

Gippsland

STRATEGIC DIRECTIONS STATEMENT

APRIL 2019



Integrated Water
Management Forums



Environment,
Land, Water
and Planning

Integrated Water Management is a collaborative approach to water planning and management that brings together organisations with an interest in all aspects of the water cycle.

It has the potential to provide greater value to our communities by identifying and leveraging opportunities to optimise outcomes.

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Foreword

The Gippsland Integrated Water Management (IWM) Forum is one of 15 IWM Forums established across the state.

Water is one of the building blocks of life and is fundamental to the social fabric of our communities. Without water they will fail to grow and thrive. Ensuring that our water is allocated responsibly and enabling our cities, small regional towns and rural communities to have the resilience needed to be healthy, active and engaged communities is a long-term goal of the Gippsland Integrated Water Management (IWM) Forum.

The Gippsland IWM Strategic Directions Statement (SDS) highlights the key challenges in the region and also identifies collaborative IWM opportunities that can improve resilience and liveability in cities and towns in the region. Our vision of working together to sustainably manage water for current and future generations means that we will work together to create better ways of managing the water cycle by balancing community, cultural, environmental and economic values. Our goal is to support growth and resilience while conserving the unique natural landscapes of Gippsland.

There have already been numerous excellent examples of Gippsland communities and organisations working together to integrate the planning and delivery of water projects. In 2018 we have worked together at both practitioner and forum level to formalise future projects and embed integrated thinking into the plans of the region. We are beginning to see a change in

the thinking, conversation and level of engagement that has seen IWM being recognised and becoming part of a new cooperative way for regional planning.

The Gippsland forum region incorporates the services areas of Gippsland Water and South Gippsland Water. The East Gippsland region is a separate forum area.

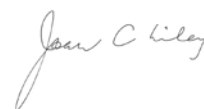
While Gippsland is known as a region of high and assured rainfall and is one of the most secure dryland farming areas in the country, water managers are being challenged by changing rainfall patterns and reduced stream flows. It is vital that alternative, fit for purpose, sources of water be found to conserve precious potable supplies and reduce pressure on the environment. Planning in the west of the region is also challenged by its proximity to Melbourne and the increasing pressure for housing and lifestyle properties in the areas on Melbourne's fringe and along the coast. However, these new growth areas also present an opportunity to embed IWM thinking in planning schemes and practices by land and water managers working cooperatively.

It is my pleasure to present the Strategic Direction Statement for the Gippsland IWM forum, which is an outstanding example of regional collaboration by a diverse Forum membership with interests in land, water, waterways, the urban built

form, and community health and wellbeing. The Statement identifies many important and innovative opportunities, backed by the Forum, that can substantially transform and enhance the role that water plays in our region's way of life.

I wish to thank the Gippsland IWM Forum members for their commitment, energy and enthusiasm, and for sharing their considerable knowledge and experience of the region in developing this Statement. It has been wonderful to see Water Corporations, Councils, Traditional Owners, land managers and the West Gippsland CMA working together so productively. The future vision and exceptional strategic regional response that has been endorsed by the Forum delivers outcomes and benefits for both current and future generations. It is rewarding to see the vision of the Victorian Government's Water Plan put into practice.

I also wish to acknowledge the considerable input and support of DELWP officers and the support given by the state-wide Chairs forum.



Joan Liley

Gippsland IWM Forum Chair

Acknowledgements

The Gippsland IWM Forum covers Gunaikurnai and Bunurong country, whose ancestors and their descendants are the Traditional Owners of this country.

The meetings of the Forum and individual meetings with project sponsors have developed initiatives from ideas into mature project themes. Collaboration and cross-pollination has been a key outcome of the Forum, with ideas being shared and improved by input from project partners.

The Gippsland Strategic Directions Statement has been developed in collaboration with:



Baw Baw
Shire Council



Environment,
Land, Water
and Planning



The Forum will continue to work with other organisations along the IWM journey.

At a glance

The Gippsland Integrated Water Management (IWM) Strategic Directions Statement highlights the key challenges in the region and also identifies collaborative IWM opportunities that can improve resilience and liveability in cities and towns in the region.

Vision

Working together to sustainably manage water for current and future generations

Strategic outcomes:

1. Safe secure and affordable supplies that are fit for purpose
2. Effective and affordable wastewater systems
3. Understand and manage flood regimes to sustain natural systems while minimising adverse impacts
4. Healthy and valued waterways, wetlands, lakes, coastal environments and groundwater systems
5. Healthy and valued agricultural, rural and urban landscapes
6. Community values reflected in place-based planning
7. Recognise opportunities to enhance jobs, economic growth and innovation



Water for liveability. Courtesy: DELWP

IWM opportunities

Partners of the Gippsland IWM Forum are committing their best endeavours to ensure priority projects and strategies are progressed in line with the shared vision and strategic outcomes of the Forum. Fifteen priority opportunities have been identified in the region and these have been grouped into five themes- flagship opportunities, increasing community wellbeing through improved liveability, achieving the best outcomes in a changing context, strengthening Gippsland's natural assets for future generations, and driving economic opportunities for Gippsland. The opportunities are listed alphabetically within the themes.

Flagship opportunities

These opportunities have been selected to demonstrate the value of IWM, and the IWM Forum process in a short time frame, as well as to act as a catalyst for other IWM projects in the region.

1 Council IWM Plans

An IWM Plan will be developed for each shire council in the region, which will help to identify and prioritise IWM opportunities which can be delivered by councils and their regional partners.

2 Repurposing dams at Little Bass, Coalition Creek, Ness Gully and Bellview Creek

Following the upgrade of water supply infrastructure in the region, several dams will be available for repurposing. There are a large variety of future uses are possible such as community recreational uses, stormwater harvesting for fit-for-purpose supplies, commercial or industrial use. An options analysis will determine the best balance of costs and benefits for repurposing these assets for community benefit.

3 Kernot Lake water supply

Kernot Lake, an important amenity feature in the town of Morwell, may lose its current water supply and run dry if action is not taken. Surrounded by Immigration Park, Federation TAFE and the newly established High Tech precinct, Kernot Lake is located adjacent to residential housing and is visible from Princes Drive, an area of high density traffic. Maintaining the current amenity of this asset is essential to the pride of the community of Morwell and the broader Latrobe Valley. Timely development of an options analysis will determine alternative water supplies and effective treatments to improve water quality that could provide the best balance of costs and benefits. This will link into the work being done on the adjoining Waterhole Creek.

Increasing community wellbeing through improved liveability

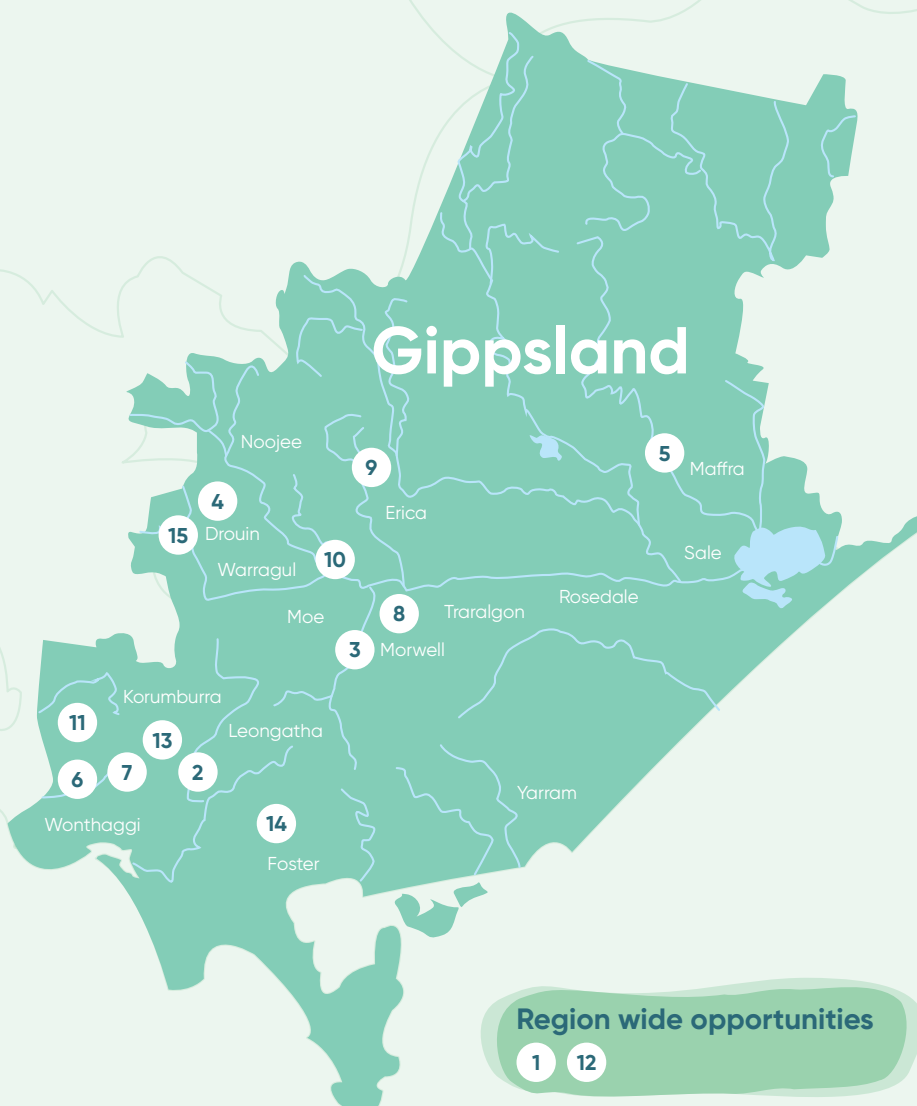
In Gippsland green open spaces such as parks and sporting reserves can be the heart of the community. Keeping these spaces irrigated with fit for purpose water will enhance the liveability of the region and have positive impacts on residents' wellbeing.

4 Greening sporting reserves in Baw Baw Shire

To ensure sporting reserves remain green and playable, even in times of low rainfall, Baw Baw Shire are exploring alternative water supplies for irrigation. This project will investigate the options for key open spaces and prioritise a scheme for delivery, as well as explore options for planned growth areas.

Region wide opportunities

1 12



5 Maffra stormwater harvesting

An investigation of stormwater harvesting opportunities in the town of Maffra to improve liveability by supporting open space irrigation and integrating runoff detention to alleviate flooding.

6 South Dudley wetland

The redevelopment of the area in South Dudley around the Rescue Station into a stormwater treatment wetland system will provide not only environmental benefits, but also a valuable community recreation space with walking and cycling paths.

7 Wonthaggi stormwater harvesting

A stormwater harvesting scheme to capture, treat and store stormwater for irrigation of two large ovals while also providing storage that will help to alleviate flood risk downstream.

Achieving the best outcomes in a changing context

With change comes the opportunity to do things better. There are many shifts currently taking place across Gippsland including changes to industry, populations, and climate. The following projects will use IWM to create an opportunity for better outcomes in the face of these major changes.

8 Water for economic growth in central Gippsland

This project will further explore the high-level opportunities for leveraging the water resources of the Latrobe system for the benefit of the broader Gippsland economy, including the attraction of major industry and high-demand water users. Through the development of a water resources and future infrastructure prospectus, this proposal aims to put water as a key enabler of economic growth, particularly in the Latrobe Valley, where there is a concentration of available water resources due to industry transition.

9 Mt Baw Baw Water Storage for Snow Making

The addition of water storage at Mt Baw Baw could support additional snow-making when needed to support the Alpine recreation facilities.

10 Stormwater pollution management at Willow Grove

Increased development in Willow Grove, which sits on the banks of Blue Rock Lake, threatens the water quality of the drinking water catchment. Intercepting pollutants before they enter the lake will have positive impacts on water quality.

Strengthening Gippsland's natural assets for future generations

Natural assets such as waterways and coasts are part of the unique character of Gippsland and need to be protected for future generations. Through IWM the following projects will strengthen natural assets and ensure they are healthy and valued.

11 Bass Coast Biolinks

Bass Coast Shire will lead the implementation of the Biodiversity Biolinks Plan by delivering vegetated riparian zones along waterways which will act to capture, filter and retain water in the landscape while supporting biodiversity.

12 Waterway Health Program

The waterway health program facilitates work and management initiatives that will improve the health of waterways and deliver benefits for ecology and communities.

Driving economic opportunities for Gippsland

Water is a key enabler for economic opportunities, these projects will use an integrated approach to drive opportunities through the sustainable management of water.

13 Integrated service enhancement for Leongatha and nearby towns

The project aims to evaluate connection of Meeniyan and Dumbalk to the Leongatha water supply to improve service and reduce development constraints in a declared water supply catchment.

14 Recycled water for road grading investigation

This project considers the viability, cost and ongoing risk of securing alternative water sources to support road grading of unsealed roads to minimise use of potable water while maintaining appropriate Level of Service.

15 Warragul and Drouin long term water supply security

The demand for potable water in Warragul and Drouin is exceeding supply in peak times, and with projected population growth these towns need further water supply security. There may be opportunities to reduce or defer costs of a major augmentation by implementing potable water substitution initiatives, for example alternative supplies for parks, recreation reserves and industry. This project links to Greening sporting reserves in Baw Baw Shire.



Chapter 1

The way forward

An unprecedented opportunity to progress water cycle planning and management in Victoria through collaboration.

Introduction

The Integrated Water Management (IWM) Framework for Victoria (September 2017) is designed to help regional stakeholders to work together, ensuring the water cycle contributes to the liveability of towns and cities in Victoria, with communities at the centre of decision making.

The central premise of an IWM approach is the overall acceptance that managing urban liveability and resilience is a shared responsibility and that water is a key enabler to achieving these shared aims.

To facilitate this, IWM Forums have been established across the state to identify, prioritise and oversee the implementation of critical collaborative opportunities. This Strategic Directions Statement has been produced by the Gippsland IWM forum to capture and communicate those opportunities.

IWM seeks to build on existing partnerships and planning processes. Regional stakeholders in the Gippsland region – such as Local Government Authorities, Catchment Management Authorities and Water Corporations, engage with their communities regularly to improve service delivery and urban planning. Community aspirations are embedded in the strategies and operational plans for organisations throughout the region. These aspirations reflect a desire for liveable and productive places and vibrant communities. The way in which we plan and use water is fundamental to ensuring these aspirations are realised.

IWM in the region is also strengthened by the formation of the West Gippsland Catchment Partnership area under the Government's Our Catchments, Our Communities Integrated Catchment Management

Strategy for Victoria (2016–19). Furthermore, a ground-breaking partnership agreement with the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC) has been signed by 13 natural resource agencies and organisations working across Gippsland, helping to integrate water management to deliver shared outcomes. The agreement supports objectives of the Gunaikurnai Whole of Country Plan and will facilitate partnerships in the region. The Bunurong Land Council Aboriginal Corporation was established as a Registered Aboriginal Party in July 2017, helping to support Traditional Owner involvement in water management in the west of the region.

What is a Strategic Directions Statement?

This Strategic Directions Statement (SDS) articulates the regional context, the shared vision and the strategic water-related outcomes for the Gippsland IWM Forum region. This SDS includes a list of IWM opportunities, including projects and strategies, developed in collaboration by the Gippsland IWM Forum partners. Partners of the Forum are committing their organisations to apply their best endeavours to:

- Ensure priority projects and strategies are progressed in line with the shared vision and strategic outcomes of the Gippsland IWM Forum; and to

- Support DELWP to progress priority strategic enablers for IWM in Victoria.

It is envisaged that the SDS will be a living document which will be updated to reflect the current Gippsland IWM Forum's priorities and opportunities.

Integrated Water Management

Integrated Water Management is a collaborative approach to water planning that brings together organisations that influence all aspects of the water cycle. It has the potential to provide greater value to our communities by identifying and leveraging opportunities to optimise the outcomes of water cycle.

Enduring collaboration

How we're working together

The Gippsland IWM Forum identifies, coordinates and prioritises areas that would most benefit from collaborative and place-based water management planning and delivery.

To ensure IWM is successful and enduring across the region, the Gippsland IWM Forum partners have committed to the promotion of a collaborative and shared values culture within their own organisations and beyond through their work with key water cycle delivery partners and local communities.

The Gippsland IWM Forum is governed by an open and transparent IWM planning process. This process assumes a holistic, whole-of-cycle approach to determining water cycle solutions, considering regulatory accountabilities and service delivery responsibilities.

Each organisation has an important role to play in the decision-making and management of the water, resources and assets for the entire region.

Collaboration across IWM Forum partners will ensure balanced consideration of the complex economic, environmental, cultural and community benefits and impacts associated with the range of proposed IWM projects and work programs.

The Forum will continually collaborate with other organisations outside the Forum to ensure the most benefit can be gained for the community.







The Gippsland IWM Forum partners will continue to work together to build inter-organisational trust and develop productive, enduring relationships to realise the shared vision for the region.

Further information on the IWM Forum's governance and planning framework is outlined in the Integrated Water Management Framework for Victoria, available at <https://www.water.vic.gov.au/liveable/resilient-and-liveable-cities-and-towns/iwm-framework>



Figure 1: IWM Forum governance structure

Forum process: Summary of planned phases

	Outcomes	Participants	
Phase I			
	<p>Establish</p> <p>Organisational leaders come together in collaborative IWM Forums and Working Groups to discuss integrated water management challenges, opportunities and priorities for each region</p>	<p>Preliminary work on regional characterisation and collaborative governance</p> <p>Agree vision, objectives and goals</p> <p>Agree criteria for selection and prioritisation of IWM opportunities</p> <p>IWM opportunities identified and prioritised</p> <p>Collaboratively develop and endorse Strategic Directions Statement for each region</p>	<p>Local governments</p> <p>Catchment Management Authorities</p> <p>Water corporations</p> <p>Traditional Owners</p> <p>Department of Environment, Land, Water and Planning</p> <p>Chair</p> <p>Others as relevant</p>
↓			
Phase II			
	<p>Planning</p> <p>Cultivate a collaborative culture to progress IWM opportunities</p>	<p>Co-design and agree on Terms of Reference, governance structure, stakeholder engagement and/or community participatory planning guidance for IWM project/strategy</p>	<p>Collaborative partners</p> <p>Community representatives</p> <p>Others as relevant</p>
↓			
	<p>Progress</p> <p>Forum Members use best endeavours to progress IWM opportunities to next stage</p>	<p>IWM Project Groups initiate work as per identified project/strategy status, including: feasibility assessment; technical and economic analysis; cost allocation; business case development</p> <p>Strategic enablers for IWM progressed by DELWP with support from Forum Members</p> <p>IWM Project Groups report progress to IWM Forums</p>	<p>Collaborative partners</p> <p>Individual organisations who have committed to a project/strategy</p> <p>Community representatives</p> <p>Relevant stakeholders</p>
↓			
	<p>Incorporate</p> <p>Collaborative Partner organisations incorporate relevant elements of IWM in their own plans, guidelines or frameworks</p>	<p>IWM Project Groups to take IWM commitments (projects and strategies) to their Board or Councils for investment endorsement</p> <p>IWM Project Groups incorporate elements into their own organisational planning systems, e.g. Council and corporate plans, Construction Guidelines, etc.</p> <p>Report back to IWM Forum</p>	<p>Individual organisations who have committed to deliver a project/strategy</p>
↓			
	<p>Realise</p> <p>IWM benefits are realised following implementation of project/strategy</p>	<p>Application of practical IWM tools and innovative approaches</p> <p>Additional community value added through participatory planning</p> <p>Monitoring and evaluation of key measures and outcomes</p> <p>Economic savings through shared resources, costs, etc.</p> <p>Improved resilience and liveability of cities and towns</p>	<p>Collaborative partners</p> <p>Individual organisations who have committed to a project/strategy</p> <p>Community representatives</p> <p>Others as relevant</p>
↓			
Phase III			
	<p>Prepare</p> <p>IWM Forums prepare to refresh the Strategic Directions Statement</p>	<p>Collaborative partners prepare for next round of IWM Forums</p> <p>IWM Forums collaboratively review key learnings and outcomes from Phase I & II, including progress on strategic enablers</p> <p>Next round of IWM opportunity identification and prioritisation</p>	<p>Collaborative partners</p>



Next 12-18 months

The feasibility of IWM opportunities will be continually reviewed and assessed in Phase II to confirm the need for specific IWM projects/strategies





Chapter 2

IWM in the Region

Understanding why an integrated approach to water planning and management is critical for the Gippsland IWM Region now and for the future.



Vision and outcome areas for the Gippsland IWM Forum Region

Outcomes



Safe, secure and affordable supplies that are fit for purpose



Effective and affordable wastewater systems



Understand and manage flood regimes to sustain natural systems while minimising adverse impacts



Healthy and valued waterways, wetlands, lakes, coastal environments and groundwater systems

Objectives

Fit-for-purpose water sources are identified which are most appropriate for uses

Waste water systems are fit for purpose, and exceed public health and environmental outcomes

Our communities are aware of flooding and are actively taking measures to manage their flood risks to minimise the consequences to life, property, community wellbeing, the economy and the environment.

Waterways, coasts and other environmental systems are cared for to become healthier and more resilient

Long-term water security underpins planning

System design is flexible and innovative. Decentralised wastewater structures are embraced

Opportunities for use of flood water are investigated

Waterways, wetlands, lakes and coastal environments continue to attract investment and tourism, continue to fulfil their multiple functions, and include cultural heritage values

Multi-barrier approach is used to ensure catchments are managed and protected to maintain safe and secure supplies

Onsite wastewater systems are managed during planning, installation and maintenance cycles

Ensure flooding is considered in urban planning and emergency management

Traditional Owner and Aboriginal cultural values, knowledge and practices associated with waterways and landscapes are protected

Water resource resilience for cultural values, industries, and natural environments

Opportunities for waste recovery are explored

Waterways and coastal environments are accessibly linked and valued as public open space

Organisations work together to protect water quality and quantity

Waterways, coasts and other environmental systems are cared for to become healthier and more resilient

Vision

Working together to sustainably manage water for current and future generations

We will work together to create better ways of managing the water cycle by balancing community, cultural, environmental and economic values. Our goal is to support growth and resilience while conserving the unique natural landscapes of Gippsland.

IWM Outcome Areas

The region is seeking to achieve seven key outcomes through IWM. Each of these will have a significant role in shaping the liveability, prosperity and resilience of our cities and towns. These outcome areas provide indicators to assess the effectiveness of the various IWM opportunities, recognising that these outcomes are in themselves co-dependant.



Healthy and valued agricultural, rural and urban landscapes

A balance of land uses is achieved between industry, agriculture, environmental and urban uses

The long term economic benefits of agriculture are considered against the short-term economics of developing the land for housing, especially high value agricultural land

Resilient and connected waterways that support community linkages to waterways, bays and coastal areas

Traditional Owner and Aboriginal values are understood and recognised early and included in the project planning and delivery

A balance of land uses is achieved between industry, agriculture, and urban uses



Community values reflected in place-based planning

The broader community are knowledgeable, engaged, empowered, and working together with responsible agencies

Traditional Owners and Aboriginal values are acknowledged early and included in project planning, delivery and management

Planning controls support IWM and are in alignment with community values

Communities have a greater understanding of the IWM projects happening in their area and have improved water literacy



Recognise and progress opportunities to enhance jobs, economic benefit and innovation

Collaborative partnerships are explored, including with Aboriginal communities and organisations

Research is conducted to generate economic growth

Organisations work together to seek additional funding support for IWM in the region

Strategic thinking is applied at regional and local scales to support economic growth

Actions in Water for Victoria with specific regard to Traditional Owner consultation, engagement, employment, and economic development have been comprehensively implemented

Regional context

The Gippsland IWM Forum includes the regions of both South Gippsland Water and Gippsland Water, and roughly lines up with West Gippsland Catchment Management Authority's border. The region covers an area of approximately 20,000 square kilometres, extending from Wonthaggi in the west to Lake Wellington in the east. Its southern border is the Gippsland Coastline, including Wilsons Promontory, extending north to the Great Dividing Range.

The landscape and climate of the region varies significantly between coastal plains and the forested alpine areas. Rainfall ranges across the region from about 600 mm/y around Sale to over 1500 mm/y on the Mt Baw Baw Plateau, but the region notably benefits from higher rainfall than many other parts of Victoria.

Population

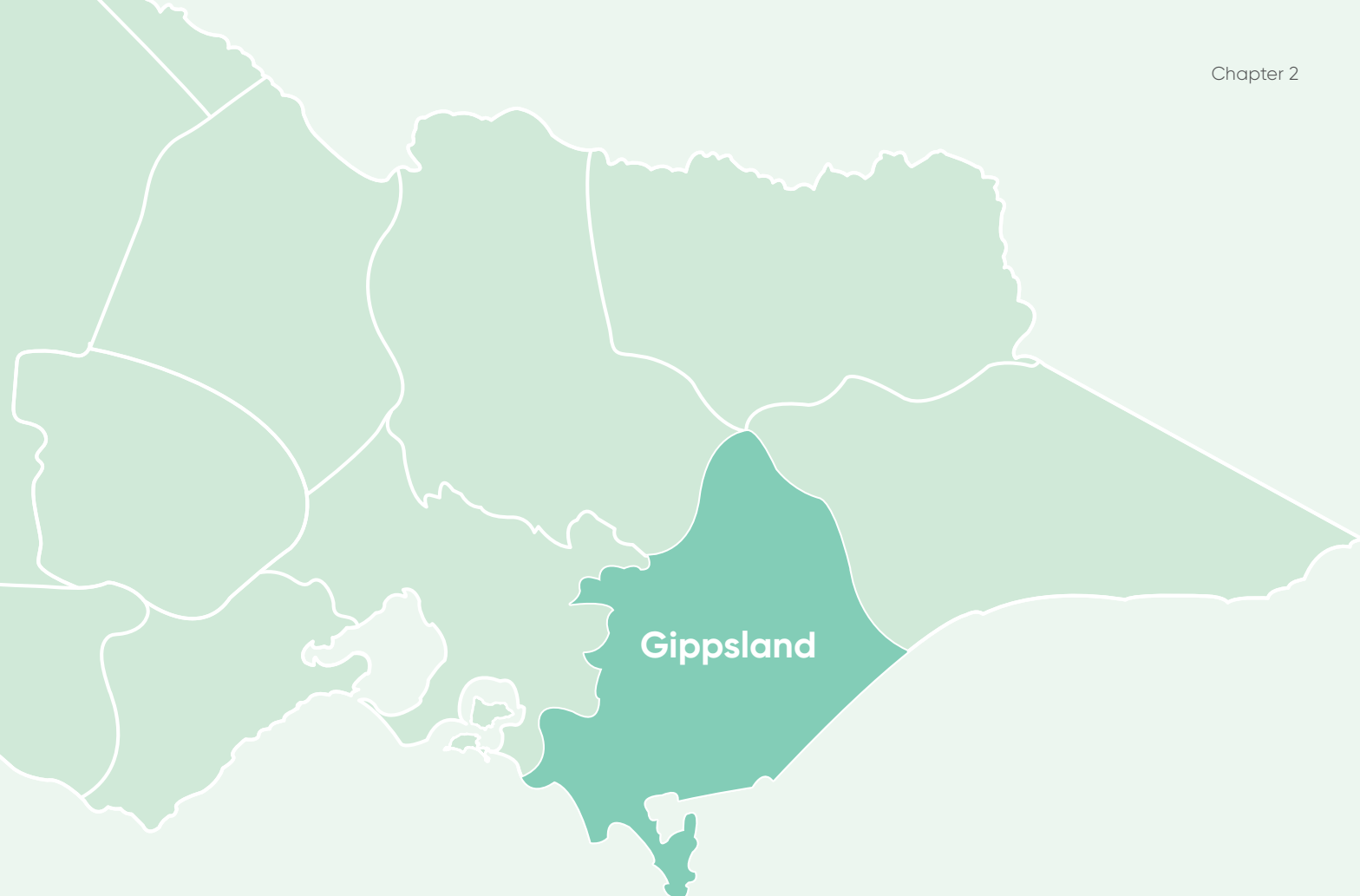
The region has an estimated population of 220,000, made up of 165,000 in Central and West Gippsland and 55,000 in South Gippsland. The region is forecast to grow to 285,000 by 2040 (215,000 in Central and West Gippsland and 70,000 in South Gippsland). Greenfield developments are both a risk and an opportunity for water management in the region. The region includes many small to medium sized towns, including popular holiday destinations that receive highly seasonal visitor populations. Key centres in the region include Warragul, Drouin, Moe, Morwell, Traralgon, Sale, Wonthaggi, Inverloch and Leongatha.

Towns on the Melbourne fringe such as Warragul, Drouin and Wonthaggi are growing at a faster rate than the rest of the region, and face pressure from increased water demand and urbanisation of farm land. Parts of the region have relatively high unemployment and an aging population, meaning that affordability and enhancement of liveability are key priorities for areas such as the Latrobe Valley.

Climate Change

By 2070, daily temperatures across the region are projected to rise by an average of 1.6°C to 2.6°C (median projection). This will be amplified in urban centres due to the prevalence of darker and harder surfaces, leading to environmental and human health impacts. Ensuring the provision of fit for purpose water for the region's urban greening will be a key priority in enhancing liveability and resilience for the community and environment.

The annual rainfall in the region is predicted to decrease by approximately 4.25 per cent by 2070 – primarily impacting the spring and winter seasons – while there is also an expectation of a year-round increase in temperatures. This presents a challenge for the region, as there will be an increased demand for urban water resulting from population growth together with a hotter drier climate. Gippsland will also be impacted by sea level rise, with levels expected to rise by 0.33–0.40m by 2070. This may impact on agricultural land as well as coastal towns and ecosystems including estuaries.



POPULATION GROWTH

220,000 NOW (2019)

285,000 BY 2040 ¹



CHANGE IN RAINFALL



**2.2–
4.5%**

DECREASE ²



TEMPERATURE



2.1–2.4°C

INCREASE

BY 2065 ²

WATERWAYS

40,000KM
OF WATERWAYS



33%

IN 'GOOD TO EXCELLENT'
CONDITION ³

53%

IN 'MODERATE'
CONDITION ³

¹ Victoria in Future (2016)

² DELWP (2017) Guidelines for assessing the impact of climate change on water availability in Victoria (average for Thomson, Latrobe and South Gippsland river basins)

³ West Gippsland Waterway Strategy 2014–2022

The case for IWM in the Region



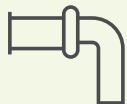
Safe, secure and affordable supplies that are fit for purpose

Gippsland Water and South Gippsland Water provide water supply services to the Forum region. Together, they provide water supply services to approximately 90,000 customers, with a total of 25 water treatment plants in operation across the region. The region is vast and a number of smaller towns in the region are currently unserved.

A range of water sources are utilised by the providers, including river and groundwater sources, with both South Gippsland Water and Gippsland Water utilising connections to the Melbourne system as part of their supply portfolios. Both providers expect to be able to provide secure water supplies beyond 2065 in most of their supply systems, with the exception of the growth areas of Warragul and Drouin as outlined in the Gippsland Urban Water Strategy.

A decline in local major industries such as mining, and power generation has resulted in a corresponding decline in major water users. The need for water to rehabilitate coal mines into pit lakes after their closure is currently being considered and will be better understood in the years ahead and likely to be a challenge for the region.

However, water demands related to tourism and snow-making are emerging, which are substantial yet seasonal in nature.



Effective and affordable wastewater systems

There are reticulated sewage systems to approximately 70,000 properties across the region. These systems collect and treat sewage at 25 wastewater management facilities. A significant number of wastewater management schemes have been identified as requiring works to adequately service expected populations over the next 10 years.

In addition to these facilities there are many small towns in the region which typically use onsite septic systems to treat their wastewater. Small towns wastewater management is a common issue across the region from an environmental, health, technical, governance and financial perspective. For example, septic systems in Declared Water Supply Catchments can increase the risk to public health if not managed pro-actively. There are particular pressures on septic systems from seasonal populations in coastal towns, resulting in impacts on groundwater.

There are currently 13 water recycling schemes in the Gippsland Forum area (9 in the Gippsland Water area and 4 in the South Gippsland Water area). These predominantly provide class B or C recycled water to agribusiness and irrigation customers. A class A recycled water scheme is in operation at the Gippsland Water Factory, providing recycled water to Australian Paper.



Understand and manage flood regimes to sustain natural systems while minimising adverse impacts

Floodplains are a valued part of the ecosystem in the Gippsland region. The 'flooding' process provides essential nutrients to the region's agricultural land.

In an urban context, flooding is more of a challenge. Many of the urban centres in the region are located on waterways and floodplains. The Gippsland area has experienced damaging flood events in the past, notably in May/June 2012. Climate change will bring more intense rainfall events which will create further flooding challenges. It is essential to manage the economic, social, environmental and cultural values from floodplains in a balanced way whilst also having regard for their inherent disadvantages and risks. This will be particularly relevant in the context of increased extreme rainfall events, urban growth and increased imperviousness in catchments.



Healthy and valued waterways, wetlands, lakes, coastal environments and groundwater systems

There are over 40,000kms of waterways in the region which flow to the Victorian coast, discharging either through the Gippsland Lakes, to coastal inlets and embayments (Anderson Inlet, Shallow Inlet, Corner Inlet) or directly to Bass Strait and the Southern Ocean.

In the north of the region, the Thomson, Macalister, Avon and Perry rivers flow from alpine areas and the forested slopes of the Great Dividing Range. In the central part of the region is the Latrobe River. The catchment of the Latrobe River features areas of remnant forest through the Strzelecki Ranges, Baw Baw Plateau and the Great Dividing Range, where tributary streams rise and flow to the

Latrobe River and ultimately to Lake Wellington. In South Gippsland, the waterways are short and flow from the Strzelecki Ranges through productive agricultural land as well as areas of high conservation value.

The region includes several internationally recognised environments including the Gippsland Lakes RAMSAR site, Wilsons Promontory National Park and the Tarra Bulga National Park.

West Gippsland Catchment Management Authority have identified a series of priority rivers and environments in the Gippsland region in their Waterways Strategy. The strategy recognises that the health

of the waterways in West Gippsland is critical to the sustainability of the region: "Waterways in the region support the regional and state economy by providing water for agriculture, industry and for urban and rural communities, including part of Melbourne's water supply. Our iconic coastal wetlands and inlets including the Gippsland Lakes, Anderson Inlet and Corner Inlet attract tourists to our beautiful region. Waterways are also valued for the recreational opportunities they provide, their cultural values and their role in the landscape supporting a range of ecological processes."



Corner Inlet. Courtesy: DELWP



Healthy and valued agricultural, rural and urban landscapes

Healthy landscapes are valued in the Gippsland region. Many national and state parks as well as state forests are frequently visited and viewed as important to the character of the region.

Urban landscapes also play a key role for liveability and resilience. Sporting grounds in both major centres as well as smaller rural towns have a great importance placed on them within communities. Direct use of stormwater as a resource to support local landscapes is relatively undeveloped in Gippsland with some exceptions such as use of stormwater from Lake Guthridge in Sale for irrigation of parklands.

Urban waterways are viewed as key landscapes in the built environment by councils in the region. Latrobe City's community vision recognizes 'it will be critical for future development to be sensitive to natural resources such as water. For example, carefully planned integration of our urban waterways will ensure greater outcomes for water quality, biodiversity links, and passive and active recreation links between communities.'



Community values reflected in place-based planning

The relationship between public health and wellbeing, and the environment is becoming increasingly recognised as an area of importance. The creation of greener neighbourhoods and providing residents with access to waterways and green space has the potential to support environmental, social and economic outcomes. New development is an opportunity to integrate community values into the evolution of towns and places, while engagement of existing communities is also essential in the redevelopment and evolution of existing centres.

Engagement with Traditional Owners is a key focus for the region. The Gippsland region covers the traditional lands of Gunaikurnai and Bunurong people, and the many rivers and lakes in the area contain a rich and diverse range of important cultural heritage sites, such as the Tarra Bulga National Park, where in the Gunaikurnai creation story, Borun travelled carrying his canoe from the mountains to the sea.



Recognise and progress opportunities to enhance jobs, economic benefit and innovation

Dairy farming and forestry are major industries in the region together with a range of other agricultural activities including beef, lamb, wine, cheese and vegetable production.

Water plays a key role in supporting industry in the region. Power generation and paper manufacturing industries have traditionally been large water users in the region, and water supply could be an attractor for other large industries in the future. The significant tourism and recreation economy in the region is also strongly linked to the health and amenity provided by the region's waterways, lakes and towns.

Success stories

There has been a lot of great work over the years by state and local government, regional agencies, communities, planning bodies and boards to identify what we need to do to address the challenges and opportunities in the region. Three recent examples of successful IWM projects are outlined below.

Supporting recreational areas in Foster using recycled water

Collaboration between South Gippsland Water, South Gippsland Shire Council and the community has resulted in the delivery of a sustainable and affordable water supply to the Foster Golf Club and the Foster Recreation Reserve. Both green spaces will be connected to a transfer pipeline from Foster Wastewater Treatment Plant and are expected to utilise 45ML of recycled water a year.

Maintenance of attractive and high-quality recreation spaces like the Golf Club is important for the success of small towns like Foster, that depend on tourism and visitors returning again and again. In the past, during summer, the peak tourist season, the fairways have died off without irrigation and become very patchy. This can leave a lasting impression on visitors. The Foster Golf Club President Greg Cox recognizes the direct economic benefits for the club and for the wider town that come from a new supply: "For us it will mean better visitor numbers, which means better income. The more people we've got coming to play at the club, the more revenue is being generated for the town too."



Neerim South wetland. Courtesy: Baw Baw Shire Council

Neerim South wetland

This wetland was born out of the vision of a forward-thinking community. Identified as the highest priority by the Neerim South community in their community plan, the wetland was made possible through the work of the Neerim South Wetland Working Group and support from the community. Schools, community groups, local businesses and individuals all contributed to the scheme voluntarily. Project delivery was supported by Melbourne Water, Victorian State Government and Baw Baw Shire Council.

It was recognised early that a wetland would not only have environmental and amenity benefits, but it could capture and cleanse stormwater that could be harvested as an irrigation supply for Neerim South Recreational Reserve and Neerim South Secondary College grounds. The construction of the wetland also offered opportunities to create walking tracks, a place for social and educational events and an attractive natural area for the town.

The wetland was completed in 2015 and ongoing planting, education and community activities are occurring.

Bellbird Park sustainable water use

A partnership between Gippsland Water, Baw Baw Shire Council, Bellbird Park Committee of Management and local sporting clubs has delivered a secure alternative irrigation water supply for Bellbird Park in Drouin. A prominent part of the community and landscape, the park is a major sport and recreation facility which has about 130,000 visitors per year. Rainwater harvesting was not providing sufficient water for summer irrigation, and as a valued community asset it was important to utilise an alternative water supply to keep the park green and playing surfaces usable.

In 2016 infrastructure was installed to treat and use wastewater from the nearby Gippsland Water wastewater treatment plant for irrigation at the park. This has resulted in a superior playing surface, as well as cost savings and potable water savings of up to 36ML a year. It has also provided environmental benefits through reduced wastewater discharge to the environment.



Recycled water use at Bellbird Park. Courtesy: Gippsland Water



Transmission lines in the Latrobe Valley. Photographer Dorothy Chiro



Chapter 3

IWM opportunities

A portfolio of IWM projects and strategies for which IWM collaborative partners have committed themselves to applying their best endeavours to progress.

State-wide and region specific initiatives

The IWM Forums were established in Victoria to identify, coordinate and prioritise place-based and catchment-wide opportunities that would most benefit from collaborative water cycle planning and management. This document outlines priority IWM opportunities for the Gippsland region. These include both strategies that will direct IWM in the region and specific projects that will deliver on-the-ground outcomes.

Alongside these opportunities, the IWM Forum Members identified a range of barriers that could prevent effective implementation of IWM across regional Victoria and metropolitan Melbourne.

The DELWP Water and Catchments Group is responsible for addressing these barriers to implementation in a holistic manner alongside relevant government organisations involved in land use planning and land management.

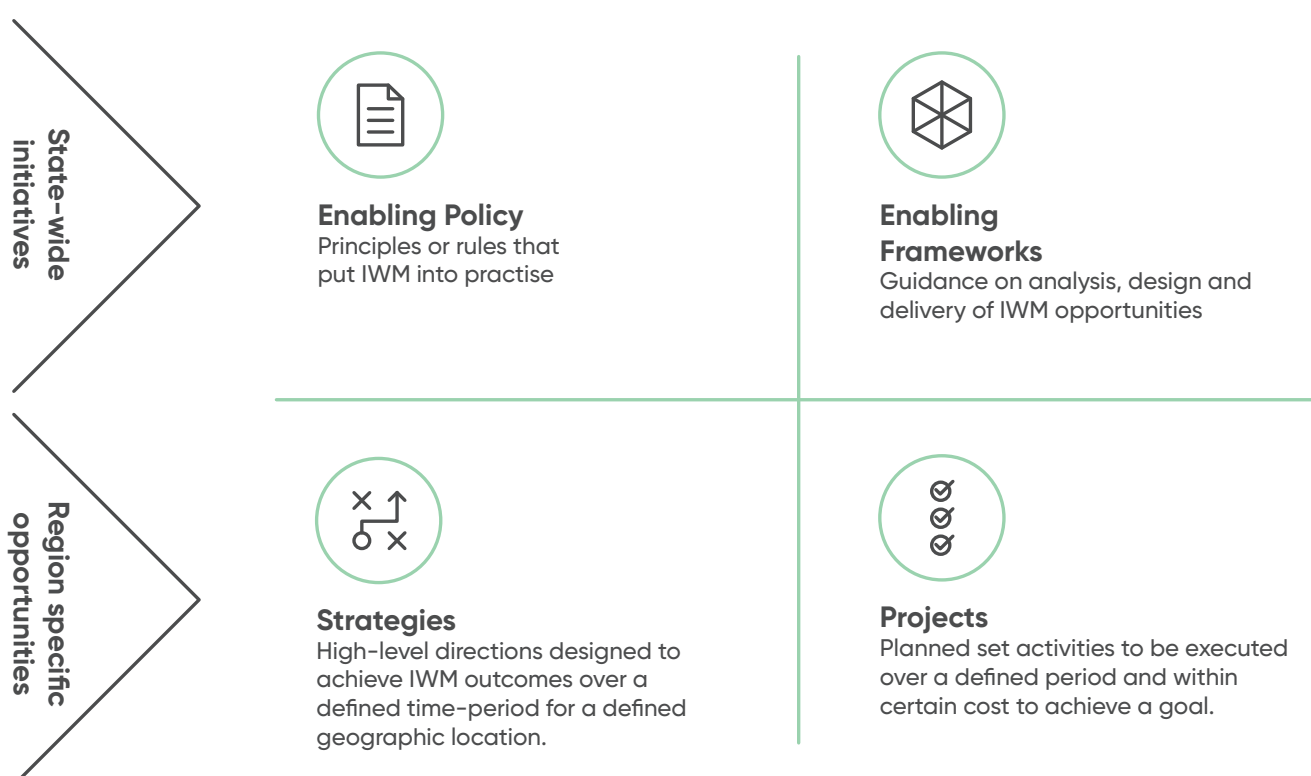
Advisory groups drawing on industry and independent expertise support DELWP in the development and implementation of strategic initiatives to fill knowledge gaps and address issues identified through the IWM Forum process.

Barriers to IWM are reviewed, with local implications and potential state-wide resolutions discussed. These discussions will help DELWP determine potential options for

policy reform and associated areas of impact for industry sectors and organisations.

Advisory groups provide advice regarding areas where planning, water, local government and other arms of government need to work more collaboratively to maintain and enhance the liveability and resilience of Victoria's cities and towns.

IWM framework at a State-wide and regional level

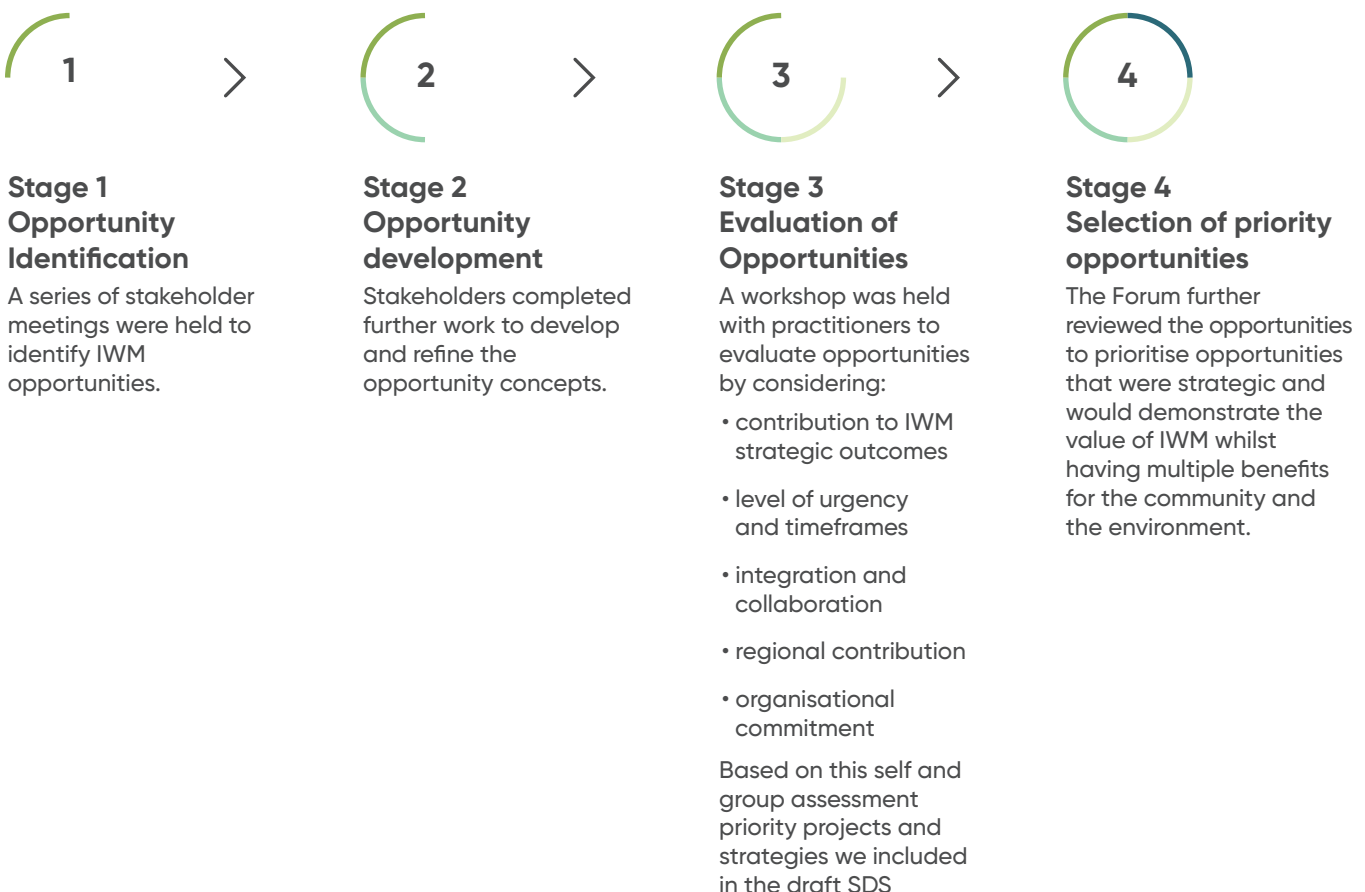


IWM opportunities: How were they selected?

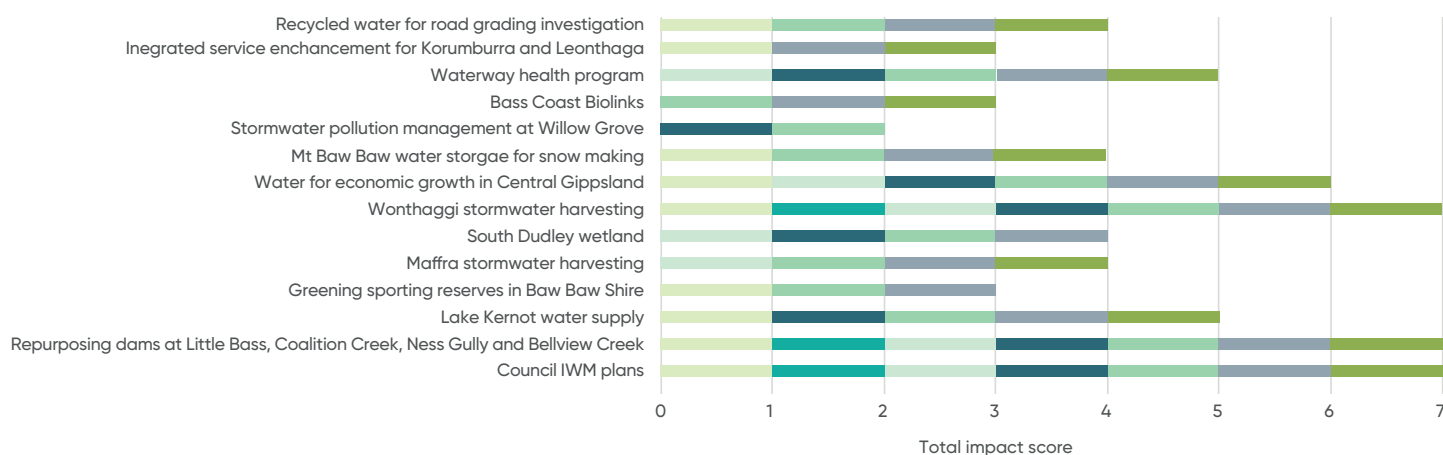
IWM opportunities that link to and address IWM challenges for the region were identified and developed by the nominated practitioners of participating organisations. The process was an iterative, transparent and inclusive.

This list of opportunities is dynamic and will be reviewed and updated as required to reflect the Forum's priorities. The long list of projects can be found in the appendix.

The IWM opportunity prioritisation process



































































































Impact of IWM opportunities on the Forum's strategic outcomes



- Safe, secure and affordable supplies that are fit for purpose
- Healthy and valued agricultural, rural and urban landscapes
- Effective and affordable wastewater systems
- Community values reflected in place-based planning
- Understand and manage flood regimes to sustain natural systems while minimising adverse impacts
- Recognise and progress opportunities to enhance jobs, economic benefit and innovation
- Healthy and valued waterways, wetlands, lakes, coastal environments and groundwater systems

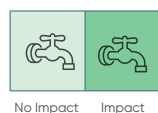


IWM project & strategy opportunities – overview

IWM opportunity	Strategic outcomes							Location	Scale
Council IWM plans								Central and south Gippsland	Inter-forum
Repurposing dams at Little Bass, Coalition Creek, Ness Gully and Bellview Creek								South Gippsland	Sub-catchment
Kernot Lake water supply								Morwell	Lot scale
Greening sporting reserves in Baw Baw Shire								Warragul, Drouin, Yarragon, Trafalgar	Sub-catchment
Maffra stormwater harvesting								Maffra	Town/City
South Dudley wetland								South Dudley	Lot scale
Wonthaggi stormwater harvesting								Wonthaggi Recreation Reserve	Lot scale
Water for economic growth in Central Gippsland								Central Gippsland	Forum area
Mt Baw Baw water storage for snow making								Mt Baw Baw	Sub-catchment
Stormwater pollution management at Willow Grove								Willow Grove	Lot scale
Bass Coast Biolinks								Bass Coast Shire	Inter-forum
Waterway health program								Gippsland	Forum area
Integrated service enhancement for Leongatha and nearby towns								South Gippsland	Sub-catchment
Recycled water for road grading investigation								South Gippsland Shire	Sub-catchment
Warragul and Drouin long term water supply security								Warragul and Drouin	Town/City

The status of each IWM opportunity included in the Priority Portfolio reflects the phase of work to be undertaken in this time period.

Shade scale



Strategic outcomes



Safe, secure and affordable supplies that are fit for purpose



Effective and affordable wastewater systems



Understand and manage flood regimes to sustain natural systems while minimising adverse impacts



Healthy and valued waterways, wetlands, lakes, coastal environments and groundwater systems



Healthy and valued agricultural, rural and urban landscapes



Community values reflected in place-based planning



Recognise and progress opportunities to enhance jobs, economic benefit and innovation

A summarised list of priority IWM opportunities is shown in the table below, with more detail in the following section. Please note that this list is dynamic and will continue to be updated to reflect the current Gippsland IWM Forum's priorities and opportunities.

Partners of the Forum are committing their best endeavours to ensure priority projects and strategies are progressed in line with the shared vision and strategic outcomes of the Gippsland IWM Forum.

Lead agency for collaborative opportunity	Status	Timing
Bass Coast Shire Council, Baw Baw Shire Council, Latrobe City Council, South Gippsland Shire Council, Wellington Shire Council		2 years
South Gippsland Water		2-5 years
Latrobe City Council		2 years
Baw Baw Shire Council		1-2 years
Wellington Shire Council		2 years
Bass Coast Shire Council	 	6-9 Months (once funds are secured)
Bass Coast Shire	   	9-12 months (once funds are secured)
Gippsland Water		0-2 years
Southern Alpine Resorts Management Board		0-2 years
Gippsland Water		1-2 years
Bass Coast Shire	   	1-5 years
West Gippsland CMA	   	Ongoing
South Gippsland Water		5 years
South Gippsland Shire		2-5 years
Gippsland Water		1-5 years

Project opportunity status



Strategy opportunity status



Priority Portfolio of IWM projects and strategies

Flagship opportunities

These opportunities have been selected to demonstrate the value of IWM, and the IWM Forum process in a short time frame, as well as to act as a catalyst for other IWM projects in the region.

ACTION G1

Council IWM plans

IWM plans will take a holistic look at the water cycle management in each council and provide the road map to make sound investments in opportunities that contribute to secure water supplies, valued landscapes and waterways, as well as reducing flooding and providing economic benefits. All plans will include Traditional Owner engagement. Each council will lead the development of their own IWM plan, and work closely with the implementation partners.

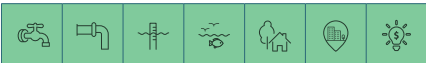
These plans will raise the profile of IWM amongst councils and the community to ensure water management is included in the decision-making process.

Unique value

As some plans will progress faster than others learning can be shared across organisations and provide capacity-building benefits for IWM opportunities. The plans will contribute substantial benefits to the Gippsland Region

Next steps

1. Implement learnings from the IWM plan workshop
2. Internal planning and budgeting
3. Continuously share learnings

						
Status		<div></div>				
Lead Agency		Bass Coast Shire Council, Baw Baw Shire Council, Latrobe City Council, South Gippsland Shire Council and Wellington Shire Council				
Implementation Partners		Bunurong LCAC, GLaWAC, Gippsland Water, South Gippsland Water, West Gippsland CMA, DELWP				
Location		Central, west and south Gippsland				
Timeframe		2 years				
Scale		Forum area				

ACTION G2

Repurposing dams at Little Bass, Coalition Creek, Ness Gully and Bellview Creek

Following the upgrade of water supply infrastructure in the region, several dams serving the towns of Poowong, Loch, Nyora and Korumburra will be available for repurposing. A large variety of future uses are possible such as community recreational uses, stormwater harvesting for fit-for-purpose supplies, commercial or industrial use. Repurposing these dams may also support a range of agricultural, environmental and cultural benefits.

This project aims to develop a list of opportunities with stakeholders, study the alternatives available and determine the best future use of the dams, the water allocations and land around the storages.

Unique value

Working with stakeholders and integrating community values into planning underpin this opportunity. This truly collaborative project will demonstrate the benefits that come from collaboration.

Next steps

1. Commence stakeholder discussions
2. Identify a long list of potential opportunities for preliminary evaluation

							
Status		<div></div>					
Lead Agency		South Gippsland Water					
Implementation Partners		South Gippsland Shire Council, PPWCMA, West Gippsland CMA, Southern Rural Water, Traditional Owners, local communities and businesses and surrounding properties, DELWP.					
Location		Little Bass Reservoir, Coalition creek reservoir, Ness gully, Bellview Creek reservoir					
Timeframe		2-5 years					
Scale		Sub-catchment					



Little Bass Dam.
Courtesy: South Gippsland Water

ACTION G3

Kernot Lake water supply

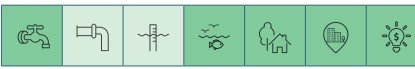
Kernot Lake, an important amenity feature in the town of Morwell, once kept topped up by discharge from a now closed power station, may run dry if action is not taken. Surrounded by Immigration Park, Federation TAFE and the newly established High Tech precinct, Kernot Lake is located adjacent to residential housing and is visible from Princes Drive, an area of high density traffic. Maintaining the current amenity of this asset is essential to the pride of the community of Morwell and the broader Latrobe Valley. Timely development of an options analysis will determine alternative water supplies and effective treatments to improve water quality that could provide the best balance of costs and benefits. Potential options include stormwater, raw water and recycled water. Kernot Lake is connected to Waterhole Creek, and this project will build on the Waterhole Creek Management Plan to enhance both waterbodies.

Unique value

This is an opportunity to demonstrate the value in examining all options for water supply and water quality and have community values reflected in place-based planning.

Next steps

1. Consult with stakeholders
2. Feasibility study

						
Status		<div></div>				
Lead Agency		Latrobe City Council				
Implementation Partners		Gippsland Water, GLaWAC, Southern Rural Water, West Gippsland CMA, user groups				
Location		Morwell				
Timeframe		2 years				
Scale		Lot scale				



Kernot Lake. Courtesy: Latrobe City Council

Increased community wellbeing through improved liveability

In Gippsland green open spaces such as parks and sporting reserves can be the heart of the community. Keeping these spaces irrigated with fit for purpose water will enhance the liveability of the region and have positive impacts on residents' wellbeing.

ACTION G4








Greening sporting reserves in Baw Baw Shire

Many sporting reserves in Baw Baw are irrigated with potable water supply. BBSC want to investigate alternative water supplies like groundwater, rainwater harvesting, and stormwater harvesting. Using fit for purpose sources will have economic benefits, secure water supplies, benefit the environment and achieve community recreation outcomes.

This project will build on the preliminary work done with Gippsland water for existing sporting reserves, as well as use the precinct structure plans done for Warragul and Drouin to bring stakeholders together to identify alternative water supply opportunities for open space irrigation in new development areas.

Next steps

1. BBSC and Gippsland Water to discuss previous work completed
2. Identify top priority existing recreation reserve
3. Investigation of requirements to secure alternative water supply
4. Develop a strategy to ensure IWM principles are applied when new sporting reserves are at design stage

						
Status						
Lead Agency						
Baw Baw Shire Council						
Implementation Partners						
Gippsland Water, Sporting Reserve Committees, Sporting Clubs, GLaWAC, Bunurong LCAC						
Location						
Yarragon, Trafalgar, Warragul and Drouin						
Timeframe						
1-2 years						
Scale						
Sub-catchment						

ACTION G5








Maffra stormwater harvesting

The township of Maffra has the opportunity to explore harvesting stormwater for irrigation. Maffra currently relies on water from the Macalister Irrigation District to water open spaces and utilising an alternate source would increase the town's water security.

Stormwater harvesting also addresses issues with overland flows from farms that is identified in the local floodplain management strategy. Some options to be evaluated include detention basins and inland storage.

Next steps

1. Work with project partners to scope various options
2. Select the preferred option and seek funding

						
Status						
Lead Agency						
Wellington Shire Council						
Implementation Partners						
West Gippsland CMA, GLaWAC, Gippsland Water, Southern Rural Water, EMV						
Location						
Maffra						
Timeframe						
2 years						
Scale						
Town/City						

ACTION G6








South Dudley wetland

This project proposed to redevelop the area around South Dudley and the Rescue Station as a stormwater treatment wetland system. The wetland would be positioned in the area that connects the Wonthaggi drain to the Wonthaggi motocross track. This large area of open space is valuable for habitat for wildlife and with integrated design it could also become an area for filtration of stormwater.

A concept design has been developed to incorporate a stormwater wetland system comprising of sediment basins and macrophyte zones to achieve both improved biodiversity and stormwater management outcomes.

Next steps

1. Collaborate and scope the project
2. Secure funding
3. Complete detailed design

						
Status		<div><div></div><div></div></div>				
Lead Agency		Bass Coast Shire Council				
Implementation Partners		South Gippsland Water, West Gippsland CMA, Bunurong Land Council Aboriginal Corporation, Parks Victoria, Sporting groups				
Location		South Dudley, Wonthaggi				
Timeframe		6-9 Months (once funds are secured)				
Scale		Lot scale				

ACTION G7

Wonthaggi stormwater harvesting

A stormwater harvesting scheme is proposed in Wonthaggi to provide two large ovals with irrigation water. The scope of the project involves the construction and installation of a one megalitre underground stormwater storage facility, the interception of feed in pipes, mechanical water treatment devices, drains and the construction of two bunds (small dams).








The system will be designed to allow storm water to pass into the underground storage facility directly and via an above ground bund.

The above ground bund stores four megalitres for several hours as an above ground pool and ground soak. When the underground storage and first bund are at capacity, overflow is transferred to a second bund which overflows via pipeline to a natural wetland area.

The system is designed to collect water for irrigation use and manage the progress of local flood events. Stored water will be used to irrigate ovals that currently use potable water.

Next steps

1. Secure external funding to begin construction

						
Status		<div><div></div><div></div><div></div><div></div></div>				
Lead Agency		Bass Coast Shire Council				
Implementation Partners		South Gippsland Water, West Gippsland CMA, Bunurong Land Council Aboriginal Corporation, Sporting groups				
Location		Wonthaggi Recreation Reserve				
Timeframe		9-12 months (once funds are secured)				
Scale		Lot-scale				

Achieving the best outcomes in a changing context

With change comes the opportunity to do things better. There are many shifts currently taking place across Gippsland including changes to industry, populations, and climate. The following projects will use IWM to create an opportunity for better outcomes in the face of these major changes.









ACTION G8

Water for economic growth in central Gippsland

This project will further explore the high-level opportunities for leveraging the water resources of the Latrobe system for the benefit of the broader Gippsland economy, including the attraction of major industry and high-demand water users. Through the development of a water resources and future infrastructure prospectus, this proposal aims to put water as a key enabler of economic growth, particularly in the Latrobe Valley, where there is a concentration of available water resources.

Next steps

1. Undertake workshop with implementation partners to identify demand and opportunities
2. Explore trade or supply by agreement options
3. Implement where agreement is reached

						
Status						
						
Lead Agency		Gippsland Water				
Implementation Partners		Latrobe City Council, Baw Baw Shire Council, New industry (through LVA and RDV), GLaWAC, Southern Alpine Resort Management Board, West Gippsland CMA, SRW.				
Location		Central Gippsland (Yarragon to Rosedale corridor)				
Timeframe		0-2 years				
Scale		Forum area				

ACTION G9









Mt Baw Baw water storage for snow making

New snow making technology enables snow making at any temperature, and Mt Baw Baw needs to increase its storage capacity to supply water for snow making throughout the winter. This will support recreational activities throughout the winter season and will also support local economies.

Current concepts include above ground and in-ground storage of 10 ML, and a water retention basin below the village. Southern Alpine Resort Management Board will work with the collaborative partners to find a solution that provides the most overall benefits whilst meeting regulations.

Next steps

1. Finalise commitment and funding from project partners
2. Commission work and undertake feasibility study
3. Depending on the outcomes of item 2, a detailed design and business case may follow

						
Status						
						
Lead Agency		Southern Alpine Resort Management Board				
Implementation Partners		SRW, West Gippsland CMA, Gippsland Water, Baw Baw Shire Council, Latrobe City Council, GLaWAC				
Location		Mt Baw Baw				
Timeframe		0-2 years				
Scale		Sub-catchment				

ACTION G10

Stormwater pollution management at Willow Grove








Willow grove is within a drinking water catchment. Significant water quality improvements could be made by improving stormwater runoff.

Currently urban storm water flows down a short, grazed, grassy gully into Blue Rock Lake at Willow Grove. The project seeks to design and install vegetation and cattle excluding fences to intercept and reduce pollutants from entering Blue Rock Lake. This will become more important as the volume of urban stormwater increases.

The planning application for development at Willow Grove is being done currently and nearing completion, therefore the opportunity needs be taken now to influence it.

Next steps

1. Coordinate meeting with implementation partners
2. Seek resource support from partners

						
Status		<div></div>				
Lead Agency		Gippsland Water				
Implementation Partners		Baw Baw Shire Council, West Gippsland CMA, Southern Rural Water, GLaWAC, Tanjil Landcare				
Location		Short stretch of land between Willow Grove and Blue Rock Lake				
Timeframe		1-2 years				
Scale		Lot scale				



Blue Rock Lake. Courtesy: Baw Baw Shire Council

Strengthening Gippsland's natural assets for future generations

Natural assets such as waterways and coasts are part of the unique character of Gippsland and need to be protected for future generations. Through IWM the following projects will strengthen natural assets and ensure they are healthy and valued.

ACTION G11

Bass Coast Biolinks








This project seeks to increase the amount of native vegetation cover in Victoria's southeast region through a network of biolinks connecting open green spaces and wildlife corridors through the landscape. This will be done by creating and enhancing vegetated riparian zones to capture, filter and retain water in the landscape, thereby providing habitat for birds, fish and animals, improving water quality, and mitigating flood related issues.

The Bass Coast Biodiversity Biolinks Plan was completed in 2018 and sets out a plan for riparian enhancement across the shire. The project is now in implementation phase. A collaborative approach will be taken to the implementation, with learnings shared between project stakeholders and other regional parties. By working together, a consistent approach to biolinks implementation will be created. This will be particularly important where biolinks cross local government boundaries.

Bass Coast Shire Council will engage with stakeholders and the community to develop a shared vision and prepare a draft plan of implementation.

Next steps

1. Implement the Biodiversity Biolinks Plan and work with surrounding regions to join projects together.

						
Status		<div><div></div><div></div><div></div><div></div><div></div></div>				
Lead Agency		Bass Coast Shire Council				
Implementation Partners		Bunurong LCAC, West Gippsland CMA, neighbouring councils, Landcare, community				
Location		Bass Coast Shire				
Timeframe		1-5 years				
Scale		Inter-forum				

ACTION G12







Waterway Health Program

The West Gippsland Catchment Management Authority Waterway Health Program protects and enhances priority waterways across their region, leading to better water quality and improved biodiversity outcomes.

The program will benefit from an IWM perspective and greater collaboration with project partners. Opportunities exist to extend the program in water supply catchments as this would provide benefits to waterway health and to treatment costs at downstream water supply treatment facilities.

Next steps

1. Continue implementation with project partners and explore options for greater integration

						
Status		<div><div></div><div></div><div></div><div></div><div></div></div>				
Lead Agency		West Gippsland Catchment Management Authority				
Implementation Partners		GLaWAC, Bunurong LCAC, land owners, local government, South Gippsland Water, Gippsland Water				
Location		Gippsland				
Timeframe		Ongoing				
Scale		Forum area				

Driving economic opportunities for Gippsland

Water is a key enabler for economic opportunities, these projects will use an integrated approach to drive opportunities through the sustainable management of water.

ACTION G13

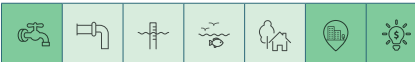
Integrated service enhancement for Leongatha and nearby towns

The small South Gippsland towns of Meeniyan and Dumbalk have separate water supply systems comprising raw water pump stations, water treatment plants and reticulation systems. The towns are supplied from the Tarwin River and water quality for the towns is protected through a declared water supply catchment covering a significant part of the shire. Planning and development controls apply in the declared catchment.

The project aims to evaluate connection of Meeniyan and Dumbalk to the Leongatha water supply to eliminate the declared catchment with potential benefits that include: reduced cost to South Gippsland Water customers, reduced planning and development constraints benefiting the region.

Next steps

1. Develop options sufficiently for an economic analysis of alternatives considering all potential costs and benefits across multiple stakeholders
2. Economic analysis to determine whether there is a business case for change

						
Status		<div></div>				
Lead Agency		South Gippsland Water				
Implementation Partners		South Gippsland Shire council, West Gippsland CMA, DELWP, local agricultural businesses.				
Location		Koonwarra, Meeniyan and Dumbalk.				
Timeframe		5 years				
Scale		Sub-catchment				

ACTION G14

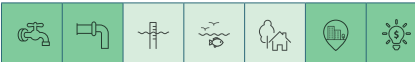
Recycled water for road grading investigation

South Gippsland Shire Council (SGSC) has over 1,200km of unsealed roads that require water for road grading to ensure agreed levels of service are maintained. Currently potable water is used, and the potential for alternate water sources such as class B and/or C recycled water from South Gippsland Water's waste water treatment plants will be explored among other alternate sources.

It is proposed to initially undertake a feasibility study to determine if a business case exists for this project to proceed to a pilot study.

Next steps

1. Conduct a feasibility study and develop a business case
2. Undertake a pilot study to determine if the project is viable and produces the level of service required by SGSC Asset Management Plan

						
Status		<div></div>				
Lead Agency		South Gippsland Shire Council				
Implementation Partners		South Gippsland Water, Bunurong LCAC, VicRoads				
Location		South Gippsland Shire				
Timeframe		2-5 years				
Scale		Sub-catchment				








ACTION G15

Warragul and Drouin long term water supply security

Gippsland Water's currently held entitlement to water in the Tarago River is insufficient to meet peak demands and projected growth. Currently water is purchased each Summer from Melbourne system entitlement holders under a temporary arrangement and sourced from Tarago Reservoir. A long term sustainable strategy is required to provide water supply security to this rapidly growing urban area. Major augmentation options are available and will be necessary, but the implementation costs are likely to be significant. There may be opportunities to reduce or defer costs by implementing potable water substitution initiatives, for example alternative supplies for parks, recreation reserves and industry.

Next steps

1. Undertake workshop with implementation partners to identify opportunities
2. Assess opportunities as part of long term system augmentation strategy to identify those that are feasible
3. Implementation

						
Status		<div></div>				
Lead Agency		Gippsland Water				
Implementation Partners		Baw Baw Shire Council, Community, DELWP Water and Catchments, GLaWAC, Major Industry (new and existing).				
Location		Warragul and Drouin				
Timeframe		1-5 years				
Scale		Town/City				

Appendix

Additional IWM opportunities in the Gippsland Region

Project	Collaborative partners
Collaborative Domestic Wastewater Management Plan	Wellington Shire Council
Establishment of waterway buffers in subdivisions and developments	West Gippsland CMA
Flooding Creek Linear Park	Wellington Shire Council
Dams in recreation reserves safety compliance	Latrobe City Council
Reduce impacts of urban development on water quality	West Gippsland CMA
Fit for purpose use of ground water and unutilised water resources	Gippsland Water
Drought water supplies for select green community assets	Gippsland Water
Firmins Lane Morwell industrial precinct servicing	Gippsland Water
Repurposing Inverloch Basin	South Gippsland Water
Servicing Strategy – Wonthaggi North Development Precinct	South Gippsland Water
Alternative water for filling and maintaining water bodies	Latrobe City Council
Alternative water use at Celery farm	South Gippsland Shire Council
Improve Water Literacy in Gippsland	Baw Baw Shire Council
Exploration of the cost of services for out of sequence development	Latrobe City Council
Investigate opportunities to utilise greywater being discharged in unsewered towns	Baw Baw Shire Council
Traralgon Creek Retarding Basin	West Gippsland CMA
Fit-for-purpose rural supplies for Toora	South Gippsland Water
Urban waterway transformation	Latrobe City Council
Alternative water for recreation reserves	Latrobe City Council
Water supplies for Meeniyar and Dumbalk	South Gippsland Shire Council
Wetland maintenance and design	Latrobe City Council
Stockyard Creek transformation study	South Gippsland Shire Council

References

- i State Government of Victoria (2016) Climate Ready Victoria. Department of Environment, Land, Water and Planning.
Available: <https://www.climatechange.vic.gov.au/information-and-resources>
- ii South Gippsland Water (2017) Urban Water Strategy, Gippsland Water (2017) Urban Water Strategy
- iii South Gippsland Shire Council (2015) Seasonal Population Impacts on Coastal Towns.
- iv West Gippsland Catchment Management Authority (2014) Waterways Strategy.
- v Gippsland Water (2017) Urban water strategy.

Glossary

Bunurong LCAC	Bunurong Land Council Aboriginal Corporation
CMA	Catchment Management Authority
DELWP	Department of Environment Land Water and Planning
EMV	Emergency Management Victoria
GLaWAC	Gunaikurnai Land and Waters Aboriginal Corporation
LVA	Latrobe Valley Authority
RDV	Regional Development Victoria
SRW	Southern Rural Water

