7. Water for agriculture

Image: Agriculture fields, Werribee Irrigation District, Bunurong Country

Water is critical to agricultural production in the Central and Gippsland Region for irrigating crops and pastures and providing domestic and stock water to dryland farms. With river water declining in most areas, and even less water expected to be available in the future, we are working with farmers to improve water efficiency on and off farms and increase the use of fit-for-purpose recycled water and stormwater. This will improve the reliability and security of water supplies and help to protect the environment.

7.1 Agriculture in the Central and Gippsland Region

The Victorian Government will continue to look for ways to improve water-use efficiency and increase water supplies for all users, including cities and towns, farmers, Traditional Owners and the environment. Importantly, the Victorian Government will not look to increase other users' supplies by taking water away from farmers, and will protect all existing water entitlements provided under the Water Act.

The value of agriculture in the Central and Gippsland Region

The Central and Gippsland Region of Victoria supports $4.7 billion of diverse dryland and irrigated agricultural production, and accounts for around 30 per cent of Victoria's agricultural production.[24] This includes approximately 33 per cent of Victoria's milk products, 70 per cent of Victoria's eggs and poultry and 70 per cent of the state's vegetables (RMCG and Tim Cummins & Associates 2021) (see **Figure 7.1**). Other major enterprises include orchards, nurseries, cropping and viticulture.

24 Gross value of agricultural production 2017–18. This includes all of the Corangamite Natural Resource Management Region, some of which is outside of the Central and Gippsland Region (RMCG and Tim Cummins & Associates 2021).

AGRICULTURAL PRODUCTION AND JOBS IN THE CENTRAL AND GIPPSLAND REGION

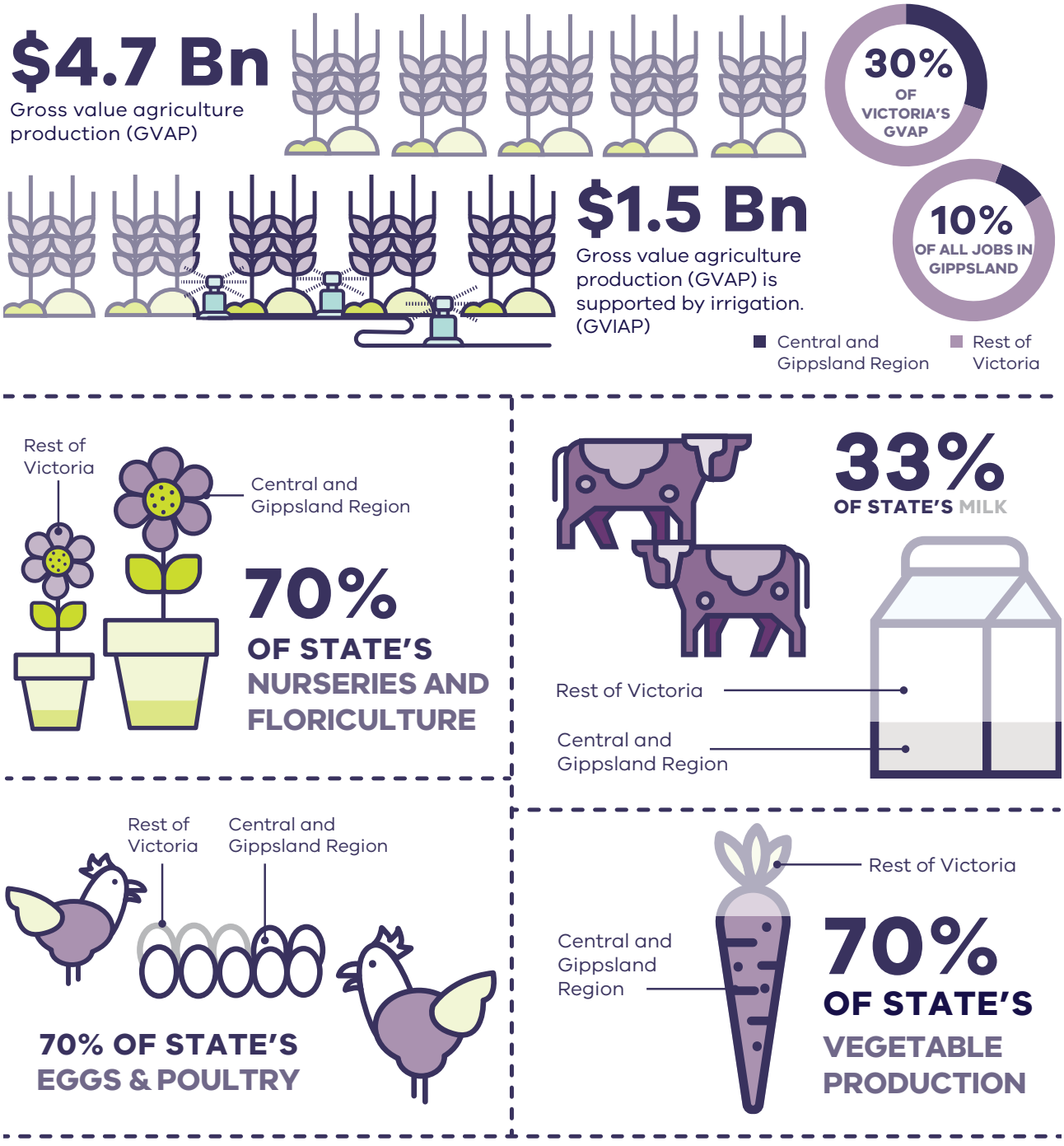

Figure 7.1: Agricultural production and jobs in the Central and Gippsland Region (RMCG and Tim Cummins & Associates 2021)

Agricultural production is an important economic driver in the Central and Gippsland Region, particularly in regional areas, and supports major food-processing enterprises in the Greater Melbourne area. Around 36,000 people in the region are directly employed in agriculture, forestry and fishing. In Gippsland around 10 per cent of all jobs are in this sector. In other parts of the region, such as Melbourne, agriculture accounts for a small part of the total economic activity but provides critical food production close to urban centres. Some of Victoria's highest-value crops are produced close to Melbourne.

Agricultural water use in the Central and Gippsland Region

Agricultural production accounts for 39 per cent of water entitlements in the region. Water is used for agriculture right across the region, but is concentrated in the Macalister, Werribee and Bacchus Marsh irrigation districts, managed by Southern Rural Water. In 2019–20, irrigators in the Macalister Irrigation District (MID) used 160 gigalitres of water from the Wirn Wirndook Yeerung (Macalister River) and Carran Carran (Thomson River), while those in the Bacchus Marsh and Werribee irrigation districts used 12 gigalitres of river water, predominantly supplied from the Wirribi Yaluk (Werribee River).

Irrigators in the Werribee Irrigation District use recycled water from the Western Treatment Plant in Werribee to supplement their river water entitlements – in 2019–20 they used 14 gigalitres of recycled water (DELWP 2020b). In 2020–21, approximately 7.5 gigalitres of recycled water was used for agriculture to the south-east of Melbourne, supplied from the Eastern Treatment Plant and smaller local treatment plants. Agricultural use in this part of the region includes the Eastern Irrigation Scheme.

Outside major irrigation districts, farmers divert water directly from waterways or groundwater aquifers, which they can use immediately, or store in private dams for future use. Both the diversion of water and storage in a dam require a licence. Groundwater used for agriculture across the region was 59 gigalitres in 2019–20, with most use in the Central Gippsland groundwater catchment. The volumes of water used from waterways or private commercial and irrigation dams across the region in 2019–20 were 34 gigalitres and 37 gigalitres respectively (DELWP 2020b).[25]

Relatively reliable rainfall and proximity to markets and food processors mean the region is well placed to expand and diversify its agricultural production. However, climate change, years of drought, and bushfires are already putting pressure on farm water supplies (DJPR 2022).

7.2 Improving water efficiency on farms

Our plan:

- work with farmers to encourage more efficient use of water and best-practice irrigation through advice and incentives via the Sustainable Irrigation Program (SIP)
- help farmers to reduce the effects of irrigation on the environment, including salinity, nutrient runoff and waterlogging, to support a sustainable and productive industry

25 Private dams used for irrigation purposes are licensed.

Supporting sustainable irrigation

The SIP is a partnership between the Department of Environment, Land, Water and Planning, Agriculture Victoria, waterway managers, water corporations and communities. For more information about the Sustainable Irrigation Program visit the website: **https://www.water.vic.gov.au/water-for-agriculture/sustainable-irrigation-program**.

The SIP provides advice and incentives to support irrigators adapt to a drying climate and get the most out of their water, particularly where there is a wider public benefit. In the MID between 2000 and 2021 the program completed 564 irrigation farm plans, covering 43,160 hectares or 81 per cent of the MID's total surface area. These professionally designed plans provide irrigators with the blueprint they need to achieve best practice on their farm (see case study below).

The program has also completed more than 500 on-farm irrigation infrastructure projects, including the installation of re-use systems to prevent nutrient runoff from farms and the installation of best-practice surface irrigation infrastructure. The collective on-farm works improved water use efficiency and increased production while reducing high nutrient runoff back into streams. The program complements other rural water efficiency initiatives led by waterway managers in partnership with water corporations, for example the Newry Farm Planning Project (see Newry Farm Planning Project case study on next page).

We will continue to seek opportunities to integrate the Sustainable Irrigation Program with major changes to infrastructure networks to maximise the public benefits of investment.

CASE STUDY

Investing in using water wisely in the Gippsland sub-region

The 2018–19 season was challenging for irrigators in the MID. The district, fed by the Wirn Wirndook Yeerung (Macalister River) and Carran Carran (Thomson River), was in its third consecutive year of drought. Historically such conditions would result in many farms running out of water, with flow-on effects for pasture growth, milk production and economic and social impacts in the community.

With the support of the SIP and the MID2030 modernisation project, irrigators have invested heavily in planning and infrastructure improvements. This means that every drop of water can be used wisely and the impact of dry conditions on regional communities can be minimised.

The benefits of efficiency improvements go beyond production. In the 2018–19 season these efficiencies led to record low levels of irrigation runoff and nutrients leaving farms and flowing into waterways and the Gippsland Lakes. In turn, this reduced the risk of algal blooms, and improved water quality for all waterways users, from recreational users and nature-based tourism to the wildlife that depend on clean, healthy rivers. Further efficiency gains will only increase resilience to drought and climate change and improve water quality across our region's waterways.

CASE STUDY

Newry Farm Planning Project

Newry farmers are being offered irrigation farm plans as part of delivering Phase 2 of the MID2030 modernisation project. Led by the West Gippsland Catchment Management Authority and Southern Rural Water, the Newry Farm Planning Project helps farmers to get the most out of being upgraded from the existing channel system, shown in red (**Figure 7.2**), to a piped water supply system (shown in blue) and to save time, money and water through changes to their irrigation systems. The project aims to help 27 irrigation businesses, covering 2,600 hectares, to implement best-practice irrigation at a landscape scale and maximise the benefits to their business of off-farm improvements.

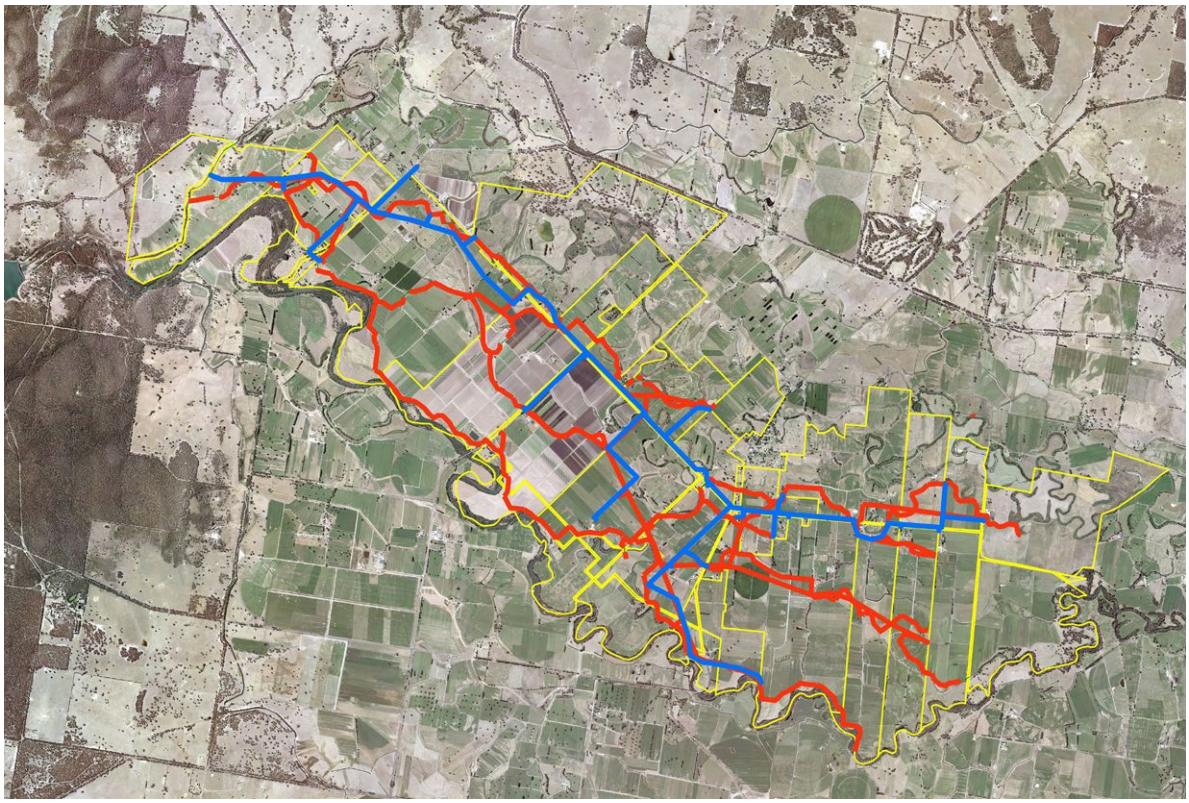

Figure 7.2: Map of the Newry Farm Planning Project (West Gippsland CMA 2021, p. 11)

Irrigated land-use and water-use mapping

As water availability changes across the region, local water demands and production systems for agriculture are also changing. People want to maximise the production of high-value crops in those areas that enjoy reliable access to water. Through the SIP a coordinated program of land- and water-use mapping is being developed to improve our understanding of how agriculture in Victoria is changing and identify emerging trends in water use.

As shown **Figure 7.3**, we are seeing a diversification of land use across the MID, as horticultural expansion and new crop types experience significant growth in the region. This spatial data allows us to understand what is happening, and to respond appropriately to emerging trends, ensuring that extension services and activities delivered by the program remain fit-for-purpose.

This information will inform updates to Irrigation Development Guidelines to ensure that any new, changed, or redeveloped irrigation farms install efficient and effective systems that maximise water-use efficiency and minimise harm to the environment.

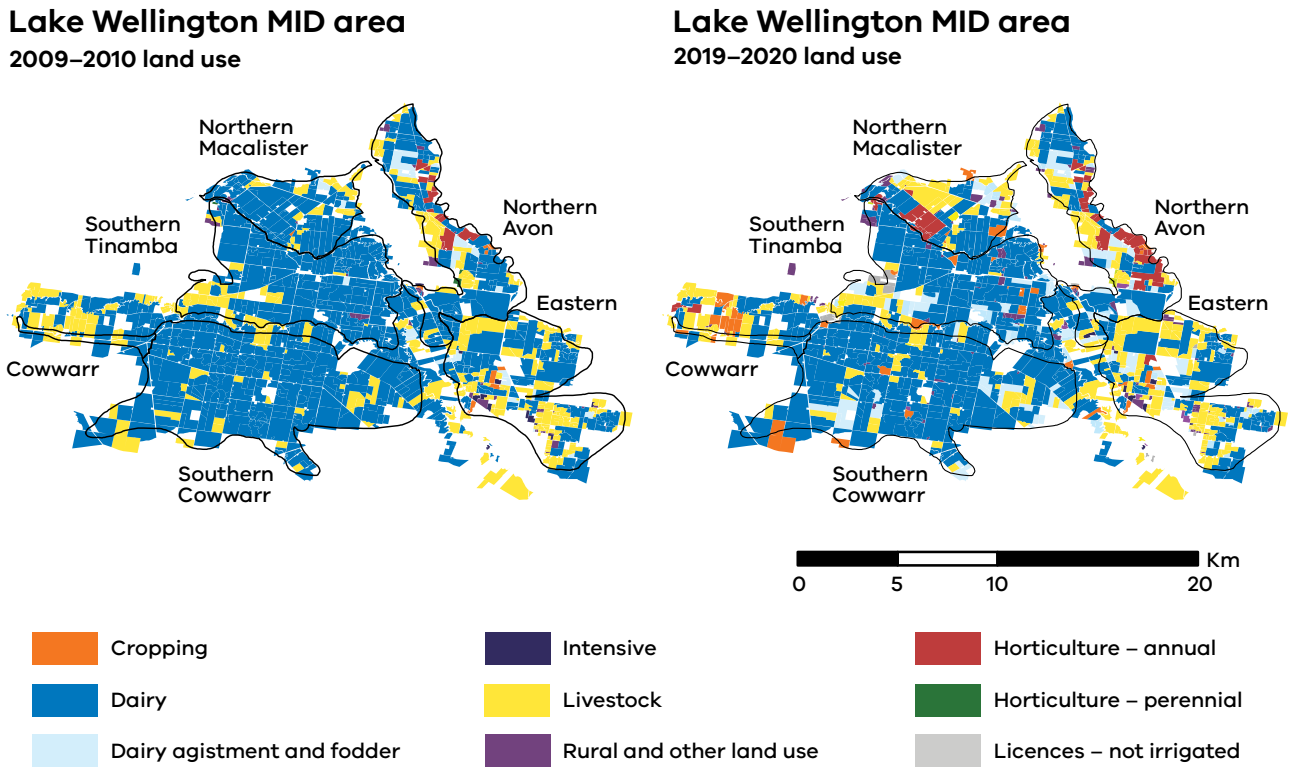

Figure 7.3: Land-use change in the Lake Wellington MID area 2009–10 and 2019–20 (Agriculture Victoria Research 2020)

Reducing impacts of irrigation on land

Long-term public and private investment in reducing the impacts of irrigation on land have been critical to maintaining a sustainable irrigation sector that supports healthy landscapes and waterways. A particular focus in the Central and Gippsland Region is minimising potential harm to Lake Wellington from the intensive irrigation in the MID and surrounds (see the adjacent case study). Lake Wellington is the largest lake in the Gippsland Lakes system and forms part of a Ramsar-listed wetland of international conservation significance.

Within Melbourne, Melbourne Water's Rural Land Program offers incentives to property owners to reduce nutrient and sediment runoff into waterways in the Yarra catchment and waterways connected to Port Phillip and Westernport bays. Further measures to protect water quality in waterways are outlined in **Chapter 8**.

CASE STUDY

Lake Wellington land and water management

The Lake Wellington Land and Water Management Plan (2018) outlines a vision for how irrigators, industry and government will work together to achieve a highly productive and sustainable irrigation community that values and protects its natural and cultural assets. The plan guides investment through the SIP and sets out actions to:

- support irrigators to be more productive, sustainable and efficient
- protect rivers, wetlands and the Gippsland Lakes from excess nutrients and sediment and reduce the risk of algal blooms
- help manage impacts of salinity and high water tables
- protect natural, cultural and social assets of the irrigation regions for future generations.

Image: Water tank and Cattle on a hill, Erica, Gunaikurnai Country

Supporting rural landowners to improve waterway health in the Central sub-region

Melbourne Water's Rural Land Program advocates for best management practices that reduce the amount of nutrient and sediment runoff from rural properties entering waterways that flow into Port Phillip and Westernport bays. Activities funded under the incentives program include farm planning and design, gully exclusion and revegetation, track and drainage improvements, stormwater harvesting and re-use, erosion control and sediment ponds, pasture improvement, effluent management, soil analysis and nutrient budgeting, off-stream/dam stock watering and dam decommissioning.

In the Yarra catchment, Melbourne Water's rural land officers engage landholders and assist with the development of irrigation and drainage plans to improve runoff quality and meet targets under Melbourne Water's Healthy Waterways Strategy performance objectives.

For further information see:
www.melbournewater.com.au/liveable-communities-liveable-waterways.

Policy 7-1: Maximising water efficiency in agriculture

The Victorian Government will continue to invest in improvements to agricultural water-use efficiency and best-practice land and water management. This will be achieved by helping irrigators continue to use water wisely, with targeted extension and support for on-farm changes and more information on making the most of their water.

Ongoing

7.3 Modernising irrigation districts

Our plan:

- upgrade ageing and inefficient water supply infrastructure in major irrigation districts to improve water-use efficiency and service standards for irrigators
- use water recovered through modernisation works to boost agricultural production and deliver wider benefits to the environment, Traditional Owners and regional communities

Image: Irrigation farming, Gippsland, Gunaikurnai Country

Modernising irrigation districts

Across the region's major irrigation districts, we are partnering with Southern Rural Water, agricultural businesses and the Australian Government to upgrade ageing and inefficient water supply infrastructure. These multi-million-dollar projects are modernising the delivery of water to irrigators to drive economic development and meet the challenges of drought and climate change. Significant water recovery from the projects has been provided to both irrigators and the environment. Future projects will also consider opportunities to improve Traditional Owner outcomes.

Principles guiding public investments in rural water infrastructure are set out in Water for Victoria and discussed further in **Chapter 9**. New guidelines for water corporations will provide greater guidance for public co-investment in infrastructure projects that can deliver wider public benefits. For example, upgrades to rural water infrastructure that will recover water and improve environmental, Traditional Owner and social outcomes.

Action 7-1: Planning for future investment in rural water infrastructure

The Victorian Government will work with water corporations to provide updated guidance for the development and delivery of rural water infrastructure projects in the region, in ways that consider the benefits to irrigators, the environment, Traditional Owners and regional communities.

By 2023

Key projects

$159.7 million MID2030

The MID, the largest irrigation area in southern Victoria, supports a strong dairy and livestock sector and developing vegetable and cropping industries that generate approximately $500 million in economic activity annually. The MID2030 modernisation project is reducing system leaks and improving water efficiency in the district, from less than 60 per cent in 2004, to up to 90 per cent on completion in 2024. Funded by Southern Rural Water and the Victorian and Australian governments, the project involves replacing ageing water supply infrastructure and introducing channel automation. Southern Rural Water has completed works under phases 1A and 1B of the project. Works are continuing under Phase 2. Under contractual arrangements agreed at the time of co-investment, approximately 30 gigalitres of the water recovered by the MID2030 program will be made available to irrigators to support increased agricultural production across the region. This will help to boost productivity, underpin water security for irrigators and support the investigation of agricultural expansion opportunities. In addition, the works will improve environmental outcomes through reduction of runoff into the Gippsland Lakes and recovery of a proportion of Phase 2 water savings to support environmental values within the Wirn Wirndook Yeerung (Macalister River).

$46 million Werribee Irrigation District Modernisation Project

The Werribee Irrigation District covers more than 3,000 hectares of intensive, high-value horticulture, including green leafy vegetables, and generates more than $187 million per year in farm gate value. The Werribee Irrigation District Modernisation Project is upgrading ageing and inefficient water supply pipelines and outlets to generate a long-term average of approximately 5 gigalitres of water recovery. Half of the water recovered will be made available to the district's irrigators to increase water security and agriculture production. The balance of the savings will be returned to the Wirribi Yaluk (Werribee River) to support river health, tourism and recreational use of the river. Funded by Southern Rural Water and the Victorian and Australian governments, the project is being delivered over five stages, with final stages four and five to be completed in late 2023.

$9.9 million Bacchus Marsh Irrigation District Modernisation Project

Bacchus Marsh Irrigation District covers around 900 hectares and generates more than $50 million in farm gate value. The Bacchus Marsh Irrigation District Modernisation Project has generated an estimated 1 gigalitre of water recovery (long-term average) to be shared equally between district irrigators and the environment, which will support Wirribi Yaluk (Werribee River) flows. The reconfiguration works and replacement of poorly performing open channels with a pipeline improved service levels for irrigators and allowed new customers to connect to the improved system. The project was completed in 2020 and funded by Southern Rural Water customers together with the Victorian and Australian governments.

Bacchus Marsh Irrigation District Modernisation Project
COST: $9.9 million
STATUS: Completed June 2020
OUTCOMES:

- ~1 GL water saved (~500ML for irrigation)
- Delivery efficiency increased from 65% to 85%.

Werribee Irrigation District Modernisation Project (stages one to five)
COST: $41.93 million
STATUS: Underway, expected completion 2024
OUTCOMES:

- ~5 GL water saved (~2.5 GL for irrigation)
- Delivery efficiency increased from 55% to 85%.

Central and Gippsland Region
Irrigation district
Major town
River

Southern Victorian Irrigation Development Project (feasibility study)
COST: $500,000
STATUS: Completed in 2021
OUTCOMES:

- Confirmation of prospective locations and infrastructure for possible irrigation development in Central Gippsland based on customer demand, willingness to pay and water availability. Further technical assessment and stakeholder engagement of prospective locations commenced in 2022.

Lindenow Valley Water Security Scheme
COST: $20 million
STATUS: Underway, expected completion 2023
OUTCOMES:

- Construction of on-farm water infrastructure, improving security of water supply and long-term drought resilience.

MID2030 (Phase 1A, 1B and 2)
COST: $160 million
STATUS: Underway, expected completion 2024
OUTCOMES:

- ~32 GL water saved (~30 GL for irrigation)
- Delivery efficiency targeted at 90%.

Figure 7.4: Recent investment in major irrigation projects in the Central and Gippsland Region

7.4 Opportunities to expand irrigation

Our plan:

- connect farmers to new, fit-for-purpose, recycled water supplies to build their resilience to climate change and climate variability and support industry growth
- investigate opportunities to sustainably develop new irrigation areas in the lower Latrobe region and in the Avon and Macalister systems
- consider proposals to expand irrigation where water is recovered through irrigation district modernisation, repurposed from other consumptive uses or made available through recycled water or stormwater schemes

Supplying recycled water to irrigators

Recycled water has been used for irrigation across Central and Gippsland Region for more than 15 years, particularly where properties or irrigation districts are close to major water treatment infrastructure. Recycled water can provide farmers with a secure, climate-resilient and consistent supply of affordable water and ease pressure on river water and groundwater supplies. Increased interest in recycled water uptake is seen where production systems can support its use, water quality is appropriate and it is economically viable to do so. **Section 7.1** of this chapter explains the volume of recycled water used by irrigators.

Opportunities for using recycled water for agriculture can be site-specific, local or decentralised. However, recycled water may not be the most cost-effective product for farmers. The shift to further uptake of recycled water in agriculture is dependent on several factors, including water quality meeting the stringent requirements that food producers must adhere to, water supply security and the cost to treat and deliver water to farms. Decisions to open new areas of irrigation, or supplement existing water sources with recycled water, need to be considered with these factors in mind.

Concerns about the quality of recycled water for agricultural use, such as applying saline water on land,[26] also remain a barrier that will need to be considered. Work is underway to better understand and manage the potential risks from emerging contaminants in recycled water, including protection of public health and any potential implications for irrigated agriculture (see **Chapter 3**). More information about how recycled water quality concerns are managed through this Strategy and other controls is outlined in **Chapter 8**.

As climate-dependent water sources decrease and technological advances help reduce the cost of treating recycled water, there is a growing opportunity to use more of this water for fit-for-purpose agricultural production. Improved security of supply helps to justify the capital investment and additional operating costs required to implement a scheme.

To encourage further uptake, we are working with water corporations and industry to secure Australian Government funding for recycled water projects that can bring many benefits, such as supplying recycled water for agriculture and reducing treated wastewater discharges (see **Section 9.4**). Information about the agricultural requirements of recycled water schemes and guidance on investment, including pricing, supply and use arrangements, and service standards, will help deliver a consistent approach to increasing uptake.

State guidelines for large-scale recycled water schemes, released in 2021, are helping to build confidence around the many benefits of using fit-for-purpose recycled water (See **Section 3.4**).

26 Utilising saline recycled water can cause high salinity levels in the soil, leading to increased use of costly fertiliser to offset the loss of productivity. Flow-on effects such as nutrient runoff, decreased soil permeability and other issues can arise. There are ongoing costs associated with managing soil, and additional regulatory and compliance costs that irrigators may incur with the use of recycled water.

Key projects

Western Irrigation Network

The Western Irrigation Network is a major new recycled water irrigation scheme that will connect dryland farmers in the Parwan–Balliang Agricultural District, to the west of Melbourne, to a guaranteed supply of Class C recycled water by 2022. Funded by Greater Western Water, the Australia Government, and agribusinesses, the scheme will initially supply 1.7 gigalitres per year, increasing as irrigators expand and adapt. By 2050 the scheme could supply up to 19 gigalitres each year and irrigate up to 4,500 hectares of high-quality land.

The network will consist of more than 50 kilometres of pipelines, connecting the irrigation district to Greater Western Water's recycled water plants at Sunbury, Melton and Bacchus Marsh. Fit-for-purpose recycled water will be supplied to farmers to grow crops such as wheat and barley, and support increased production, generating jobs and economic growth. The project will help to manage the increasing volumes of wastewater in the region, particularly in the Melton, Sunbury and Bacchus Marsh areas, and reduce discharges into local rivers and creeks to improve waterway health.

Recycled water along the Bellarine Peninsula

Works are underway to expand the supply of recycled water from the Portarlington Water Reclamation Plant to more agricultural customers on the Bellarine Peninsula, offering growers a guaranteed water source at an affordable price. Further expansion of the scheme by early 2024 will involve construction of a reverse osmosis treatment plant to improve the quality of the recycled water, enabling it to serve high-value agriculture and tourism on the Bellarine. The $11 million project is jointly funded by the Australian Government, Victorian Government and Barwon Water. An additional stage to double the available volume of fit-for-purpose recycled water to approximately 1 gigalitre per year is being considered.

Other opportunities

Across the region, investigations are underway into potential opportunities to extend the supply of recycled water and stormwater to support agricultural production and ease pressure on river water and groundwater supplies.

Opportunities under consideration include:

1. supplying high-quality, fit-for-purpose recycled water to irrigators in the Werribee and Bacchus Marsh irrigation districts, with options for farmers to improve water supply security by entering into entitlement substitution arrangements – see **Action 4-10**, **Chapter 4** (business case to be developed)
2. expanding the Western Irrigation Network to use more recycled water from other Greater Western Water wastewater recycling plants, which would otherwise be discharged to waterways (business case funded)
3. establishing irrigation networks similar to the Western Irrigation Network, in the northern Maribyrnong catchment or adjacent catchment areas
4. supplying recycled water to agriculture and open space in the Sunbury–Bulla–Keilor areas, including the Keilor Irrigation District (business case funded)
5. using recycled water for irrigated agriculture in the Tyabb–Somerville area, and further expanding the agricultural use of recycled water from the Eastern Treatment Plant (business case funded)
6. supplying recycled water to the Kingston green wedge and beyond will expand the use of recycled water from the Eastern Treatment Plant for purposes including tourism, agriculture, industry, sports fields, passive open space and major activity hubs
7. using recycled water from the Pakenham Water Recycling Plant for agriculture in the Pakenham–Cora Lynn area and further expanding the use of recycled water from the Pakenham Plant network for agriculture to the south and east beyond Pakenham–Cora Lynn (business case funded)

8. attracting urban agricultural enterprises through the supply of recycled water from a new wastewater treatment and recycled water plant in the Moorabool Valley, as proposed in the IWM Plan for the northern and western Geelong growth areas
9. using stormwater captured from the Sunbury and Melton growth corridors for agriculture in the region.

Making the most of all sources of water

Aligning water resource planning and land-use policy recognises that access to water plays a critical role in protecting agricultural land, particularly in Melbourne's green wedges and peri-urban areas, which are at risk of loss and fragmentation due to urban growth and competing land-use interests.[27]

By strategically considering how agriculture can make the most of all sources of water, we can support the long-term resilience of Melbourne's green wedges and the expansion of peri-urban agriculture for greater food security and economic productivity. Long-term strategic planning in these areas should consider how access to all water sources can help safeguard agricultural land into the future. This includes strategic consideration of future urban developments, the location of wastewater treatment infrastructure, and agricultural demands for recycled water.

Opportunities to safeguard agricultural land for agricultural purposes through access to recycled water and stormwater are being considered through Victorian Government projects, including:

- Agriculture Victoria's Strategic agriculture land and development (SALAD) project (Agriculture Victoria 2022) (complete)
- Department of Environment, Land, Water and Planning, Planning for Melbourne's green wedges and agricultural land project (DELWP 2022b) (in progress)
- Metropolitan IWM forum/Western Growth Area IWM planning (in progress)
- Department of Environment, Land, Water and Planning and IWM forum partners investigating opportunities for large-scale recycled water and treated stormwater networks (see **Action 3-4** and **Action 3-5**)

Policy 7-2: Strategically considering opportunities for agriculture to make the most of all sources of water

The Victorian Government and water sector will support the long-term resilience of agricultural land use in Melbourne's green wedges and the Central and Gippsland Region by strategically considering opportunities for agriculture to make the most of all sources of water where demands are identified.

Developing new irrigation districts

We are working with Southern Rural Water and other stakeholders to investigate opportunities for irrigation development in Central Gippsland. The Southern Victorian Irrigation Development project has identified where agricultural production could be sustainably developed in the region with available water, now and in the future, supporting regional economic growth.

With competing demands for water across users, understanding opportunities for agriculture and how these fit into decisions on water sharing is critical. A report by Southern Rural Water in 2021 identified two focus areas in the Macalister/Avon and Latrobe River regions (RMCG 2021b). Investigations included consultation with current landholders and industry stakeholders to assess water demands and willingness to invest in agricultural irrigation development in these regions.

1. Latrobe River focus area – up to 30,000 hectares along the lower Durt-Yowan (Latrobe River) from Yallourn to Longford could be suitable for irrigation if water was available. This development could boost economic activity and employment in the region through the dairy, beef and fodder industries. Work to date suggests that there is demand for water for agriculture, and that private industry is willing to pay and invest if water can be made available. Decisions regarding industry transition in the Latrobe region in coming years will affect how water is shared in the Latrobe system, making this proposal a long-term prospect. In the near term, decisions about the future use of

27 Proposed amendments to the Victorian Planning Provisions Clause 11.01-1R Green Wedges – Metropolitan Melbourne will enhance protections for green wedges, including steps to avoid the loss or fragmentation of productive agricultural land.

the Latrobe 3 — 4 Bench bulk entitlement will consider sharing between agriculture and other uses (see **Action 4-8**). Investigations will consider third-party effects as well as the environmental impacts or benefits of altered flows along the Durt-Yowan (Latrobe River).

2. Macalister/Avon River focus area – around 6,000 hectares in the Avon River region to the east of the MID could be viable for high-value vegetable and dairy production, helping to drive broad economic benefits in the region. Water from the Macalister system could be reliably supplied to new areas, where industries are ready to invest through the extension of MID infrastructure, helping to improve service levels in the district. Further investigations, led by Southern Rural Water, will consider current and future use of land, water and infrastructure within the MID, and opportunities to improve environmental flows in the Avon River. There is potential to use some of the savings from the MID2030 modernisation program to support this proposal.

Action 7-2: Investigating opportunities for new irrigation development

The Victorian Government will continue to work with Southern Rural Water to assess the feasibility of agricultural development and infrastructure in the focus areas identified through the Southern Victoria Irrigation Development project.

By 2024

7.5 More effective water markets

Our plan:

- help farmers to make the most out of water markets by providing clear and simple information about water trading and water availability in one place, and trialling an online water market exchange for southern Victoria
- investigate options to make it easier to buy and sell water, through more flexible water-trading rules without impacting other water users or the environment

Victoria's water markets allow farmers, environmental water holders, water corporations and other users to buy and sell water entitlements, allocations and licences, so that they can manage their risks according to their willingness to pay. This allows people to share the benefits of water in ways that are fair, responsive and transparent. In the Central and Gippsland Region, water-trading zones have been established in the Werribee, Thomson and Macalister systems.

Water trade is more difficult in smaller and developing markets, like those in the Central and Gippsland Region, because buyers and sellers struggle to find each other and determine a fair price in a market where there are very few transactions. This means that people can hold water that they do not eventually use for production, while others dry off parts of productive land as they are unable to access the additional water they need for irrigation.

While the water markets in southern Victoria are unlikely to reach the level of development seen in the north – where connected and regulated systems support high levels of trade – there are opportunities to help more farmers to benefit from water markets and maximise their outputs while protecting the environment. This includes providing clear information about water availability and water-trading rules in one place, trialling an online water market exchange to help buyers and sellers to find each other, and allowing more flexible trading rules. We will work closely with environmental water managers, Traditional Owners and other water users as we investigate reforms to water markets and trade.

We've heard concerns from the community about how increasing trade flexibility might impact water availability for waterways. All water entitlement holders in Victoria have the right to access the water they hold. As reforms to improve water markets and trade are investigated, the effect on other users and the environment must be taken into account.

The previous *Central Region Sustainable Water Strategy* (DSE 2006) recommended purchasing water entitlements from farmers through voluntary buy-back. This Strategy does not support the purchase of water entitlements from farmers to meet water recovery targets identified for the environment, or any other user groups, including Traditional Owners.

Action 7-3: Improving trade and transparency in Central and Gippsland water markets

The Victorian Government will improve transparency and trade in water markets in the Central and Gippsland Region by:

- improving the accessibility of information about water management and trade rules across southern Victoria, all in one place — **By 2024**
- trialling an online water market exchange that helps buyers and sellers find each other and trade in a fair and efficient way — **By 2023**
- investigating local opportunities to make water trade rules more flexible without impacting other water users or the environment. — **By 2024**

The Victorian Government is working with Southern Rural Water to deliver a trial water-trading exchange in the MID. The project will:

- work with irrigators to understand the information they need to participate in water markets, address any gaps, and improve communication to make it easier to access information
- document the current barriers to trade and assess the barriers that would be addressed by the introduction of a water-trading exchange
- launch a pilot water-trading exchange in the MID
- assess the effectiveness of interventions and identify suitability for scaling or continuing the pilot in the following season, or expanding to other areas.

Image: Irrigation farming, Gippsland, Gunaikurnai Country

7.6 Domestic and stock water

People can take water from a range of sources for domestic and stock purposes, including extracting water from a waterway that runs alongside or in their property, capturing water in a small catchment dam, or pumping groundwater. More than 5,000 farm businesses are involved in dryland agriculture in the Central and Gippsland Region and rely on water provided by natural rainfall and via domestic and stock rights.

In the past, domestic and stock water supplies in the Central and Gippsland Region have been supported by reliable rainfall. But long periods of below-average rainfall – particularly the most recent drought in Gippsland – have put domestic and stock water supplies under pressure, highlighting the need to plan for access to water during future dry conditions and extreme events.

Development of large-scale domestic and stock water supply systems are currently not feasible in Gippsland due to distance, landscapes and the high costs of construction and operations. This emphasises the importance of maintaining reliable access to domestic and stock water supplies through emergency water supply points.

As we prepare for water availability and climate conditions to change, decisions about public investment in domestic and stock water supply projects will be guided by Victoria's principles for public investment in rural water infrastructure (see **Chapter 9**).

Maintaining access to domestic and stock water supplies through emergency water supply points

Opportunities for investment in large-scale domestic and stock water supply systems are often limited by geographic constraints. Domestic and stock water supplies can also be affected by bushfires and other extreme events. Emergency water supply points (EWSPs) are distributed through the region to supplement existing domestic and stock water supply during dry conditions and extreme events such as bushfires and floods. In the Central and Gippsland Region, responsibilities for the construction, operation, use and maintenance of EWSPs are shared between the Victorian Government, local government, Agriculture Victoria and Southern Rural Water. The Victorian Government has recently invested in the construction of additional EWSPs in strategic locations identified by Southern Rural Water.

We will continue to work with local councils, water corporations and the community to regularly review the EWSP network, undertaking maintenance and augmentation as required. We will make sure that before we invest in the refurbishment of existing EWSPs, or construction of new ones, there is an agreement in place for a responsible agency to maintain, operate and provide access to EWSPs.

Image: Horse trotting beside farm dam, Elaine, Wadawurrung Country