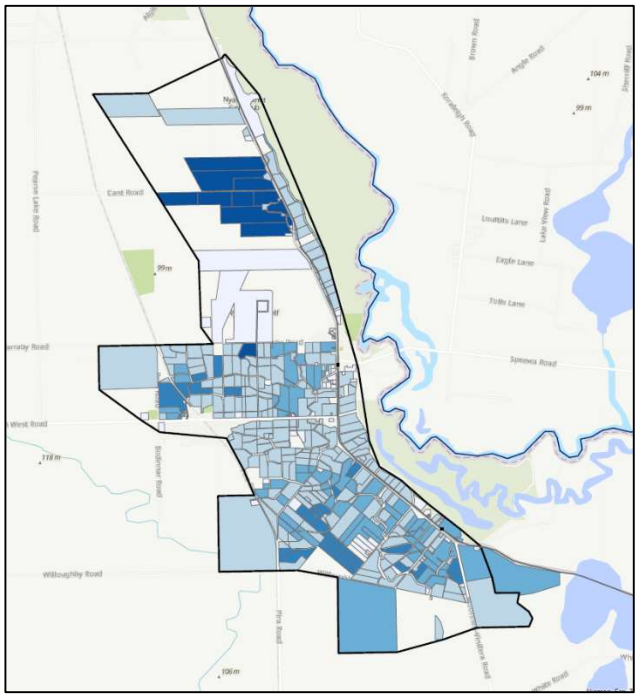


Figure 1: Map of the Nyah region

Customer and land use trends:

- Customer numbers in Nyah have remained steady over the past decade, though the makeup of users has changed significantly.
- Large-scale farming has declined, with a growing number of hobby farmers and small rural residential properties.
- The district continues to support irrigated horticulture and other crops, though there has been an increased shift to rural residential and lifestyle use.

Water use and infrastructure:

- Nyah customers hold 4.8 GL of high-reliability water shares (HRWS), which are connected to land, with an average usage of 4.5 GL over the past five years – representing approximately 93 per cent of these entitlements.
- Only a third (33 per cent) of Nyah's irrigation infrastructure capacity is actively used, indicating low infrastructure utilisation.
- A significant portion (43 per cent) of service points (excluding domestic and stock) show no usage over the last five years, suggesting shifting water use patterns and possible structural adjustment. Carryover water is increasingly used by irrigators in Nyah as a strategy to manage allocation risks.
- More than half (61 per cent) of Water Use Licences (WULs) have less than 25 per cent utilisation of their delivery share entitlement.
- Two per cent of Nyah customers use 48 per cent of the water delivered into the district.

District Profiles

Key issues and opportunities

This section explores the key issues affecting the Nyah pumped irrigation district and identifies potential opportunities.

ISSUES

- Ageing infrastructure is increasingly prone to breakdowns, maintenance issues and inefficiencies, disrupting operational performance and service delivery.
- Reduced participation and system inefficiencies place greater financial pressure on remaining active users.
- The declining relevance or demand for irrigation services which can affect long-term sustainability.
- Capacity issues with the pipeline reduce the opportunity for development and investment by existing irrigators and new irrigators
- Increasing demand for services that are both resilient to environmental changes and cost-effective for users.
- Smaller agricultural growers are under growing financial pressure due to rising costs, making it harder for them to stay competitive and sustain their operations.
- High costs associated with maintaining underutilised infrastructure.
- Ongoing affordability concerns could lead to reduced investment in farm irrigation infrastructure, lower adoption of efficient technologies and, in some cases, a decline in agricultural productivity.
- The presence of smaller-scale farms or small/limited land holdings, which may not be attractive to investors.
- Water quality issues, including suspended solids blocking filters, continue to raise operational concerns.

OPPORTUNITIES

- Targeted rationalisation of infrastructure to optimise and consolidate resources, enhancing efficiency and reducing costs.
- Promoting the adoption of water-efficient technologies and precision farming methods to improve sustainability and agricultural productivity where it is not already in place.
- Integration of smart irrigation technologies to optimise efficiency.
- Integrating regional planning with urban growth trends to ensure infrastructure and services meet future demand.
- Future development is feasible as the existing infrastructure is already connected to the Murray River, which eliminates the need for additional environmental impact should there be any expansion of the current scheme.
- The availability of a 365-day service could be particularly attractive to investors, offering year-round reliability and operational continuity.
- Seek government grants for sustainability and water efficiency initiatives.
- Targeted upgrades to improve water quality and service reliability.
- Development of collaborative funding models to support infrastructure investment.
- Improve maintenance and servicing to pipeline and infrastructure, increasing reliability and functionality for users.

Questions for consideration

- Are there gaps in the identified issues and opportunities?
- Are there additional opportunities that the community should be considering?

District Profiles

Tresco district

Overview

Located in the Swan Hill region, Tresco has a well-established horticultural foundation. The area has traditionally been known for its productive orchards and vineyards, supported by fertile soils and access to irrigation infrastructure. This strong horticultural focus continues to shape the district's agricultural profile.

In recent years Tresco has experienced moderate consolidation, with smaller farms merging into larger, more commercially-focused horticultural operations. Since 2016, horticulture with perennial crops has shifted to a mix of rural residential and lifestyle properties and annual horticulture, with less mixed farming and grazing.

Tresco continues to balance a strong horticultural presence with evolving land use patterns and water use efficiencies, reflecting broader regional adjustments to changing agricultural and economic conditions.

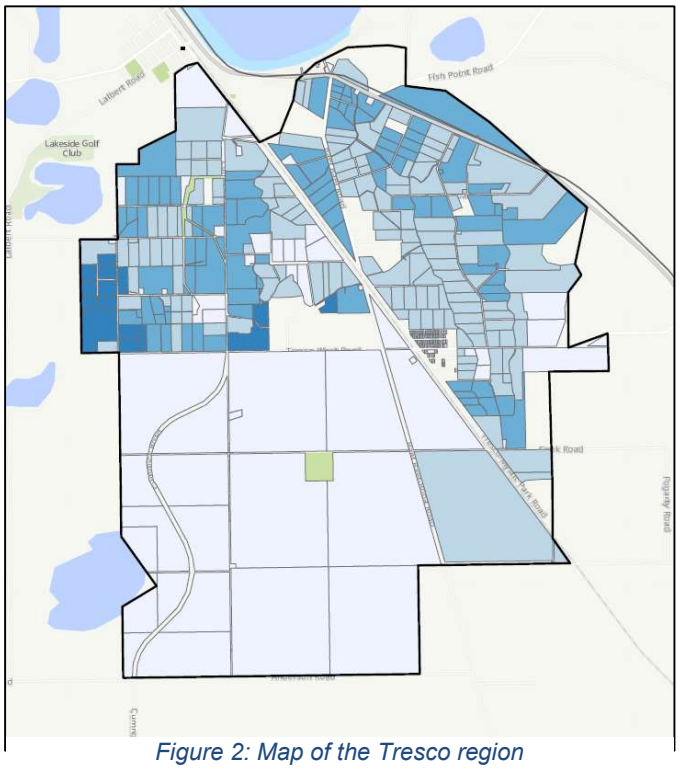


Figure 2: Map of the Tresco region

Customer and land use trends:

- There has been moderate consolidation of small farms into larger horticulture-focused operations.
- Tresco retains a higher percentage of commercial farm operators compared to Nyah.

Water use and infrastructure:

- Tresco customers hold 4.4 GL of HRWS, which are connected to land, with average usage of 3.5 GL - around 80 per cent of entitlements.
- Infrastructure utilisation is low to moderate, with only 37 per cent of available delivery share capacity actively used.
- A quarter (26 per cent) of service points (excluding domestic & stock) have not been used over the past 5 years.
- Half (50 per cent) of the service points are domestic and stock only, indicating limited irrigation activity across the district.
- Less than half (44 per cent) of WULs have less than 25 per cent of utilisation of their delivery share entitlement.
- Less than a third (15 per cent) of Tresco customers use 61 per cent of the water delivered into the district.

District Profiles

Key issues and opportunities

This section explores the key issues affecting the Tresco pumped irrigation district and identifies potential opportunities.

ISSUES

- Ageing infrastructure is increasingly prone to breakdowns, maintenance issues and inefficiencies, disrupting operational performance and service delivery.
- Reduced participation and system inefficiencies place greater financial pressure on remaining active users.
- The declining relevance or demand for irrigation services which can affect long-term sustainability.
- Increasing demand for services that are both resilient to environmental changes and cost-effective for users.
- Smaller agricultural growers are under growing financial pressure due to rising costs, making it harder for them to stay competitive and sustain their operations.
- High costs associated with maintaining underutilised infrastructure.
- Ongoing affordability concerns could lead to reduced investment in farm irrigation infrastructure, lower adoption of efficient technologies and, in some cases, a decline in agricultural productivity.
- The presence of smaller-scale farms or small/limited land holdings, which may not be attractive to investors.
- Water quality issues, including suspended solids blocking filters, continue to raise operational concerns.
- Capacity issues with the pipeline reduce the opportunity for development and investment by existing irrigators and new irrigators.

OPPORTUNITIES

- Targeted rationalisation of infrastructure to optimise and consolidate resources, enhancing efficiency and reducing costs.
- Promoting the adoption of water-efficient technologies and precision farming methods to improve sustainability and agricultural productivity where it is not already in place.
- Integration of smart irrigation technologies to optimise efficiency.
- Integrating regional planning with urban growth trends to ensure infrastructure and services meet future demand.
- The availability of a 365-day service could be particularly attractive to investors, offering year-round reliability and operational continuity.
- Seek government grants for sustainability and water efficiency initiatives.
- Targeted upgrades to improve water quality and service reliability.
- Development of collaborative funding models to support infrastructure investment.
- Improve maintenance and servicing to pipeline and infrastructure increasing reliability and functionality for users.

Questions for consideration

- Are there gaps in the identified issues and opportunities?
- Are there additional opportunities that the community should be considering?

District Profiles

Woorinen district

Overview

Located between Swan Hill and Nyah, Woorinen has a long-standing agricultural heritage. The region has traditionally been recognised for its diverse and highly productive farming enterprises, with strengths in stone fruit, dried fruit and cereal crop production. Fertile soils, a Mediterranean climate and access to reliable irrigation infrastructure have supported a wide variety of agricultural outputs, including grapes, vegetables, nuts and wool.

The development of the Woorinen pipeline system in the late 1990s and early 2000s further enhanced water security and modernised irrigation delivery, supporting continued productivity across the region. However, in recent decades Woorinen has experienced gradual shifts in land use, influenced by changing water availability, economic pressures and demographic change.

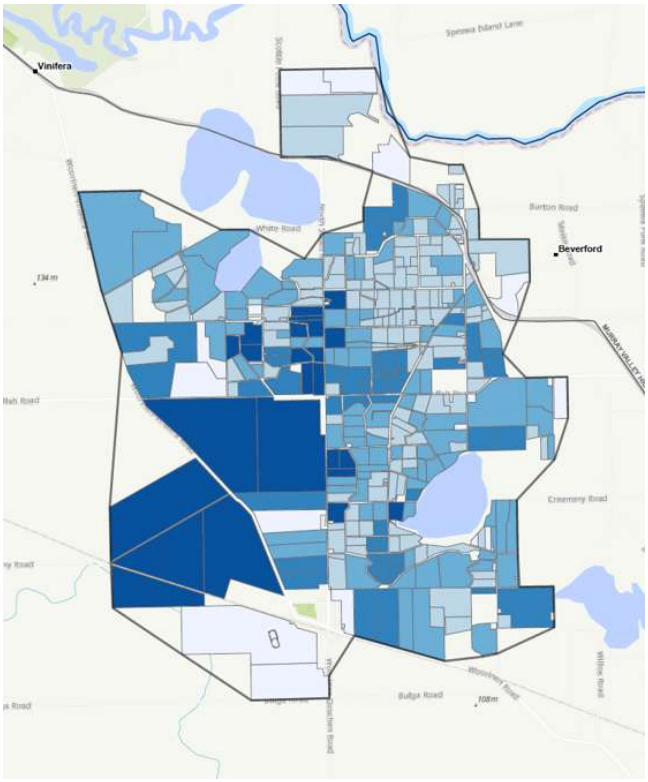


Figure 3: Map of the Woorinen region

While irrigated agriculture remains central to Woorinen's identity, the area is increasingly characterised by mixed land uses. These include small-scale farming operations, rural residential developments, and new commercial ventures. This evolving landscape reflects broader regional patterns of adaptation and highlights the balance between maintaining productive agriculture and accommodating lifestyle and business growth in the Woorinen district.

Customer and land use trends:

- There has been moderate consolidation of small farms into larger horticulture-focused operations.
- Woorinen retains a higher percentage of commercial farm operators when compared to both the Nyah and Tresco regions.

Water use and infrastructure:

- Woorinen customers hold 10.7 GL of HRWS, which are connected to land, with average usage of 9.8 GL - equating to 92 per cent utilisation.
- Infrastructure utilisation is moderate, with 40 per cent of available delivery share capacity actively used.
- Service point utilisation is strong, with only 10 per cent of irrigation meters with no active use, indicating customers have a need for irrigation.
- Three-quarters (75 per cent) of total service points are used for irrigation, with the remainder classified as domestic and stock.
- Less than half (43 per cent) of WULs have less than 25 per cent of utilisation of their delivery share entitlement.
- Six per cent of Woorinen customers use 49 per cent of the water delivered into the district.

District Profiles

Key issues and opportunities

This section explores the key issues affecting the Woorinen pumped irrigation district and identifies potential opportunities.

ISSUES

- While the system is newer, maintenance and renewal planning are needed.
- Climate change may impact water availability and customer demand.
- Socioeconomic shifts may influence service needs over time.
- Reduced capacity and flow rates within sections of pipeline have ongoing impacts for irrigators.
- Capacity of the pipeline and the ability to assess capacity of network to support expansion of current irrigators or new investments.

OPPORTUNITIES

- Explore regional partnerships to enhance economic sustainability.
- Investigate adaptive water management strategies to address climate variability.
- Support for water-efficient technologies and precision farming.
- Regional planning integration to align with urban growth trends.
- Create cooperative investment models (shared ownership in water assets or equipment) or group purchasing for economies of scale.
- Encourage specialty or high-value crop production, targeting niche markets.
- Partner with local governments to support urban-edge farming enterprises or food security programs.
- Seek government grants for sustainability and water-efficiency initiatives.

Questions for consideration

- Are there gaps in the identified issues and opportunities?
- Are there additional opportunities that the community should be considering?

Emerging Themes

Based on our current understanding of the pumped irrigation districts, several emerging themes will guide the development of the Strategy. Some of these have arisen from the community engagement undertaken to date, and others are important policy and planning considerations.

Current infrastructure assessment

The pumped irrigation districts of Nyah, Tresco, and Woorinen rely on a combination of low-pressure pipelines, pumping stations, and water delivery infrastructure to service approximately 700 customers across the region. Originally upgraded from open channels to pipelines starting in the 1960s, much of this infrastructure (including pump stations and pipelines) is now ageing and approaching the end of its operational lifespan, requiring strategic focus.

Customers across the three districts collectively hold 20 GL of HRWS connected to land, with a five-year average usage of 18 GL per year, reflecting a high overall utilisation rate of 90 per cent. This level of demand is particularly driven by larger enterprise customers with significant water needs.

On average:

- A quarter (26 per cent) of irrigation service points (excluding domestic and stock) are inactive across the three districts, with inactivity rates of 43 per cent in Nyah, 26 per cent in Tresco, and 10 per cent in Woorinen.
- Water use represents 36 per cent of available delivery share, though this varies significantly between districts.

There is a pattern of high demand concentrated among a small number of customers:

- Nyah, where two per cent of customers account for 48 per cent of all water delivered;
- Tresco, where 15 per cent of customers use 61 per cent of total water; and
- Woorinen, where 6.5 per cent of customers use 49 per cent of district supply.

This concentration may suggest structural changes in how water is used across the districts. In Nyah, for example, a significant portion of service points have remained unused for five years, pointing to shifting water use patterns and potential structural adjustment within the region.

Regular maintenance and repairs are required to sustain service levels, although historical records point to ongoing reliability concerns. Some customers have reported issues with water quality and delivery consistency. Future infrastructure planning will need to address both short-term maintenance needs and long-term renewal or reconfiguration of the systems to better align with current and projected usage patterns.

Water supply and demand

Water availability for the pumped irrigation districts is primarily sourced from Trading Zone 7 of the Victorian Murray system, which is subject to annual allocation determinations. While HRWS typically receive full allocations in over 90 per cent of seasons, allocations for low-reliability water shares (LRWS) are much less frequent.

One of the biggest emerging challenges is the increasing strain on the Murray River's delivery capacity. In recent years the Barmah Choke has experienced reduced capacity, and the expansion of permanent horticulture, such as almonds, in the lower Murray region has intensified competition for available water supply and river delivery capacity. This introduces the risk that, even when water supply is available, delivery constraints may result in the need for rationing.

Emerging Themes

Projected demand for agricultural water use in the districts remains uncertain. Historical data indicates that water usage has remained relatively stable over recent years, with seasonal fluctuations reflecting weather conditions. However, recent declines in usage could be attributed to several factors, including:

- Concerns over service reliability and water quality
- On-farm efficiency improvements leading to reduced water consumption
- Changing land use, with a shift toward hobby farms and rural residential development
- Competition for water with other uses (e.g. environment) and users (e.g. lower Murray irrigators).

The feasibility of integrating alternative water sources into the system is considered limited. While groundwater could theoretically provide a supplementary source, salinity concerns make it an unlikely and costly option. Further consultation with local area experts will be required to identify any viable alternative water supply options.

Regulatory and environmental considerations

The future of irrigation in the pumped districts is heavily influenced by state and Commonwealth water policies, including:

- Water entitlement frameworks, which determine water availability
- Water trading regulations, which govern the movement of entitlements and allocation within and outside the region
- Environmental sustainability requirements, aimed at maintaining ecosystem health and minimising waterway degradation
- Climate mitigation and adaptation policies, designed to ensure long-term resilience in the face of changing weather patterns.

Climate variability presents a significant challenge, with projections indicating decreased autumn and spring rainfall, rising temperatures, and more frequent extreme weather events are likely. These factors will contribute to increased evaporation and transpiration rates, reduced chill hours, more storm events and changes in water availability, potentially reducing long-term water security.

To address these regulatory and environmental challenges, GMW will need to:

- Incorporate climate risk assessments into service planning, ensuring that infrastructure and operational planning align with future climate projections
- Strengthen environmental compliance efforts, ensuring sustainable water management and alignment with policy requirements
- Engage with stakeholders and regulators to influence policy directions and advocate for the needs of irrigators and local communities.

Stakeholder engagement

GMW and a broad range of stakeholders are involved in the management, planning, operation and utilisation of the pumped irrigation districts. These include:

- Pumped irrigation district customers, including farmers and rural property owners
- Local government agencies, including Swan Hill Rural City Council
- Industry and advocacy groups, such as the Swan Hill Summer Fruits Development Association
- State government entities, including Agriculture Victoria and the Department of Energy, Environment and Climate Action (DEECA)
- Traditional Owner groups with an interest in water management.

Emerging Themes

Previous engagement efforts have shown how important it is to build strong relationships through open communication, especially given earlier attempts in 2016 and 2019 to develop a Future Service Strategy that didn't progress as intended. We are committed to early and transparent engagement so our customers and stakeholders feel heard and are genuinely involved in shaping the Strategy.

Technological integration

Advancements in automation, remote sensing and smart irrigation systems offer opportunities to improve the efficiency and reliability of water delivery. Key areas for potential technological investment include:

- Automated metering and remote monitoring to enhance data collection and real-time decision-making
- Smart irrigation systems that allow farmers to optimise water use based on crop needs and environmental conditions
- Artificial Intelligence (AI) driven predictive maintenance to identify infrastructure issues before they lead to system failures.

Risk management

The Strategy for the pumped irrigation districts carries several potential risks, including ageing infrastructure, financial sustainability challenges, and climate variability affecting water availability. If not addressed, these risks could lead to service disruptions, increased costs for users, and declining viability of irrigation-dependent agriculture.

Without effective mitigation the agricultural community could face reduced water reliability, leading to lower productivity, economic strain on farmers and potential land use shifts away from irrigation-based farming, impacting regional employment and food production.

To mitigate these risks, a structured approach involving infrastructure upgrades, alternative service models and financial planning is essential. Contingency plans should include diversification of water sources, strategic investment in asset reconfiguration and modernisation and stakeholder engagement to ensure adaptive responses to emerging challenges.

Questions for consideration

- Do these themes cover the issues/challenges confronting the Pumped Irrigation Districts?
- Are there gaps in the themes or suggested improvements?

Next Steps

Engaging with our customers and community

The Pumped Irrigation Districts Issues and Opportunities Paper will be exhibited for four weeks, giving our customers, stakeholders and the wider community an opportunity to review its findings and provide feedback. We encourage input on:

- The completeness and accuracy of key issues and challenges facing the pumped irrigation districts
- Any critical issues that may have been overlooked
- Additional opportunities to improve irrigation efficiency and sustainability.

We are committed to working closely with customers and stakeholders to shape the future of pumped irrigation district services. We will continue to provide ongoing engagement opportunities to the community, including upcoming phone interviews, a dedicated YourSay page on GMW's website, and GMW staff available within the region, providing a platform for stakeholders to ask questions and contribute directly to the discussion.

Key upcoming actions

Customer phone interviews

Customer phone interviews will be launched to gather insights from all pumped irrigation customers on service needs and expectations. These will be used to test what we already know from previous engagement, as well as to learn more within the current context. Questions will focus on:

- Current and future district profile
- Climate variability
- Water supply, demand and quality
- Infrastructure
- Customer affordability
- Other considerations, including the community's and GMW's joint role in co-designing future service planning.

Customer Committees

GMW has established seven new Customer Committees to strengthen direct dialogue, collaboration, and ongoing customer representation. The Pumped Districts Customer Committee will be critical in informing GMW on the direction of the Strategy throughout its development and beyond.

Future steps

We are committed to providing customers and stakeholders with multiple opportunities to participate and share their views, including:

- Formal feedback on key documents, including this draft Issues and Opportunities Paper
- Participation in customer surveys and interviews
- Direct engagement with GMW staff and newly formed Customer Committee representatives.

The Issues and Opportunities Paper serves as a starting point for discussion, with future versions building on stakeholder feedback and additional data to support informed, long-term decision-making.

We will continue to seek customer and community feedback throughout this process. Your voices are critical in helping shape a strategy that is responsive, future-focused and financially sustainable.