

# Maribyrnong Catchment Integrated Water Management Plan

Actions for Delivery



April 2024



Integrated Water  
Management Forums

Supported by



Energy,  
Environment  
and Climate Action

### **Acknowledgement of Victoria's Aboriginal communities**

The Maribyrnong Integrated Water Management (IWM) Forum proudly acknowledges Victoria's Aboriginal communities and their rich culture and pays its respects to their Elders past and present. The Maribyrnong IWM Forum also recognises the intrinsic connection of Traditional Owners to Country and acknowledges their contribution to the management of land, water and resources.

We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

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# Acknowledgements

The Maribyrnong Catchment Integrated Water Management Plan: Actions for Delivery has been developed by the Maribyrnong Integrated Water Management (IWM) Forum. Members of this forum include the Chief Executive Officers, Executive Directors and Managing Directors of the following organisations:

**Brimbank City Council**

**Bunurong Land Council Aboriginal Corporation**

**City of Melbourne**

**Greater Western Water**

**Hobsons Bay City Council**

**Hume City Council**

**Macedon Ranges Shire Council**

**Maribyrnong City Council**

**Melbourne Water**

**Merri-bek City Council (formerly  
Moreland City Council)**

**Moonee Valley City Council**

**Southern Rural Water**

**State Government of Victoria, Department of  
Energy, Environment and Climate Action**

**State Government of Victoria,  
Victorian Planning Authority**

**Wurundjeri Woi-wurrung Cultural  
Heritage Aboriginal Corporation**

**Yarra Valley Water**

This plan represents the collective aspirations and intent of these organisations and has been developed through a collaborative process. The plan development process was facilitated by the Department of Energy, Environment and Climate Action (DEECA) and overseen by the Maribyrnong IWM Forum Working Group. The plan has been developed with assistance from E2Designlab. Action prioritisation and the development of a supporting digital dashboard was undertaken with the assistance of Aurecon.

The Maribyrnong IWM Forum is grateful to the Maribyrnong IWM Working Group for the time and technical expertise they dedicated to guide the development of this plan.

The Maribyrnong IWM Forum acknowledges the Traditional Owners as original custodians who have managed land and water sustainably over thousands of generations and who maintain an active connection to Country. Traditional Owners hold the knowledge, stories, custodial obligations, and cultural expertise that has always ensured the health of waterways and Country. Each Traditional Owner group within the Maribyrnong IWM Forum holds the cultural authority to speak for water, rivers, and Country within their traditional region.

# Minister's foreword

Water is our most vital resource and is essential to the health and wellbeing of people and the environment. Water enhances community wellbeing, the liveability of our cities, supports economic growth and jobs across Victoria, and is deeply connected to Aboriginal culture.

Climate change and the rapid increase in population and urbanisation are placing considerable pressure on water supplies, damaging our waterways, land and marine environments, and threatening amenity and ecological and human health. The need to adapt and improve liveability and resilience of our cities and towns is critical.

The Victorian Government's Integrated Water Management (IWM) Program addresses this need from a water perspective. It began with the release of the *IWM Framework for Victoria* in 2017 as a response to Chapter 5 of the Victorian Government's strategic plan for management of the State's water resources, *Water for Victoria* (2016), which recognises that IWM has a key role in positioning Victorian cities and towns to be liveable and resilient.

I want to acknowledge the continuing work to help progress our commitment to put IWM as the business-as-usual water management practice in Victoria. Establishment of 15 IWM Forums across the state is the first step towards delivering this commitment. IWM Forums bring together many dedicated stakeholders with a wide range of expert and lived experience, including water corporations, local government representatives, catchment management authorities, Traditional Owners and the Victorian Planning Authority.

Partners of the five IWM Forums in Metropolitan Melbourne (Werribee, Maribyrnong, Yarra, Dandenong and Western Port) have also achieved significant progress towards mainstreaming the IWM approach to support thriving communities.

I congratulate the five Metropolitan IWM Forums for delivering the inaugural Catchment Scale IWM Action Plans. This is a huge collaborative achievement of the 50 partners involved in the Metropolitan IWM Forums over the past six years.

The Metropolitan Catchment Scale IWM Action Plans establish a clear direction to collaboratively implement IWM initiatives across organisational and geographic boundaries. These Plans demonstrate the immense power of collaboration. I look forward to this collaborative effort continuing as these Plans are delivered and the community experiences the positive impacts for generations to come.



**The Hon. Harriet Shing MP**  
Minister for Water

# Chair's foreword

We are witnessing an historic transformation of the Maribyrnong catchment as more people choose to live, work and visit this vibrant and beautiful region of Victoria.

With urban and regional development moving swiftly to accommodate population growth, we too must move swiftly to work together to protect and enhance the natural character of the region, most notably the treasured Maribyrnong River, a unique environment and resource with strong natural and cultural heritage significance that provides benefits to Melbourne's growing western and northern suburbs, as well as rural areas of the upper catchment.

The Maribyrnong Integrated Water Management (IWM) Forum brings together many dedicated and forward-looking water industry stakeholders, including water corporations, Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation, Bunurong Land Aboriginal Council, and local government representatives to ensure our opportunities for continued prosperity don't come at a cost to our iconic natural environments.

The pressures from climate change, rapid population growth and urbanisation demand that we realign the way in which we plan and design our cities and manage our natural resources. These challenges require water to be at the centre of the urban planning process.

As Chair of the Maribyrnong IWM Forum, I take this opportunity to celebrate the remarkable accomplishments of our Forum and Working Group members since the IWM Forums were established in 2018. Over the last five years, we have achieved significant milestones towards embedding IWM in urban planning processes.

I would also like to acknowledge the deep commitment of all Forum Members and the hard work of the Working Group members and DEECA staff to produce this *Catchment Scale IWM Plan: Actions for Delivery*.

The plan demonstrates a pivotal shift, where our endeavours are not just aspirational, but are focused on tangible delivery and meaningful outcomes. It provides a launching pad to guide investment in IWM over the next 10 years, with Forum partners working together to deliver on-the-ground IWM projects, unlock new investment opportunities, and address urgent challenges.

The challenges we face require sustained effort by all parties and our dedication to key enabling policy work will be a continued focus as we look ahead.

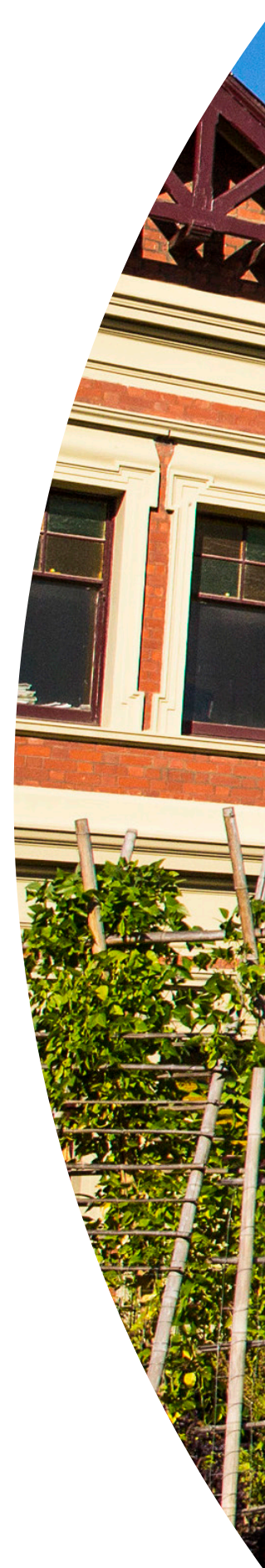


A handwritten signature in dark ink, appearing to read 'Rohan Henry'.

**Rohan Henry**  
Chair of the Maribyrnong  
IWM Forum

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Victorians face a future with less water due to climate change and population growth. We need to act now and rethink the ways we manage our water resources.

Integrated water management (IWM) is a holistic approach to managing water that takes into account the interconnected nature of water and land systems and considers the social, cultural, economic, and environmental aspects of water use.

IWM can be applied at all scales, from waterway catchments to smaller suburbs and towns, and even down to individual streets and houses. Solutions identified through IWM can improve water security, reduce degradation of waterways and bays, reduce flood risks, rehabilitate ecosystems, create vibrant open spaces, and support peri-urban agriculture. This enhances climate resilience and improves the health and well-being of communities and the amenity and liveability of our cities.

# The Maribyrnong catchment

## Vision

The community and environment of the Maribyrnong catchment are healthy, thriving and resilient, and the catchment's unique characteristics are valued and celebrated.

## Catchment condition and challenges

The Maribyrnong catchment, extending south from the southern slopes of the Great Dividing Range at Mount Macedon to where the Maribyrnong and Yarra Rivers meet upstream from Port Phillip Bay, covers about 1,580 square kilometres. The landscape of the Maribyrnong catchment varies from agricultural areas, parks and natural woodlands and grasslands to densely populated inner urban areas closer to the city. Within the Maribyrnong catchment are the traditional lands of the Wurundjeri Woi-wurrung and the Bunurong peoples.

The Maribyrnong River (Mirring-gnay-bir-nong, meaning 'I can hear a ringtail possum') flows 160 kilometres in a south-easterly direction to where the Maribyrnong and Yarra Rivers meet upstream from Port Phillip Bay. Waterway health is strongly linked to land use, with the upper reaches of waterways in a more natural condition than those in urban areas. Sensitive tributaries in the previously undeveloped northern areas of the catchment, particularly around Sunbury and in the Macedon Ranges, are at risk from increasing urban runoff volumes where development is proposed. Water quality deteriorates downstream, due to agriculture, urban development and the resulting stormwater pollution.

The catchment has an estimated population of 612,000 people and is predicted to nearly double by 2050. Significant areas of the catchment are undergoing rapid urban residential development, encroaching on areas used to support agriculture, natural woodlands and grasslands. The densification of Melbourne's inner and middle ring suburbs around Arden Macaulay, Defence Site Maribyrnong and Sunshine, coupled with rapid growth through the outer catchment, highlights the need for integrated catchment planning and management. Victoria's Big Build also presents opportunities to apply the IWM approach in the provision of water services.

The catchment draws some of its potable water supply from Rosslynne Reservoir in Gisborne, but is increasingly reliant on the Melbourne water supply system. Supply and demand modelling for townships in the north of the catchment indicate a likely water supply shortfall in the future and the need for system augmentations to accommodate the Sunbury growth area and surrounds.

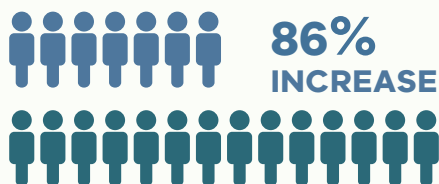
There are several locally managed wastewater treatment plants such as Gisborne, Riddells Creek, Romsey, Woodend and Sunbury in the catchment that could provide recycled water for use. By increasing alternative water supplies to farmers, there is an opportunity to support economic growth in the region.

The future climate will be hotter and drier, with lower average annual rainfall expected over the naturally dry catchment, which will decrease river flows,

placing further strain on the health of waterways. While there will be a reduction in average annual rainfall, the catchment is predicted to see more frequent and more intense rainfall events that will increase the risk of flooding in the lower catchment. There are opportunities to harvest, treat and reuse urban stormwater that can help alleviate the impact of flooding while supporting green and cooler landscapes, enhance liveability and reduce the impacts of stormwater on creeks and rivers.

## POPULATION GROWTH

**612,000** 2021  
**1,140,000** BY 2050



<sup>1</sup> State Government of Victoria (2019). Victoria in Future 2019 (VIF2019).

<sup>2</sup> State Government of Victoria (2022). Central and Gippsland Region Sustainable Water Strategy. Final Strategy.

## The role of IWM

Maribyrnong is facing a hotter and drier climate; more severe and frequent storms, bushfires and floods; population growth; water scarcity; cost of living pressures; and the need to invest in new infrastructure while managing rising construction costs.

To meet this challenge, we all have a role to play on our shared journey toward improved resilience and sustainability. Together, we can achieve better collective value, leading to outcomes that positively impact every member of our community.

By managing the whole water cycle, we can achieve a wider range of outcomes including:



conserving our precious drinking water supplies by using alternative water supplies (such as high-quality recycled water) for fit-for-purpose uses



supporting greener, cooler streets and parks, and creating vibrant public spaces



contributing to healthier rivers, creeks, wetlands and our bay through improving the quality and flows of water through these systems



helping to mitigate flood risks



improving productivity and prosperity of agriculture and Victorian businesses.

By adopting the IWM approach, all these benefits can be delivered while providing the same or improved level of services for water supply, sewage and drainage. The strategic outcomes that IWM aims to achieve across the Maribyrnong catchment are described on page 7.

## Collaboration is key to the success of this plan

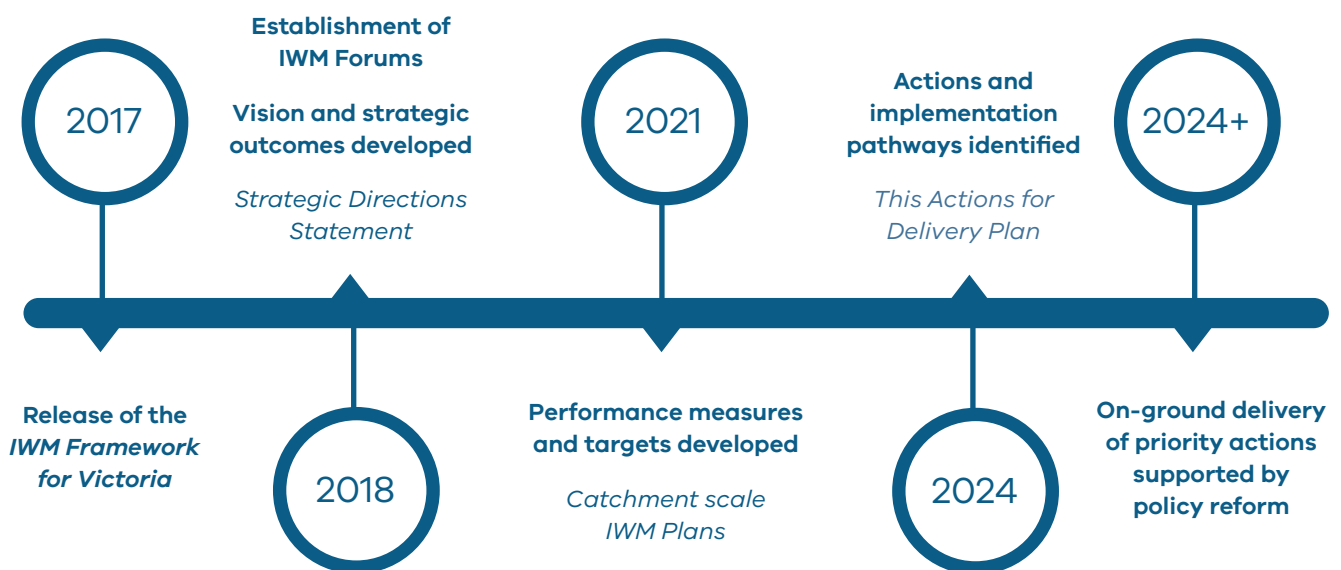
Creating a resilient and liveable future is a shared responsibility. Sixteen stakeholder organisations (referred to as IWM Forum partners) in the Maribyrnong catchment are working together to respond to regional challenges and local issues. This approach embraces the co-delivery of on-the-ground outcomes to progressively transform the way we manage our urban water resources and catchments. In turn, this will deliver greater benefits for the region than can be achieved by any one organisation in isolation.

## Our journey

Following the establishment of IWM Forums in Metropolitan Melbourne in 2018, each Forum collaboratively developed an agreed vision underpinned by 7 strategic outcomes. These are articulated in the *Strategic Directions Statement* for each catchment, published in 2018 and available on the [Victorian Government IWM website](#).

From 2019 to 2021, IWM Forum partners worked together through a rigorous and collaborative process to develop catchment performance measures and targets for each outcome area. These are articulated in the *Catchment scale IWM Plan: Targets Driving Outcomes* for each catchment, published in 2022 and available on the [Victorian Government IWM website](#).

Since early 2022, the forums have been developing a suite of strategic actions that deliver the greatest advances towards the targets. The priority actions are captured in the *Catchment scale IWM Plan: Actions for Delivery* for each catchment (this document) and will define the forward journey for each Metropolitan Melbourne IWM Forum. We will monitor and report on catchment and regional progress against the IWM targets.



IWM is a major pillar of the other local and regional planning strategies that are needed to achieve a liveable and resilient Melbourne. This plan bridges the gap between and across these strategies, in particular:

- *Central and Gippsland Region Sustainable Water Strategy 2022*
- *Water is Life: Traditional Owner Access to Water Roadmap 2022*
- *Greater Melbourne Urban Water & System Strategy: Water for Life 2022*
- *Flood Management Strategy for Port Phillip and Western Port 2021-2031*
- *Victoria's Climate Change Strategy 2021*
- *Healthy Waterways Strategy 2018-2028*
- *Melbourne Sewerage Strategy 2018*
- *Plan Melbourne 2017-2050*
- *Victoria's Housing Statement: The Decade Ahead 2024-2034*
- *Council Community Plans, Climate Change and Water Plans*
- *Open Space for Everyone: Open Space Strategy for Metropolitan Melbourne 2021*

# From planning to delivery

We have taken the time to define what we want and our pathway forward. We are now ready to act and implement actions for the benefit of the Maribyrnong catchment as well as the region.

## What we are aiming to deliver?

### Strategic outcomes

The *Strategic Direction Statements* articulate the IWM vision and strategic outcomes for each catchment. The IWM strategic outcomes are described in Figure 1. Each strategic outcome will play a significant role in shaping the liveability, prosperity and resilience of the community living in the Maribyrnong catchment as well as the Greater Melbourne region.

Each priority action listed in this plan supports one or more of the IWM strategic outcomes and will bring us a step closer to achieving Maribyrnong's vision.

### Indicators, measures and targets

Indicators, measures and targets further define the strategic outcomes for each catchment. These are articulated in the *Catchment scale IWM Plans: Targets Driving Outcomes*. These plans reflect important indicators and measures for IWM forum partners to adopt.



**Safe, secure and affordable water supplies in an uncertain future**



**Effective and affordable wastewater systems**



**Existing and future flood risks are managed to maximise outcomes for the community**



**Healthy and valued waterways and marine environments**



**Healthy and valued urban and rural landscapes**



**Community values are reflected in place-based planning**



**Jobs, economic benefits and innovation**

**Figure 1. Strategic Outcomes**

## What is this plan?

The *Maribyrnong Catchment Integrated Water Management Plan: Actions for Delivery* is one of five such plans: one for each of the catchments in Metropolitan Melbourne (i.e. Dandenong, Maribyrnong, Werribee, Western Port and the Yarra). Collectively, these are referred to as 'Catchment scale IWM Plans: Actions for Delivery'.

Each plan includes outcome-focused actions at a range of scales, which are complementary and reinforcing, to improve the resilience, liveability and sustainability of our urban areas and the environment.

The priority actions in this plan, combined with locally important projects, and new actions that will be identified in the future, are all part of how we will deliver our catchment and regional targets.

## How this plan was developed?

This plan was developed by the partners of the Maribyrnong IWM Forum in collaboration with partners of the Yarra, Dandenong, Western Port and Werribee IWM Forums. IWM Forums provide member organisations with a transparent process to enhance or accelerate IWM initiatives and coordinate IWM across organisational and geographic boundaries.

IWM Forum partners worked together to decide on the key actions to take forward as part of this plan.

## How will this plan be used?

The *Maribyrnong Catchment Integrated Water Management Plan: Actions for Delivery* will support water planning and management over the next 10 years (2024–2034), which will deliver clear outcomes for the catchment. It outlines a suite of priority projects agreed on by all organisations involved in the management of water, working together towards a common vision. Many more locally important projects are being pursued, which collectively contribute to the strategic outcomes of the catchments.

The plan will be used by IWM Forum partners to guide investment. It will be a living plan, to be reviewed regularly. Organisations will use their best endeavours to progress projects using the priority action lists for infrastructure planning and when making investment decisions. Future actions will be identified through updates to the plan.



- Vision and strategic outcomes for the catchment
- The case for putting IWM into practice
- Priority actions to deliver strategic outcomes for the catchment
- Performance indicators and measures to track progress towards each strategic outcome
- Outcome-focused targets, where relevant, to define the desired state by 2030 and 2050
- Priority structural and enabling actions to contribute to delivering outcomes for the Maribyrnong catchment as well as for the Greater Melbourne region



## Working with Traditional Owners

The holistic intent of the IWM approach means that it recognises the importance of land and water management within a system that is interconnected to resources, community, culture, spirituality and ancestry. This whole-of-system thinking is a common thread between IWM and Traditional Owners.

Traditional Owners have an intrinsic connection to Country and hold knowledge, stories, custodial obligations, and cultural expertise that has ensured the health of Country for millennia. This knowledge is critical to holistic water management, robust decision-making, and may help environmental water managers set priorities. When Country is healthy and cared for, it supports healthy people and healthy economies, which benefits everyone. Including Traditional Owner knowledge, values and objectives in water management are critical to healing Country, promoting Traditional Owners' self-determination, fostering meaningful collaboration, and ultimately embedding a holistic IWM approach in Victoria.

Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation and Bunurong Land Council Aboriginal Corporation are Maribyrnong IWM Forum partners who have been part of the IWM journey since the Forums were established in 2018.

The Maribyrnong IWM Forum acknowledges that Bunurong and Wurundjeri Woi-wurrung Traditional Owners seek legislative and structural recognition of Traditional Owners sovereign responsibility to care for and manage Country, the right to the management of water and waterways, and the right to lead catchment and water-related decision-making on Country. The Maribyrnong IWM Forum also acknowledges that Bunurong and Wurundjeri Woi-wurrung Traditional Owners seek the direct return of land and water for their self-determined use.

Although involvement in the Maribyrnong IWM Forum has been limited recently, Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation and Bunurong Land Council Aboriginal Corporation have extensive experience in land and water management in Victoria, including significant contributions to the development and current implementation of the *Waterways of the West, Central and Gippsland Region Sustainable Water Strategy* (CGRSWS) and *Water is Life: Traditional Owner Access to Water Roadmap*.

## Water is life: Traditional Owner Access to Water Roadmap

The Victorian Government is committed to working with Traditional Owners to increase their access to water and their involvement in water management. Launched by the Minister for Water in October 2022, *Water is Life: Traditional Owner Access to Water Roadmap* (*Water is Life*) provides an important framework to support Traditional Owner self-determination in water access and management. *Water is Life* sets out clear pathways to increase Traditional Owner roles, responsibilities and resourcing water management in Victoria, and commits to increase the volume of water returned to Traditional Owners for cultural, spiritual and economic use.



## Central and Gippsland Region Sustainable Water Strategy

As statutory instruments required under the Water Act 1989, sustainable water strategies are an important tool for the Victorian Government to work in genuine partnership with Traditional Owners. In alignment with the *Victorian Government Self-Determination Reform Framework*, the *Central and Gippsland Region Sustainable Water Strategy (CGRSWS) (2022)* explicitly considers cultural, spiritual, social, wellbeing and economic outcomes for Traditional Owners through self-determination in water management.

Since 2023, the five Metropolitan Melbourne IWM Forums have been trialling new approaches to engage with Traditional Owner groups outside the IWM Forum and Working Group meetings, including via one-on-one meetings coordinated by DEECA. The intent has been to work within existing Traditional Owner platforms and processes at the request of Traditional Owner groups and therefore provide more time efficient and meaningful opportunities for Traditional Owners to remain connected to IWM Forum activities.

This coordinated approach led to the development of a new systemic enabling action within this plan: **Systemic enabling action 1: secure funding and resourcing to enable Traditional Owners to make decisions and determine IWM priorities on their Country** (refer to page 38). This action

aims to better support ongoing Traditional Owner involvement in IWM, and meaningfully work towards restoring Traditional Owner rights and responsibilities in water management on their Country. This will require IWM Forum partners further investing and prioritising engaging with Traditional Owners to support this outcome. All registered Aboriginal parties across the five Metropolitan Melbourne IWM Forums and the IWM Forum partners support this action.

*'The Bunurong cultural perspective does not separate water from Country, but instead considers water and places part of Bunurong Country and symbolic of the interconnectedness of life and people.*

*Water 'connects us to our Country'; it travels through and with all Bunurong people, connecting us.'*

### **Bunurong Land Council Aboriginal Corporation Nation Statement (Water is Life, 2022)**

*'Our aspiration is to be structurally involved in each level of government regarding the decision-making and management of our lands and waterways.*

*We want this to be standard practice, not the exceptions.'*

### **Aunty Margaret Gardiner, Wurundjeri Woi-wurrung Elder in Nation Statement (Water is Life, 2022)**

# Priority actions to respond to catchment challenges

## What are priority actions?

Priority actions are important initiatives to help protect the region's distinctive character while delivering alternative water supplies for open space irrigation and agricultural purposes, and reducing stormwater pollutant loads to protect local waterways. Some are structural and others aim to resolve key water management barriers.

In September 2023, Forum Members agreed on 35 priority structural actions across the catchment. More information on these priority actions is provided in the 'Structural actions overview' section (page 15).

While progressing structural actions, IWM Forum partners recognise the need to simultaneously work towards resolving key barriers and challenges to the delivery of IWM, including funding, policy, regulation and, more broadly, governance, institutional challenges and planning.

There are 15 priority systemic enabling actions identified and listed in the 'Systemic enabling actions overview' section (page 23). Priority actions address key regional challenges and seek to support the widespread delivery of more structural actions. To deliver the necessary changes in industry practice, some actions will require a program of activities. It may take several years to progressively shift practice and unlock change.

Thirteen priority place-based enabling actions are listed in the 'Place-based enabling actions overview' section (page 25).

### 35 structural actions (Page 15)

Structural actions provide benefits that can be quantified. They deliver on-the-ground infrastructure, such as an alternative water supply network, or natural assets, such as wetlands, raingardens, rivers, creeks, trees and vegetation.

### 15 systemic enabling actions (Page 23)

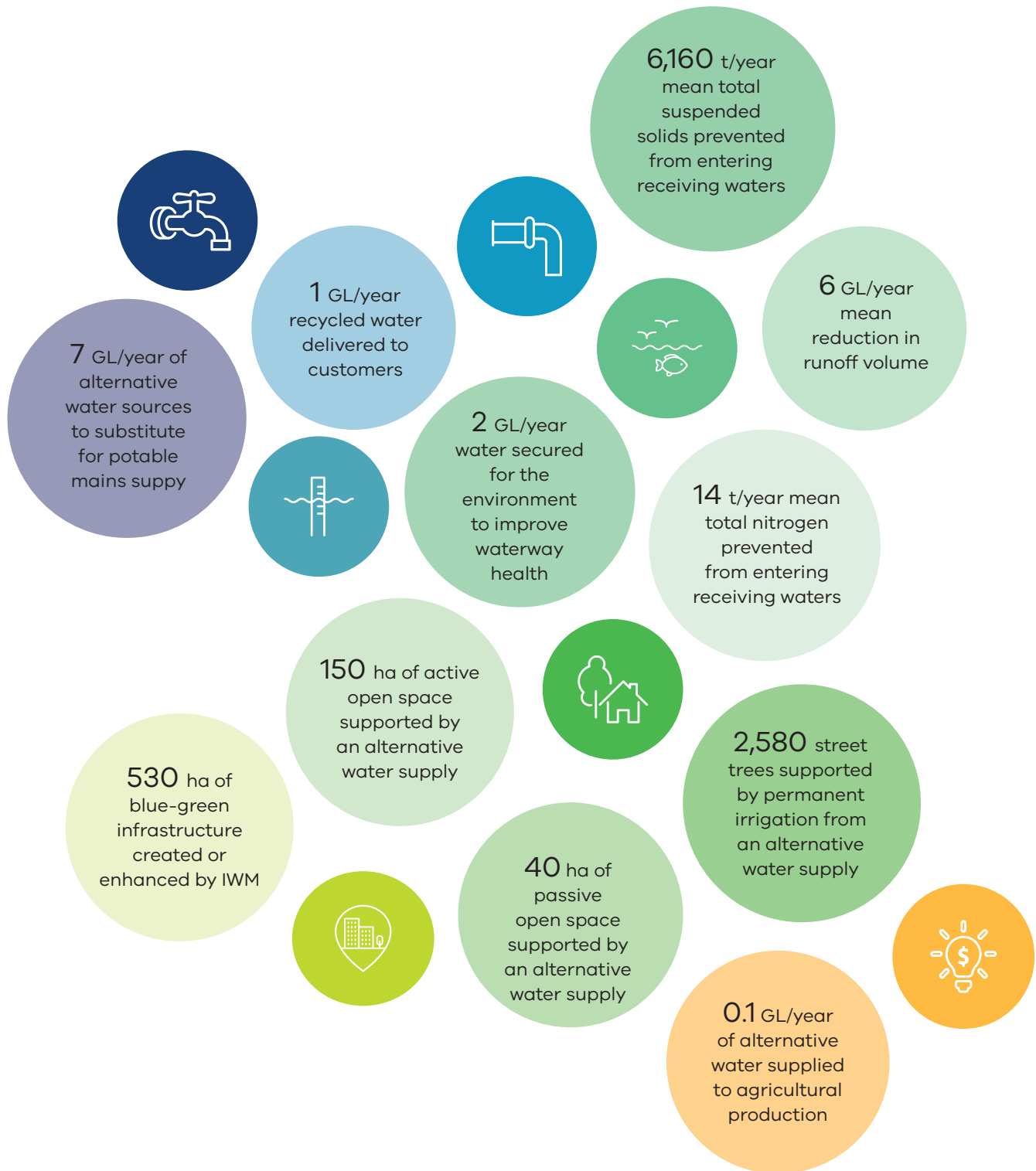
Systemic enabling actions help transition from conventional water management to IWM. Priority actions address key regional challenges.

### 13 place-based enabling actions (Page 25)

Place-based enabling actions help address local and site-specific issues.

## Impact of IWM actions on the Maribyrnong catchment by 2050

We are already tracking what we have achieved and what we expect this plan to deliver for the Maribyrnong catchment. For example, during the development of the IWM targets, the IWM Forums estimated the benefits of IWM projects delivered by 2019. Some of the key benefits expected by 2050 for the Maribyrnong catchment are shown below, when combining the benefits we expect this plan to deliver with existing IWM benefits. For more details about the 2019 estimates, refer to the *Catchment Scale IWM Plan: Targets Driving Outcomes* (2022).



**Figure 2. Expected benefits in the Maribyrnong catchment by 2050 (represents the combination of IWM benefits delivered in 2019 and the benefits expected through the implementation of all priority structural actions)**

## Part of a bigger picture

IWM requires collective effort across the entire Metropolitan Melbourne region. In Metropolitan Melbourne, there are a total of 135 priority structural actions and over 50 priority place-based actions.

Collectively the actions will shape the liveability, prosperity and resilience of the region. These are significant impacts that would otherwise not be realised through a less collaborative approach.

If all priority actions are delivered across the 5 Metropolitan Melbourne Forum areas, we will diversify our water supplies, improve catchment and waterway health, and sustain local food production.

The estimates below represent the key benefits expected for the region, when combining the IWM benefits we expect from the 5 *Catchment-scale IWM Plans: Actions for Delivery* with existing IWM benefits.

### Diversifying our water supplies

By 2030, we expect to deliver 42 GL/year of alternative water to substitute for drinking water, against a target of 53 GL/year. By 2050, this is expected to increase to 136 GL/year, against a target of 150 GL/year.

**2030**



79% of target met

**2050**



91% of target met

### Increasing recycled water supplies

By 2030, we expect to deliver 67 GL/year of recycled water to customers, against a target of 85 GL/year. By 2050, this is expected to increase to 137 GL/year of recycled water, against a target of 230 GL/year.

**2030**



76% of target met

**2050**



55% of target met

### Protecting our waterways from stormwater runoff

By 2030, we expect to deliver a 44 GL/year reduction in the volume of stormwater runoff entering waterways, against a target of 70 GL/year. By 2050, this is expected to increase to 79 GL/year, against a target of 197 GL/year.

**2030**



63% of target met

**2050**



35% of target met

## Increasing water for the environment

By 2030, we expect to secure 43 GL/year of water for the environment to improve waterway health, against a target of 55 GL/year for the year 2032<sup>1</sup>. By 2050, this is expected to increase to 56 GL/year.

**2032**



80% of target met

## Supporting agricultural production

By 2030, we expect to deliver 43 GL/year of alternative water for agricultural production, against a target of 63 GL/year. By 2050, this is expected to increase to 54 GL/year, against a target of 112 GL/year.

**2030**



68% of target met

**2050**



48% of target met

## Progress towards our targets

If we successfully deliver on this plan, we will be about 60% of the way towards meeting our 2050 targets. Some gaps still remain, particularly in reducing stormwater runoff. Over the next two years, the IWM Forums will continue to identify emerging opportunities in IWM.

Outside the IWM Forums, these gaps are also being addressed through local IWM projects, *Plan Melbourne*, *The Greater Melbourne Urban Water System Strategy*, and the *Central and Gippsland Region Sustainable Water Strategy*. We need to keep working together to meet our targets.

**Target/  
outcomes  
met**



**Priority actions identified  
in this plan**

**Locally important  
actions delivered  
by organisations  
and communities**

**Future actions  
to be identified**

<sup>1</sup> The target for returning water to the environment comes from the *Central and Gippsland Region Sustainable Water Strategy*. The strategy does not include a 2050 target.

# Structural actions overview

The next decade will see activities undertaken by Forum partners that will progress actions towards construction.

The 35 priority structural actions are at different stages of progress, from ideas development, to feasibility and concept, business case, detailed design and construction. These are significant large-scale actions that will be complemented by many other local actions (not detailed in this plan). By their very nature, IWM actions deliver multiple outcome-based objectives (e.g. provision of an alternative water supply, water quality improvement, or waterway or landscape enhancement) and these are summarised in Table 1.

Figure 3 and Table 1 outline the priority structural actions for the Maribyrnong catchment. A more detailed description of these actions is provided on pages 29-37.

Across Maribyrnong's 35 priority structural actions:



**28x**  
diversify our water supplies



**1x**  
uses recycled water



**9x**  
reduce / manage  
flood impact



**33x**  
contribute to healthy  
waterways



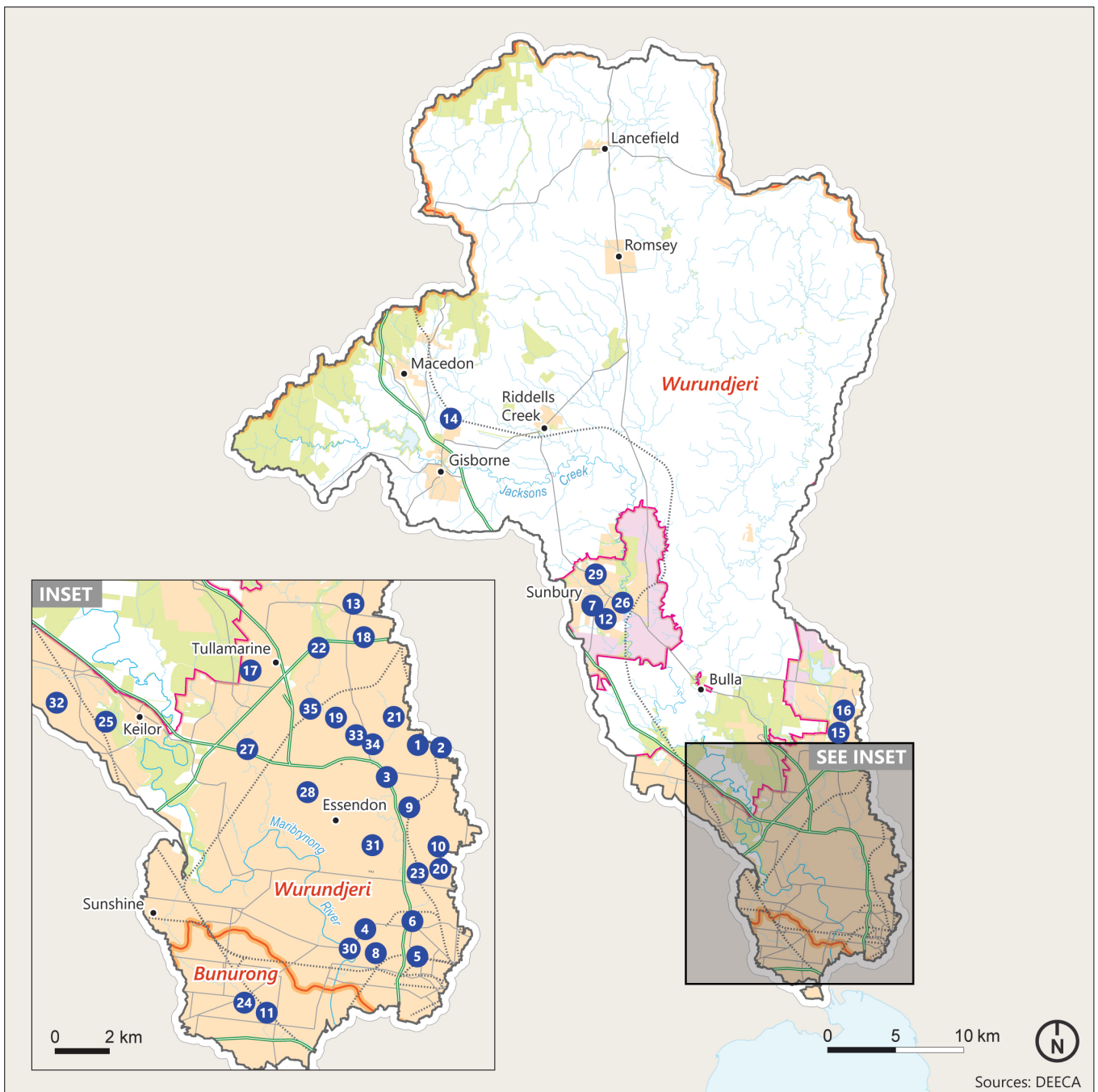
**26x**  
contribute to healthy  
landscapes



**16x**  
reflect community  
values in planning



**4x**  
deliver water for  
industry / agriculture



### Priority Structural Actions Maribyrnong Catchment

- Town
  - Freeway
  - Major Road
  - ..... Rail
  - ~ River or Major Creek
  - ~ Minor Creek
  - Urban Area
  - Growth Area
  - Urban Growth Boundary
  - Registered Aboriginal Parties
  - Reserve
1. IWM Zone 2 – Northwest of Melville Catchment - Reaburn Reserve
  2. IWM Zone 1 – North East - Harmony Park
  3. Mitchell Reserve Pascoe Vale College
  4. Ievers Reserve Stormwater Harvesting and Flood Management
  5. Arden Stormwater Harvesting
  6. Princes Park Stormwater Harvesting
  7. Sunbury Stormwater Harvesting Scheme
  8. JJ Holland Stormwater Harvesting and Flood Management
  9. Dunstan Reserve Stormwater Harvesting
  10. A G Gillon Oval Stormwater Harvesting
  11. Lower Stony Creek Priority Project
  12. O'Brien St Stormwater Harvesting
  13. Passive Irrigation of Street Trees
  14. Macedon Ranges Regional Sports Precinct Stormwater Harvesting
  15. John Ilhan Stormwater Harvesting
  16. Buchan Street Reserve Stormwater Harvesting
  17. Leo Dineen Reserve Stormwater Harvesting
  18. Anderson Reserve Stormwater Harvesting
  19. John Pascoe Fawkner Raingarden and Stormwater Harvesting
  20. Gilpin Park Wetland and Harvesting
  21. K W Joyce Reserve Raingarden
  22. Moonee Boulevard Wetland
  23. Wylie Reserve Stormwater Harvesting
  24. Stony Creek and Albion Quarter Precinct
  25. Green Gully Stormwater Harvesting Expansion
  26. The Nook Recycled Water Supply
  27. AJ Davis Reserve Stormwater Harvesting
  28. Buckley Park Wetland and Stormwater Harvesting
  29. Spavin Lake Water Quality Improvements
  30. Newell's Paddock Wetlands Enhancement – Stages 2 & 3
  31. Queens Park Stormwater Harvesting
  32. Copernicus Way Reserve Wetland and Stormwater Harvesting
  33. Reimagining Moonee Ponds Creek Stage 1
  34. Reimagining Moonee Ponds Creek Stage 2
  35. Boeing Reserve Swale Raingarden

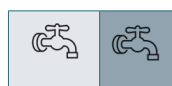
**Figure 3. Map of priority structural actions for the Maribyrnong catchment**

Note: Locations of actions shown here are general in nature. IWM actions may apply across a larger area than shown.

Table 1. Overview of priority structural actions for the Maribyrnong catchment

IWM action	Strategic outcomes						
IWM zone 2 – northwest of Melville catchment – Raeburn Reserve							
IWM zone 1 – north east – Harmony Park							
Mitchell Reserve Pascoe Vale College							
Levers Reserve stormwater harvesting and flood management							
Arden stormwater harvesting							
Princes Park stormwater harvesting							
Sunbury stormwater harvesting scheme							
JJ Holland stormwater harvesting and flood management							
Dunstan Reserve stormwater harvesting scheme							
A G Gillon oval stormwater harvesting							
Lower Stony Creek priority project							
O'Brien Street stormwater harvesting							

Shade scale



No Impact

Strategic outcome icons

Strategic outcomes are described on page 7.



Lead agency	Implementation partners	Status
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
City of Melbourne	Melbourne Water	
Greater Western Water	City of Melbourne, Melbourne Water, Victorian Planning Authority, Development Victoria, Department of Transport and Planning	
City of Melbourne	Greater Western Water	
Melbourne Water	Greater Western Water, Hume City Council, DEECA	
City of Melbourne	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Maribyrnong City Council	Melbourne Water, Brimbank City Council	
Hume City Council	Melbourne Water	

### Strategy opportunity status

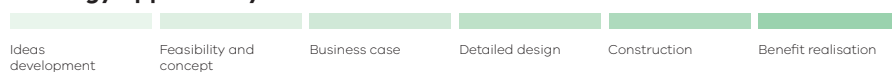
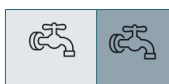


Table 1. Overview of priority structural actions for the Maribyrnong catchment (continued)

IWM action	Strategic outcomes						
Passive irrigation of street trees							
Macedon Ranges regional sports precinct stormwater harvesting							
John Ilhan stormwater harvesting							
Buchan Street Reserve stormwater harvesting							
Leo Dineen Reserve stormwater harvesting							
Anderson Reserve stormwater harvesting							
John Pascoe Fawcner raingarden and stormwater harvesting							
Gilpin Park wetland and harvesting							
K W Joyce Reserve raingarden							
Moonee Boulevard wetland							
Wylie Reserve stormwater harvesting							
Stony Creek and Albion quarter precinct							

Shade scale



No Impact

Strategic outcome icons

Strategic outcomes are described on page 7.

Lead agency	Implementation partners	Status
Hume City Council	To be agreed	
Macedon Ranges Shire Council	Melbourne Water	
Hume City Council	Melbourne Water	
Hume City Council	To be agreed	
Hume City Council	To be agreed	
Hume City Council	To be agreed	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Merri-bek City Council	Melbourne Water	
Brimbank City Council*	To be agreed	

\*This action is being led by Department of Transport and Planning (DTP), who are not currently Forum Partners. Brimbank City Council is the lead IWM Forum Partner.

**Strategy opportunity status**



Table 1. Overview of priority structural actions for the Maribyrnong catchment (continued)

IWM action	Strategic outcomes						
Green Gully stormwater harvesting expansion							
The Nook recycled water supply							
AJ Davis Reserve stormwater harvesting							
Buckley Park wetland and stormwater harvesting							
Spavin Lake water quality improvements							
Newell's Paddock wetlands enhancement – stages 2 and 3							
Queens Park stormwater harvesting							
Copernicus Way Reserve wetland and stormwater harvesting							
Reimagining Moonee Ponds Creek - stage 1							
Reimagining Moonee Ponds Creek - stage 2							
Boeing Reserve swale raingarden - stage 1							

Shade scale



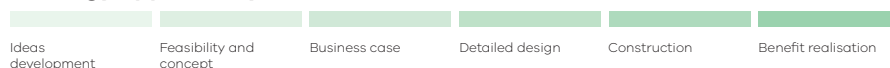
No Impact

Strategic outcome icons

Strategic outcomes are described on page 7.

Lead agency	Implementation partners	Status
Brimbank City Council	To be agreed	
Hume City Council	To be agreed	
Moonee Valley City Council	To be agreed	
Moonee Valley City Council	To be agreed	
Hume City Council	Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation, Melbourne Water	
Maribyrnong City Council	DEECA, Melbourne Water, Parks Victoria, Projects Victoria, EPA Victoria, Friends of Newell's Paddock	
Moonee Valley City Council	To be agreed	
Brimbank City Council	To be agreed	
Melbourne Water	Moonee Valley City Council, Merri-bek City Council, Chain of Ponds Collaboration	
Melbourne Water	Moonee Valley City Council, Merri-bek City Council, Chain of Ponds Collaboration	
Moonee Valley City Council	To be agreed	

### Strategy opportunity status



# Systemic enabling actions overview

These actions have been developed to tackle the systemic barriers to mainstreaming IWM such as funding, policy, and planning barriers. They work at a regional scale to assist in the delivery of on-the-ground structural actions.

Fifteen systemic enabling actions have been identified. These actions are listed in Table 2 in order of priority, as assessed by IWM Forum stakeholders. For each of the actions, the lead delivery agency, implementation partners and action status are noted.

Some systemic enabling actions will require a program of activities in order to deliver the necessary changes to industry practice. It may take several years to progressively shift practice and unlock change.



**Table 2. Summary of priority systemic enabling actions for Metropolitan Melbourne**

IWM action	Lead agency	Implementation partners	Status
Secure funding and resourcing to enable Traditional Owners to make decisions and determine IWM priorities on their Country	DEECA, water corporations and local governments	Traditional Owner groups*	
Build capacity across IWM Forum partners to plan and deliver IWM	DEECA, water corporations and local governments	All IWM Forum partners	
Develop an investment framework for IWM	DEECA	All IWM Forum partners	
Embed IWM in land-use planning and urban development	DEECA, Department of Transport and Planning	All IWM Forum partners	
Clarify roles and responsibilities for delivering IWM outcomes	DEECA	All IWM Forum partners	
Develop guidance for stormwater harvesting and infiltration	Melbourne Water, EPA, local governments	All IWM Forum partners, development sector	
Develop policy and regulatory support for increased use of recycled water and treated stormwater	DEECA	All IWM Forum partners, development sector	
Further develop the IWM resource hub to share data and information	DEECA	All IWM Forum partners	
Develop a water sensitive urban design (WSUD) asset maintenance framework	DEECA**	Melbourne Water, local governments	
Develop a framework for installation and maintenance of rainwater tanks	DEECA, water corporations	All IWM Forum partners	
Develop sub-catchment scale targets for total suspended solids and total nitrogen prevented from discharging to waterways	DEECA**	All IWM Forum partners	
Strengthen policy and regulatory support for urban greening	DEECA**	All IWM Forum partners	
Improve community knowledge and involvement in urban water management	Water corporations, DEECA	All IWM Forum partners	
Develop and deliver a water efficiency plan for Greater Melbourne	Water corporations	All IWM Forum partners	
Investigate opportunities to use recycled water and stormwater to improve environmental flows	DEECA, water corporations	All IWM forum partners	

Strategy opportunity status



Note: \*Bunurong Land Council Aboriginal Corporation (BLCAC), Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation (WWCHAC), Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC).  
 Note: \*\* indicates that DEECA will collaboratively seek a lead organisation and partners to deliver this action.

# Place-based enabling actions overview

Place-based enabling actions address specific challenges for the catchment and can significantly contribute to mainstreaming IWM. They work hand-in-hand with systemic enabling actions and priority structural actions, unlocking additional IWM opportunities.

Place-based enabling actions focus on understanding and identifying catchment-specific opportunities.

Thirteen place-based enabling actions have been identified. These actions are listed in Table 3 in order of priority as agreed by IWM Forum Members. For each of the actions, the lead delivery agency and action status are listed.



**Table 3. Summary of priority place-based enabling actions for the Maribyrnong catchment**

IWM action	Lead agency	Status
Undertake strategic assessments of catchment scale spatial IWM opportunities – Maribyrnong catchment	DEECA*	
Greater Western Water stormwater harvesting fund	Greater Western Water	
Assess open space irrigation for urban cooling opportunities	Greater Western Water	
Explore large-scale stormwater harvesting opportunities	Melbourne Water	
Support implementation of Flood Management Strategy for Port Phillip And Western Port – Action Plan 2021–2026	Melbourne Water	
Installing sensors to measure gross pollutant trap loads	Merri-bek City Council	
Permeable pavement design and construction guidance	City of Melbourne	
Guidelines for proprietary products in the Melbourne local government area	City of Melbourne	
Mapping IWM opportunities in streetscapes in the Melbourne local government area	City of Melbourne	
Brunswick Central Parklands IWM plan	Merri-bek City Council	
Sunbury’s water future community engagement	Melbourne Water	
Integrated water cycle mass balance	Greater Western Water	
Macedon Ranges WSUD Officer	Macedon Ranges Shire Council	

Strategy opportunity status



Note: \* indicates that DEECA will collaboratively seek a lead organisation to deliver this action.

# Success stories

Since the release of the Maribyrnong Strategic Directions Statement, IWM Forum partners are successfully delivering numerous projects, paving the way for the identification and delivery of future actions. The projects highlighted here are a selection of many success stories across the Maribyrnong catchment. Delivery of many of these projects has been through collaborative partner investment including co-investment from the Victorian Government.

## Reimagining Moonee Ponds Creek (Stage 1)

**This project is recognised as a priority (Action 5) in the Maribyrnong Integrated Water Management Forum's Strategic Directions Statement.**

The Moonee Ponds Creek is concreted from Strathmore to Flemington Road, with little habitat value. Its sole purpose is to carry flood water away from properties in the most efficient manner possible. As infill urban development accelerates, community access to high-quality open spaces will be critical for community health and wellbeing. The Chain of Ponds Strategic Plan sets a vision to return Moonee Ponds Creek to an iconic waterway of Melbourne.

In 2023, Melbourne Water led the delivery of the project on behalf of the Chain of Ponds Collaboration Group and in partnership with Merri-bek City Council, Moonee Valley City Council, Department of Energy, Environment and Climate Action (DEECA), Greater Western Water, and Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation, delivering significant enhancement works to restore habitat and increase biodiversity.

Reimagining Moonee Ponds Creek (Stage 1) removed the concrete walls along both sides of a 360-metre section of the creek to re-create a meandering waterway, slow down flows and improve waterway health for native species such as frogs, turtles and birds. The construction of a pond and terracing near Oak Park Reserve and planting of 43,000 native trees and shrubs give a natural look and feel, creating an enjoyable

community space where people can interact with nature in a cooler, healthier environment.

Comprehensive flood modelling ensures that there will be no increased flooding risk to the local community or downstream users because of this project.

Stage 2 is now in progress, with a business case underway that seeks to extend restoration further along the waterway. The project will be led by Melbourne Water and delivered through its Reimagining Your Creek program.

In 2019, the Moonee Ponds Creek Strategic Opportunities Plan, which informed the design of the Moonee Ponds Creek restoration works, was named Best in Category Winner for Design Strategy at the Victorian Premier's Design Awards.





## Dempster Park Stormwater Harvesting Scheme

Dempster Park is an important neighbourhood park located in Sunshine North in the City of Brimbank, with sportsgrounds and several community facilities. The park was identified as an important priority by the Maribyrnong IWM Forum, with a focus on diversifying irrigation supplies through stormwater harvesting, to maintain urban greening in times of drought and in the context of a changing climate. The project also delivers waterway health benefits by intercepting stormwater flows.

An opportunity was identified to harvest stormwater from the neighbouring catchment to irrigate Dempster Park and neighbouring open space owned by the Department of Education, which will be developed for public access and maintained by council.

The Dempster Park Stormwater Harvesting Scheme harvests and treats 11 megalitres of stormwater each year for reuse. It includes a stormwater diversion, large raingarden, underground storage tank and small water treatment plant. The project was delivered in 2022 and is now operational.

This project was co-invested in by Brimbank City Council, Greater Western Water, Melbourne Water and the Victorian Government's IWM Program. This project is part of broader efforts to green and protect the values of the park, through the Dempster Park Oasis Project, which aims to help the community and environment adapt to a hotter and drier climate.

Brimbank City Council will seek to incorporate water sensitive urban design where possible in future park upgrades to maximise the opportunity to intercept, harvest and treat stormwater for use within the park landscape. On-ground achievements include the installation and optimisation of four significant stormwater harvesting systems, with three more systems proposed.



# Action descriptions

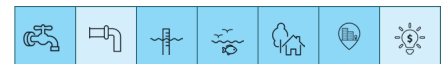
This section provides a description of priority structural, systemic enabling and place-based enabling actions. For each action, an overview is provided together with details on the action status, lead agency and implementation partners.

## Structural Action 1

IWM zone 2 – northwest of Melville catchment – Raeburn Reserve

Raeburn Reserve in Pascoe Vale is a large local park with established trees, offering picnic facilities, exercise stations, circuit path, playground, sportsground and cricket nets.

A stormwater harvesting system is proposed to capture runoff from a 3.3-hectare catchment, including local residential streets and existing council-owned facilities within the reserve. The proposed scheme would provide an alternative water supply to irrigate the reserve, resulting in an estimated 5.7 megalitres of potable water saved annually. The harvesting and detention system would also assist in flood mitigation for susceptible residential areas upstream.



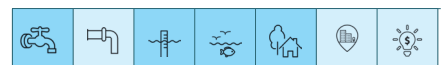
<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Merri-bek City Council
<b>Implementation Partners</b>	Melbourne Water

## Structural Action 2

IWM zone 1 – north east – Harmony Park

Harmony Park in Coburg is a popular park with a specially constructed play space for children of all abilities, a skate park, picnic and barbecue facilities, an ephemeral wetland with nature play, and a generous open space for informal sports and passive recreation. The park is on the edge of a large industrial area in the north of Coburg, where the reserve provides important cooling benefits in the context of large areas of impermeable roofs and roads contributing to urban heat.

The park has not historically included an irrigation system. The proposed stormwater harvesting system would capture runoff from a 5.2-hectare industrial area catchment to the north of the park. The water would be treated and provide irrigation to Harmony Park, with potential to also supply Coburg North Primary School, which directly adjoins the park. This action provides important urban greening and cooling benefits and potential flood mitigation benefits to the residential neighbourhood downstream.



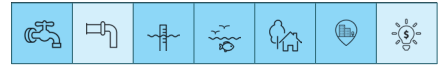
<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Merri-bek City Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 3

#### Mitchell Reserve Pascoe Vale College

Mitchell Reserve is located in Pascoe Vale South, approximately 200 metres from the Moonee Ponds Creek. The reserve sits in a residential neighbourhood, near Pascoe Vale South Primary School, and includes several established shade and habitat trees, a dedicated play space and space for informal play.

The park has not historically included an irrigation system. The proposed stormwater harvesting system would capture and treat water from an estimated 271 hectares of residential catchment to the north of the park. The harvested water would provide an alternative water source for irrigation of the park, with potential to also supply the nearby primary school. This action will provide greening and cooling benefits across the broader precinct and improve stormwater quality before it flows into the nearby creek. It also has the potential to reduce identified flood risks downstream in nearby residential streets and at the CityLink Freeway.

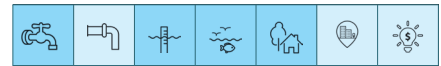


<b>Status</b>	Idea development
<b>Lead Agency</b>	Merri-bek City Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 4

#### levers Reserve stormwater harvesting and flood management

levers Reserve in Parkville has been identified as a suitable location for a flood mitigation and stormwater harvesting scheme. It presents an opportunity to address local flooding issues downstream in the Arden precinct. This action aims to harvest water for irrigation of levers Reserve and medians and reserves in the eastern North Melbourne and Parkville precinct, including 840 trees, saving approximately 30 megalitres of drinking water per year. This will provide improved water security and increased soil moisture for trees and parklands, and urban cooling for the broader community during summer. The scheme will draw from the Arden Main Drain and provide flood mitigation benefits to the Arden precinct and downstream. Additional benefits include improved stormwater quality for Moonee Ponds Creek and Port Phillip Bay.



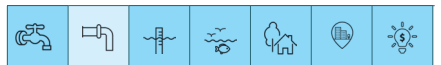
<b>Status</b>	Detailed design
<b>Lead Agency</b>	Melbourne City Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 5

#### Arden stormwater harvesting

Arden is a 44.6-hectare urban renewal precinct in North Melbourne. Much of the land in Arden is impacted by flooding from major rain events and nuisance flooding, and there is a need for a reliable water supply to service proposed community assets across the precinct. There is an opportunity to implement innovative, multifunctional solutions that reduce flood risk, improve local water quality and retain water in the landscape for irrigation, urban cooling and biodiversity.

This action is investigating stormwater harvesting infrastructure and wetland systems within the Arden north and central precincts. Stormwater would be treated and made available for non-potable uses across the precinct, such as irrigation of sportsgrounds and open spaces.



<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Greater Western Water
<b>Implementation Partners</b>	Melbourne City Council, Melbourne Water, Victorian Planning Authority, Development Victoria, Department of Transport and Planning

## Structural Action 6

### Princes Park stormwater harvesting

Melbourne's iconic Princes Park in Carlton North is a major sports and recreation ground which is home to a variety of sporting clubs. It features open space with playgrounds, picnic facilities and some of Melbourne's most significant trees. This action proposes to harvest excess water from Moonee Ponds Creek to protect the park from the impacts of future drought, increasing local amenity and improving the health of the creek by removing excess stormwater and pollution.

The proposed stormwater harvesting scheme is estimated to deliver approximately 60 megalitres of water per year, which will meet 80% of the irrigation demands of Princes Park. It is also anticipated to remove approximately 200 kilograms of nitrogen per year, improving the health of Moonee Ponds Creek.



**Status** Detailed design

**Lead Agency** Melbourne City Council

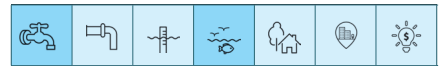
**Implementation Partners** Greater Western Water

## Structural Action 7

### Sunbury stormwater harvesting scheme

Sunbury is an important regional growth area located in the City of Hume. Sunbury's projected population growth, paired with a changing climate, poses challenges to how water will be managed in Sunbury and the surrounding area in the future. A range of options has been assessed for Sunbury, and it was concluded that a regional-scale stormwater harvesting scheme would be the best solution to reduce pressure on potable water supplies and protect Jacksons Creek and Emu Creek from increased stormwater runoff resulting from development.

The Sunbury Stormwater Harvesting Scheme could harvest approximately 3.8 gigalitres of excess stormwater runoff from the Sunbury growth area each year. This scheme may create a new source of alternative water which can be used for multiple end use options, including for environmental flows, urban cooling and irrigation of parks and gardens.



**Status** Detailed design

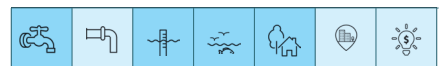
**Lead Agency** Melbourne Water

**Implementation Partners** Greater Western Water, Hume City Council, DEECA

## Structural Action 8

### JJ Holland stormwater harvesting and flood management

JJ Holland Park is a municipal open space located in Kensington, spanning 10 hectares and offering a range of sports facilities and passive open space areas. Neighbouring Kensington Road is the subject of localised flooding, and an opportunity has been identified to harvest excess stormwater runoff to support flood mitigation and irrigation of the park and adjoining areas of open space. This action relates to the design and delivery of a stormwater harvesting scheme to provide 20 megalitres of water per year for the irrigation of JJ Holland Park.



**Status** Detailed design

**Lead Agency** Melbourne City Council

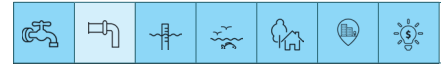
**Implementation Partners** Melbourne Water

## Structural Action 9

### Dunstan Reserve stormwater harvesting scheme

Dunstan Reserve is a large park in Brunswick West that is home to the Brunswick West Community Gardens and a circuit pathway that supports walkers and active sports. Merri-bek City Council is planning to construct its fifth major stormwater harvesting system at Dunstan Reserve to irrigate the ovals and community gardens.

This action would filter and treat stormwater runoff from approximately 50 hectares of residential area through a raingarden in the north-east of Dunstan Reserve. The runoff will be filtered as it flows through the raingarden and will be stored in an underground tank. This water will be used to irrigate the ovals and community gardens and is designed to save up to 10 megalitres of drinking water per year. The raingarden will be planted with native plant species, which will also increase the biodiversity of the park and provide habitat and food for insects and birds.



**Status** Construction

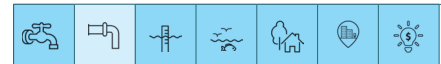
**Lead Agency** Merri-bek City Council

**Implementation Partners** Melbourne Water

## Structural Action 10

### A G Gillon oval stormwater harvesting

A G Gillon Oval is one of a series of green spaces located within the Brunswick Central Parklands. Merri-bek City Council has developed a concept plan for improvements to the parklands, including a stormwater harvesting system at Reaburn Reserve, which would capture and treat stormwater runoff from a residential catchment area of approximately 30 hectares. Stormwater would flow through a raingarden, where it would be treated and then stored in an underground tank. This water would be distributed to irrigate parks and open spaces in the neighbourhood, including A G Gillon Oval. The scheme is anticipated to save approximately 24.2 megalitres of drinking water per year and to provide important flood mitigation benefits.



**Status** Detailed design

**Lead Agency** Merri-bek City Council

**Implementation Partners** Melbourne Water

## Structural Action 11

### Lower Stony Creek priority project

Stony Creek flows for 8 kilometres through the City of Maribyrnong, from Braybrook to the Yarra River. It is an important habitat corridor for indigenous vegetation and wildlife that once flourished throughout the Western Plains of Victoria. Opportunities for stormwater treatment and harvesting have been identified along this stretch, including raingardens and wetlands in areas of adjoining open space. This action would serve to improve waterway health, reducing pollutant loads to Stony Creek, and would harvest water for irrigation of open spaces and trees where possible. Various locations for such projects along Lower Stony Creek have been identified and prioritised.



**Status** Feasibility and concept

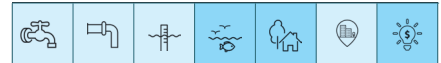
**Lead Agency** Maribyrnong City Council

**Implementation Partners** Melbourne Water, Brimbank City Council

### Structural Action 12

#### O'Brien Street stormwater harvesting

O'Brien Street is located in Sunbury, adjacent to the Sunbury Cemetery. The cemetery is seeking to expand and requires a more secure water supply for its lawn grave area and gardens. This action proposes to modify the existing retarding basin on O'Brien Street to a wetland that can treat and store stormwater runoff for irrigation. The stormwater harvesting scheme would supply the Harker Street dog park and other users such as the Sunbury Cemetery. This action would make up to 8.2 megalitres of water available for reuse.

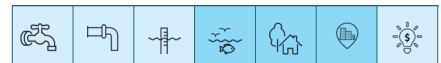


<b>Status</b>	Detailed design
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 13

#### Passive irrigation of street trees

Hume City Council seeks to support the urban greening of new estates in Sunbury and the Northern Growth Corridor. A key initiative is negotiating with developers to install passive irrigation of street trees along main roads in new estates. This will provide a water source for trees, to improve tree health and canopy cover in these areas.

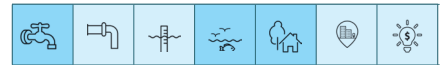


<b>Status</b>	Construction
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	To be agreed

### Structural Action 14

#### Macedon Ranges regional sports precinct stormwater harvesting

This action seeks to construct a retention basin to collect stormwater and irrigation runoff for the eastern site, including a timber deck and fence to the basin, and a harvesting, treatment and irrigation system to provide water supply to the sports precinct.

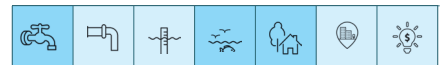


<b>Status</b>	Construction
<b>Lead Agency</b>	Macedon Ranges Shire Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 15

#### John Ilhan stormwater harvesting

John Ilhan Memorial Reserve is a large recreational area with elite-level sports playing surfaces, including ovals and grassed athletics track, as well as stadium facilities and open space areas for other recreational activities. It is not currently serviced by an alternative water source and an opportunity exists to harvest stormwater to support the irrigation needs of the reserve. This action proposes to harvest 20 megalitres of water for irrigation of the sportsgrounds and dog park areas. Stormwater would be filtered and treated through a raingarden prior to irrigation of these areas.



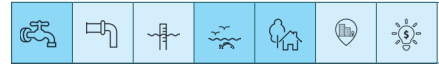
<b>Status</b>	Detailed design
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	Melbourne Water



### Structural Action 16

#### Buchan Street Reserve stormwater harvesting

Buchan Street Reserve is located in Meadow Heights, an area with limited good-quality open spaces for passive recreational use. This action proposes to harvest 5.3 megalitres of excess stormwater per year for the passive irrigation of open space. Stormwater would be filtered through a raingarden and used to irrigate Buchan Street Reserve. The presence of the Meadow Heights Community Centre within the park provides an opportunity to engage community members, including youth, on a range of environmental issues, such as the stormwater harvesting scheme.

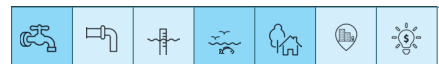


<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	To be agreed

### Structural Action 17

#### Leo Dineen Reserve stormwater harvesting

Leo Dineen Reserve is a sporting reserve in Tullamarine with one sporting oval. This action proposes to harvest and treat excess stormwater runoff for the irrigation of the sportsground in the reserve. Five megalitres of stormwater would be captured and filtered through a bioretention system, providing a secure water supply for the reserve.



<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	To be agreed

### Structural Action 18

#### Anderson Reserve stormwater harvesting

Anderson Reserve is located in Broadmeadows, adjacent to the Western Ring Road. It has one sporting oval, a basketball court, a playground and an outdoor exercise area. This action proposes to harvest and treat excess stormwater runoff for the irrigation of the sportsground in the reserve. Seven megalitres of stormwater would be captured and filtered through a constructed wetland for reuse in the reserve.

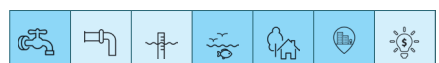


<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	To be agreed

### Structural Action 19

#### John Pascoe Fawkner raingarden and stormwater harvesting

John Pascoe Fawkner Reserve is located in Oak Park, adjoining Moonee Ponds Creek. Facilities include various sportsgrounds, playground and passive recreation areas. There is an opportunity to harvest and treat stormwater flows from the upstream catchment through a raingarden and potentially a stormwater harvesting scheme. This water would be used to irrigate the reserve's sportsgrounds.

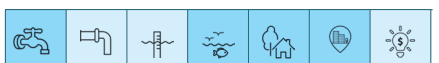


<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Merri-bek City Council
<b>Implementation Partners</b>	Melbourne Water

### Structural Action 20

#### Gilpin Park wetland and harvesting

Gilpin Park is located in the Brunswick Central Parklands area. A constructed wetland is proposed to treat stormwater from neighbouring residential areas to improve local water quality before it flows into Moonee Ponds Creek. A vegetated swale will be constructed to transport stormwater into the wetland. The wetland will be located at the western end of the park.



<b>Status</b>	Detailed design
<b>Lead Agency</b>	Merri-bek City Council
<b>Implementation Partners</b>	Melbourne Water

## Structural Action 21

### K W Joyce Reserve raingarden

K W Joyce Reserve is located in Pascoe Vale, with Westbreen Creek running through the middle of it. The site is largely open space, with paths throughout, supporting walkers and other passive recreational uses. A raingarden is proposed to improve the quality of water entering Westbreen Creek. The raingarden would create a new community landscaping feature.



**Status** Feasibility and concept

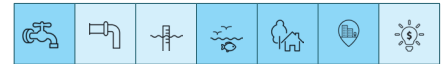
**Lead Agency** Merri-bek City Council

**Implementation Partners** Melbourne Water

## Structural Action 22

### Moonee Boulevard wetland

Moonee Boulevard is located in Glenroy, next to Fran Street Park, along Moonee Ponds Creek. A wetland is proposed for Moonee Boulevard, to capture and treat stormwater from a 52-hectare residential catchment area. This action will design and deliver this wetland and consider the potential for a series of treatment wetlands along Moonee Ponds Creek in Fran Street Park and Kingsford Ulm Smith Reserve. The wetland will complement the revegetation works completed in the area and improve the quality of the water entering Moonee Ponds Creek.



**Status** Feasibility and concept

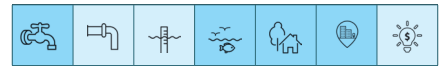
**Lead Agency** Merri-bek City Council

**Implementation Partners** Melbourne Water

## Structural Action 23

### Wylie Reserve stormwater harvesting

Wylie Reserve is located in Union Street in Brunswick West and drains into Moonee Ponds Creek. It has toilet and recreational facilities, including a soccer pitch, playground and dog walking area. There is an opportunity to harvest and treat stormwater from the catchment to irrigate the reserve and address local flooding issues.



**Status** Feasibility and concept

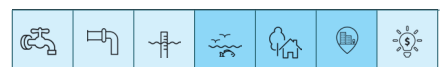
**Lead Agency** Merri-bek City Council

**Implementation Partners** Melbourne Water

## Structural Action 24

### Stony Creek and Albion quarter precinct

The Albion Quarter precinct is approximately 15 kilometres west of the Melbourne central business district, in the suburb of Sunshine. The precinct's redevelopment will reimagine Sunshine and Albion as the central business district of the west. The vision is for the precinct to be transformed from its existing industrial landscape to mixed uses, including a transport hub, commercial activities, industrial areas and open spaces. The Sunshine Precinct includes Albion Quarter and a reach of Stony Creek, and there is an opportunity to explore the role that integrated water management, enhanced ecology and an improved 'social landscape' can play in improving precinct amenity and liveability. This work is part of broader precinct planning being coordinated by the Department of Transport and Planning.



**Status** Feasibility and concept

**Lead Agency** Brimbank City Council\*

**Implementation Partners** To be agreed

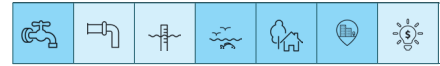
Note:

\*Action 24 is being led by Department of Transport and Planning (DTP), who are not currently Forum Partners. Brimbank City Council is the lead IWM Forum liaison.

## Structural Action 25

### Green Gully stormwater harvesting expansion

Green Gully Reserve in Keilor Downs has an established stormwater harvesting scheme, providing approximately 40 megalitres of water to irrigate 7 hectares of public open space. The reserve is growing, with the construction of additional sports and public facilities in 2023. This action seeks to significantly expand the existing stormwater harvesting scheme to provide stormwater for use by these facilities and for urban greening. The expansion of the existing stormwater harvesting scheme will provide water to meet approximately 80% of the reserve's future irrigation needs.



**Status** Detailed design

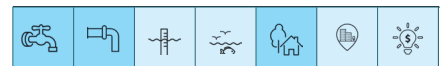
**Lead Agency** Brimbank City Council

**Implementation Partners** To be agreed

## Structural Action 26

### The Nook recycled water supply

Sunbury's 'The Nook' is a parkland located within walking distance of the town centre, with Jacksons Creek running through it and the town's local swimming hole. A recycled water pipe runs through the reserve and there is an opportunity to connect the reserve to this source for irrigation of the park.



**Status** Idea development

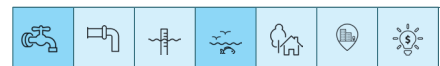
**Lead Agency** Hume City Council

**Implementation Partners** To be agreed

## Structural Action 27

### AJ Davis Reserve stormwater harvesting

AJ Davis Reserve is a 6.2-hectare reserve located in Airport West, offering sporting facilities and structured and informal recreational activities. Untreated stormwater in the area currently discharges to Steele Creek from a large residential catchment. There is an opportunity to divert this water to a bioretention treatment system for capture and to irrigate sports ovals at AJ Davis Reserve and adjacent sportsgrounds. This action proposes to harvest, capture and treat 10.4 megalitres of stormwater per year from the Clydesdale Main Drain, before storing it in an underground tank. This action will have the additional benefit of improving the health of Steele Creek.



**Status** Feasibility and concept

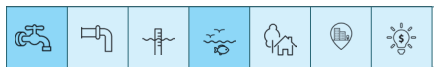
**Lead Agency** Moonee Valley City Council

**Implementation Partners** To be agreed

## Structural Action 28

### Buckley Park wetland and stormwater harvesting

Buckley Park is a 10.1-hectare reserve in Essendon, with 2 sporting ovals, 3 bowling greens and 4 tennis courts, as well as passive open space, providing for organised sport and informal recreational activities. There is an opportunity to harvest and treat stormwater from catchments to the north of the park to irrigate the sporting ovals. This action proposes a wetland and storage pond to harvest 6.8–13.8 megalitres of stormwater per year, to replace drinking water currently used to irrigate the ovals. The wetland will naturally filter the water before it is transferred to an underground storage tank.



**Status** Feasibility and concept

**Lead Agency** Moonee Valley City Council

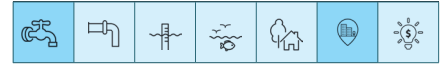
**Implementation Partners** To be agreed

## Structural Action 29

### Spavin Lake water quality improvements

Spavin Lake is an in-stream dam on Kismet Creek, located in a residential area in Sunbury. It offers a diversity of habitats for waterbirds but has had a history of water-quality issues, including algal blooms. The lake is used for fishing and community recreation, including dog walking.

This action proposes to build a wetland within the lake to improve water quality, amenity and habitat within the lake.



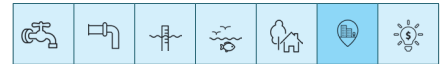
<b>Status</b>	Business Case
<b>Lead Agency</b>	Hume City Council
<b>Implementation Partners</b>	Wurundjeri WWCHAC, Melbourne Water

## Structural Action 30

### Newell's Paddock wetlands enhancement – stages 2 and 3

Newell's Paddock is a large open space near the Maribyrnong River, with established wetlands which provide habitat for birdlife. These wetlands have important regional conservation status; however, they are 30 years old and require rectification and enhancement works to maintain water quality.

This action proposes the installation of a gross pollutant trap to improve the collection of litter and rubbish, and a change in design to the existing sediment pond, including the removal of contaminated soil, demolition and bulk earthworks. Drainage works are proposed to support this action, together with complementary improvements such as the creation of access tracks, fencing and planting.

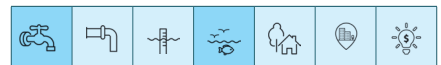


<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Maribyrnong City Council
<b>Implementation Partners</b>	DEECA, Melbourne Water, Parks Victoria, Projects Victoria, EPA Victoria, Friends of Newell's Paddock

## Structural Action 31

### Queens Park stormwater harvesting

Queens Park is Moonee Valley's best-known civic and historic park. It is highly valued for its mature exotic trees, ornamental lake and garden beds, and significant flora and fauna. The quality of the lake environment requires improvement for both human and birdlife. It currently serves as a natural drainage and collection point for surrounding suburban stormwater, yet it does not achieve its full potential environmentally or for recreation. There is an opportunity to improve water quality and to harvest stormwater for the irrigation of the park's historic trees, which are vulnerable in drier years. This action seeks to explore strategies to harvest and treat stormwater entering the lake as part of a broader approach to IWM planning for the park.

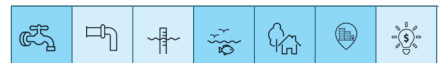


<b>Status</b>	Idea development
<b>Lead Agency</b>	Moonee Valley Council
<b>Implementation Partners</b>	To be agreed

## Structural Action 32

### Copernicus Way Reserve wetland and stormwater harvesting

Copernicus Way Reserve is a key suburban park located in Keilor Downs. Brimbank City Council is upgrading the reserve to improve recreational facilities and develop a wetland and stormwater harvesting scheme. This action aims to improve the sustainability, resilience and liveability of the reserve, by capturing and treating stormwater for irrigation of parkland and garden beds. It will also service a future public toilet and provide a cool, green and attractive park to use all year round. The wetland will support biodiversity and will be designed to integrate with the reserve's recreational areas, including a large grassed area terracing down to the wetland, providing opportunities to explore the water's edge. This new water sensitive parkland will boost liveability and wellbeing within the local community.

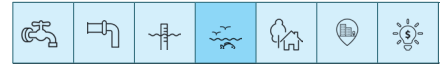


<b>Status</b>	Feasibility and concept
<b>Lead Agency</b>	Brimbank City Council
<b>Implementation Partners</b>	To be agreed

### Structural Action 33

#### Reimagining Moonee Ponds Creek - stage 1

The Moonee Ponds Creek from Strathmore to Flemington Road is highly modified and concreted, to carry floodwater away from properties in the most efficient manner possible. This action seeks to transform a 360-metre section of the concrete-lined creek into a more natural, enjoyable community space. This is being achieved by removing the concrete walls to create a meandering creek, with a more natural look and feel, planting 43,000 native trees and shrubs, and constructing a pond and terracing near Oak Park Reserve. The naturalisation works will improve waterway health and biodiversity, creating habitat for native species.



<b>Status</b>	Construction
<b>Lead Agency</b>	Melbourne Water
<b>Implementation Partners</b>	Moonee Valley City Council, Merri-bek City Council, Chain of Ponds Collaboration

### Structural Action 34

#### Reimagining Moonee Ponds Creek - stage 2

Reimagining Moonee Ponds Creek Stage 2 will progress naturalisation works along the creek, including the removal of the concrete walls to create a more natural look and feel and planting native trees and shrubs. Rocks will be placed in the creek channel. The naturalisation works will further improve waterway health and biodiversity, creating habitat for native species. Detailed design is beginning.

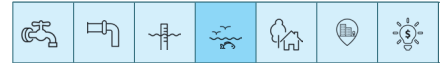


<b>Status</b>	Detailed design
<b>Lead Agency</b>	Melbourne Water
<b>Implementation Partners</b>	Moonee Valley City Council, Merri-bek City Council, Chain of Ponds Collaboration

### Structural Action 35

#### Boeing Reserve swale raingarden - stage 1

Boeing Reserve is one of the largest reserves in Moonee Valley, stretching along Moonee Ponds Creek and linking to other parks and reserves by the Moonee Ponds Bike Path. At 23 hectares, it is a major open space reserve in Strathmore Heights with a sports pavilion, sporting ovals, a community garden, and areas for passive and informal recreation. Stormwater from local catchments flows into Boeing Reserve, creating local flooding, erosion and safety issues, and reducing the quality of water entering Moonee Ponds Creek. Stage 1 of this action seeks to construct a vegetated swale and raingarden within Boeing Reserve to capture and treat uncontrolled stormwater flows. This action will also explore the feasibility of harvesting this stormwater to irrigate sportsfields and ovals in the Reserve, which are currently irrigated with potable water.



<b>Status</b>	Construction
<b>Lead Agency</b>	Moonee Valley City Council
<b>Implementation Partners</b>	To be agreed

### Systemic Enabling Action 1

Secure funding and resourcing to enable Traditional Owners to make decisions and determine IWM priorities on their Country.

Commitment to working in partnership with Traditional Owners is a key part of the *IWM Framework for Victoria* (2017). The IWM Forum partners will secure funding and resourcing to increase Traditional Owner self-determination and decision making in water management on their Country. This action is related to the *Central and Gippsland Region Sustainable Water Strategy* (CGRSWS) and *Water is Life* strategies.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA, water corporations and local governments
<b>Implementation Partners</b>	BLCAC*, WWCHAC**, WTOAC***

Note:

\*Bunurong Land Council Aboriginal Corporation.

\*\* Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation.

\*\*\* Wadawurrung Traditional Owners Aboriginal Corporation.

## Systemic Enabling Action 2

### Improve capacity to successfully deliver IWM

Improve capacity of practitioners and managers to ensure IWM-related skills and knowledge are influenced by current evidence, policies and science, and actively maintained within IWM forum partner organisations, to enable effective identification and delivery of IWM opportunities.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA, water corporations and local governments
<b>Implementation Partners</b>	All IWM forum partners

## Systemic Enabling Action 3

### Develop an investment framework for IWM

Develop a framework to improve how investments are made in IWM opportunities to best realise the multiple community and environmental benefits. This is CGRSWS Action 3-3: Maturing the IWM investment framework.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA
<b>Implementation Partners</b>	All IWM forum partners

## Systemic Enabling Action 4

### Embed IWM in land-use planning and urban development

Identify and implement guidance and requirements for supporting IWM in land-use planning and urban development. This action is related to CGRSWS Action 3-9: Strengthen IWM in land-use and infrastructure planning.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA, Department of Transport and Planning
<b>Implementation Partners</b>	All IWM forum partners

## Systemic Enabling Action 5

### Clarify roles and responsibilities for delivering IWM outcomes

Clarify roles and responsibilities of IWM forum partners and land-use planning and urban development sectors for delivering IWM outcomes articulated in the Strategic Direction Statements.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA
<b>Implementation Partners</b>	All IWM forum partners

## Systemic Enabling Action 6

### Develop guidance for stormwater harvesting and infiltration

Develop guidance for cost-effective, practical solutions/approaches at different spatial scales to achieve the flow volume reductions articulated in the Urban Stormwater Management Guidance (EPA Publication 1739.1).

<b>Status</b>	In progress
<b>Lead Agency</b>	Melbourne Water, EPA, local governments
<b>Implementation Partners</b>	All IWM forum partners, development sector

### Systemic Enabling Action 7

Develop policy and regulatory support for increased use of recycled water and treated stormwater

Develop policy and regulatory enablers to improve uptake of recycled water and treated stormwater to supply a broader range of beneficial uses. This action links strongly to the following CGRSWS actions:

- Action 3-8: Use of recycled water and stormwater for greener, open spaces.
- Action 3-10: Develop template guidance for recycled water use to streamline approvals.
- Action 3-11: Identify priority projects to contribute to state of knowledge of emerging contaminants.
- Action 3-12: Improving stormwater regulations to support increased capture and use.
- Action 3-15: Develop a stormwater offsets framework.
- Action 3-13: Implement Melbourne Urban Stormwater Institutional Arrangements (MUSIA).
- Action 3-16: Embedding stormwater flow requirements.
- Action 3-17: Building community confidence in recycled water and stormwater.
- Action 3-18: Clearer guidance on recycled water accounting and reporting

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA
<b>Implementation Partners</b>	All IWM Forum Partners and development sector

### Systemic Enabling Action 8

Further develop the IWM resource hub to share data and information

Further develop the IWM resource hub to share information to enhance knowledge and build capacity.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA
<b>Implementation Partners</b>	All IWM forum partners

### Systemic Enabling Action 9

Develop water sensitive urban design (WSUD) asset maintenance framework

Develop a water sensitive urban design (WSUD) asset maintenance framework by considering current organisational approaches to WSUD asset maintenance and best practice guidelines.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA*
<b>Implementation Partners</b>	Melbourne Water, local governments

### Systemic Enabling Action 10

Develop a framework for installation and maintenance of rainwater tanks

Develop a framework for installation and maintenance of rainwater tanks to ensure rainwater tanks are installed and operated as intended.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA, water corporations
<b>Implementation Partners</b>	All IWM forum partners

Note: \* indicates that DEECA will collaboratively seek a lead organisation and partners to deliver this action.

### Systemic Enabling Action 11

Develop sub-catchment scale targets for total suspended solids and total nitrogen prevented from discharging to waterways

Develop sub-catchment scale targets for total suspended solids and total nitrogen prevented from discharging to all waterway reaches. The Healthy Waterways Strategy 2018 has sub-catchment targets for priority catchment areas and this work is complementary to the Healthy Waterways Strategy 2018 targets and the total suspended solids and total nitrogen targets for Port Phillip Bay and Western Port Bay.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA*
<b>Implementation Partners</b>	All IWM forum partners

### Systemic Enabling Action 12

Strengthen policy and regulatory support for urban greening

Strengthen policy and regulatory support for urban greening, including planning controls for private and public open space to deliver urban greening that is supported by IWM. This could include fit-for-purpose water use and could maintain or increase onsite detention, permeability and canopy cover.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA*
<b>Implementation Partners</b>	All IWM forum partners

### Systemic Enabling Action 13

Improve community knowledge and involvement in urban water management

Improve community knowledge and involvement in the urban water cycle, including IWM solutions. This action is related to CGRSWS Action 9-5: Building community knowledge and involvement in water management.

<b>Status</b>	In progress
<b>Lead Agency</b>	Water corporations, DEECA
<b>Implementation Partners</b>	All IWM forum partners

### Systemic Enabling Action 14

Develop and deliver a water efficiency plan for Greater Melbourne

Develop and deliver a water efficiency plan for Greater Melbourne to ensure that Melbourne continues to focus on water conservation and efficiency to support the deferral of major system augmentations in the medium and longer term. This is GMUWSS: Water for Life Action 4.1

<b>Status</b>	In progress
<b>Lead Agency</b>	Water corporations
<b>Implementation Partners</b>	All IWM forum partners

Note: \* indicates that DEECA will collaboratively seek a lead organisation and partners to deliver this action.



### Systemic Enabling Action 15

Investigate opportunities to use recycled water and stormwater to improve environmental flows

Investigate enabling the use of treated wastewater and stormwater to improve environmental flows. This is CGRSWS Action 8-22: Develop guidelines for using recycled water for the environment, and CGRSWS Action 8-23: Stormwater for the environment.

<b>Status</b>	In progress
<b>Lead Agency</b>	DEECA, water corporations
<b>Implementation Partners</b>	All IWM forum partners

### Place-Based Enabling Action 1

Undertake strategic assessments of catchment- scale spatial IWM opportunities – Maribyrnong catchment

Assessments of priority actions against the IWM targets identified in the Maribyrnong Catchment Scale IWM Plan: Targets Driving Outcomes show that further efforts are required in some areas to avoid falling short of delivering strategic outcomes for the Maribyrnong catchment. A strategic assessment of catchment-wide IWM opportunities that address performance gaps will ensure that ongoing investment is directed to where the greatest gains can be delivered. A key piece of work underway is the Integrated Water Cycle Mass Balance (Action 12), which will provide important data to underpin this action.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	DEECA*

### Place-Based Enabling Action 2

Greater Western Water stormwater harvesting fund

Greater Western Water supports alternative water management schemes through the provision of a stormwater harvesting fund to co-deliver new place-based actions across the Greater Western Water service area (applicable to Werribee, Maribyrnong, Yarra and Coliban catchments). The fund supports open-space managers to progress stormwater harvesting schemes to irrigate public parks, gardens, sportsgrounds and golf courses, and deliver a greener, cooler, more liveable west.

<b>Status</b>	In progress
<b>Lead Agency</b>	Greater Western Water

Note: \* indicates that DEECA will collaboratively seek a lead organisation and partners to deliver this action.

### Place-Based Enabling Action 3

#### Assess open space irrigation for urban cooling opportunities

As average temperatures continue to rise, and the number of extreme-heat days each year increases, keeping cool is more important than ever. With growing population comes increasing demand for potable water, greater areas of urbanised land and the need for high-quality community assets such as green open space.

Greater Western Water is exploring opportunities across the Maribyrnong catchment to improve urban greening and cooling outcomes to enhance urban amenity and quality, improve landscape connectivity and build resilience to climate change. Greater Western Water has undertaken an opportunity assessment across its service area and will further consider how using recycled water and stormwater can support greening and cooling initiatives through open-space irrigation.

<b>Status</b>	In progress
<b>Lead Agency</b>	Greater Western Water

### Place-Based Enabling Action 4

#### Explore large-scale stormwater harvesting opportunities

Large-scale alternative water supply schemes offer the opportunity to improve water security and protect our environment, as well as enhance liveability and support communities to thrive. Melbourne Water explores stormwater harvesting opportunities to support large-scale stormwater harvesting networks. These include a range of potential sources at the sub-catchment scale and networks of multiple sources to supply a range of demand opportunities, including peri-urban agriculture, irrigation of ovals, sportsgrounds and golf courses, as well as cultural and environmental flows.

<b>Status</b>	In progress
<b>Lead Agency</b>	Melbourne Water

### Place-Based Enabling Action 5

#### Support implementation of Flood Management Strategy for Port Phillip and Western Port – Action Plan 2021–2026

Climate change, sea-level rise and urban densification are increasing flood risk. The Flood Management Strategy for Port Phillip and Western Port – Action Plan 2021–2031 sets the 10-year direction for flood management in the region and identifies key focus areas which will guide actions. Specific actions that are a priority to progress for the Maribyrnong catchment are Actions 6.4 and 6.5.

- Melbourne Flood Strategy Action 6.4: Embed innovative, place-based approaches to deliver multiple benefits in new precincts (infill and redevelopment).
- Melbourne Flood Strategy Action 6.5: Identify high-priority catchments to reduce flood impacts through stormwater management projects and deliver projects in these areas.

These actions will help to plan for, avoid and reduce flood risks for the region.

<b>Status</b>	In progress
<b>Lead Agency</b>	Melbourne Water

### Place-Based Enabling Action 6

#### Installing sensors to measure gross pollutant trap loads

Merri-bek City Council seeks to reduce the amount of litter and plastic entering its waterways through improvements to systems and maintenance. This action seeks to implement a pilot study to install sensors on gross pollutant traps to measure litter loads and support council with the monitoring and maintenance of these assets.

<b>Status</b>	Ideas stage
<b>Lead Agency</b>	Merri-bek City Council

### Place-Based Enabling Action 7

#### Permeable pavement design and construction guidance

City of Melbourne has implemented permeable paving across multiple sites and undertaken research to understand its performance and maintenance requirements over time. This action seeks to consolidate these findings into guidelines to support council with the future design, installation and maintenance of permeable paving, including typical standard drawings.

<b>Status</b>	In progress
<b>Lead Agency</b>	City of Melbourne

### Place-Based Enabling Action 8

#### Guidelines for proprietary products in the Melbourne local government area

City of Melbourne has been receiving an increasing number of planning permit applications for WSUD incorporating proprietary products. Council undertook a risk assessment to understand the risks of accepting proprietary products when compared to nature-based approaches to WSUD. This action seeks to develop policy to clarify when and how proprietary products may be approved as part of stormwater and IWM regulatory requirements within the Melbourne Planning Scheme.

<b>Status</b>	In progress
<b>Lead Agency</b>	City of Melbourne

### Place-Based Enabling Action 9

#### Mapping IWM opportunities in streetscapes in the Melbourne local government area Melbourne Local Government Area

City of Melbourne has developed a systematic approach to understand the suitability of WSUD opportunities within streetscapes across the municipality. This action seeks to use spatial data to enable planners and designers to undertake this assessment across the City of Melbourne. An IWM priority map will also be developed that communicates the priority, feasibility and typologies that may be applied to different street segments.

<b>Status</b>	In progress
<b>Lead Agency</b>	City of Melbourne

### Place-Based Enabling Action 10

#### Brunswick Central Parklands IWM plan

The Brunswick Central Parklands cover 19 hectares in Brunswick, on the boundary with Brunswick West. It is the most significant open space across Brunswick and Brunswick West and includes Gillon Oval, Reaburn Reserve, Brunswick Park, Clifton Park and Gilpin Park. An IWM plan has been developed that proposes several strategies for harvesting, cleaning and storing nearby stormwater resources to secure a sustainable irrigation water supply for the parklands. The plan will deliver additional benefits, including enhancing amenity and biodiversity and improving the quality of water discharged to local waterways. The plan will help guide and inform future investment, protect existing elements of the parkland that the community value and ensure a sustainable supply of water for the future use of the parklands.

<b>Status</b>	Complete
<b>Lead Agency</b>	Merri-bek City Council

### Place-Based Enabling Action 11

#### Sunbury's water future community engagement

Sunbury's projected population growth, paired with a changing climate, poses challenges to how water will be managed in the future in Sunbury and the surrounding area. Melbourne Water and Greater Western Water, with support from Hume City Council, are working together to create an IWM plan for this region.

This action seeks to engage with the community on different end uses for the future stormwater and recycled water generated by the Sunbury growth area. Initial phases have focused on learning the community's preferences for water management, and future phases will focus on community education and engagement.

<b>Status</b>	In progress
<b>Lead Agency</b>	Melbourne Water

### Place-Based Enabling Action 12

#### Integrated water cycle mass balance plan

The Integrated Water Cycle Mass Balance adopts whole-of -water-system thinking to develop adaptive pathways for future water investment in Melbourne's west. The adaptive pathways represent decision-point based investment profiles to address growth, climate variability, climate change, and growing community expectations regarding the environment. It explores additional opportunities that might be enabled through alternative uses of water sources (recycled water, stormwater, potable water and surface water) to supply diverse demands such as recreational, environmental flow, agricultural, urban drinking water, and to further enhance capacity to return water to Traditional Owners. Modelling to understand how all sources of water in the Werribee and Maribyrnong catchments can meet these demands over the long term, whilst providing multiple benefits to the community and environment, will help inform the critical decision points for future servicing pathways for the catchments.

<b>Status</b>	In progress
<b>Lead Agency</b>	Greater Western Water

### Place-Based Enabling Action 13

#### Macedon Ranges WSUD officer

Waterways in the Macedon Ranges have unique environmental values, including platypus, birds, frogs and fish, which are threatened by urban stormwater runoff. The Water Sensitive Urban Design (WSUD) Officer will focus on protecting and improving waterway health through improved stormwater management and community engagement, which may include:

- developing relationships and improving information sharing around stormwater management and stormwater pollution issues
- engaging with Traditional Owners (Wurundjeri Woi-wurrung, Dja Dja Wurrung and Taungurung groups) to enhance opportunities for reconciliation and caring for the country to protect waterways
- ensuring compliance with WSUD principles during the design and implementation phase, including site environmental management during the construction
- increasing council's knowledge and capability for WSUD through field and desk-based work and professional oversight of the maintenance and renewal of WSUD assets
- enhancing partnerships with Melbourne Water, North Central Catchment Management Authority, Greater Western Water, Coliban Water, EPA Victoria and other government agencies.

<b>Status</b>	In progress
<b>Lead Agency</b>	Macedon Ranges Shire Council



# Useful resources

1. [Central and Gippsland Region Sustainable Water Strategy 2022](#)
2. [Flood Management Strategy for Port Phillip and Western Port](#)
3. [Greater Melbourne Urban Water & System Strategy](#)
4. [Healthy Waterways Strategy](#)
5. [Integrated Water Management Framework for Victoria](#)
6. [Living Melbourne: Our metropolitan urban forest strategy](#)
7. [Maribyrnong Catchment IWM Plan](#)
8. [Maribyrnong Catchment Strategic Directions Statement](#)
9. [Melbourne Sewerage Strategy](#)
10. [Municipal Association of Victoria Strategy 2021-2025](#)
11. [Open Spaces for Everyone Strategy](#)
12. [Plan Melbourne 2017-2050](#)
13. [Protecting Victoria's Environment - Biodiversity 2037 \(Biodiversity 2037\)](#)
14. [Victoria's Climate Change Strategy](#)
15. [Victoria's Housing Statement: The Decade Ahead 2024-2034](#)
16. [Water is life: Traditional Owner Access to Water Roadmap](#)
17. [Waterways of the West Action Plan](#)

# Glossary of terms

## **Alternative water sources**

Alternative water sources refer to any supplies other than Victoria's potable water network or 'grid'. Alternative water sources include rainwater, greywater, recycled water, groundwater, and stormwater. The use of alternative water sources needs to be safe, meet regulatory and environmental standards, and reflect community expectations.

## **Assets**

Assets are resources that provide benefit. They include: infrastructure such as treatment plants, pipes and pumps; water assets such as dams, bores and wetlands; and community assets such as sporting facilities, public gardens and street trees. Natural assets (also known as natural capital) are assets of the natural environment, for example waterways and vegetation.

## **Biodiversity**

The number and variety of plants, animals and other living beings, including microorganisms, across our land, rivers and oceans. It includes the diversity of their genetic information, the habitats and ecosystems in which they live, and their connections with other life forms.

## **Blue-green infrastructure**

Green infrastructure refers to key vegetation features such as street trees, parklands, grassed sports fields and vegetated walls. Blue infrastructure refers to waterways, wetlands, recreational lakes, stormwater retarding basins and other water body features. Blue-green infrastructure brings these assets together through integrated approaches to deliver community benefits.

## **Catchment**

An area where water falling as rain is collected by the landscape, eventually flowing to a body of water such as a creek, river, dam, lake or ocean, or into a groundwater system.

## **Climate change**

A long-term change in the earth's temperature and weather patterns, generally attributed directly or indirectly to human activities such as fossil fuel combustion and vegetation clearing and burning.

## **Community**

Includes individuals, public and private landholders, community groups and business owners.

## **Department of Energy, Environment and Climate Action (DEECA)**

A department of the Victorian Government that supports Victoria's natural and built environment to ensure economic growth and liveable, sustainable and inclusive communities. The department assists several ministers, develops and implements state policies and programs, and oversees the administration of organisations, including catchment management authorities.

## **Ecosystem**

A dynamic complex of plant, animal, fungal and microorganism communities and the associated non-living environment, interacting as an ecological unit.

## **Environment Protection Authority (EPA Victoria)**

Victoria's environmental regulator is an independent statutory authority. The authority supports Victorians to prevent and reduce the harmful effects of pollution and waste on communities.

## **Environmental water**

Water to support environmental values and ecological processes.

## **Flooding (stormwater)**

Inundation by local runoff. Stormwater flooding can be caused by local runoff exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing the urban stormwater drainage system to overflow.

### **Floodplain**

Low-lying land adjacent to a river or stream with unique ecosystems dependent on inundation from flood events.

### **Flow**

Movement of water – the rate of water discharged from a source, given in volume with respect to time.

### **Gigalitre (GL)**

One billion (1,000,000,000) litres. One gigalitre is the equivalent of approximately 400 Olympic-size swimming pools.

### **Greater Metropolitan Melbourne Region**

The Port Phillip and Western Port Bay catchment area, including the Werribee, Maribyrnong, Yarra, Dandenong and Western Port catchments.

### **Groundwater**

All subsurface water, generally occupying the pores and crevices of rock and soil.

### **Growth areas**

Locations on the fringe of metropolitan Melbourne designated in planning schemes for large-scale transformation, over many years, from rural to urban use.

### **Impervious area**

A surface or area within a catchment that significantly restricts the infiltration of water. Impervious surfaces can include concrete, road surfaces, roofs and saturated ground such as a lake or pond.

### **Implementation partner**

An implementation partner is an organisation that supports the delivery of actions and will commit agreed resources with the lead organisation to ensure timely progress of the action.

### **Infrastructure**

Basic facilities and networks needed for the functioning of a local community or broader society.

### **Integrated water management (IWM)**

A holistic and collaborative approach to managing water that brings together all elements of the water cycle, including wastewater management, water supply, stormwater management and water treatment, considering environmental, cultural, economic and social benefits.

### **Integrated Water Management Forum**

A meeting of urban water management organisations to identify, prioritise and commit to the investigation of integrated water management opportunities.

### **Irrigation district**

An area declared under the *Water Act 1989* that is supplied with water by channels and pipelines used mainly for irrigation purposes.

### **Lead organisation**

A lead organisation will drive the action forward and liaise with implementation partners, as appropriate, throughout all stage of action delivery. They will commit the necessary resources to progress activities to deliver the action. They will communicate with partners to clearly define their roles, responsibilities, and resource needs.

### **Liveability**

A measure of a city's residents' quality of life, used to benchmark cities around the world. It includes socioeconomic, environmental, transport and recreational measures.

### **Megalitre (ML)**

One million (1,000,000) litres.

### **Open space**

Includes land reserved for natural landscape, parklands, recreation and active sports.

### **Potable water**

Water of suitable quality for drinking.

### **Rainwater**

Water that has fallen as rain or has been collected from rainfall.

### **Recycled water**

Water derived from sewerage systems or industry processes that is treated to a standard appropriate for its intended use.

### **Reservoir**

Natural or artificial dam or lake used for the storage and regulation of water.



### **Resilience**

The capacity of individuals, communities, institutions, businesses, systems and infrastructure to survive, adapt and grow, no matter what chronic stresses or shocks they encounter.

### **Runoff**

The portion of rainfall that ends up as streamflow, also known as rainfall excess.

### **Stormwater**

Runoff from urban areas. The net increase in runoff and decrease in groundwater recharge resulting from the introduction of impervious surfaces such as roofs and roads within urban development.

### **Sub-catchment**

A minor waterway catchment within one of the major waterway catchments in the region. There are 69 sub-catchments defined by the *Healthy Waterways Strategy 2018* (Melbourne Water) in the Port Phillip Bay and Western Port Region. Sub-catchments are used as the spatial unit for the plan analysis.

### **Traditional Owners**

People who, through membership of a descent group or clan, are responsible for caring for Country. Aboriginal people with knowledge about traditions, observances, customs or beliefs associated with a particular area. A Traditional Owner is authorised to speak for Country and its heritage.

### **Urban greening**

Growing plants wherever possible in cities to contribute to urban vegetation coverage and provide a connection to nature.

### **Urban water cycle**

The cycle of water through urban environments. Distinguished from the natural urban water cycle by the transfer of water through built infrastructure and the high runoff rates generated by impervious surfaces.

### **Wastewater**

Water that has had its quality affected by human influence, deriving from industrial, domestic, agricultural or commercial activities.

### **Water corporations**

Victorian Government organisations charged with supplying water to urban and rural water users. They administer the diversion of water from waterways and the extraction of groundwater. Formerly known as water authorities.

### **Water infrastructure**

Facilities, services and installations needed for the functioning of a water system.

### **Water sector**

Organisations involved in water management, including water corporations, local government and catchment management authorities.

### **Water Sensitive Urban Design (WSUD)**

The planning, design and construction of urban development that aims to minimise the impact on the surrounding environment and waterways by treating and reducing stormwater flows, increasing soil moisture and urban greening, and providing an alternative water source.

### **Waterways**

Rivers and streams, their associated estuaries and floodplains (including floodplain wetlands), and non-riverine wetlands.

### **Waterway health**

Waterway health is an umbrella term for the overall state of key features and processes that underpin functioning waterway ecosystems (such as species and communities, habitat, connectivity, water quality, riparian vegetation, physical form, and ecosystem processes such as nutrient cycling and carbon storage).

### **Wetlands**

Natural, modified or artificial areas subject to permanent or temporary inundation, which hold static or very slow-moving water and develop, or have the potential to develop, biota adapted to inundation and the aquatic environment. Wetlands may be fresh or saline.

For more information visit:

[www.water.vic.gov.au/liveable/integrated-water-management-program](http://www.water.vic.gov.au/liveable/integrated-water-management-program)



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