

# **Melbourne's current Integrated Water Management reforms and initiatives**

Guide for local government and water sector stakeholders

Developed by Resilient Melbourne and the  
Integrated Water Management Working and Alignment Group (IWMWAG)

The information in this report is current as of March 2018.  
The IWMWAG will endeavour to update this report bi-annually.

Resilient Melbourne and the Integrated Water Management Working and Alignment Group respectfully acknowledge the Traditional Owners of the Land. We pay our respects to their strength, resilience and pride as the oldest continuous culture in the world and the custodians of the land and water on which we rely.

## **What is the Integrated Water Management Working and Alignment Group (IWM-WAG)?**

The IWM-WAG is convened by Resilient Melbourne and chaired by Rob Skinner from the Monash Sustainable Development Institute. The group includes representation from:

- City of Kingston
- City of Manningham
- City of Melbourne
- Clearwater
- Cooperative Research Centre for Water Sensitive Cities
- Melbourne Water
- Municipal Association of Victoria (MAV)
- Victorian Department of Environment, Land, Water and Planning (DELWP)
- Yarra Valley Water (representing the water retailers)

The purpose of the IWM-WAG is to facilitate coordination of current IWM and related activities that involve and impact on local government, with a focus on metropolitan Melbourne. The group provides an avenue for increasing local government engagement in activities relating to setting objectives for, planning and delivering Melbourne's water infrastructure systems (such as potable water supply and demand, sewerage, drainage, waterways and alternative water sources).

### **Purpose of this document**

This document has been designed as an update for local government and water sector stakeholders, including both practitioners and senior managers, about the range of current IWM-related activities, how they connect to each other and their implications. Its goal is to help stakeholders understand the scope of current activities and make informed decisions about the highest priority areas for engagement.

Information provided in this document will also be summarised on the Resilient Melbourne website <https://resilientmelbourne.com.au/integrated-water-management-information-hub/>. This document provides more detailed background information to support the website. The information on the website will be updated more frequently (approximately quarterly), while this document will be updated less frequently (approximately semi-annually, or as needed).

### **Structure of this document**

This document includes a combined introduction/summary followed by sections with supporting information about each of the relevant policy reforms, strategic initiatives and collaborative processes underway. It also profiles available financial and capacity support, tools and resources that may be of particular interest to local government officers.

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# Introduction

## Why is Integrated Water Management important to local government?

Climate change and population growth pose significant challenges and opportunities for Melbourne’s water supply, sewerage, stormwater and waterway systems. If these challenges are not effectively managed, communities will face water shortages and restrictions, devastated parks and gardens, flooded streets, destroyed waterways and escalating water bills. Conversely, if our water systems are effectively managed there is significant potential to harvest additional water resources for our parks and sporting facilities, beautification of waterways, increasing active transport, and reducing chronic diseases associated with sedentary lifestyles. Melbourne’s water outcomes are therefore reliant on effective collaboration and engagement among all stakeholders, including local government.

Effective water management is essential to the future of human civilisation. This is highlighted by the key role that urban water management has in relation to achieving 6 of the 17 United Nations Sustainable Development Goals, including those related to: Clean Water and Sanitation (6), Innovation and Infrastructure (9), Sustainable Cities and Communities (11), Responsible Consumption (12), Climate Change (13), Life below Water (14) and Life on Land (15).



Figure 1 – The United Nations Sustainable Development Goals (red boxes indicate direct relationship with urban water management)

A common misconception is that local government’s role in urban water management is limited to local drainage, and that councils need not consider the broader water supply and sewerage systems or waterway management. Many aspects of these broader water systems interact with local government functions, however: Some examples include: drought and water restriction preparedness plans, management of recycled water supplies and use, water efficiency initiatives, support for local industry, recreation along waterways, and various aspects of urban planning, land use and design.

*“Integrated water management is a collaborative approach to planning that brings together organisations that influence all elements of the water cycle, including waterways and bays, wastewater management, alternative and potable water supply, stormwater management and water treatment.”*

- Integrated Water Management Framework, 2017  
Victorian Department of Environment, Land, Water and Planning

At the moment, there are several concurrent activities in the IWM space in Victoria. These include policy reforms, collaborative planning initiatives, strategy refreshes and implementation of specific projects. These activities have serious implications for local government, both in terms of the time investment required to participate in them, and also in terms of the outcomes that they produce. For this reason, understanding the objectives of these activities and how to become involved in decision-making processes will be important for councils. However, there are so many activities happening simultaneously that it is even difficult for practitioners and content experts to stay across all of it, much less senior management and CEOs.

For this reason, the Integrated Water Management Working and Alignment Group (IWM-WAG) is monitoring and providing integrated feedback into these simultaneous reforms and initiatives. Part of the purpose of the IWM-WAG is to increase local government participation in the IWM-related initiatives. However, local government does not have unlimited time and staff resources to invest in engaging around every policy reform, strategy refresh, and collaborative initiative. Therefore this update is designed to help local government remain informed about current and recent initiatives, including policy and legislative reforms, strategic and collaborative initiatives and recently-released documents and resources.

## **Stormwater management policy reforms**

Urban densification, environmental concerns and climate change pressures are resulting in a need to review and adjust how stormwater is managed within Melbourne. Individual councils are increasingly implementing Environmentally Sustainable Design (ESD) instruments into their planning policies. There are also a number of state-level policy and legislative reforms currently underway that relate to stormwater management.

Reviews of the Victoria Planning Provisions (VPPs) and the State Environment Protection Policy (Waters of Victoria) are currently underway. There are also a number of reviews being undertaken to clarify roles and responsibilities in the Victorian Floodplain Management Strategy, the Port Phillip and Westernport Flood Management Strategy, the Yarra River Action Plan, and the implementation of Chapter 5 of Water for Victoria. The rule that stormwater assets with a catchment under 60 hectares be managed by councils, and over 60 hectares be managed by Melbourne Water, is under review. A review of the Best Practice Environmental Management Guidelines (BPEM Guidelines), that set targets for stormwater management in new developments, will also commence in 2018.

Reviews of the VPPs and BPEM Guidelines are likely to have a significant impact on stormwater management outcomes, because these define actual stormwater targets, and the circumstances within which they must be met. There is increasing interest in protecting

waterways through increasing stormwater quality, and reducing stormwater volumes. There is potential for these reforms to have major financial implications for infrastructure providers such as councils, and also developers of private land. The review of the 60 hectare rule could also have significant financial implications for councils depending on the scope and scale of any agreed changes.

We therefore suggest that it is worthwhile for local governments to stay closely informed about these reforms. The IWM-WAG will endeavour to share further details on these reforms as they progress, and also opportunities to participate. See Section 1 for more information on these policy reforms, including timelines and opportunities for local government input.

## **Strategic and collaborative initiatives**

Collaborative planning is central to IWM, which requires many stakeholders to collectively identify problems and solutions. DELWP's IWM Forums offer a large-scale, systematic approach to such collaboration. This will enable (1) co-learning from previous IWM strategies and projects, such as stormwater harvesting projects, wetlands, raingardens and water recycling, (2) coordinated planning of future strategies and projects and (3) opportunities for implementation partnerships, project funding and financing.

Several other ongoing initiatives in Melbourne provide important context for the IWM Forums and serve complementary purposes. Some examples are Melbourne Water's Healthy Waterways Strategy refresh, Yarra Strategic Plan and Urban Cooling Program, and Resilient Melbourne Metropolitan Urban Forest Strategy. In addition to these, actions emerging from *Plan Melbourne 2017-2050* will involve collaborative planning, such as actions to cool the city through greening.

See Section 2 for more information on strategic collaborative initiatives currently underway in Melbourne.

## **Available IWM support, tools and resources**

Two key programs exist to support local government with IWM planning and implementation. Clearwater provides capacity building programs, and the Melbourne Water Living Rivers program provides funding, guidance and ongoing support for projects at the local level.

In addition to these programs, many documents and resources have been released recently which are likely to be of high interest to local government stakeholders. The IWM-WAG will aim to provide further updates around tools, resources and opportunities as they become available. Some examples of recently available resources include:

- Policies (already released)
  - Water for Victoria (DELWP) which sets the overarching strategic direction for water management activities across the state
  - The IWM Framework (DELWP) provides useful information around what the IWM Forums are and how they will work
- Strategies (already released)
- - "Water for a Future Thriving Melbourne" provides a high level summary of the Melbourne Water Systems Strategy and the "Urban Water Strategies" produced by the retailers. It is a useful first point of contact for understanding the future of Melbourne's water supply.
  - Melbourne Water System Strategy (from Melbourne Water) provides the long-term water supply and demand outlook for Melbourne, and so provides important context for planning alternative water projects, such as local government stormwater harvesting

- Tools
  - The IWM Tool Scan (DELWP) is a useful starting point for understanding the variety of tools, guidelines, documents and policies which are useful when implementing IWM at the local government scale
  - Hydra mapping software (DELWP) is now being used to map IWM projects across Melbourne and local government participation is requested to assist in this process
  - *Review of existing Benefit Cost Analysis tools relevant to water-sensitive cities* (from the CRC for Water Sensitive Cities) provides a starting point to understanding the benefit cost analysis tools already being used, by whom, and the extent to which their use is informing IWM decision-making
- Reviews and studies
  - Nation Water Reform Draft Report (from Productivity Commission) provides an overview of water issues at the national scale and comments on challenges and priority actions within urban water management
  - *Ideas for Victorian Planning Controls* (from the CRC for Water Sensitive Cities) outlines a potential approach to improve stormwater management in Victoria centred around changes to planning controls
  - *Review of non-market values of water sensitive systems and practices: An update* (from the CRC for Water Sensitive Cities) presents the key benefits and services delivered through the use of water sensitive practices. The review is summarised in major services, including green infrastructure, climate change mitigation, flood reduction, and ecological values of water
  - Greening the West case study report (from RMIT) provides an overview of collaborative efforts to achieve urban greening in Melbourne's west

See Section 3 for more information on recently released documents and resources, including weblinks.

# 1. Stormwater management policy reforms

## Stormwater management policy background

Currently, a significant portion of the legislation, policies and rules that govern Melbourne’s stormwater systems are under review. For this reason, the IWM Working and Alignment Group has determined that there is value in developing and distributing an update on these reform processes, how they link together, and their implications. These reforms have potential implications for a range of stakeholders. The primary organisations involved in stormwater management are outlined in Table 1.

**Table 1 - Primary stormwater system stakeholders in metropolitan Melbourne**

<b>Organisation</b>	<b>Current role</b>
DELWP	Develops, implements and updates high-level government strategies and supporting policies and legislation
Environmental Protection Agency	Sets and enforces environmental regulations
Melbourne Water	Manages drainage pipes and water assets, including green infrastructure (e.g., wetlands), that receive water from catchments (generally) larger than 60 hectares
Local government	Plans and manages stormwater pipes and small-scale green infrastructure (e.g., raingardens) that receive water from catchments (generally) smaller than 60 hectares, and ensures that new developments are in accordance with regulations
Water retailers	Increasingly engage in innovative projects, such as: <ul style="list-style-type: none"> <li>• Upper Stony Creek Transformation Project, which affects a drainage channel (City West Water)</li> <li>• Kalkallo Stormwater Harvesting, which will reduce stormwater flow and volumes (Yarra Valley Water)</li> <li>• Aqua Revo, which involves smart rainwater tanks (South East Water)</li> </ul>
Developers	Designs and builds drainage systems in accordance with regulations, which in some situations includes stormwater treatment and retention through green infrastructures
Landowners and residents	Property owners are responsible for ensuring that rainfall is appropriated directed to an allocated point of discharge to the street, so that their stormwater runoff does not affect other properties

Melbourne’s stormwater systems are governed by a combination of formal legislation and less formal policies, rules and guidelines that have emerged over time. The most important of these formal and informal instruments can be categorised as “setting roles and responsibilities”, “setting environmental objectives” and “setting targets for individual developments”.

See Table 2 for information on prompting and potential changes arising from reforms.

## Setting roles and responsibilities

The **Local Government Act (1989)** authorises council involvement in managing public drainage. It is not prescriptive about the activities that councils need to undertake.

The **60 Hectare Rule (1928)** is not formalised in legislation. Rather, “In 1928, the Melbourne Metropolitan Board of Works (MMBW) established an agreement with the ... metropolitan municipalities about the distinction between local drains and main drains to be applied to pipelines... [It] determined that a *main drain was classified where the catchment area exceeded 60 hectares*. Assets in catchment areas greater than 60 hectares became MMBW (now Melbourne Water) assets, and those assets with catchment areas less than 60 hectares became municipal (Council) assets. As MMBW’s, and subsequently Melbourne Water’s, management responsibility evolved over time, the 60 hectare ‘rule’ has since been generally applied to [many] stormwater quality treatment assets such as wetlands” (Melbourne Water, 2017, p. 17).

## Setting environmental objectives

The **State Environment Protection Policy (SEPP) - Waters for Victoria (1988)** outlines environmental objectives for Victoria’s waterways and bodies in terms of pollutant concentrations.

## Setting targets for individual developments

The **Victoria Planning Provisions (VPPs)** established under the **Planning and Environment Act (1987)** provide a framework to enable local governments and water utilities to enforce planning controls over new developments. In 2006, **Clause 56.07-4** of the VPPs was amended to enable local governments and water utilities to compel residential greenfield developers to construct and pay for infrastructure for stormwater management (e.g., wetlands) and Integrated Water Management (e.g. construction of third pipe recycled water reticulation networks and plumbing). The stormwater management targets are not defined within the VPPs, but rather reference is made to the “Best Practice Environmental Management Guidelines” (BPEM Guidelines).

The BPEM Guidelines were created by the CSIRO in 1999, in consultation with the EPA, Melbourne Water and local governments. These guidelines were developed through consideration of the amount of stormwater management required in Melbourne to meet SEPP objectives for a particular catchment, and then considered in terms of practicalities around available technology and affordability. These findings were then adopted by the VPPs, and applied generically across all of Melbourne’s catchments.

## Reforms and changes to stormwater management policies

Table 2 – Policy, legislation and rules which govern Melbourne’s stormwater system that are currently under review

Instrument	Reason for review	Potential changes	Implications for stormwater management	Timeline	Opportunities for local government to provide input
SEPP	This legislation is scheduled to sunset in 2018 and statutorily is required to be reviewed every 10 years.	<p>Considerations that have arisen from consultation to date include:</p> <ul style="list-style-type: none"> <li>• Recognition that stormwater as a resource should be retained where it falls</li> <li>• Retention of the BPEM as the main regulatory tool for new developments (consistent standard with VPPs)</li> <li>• The need to strengthen obligations for owners / managers of stormwater assets to maintain them for the purpose they were constructed (including a maintenance program) and ensure outfalls meet requirements of receiving waters</li> <li>• Retention of the obligation for local government and partners to develop and implement stormwater management plans</li> </ul>	<p>Medium potential consequence</p> <p>Emerging changes may provide additional obligations for stormwater management initiatives including requirements to develop stormwater management plans. Any changes to maintenance requirements could have a direct financial impact on Melbourne Water and councils</p>	<ul style="list-style-type: none"> <li>• <b>Early 2018:</b> Release draft policy for public consultation through the <a href="#">Engage Victoria site</a> (also including a policy impact statement and implementation plan)</li> <li>• <b>Mid-2018:</b> Finalisation</li> </ul>	<ul style="list-style-type: none"> <li>• <b>December 2017 – March 2018:</b> The draft policy will be advertised for 21 days and there is a mandatory three-month consultation period with opportunities for council input</li> <li>• The MAV is monitoring the SEPP review and can provide updates on the status of the review, council consultation opportunities, and planned submissions on behalf of the sector via Water Policy Manager <a href="#">Rosemary Hancock</a></li> </ul>

<p><b>Local Government Act</b></p>	<p>The Local Government Victoria directions paper (2016), titled <a href="#">Act for the Future</a>, suggested that the role of councils in local drainage, waterways and flood management should be reviewed, and that any required changes be included in the new Local Government Act or the Water Act.</p>	<p>Councils' drainage authorisations are currently not included in the <a href="#">exposure draft</a>. The <a href="#">Directions Paper</a> indicated that consultation would be undertaken if the powers were to be more prescribed or moved to the Water Act, however this consultation has not occurred.</p> <p>The MAV's current position is that the current drainage provisions should remain in the Local Government Act, pending the outcome of any changes which may be recommended through the Melbourne Urban Stormwater Institutional Arrangements (60 Hectare Rule) review. There are significant resourcing and legal questions which can arise from even small wording changes, so MAV strongly recommends that detailed consultation be had with the sector before any changes are made.</p>	<p>High potential consequence</p> <p>There are significant resourcing and legal questions which can arise from even small wording changes</p>	<ul style="list-style-type: none"> <li>• <b>Late 2017:</b>Release of <a href="#">exposure Draft Bill</a></li> <li>• <b>March 16 2018:</b> Submissions on the Draft Bill close.</li> <li>• <b>2018:</b> implementation of new Act</li> </ul>	<p>The MAV is preparing a submission on behalf of the local government sector and holding a series of consultation opportunities for councils. Please contact Water Policy Manager <a href="#">Rosemary Hancock</a> for updates.</p>
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<p><b>60 Hectare Rule</b></p>	<p><a href="#">Flood Management Strategy Port Phillip and Westernport (2015)</a> Action 18.1 is to “continue dialogue on the 60ha threshold approach to delineating accountabilities...”</p> <p><a href="#">Victorian Floodplain Management Strategy (2016)</a> Action 14a is to: “review the institutional arrangements governing the accountabilities for urban stormwater flood risk management for the Port Phillip and Westport region (60ha rule).”</p> <p>The current arrangements have evolved as a convention and do not assign clear roles, responsibilities and resourcing for stormwater drainage assets and services between councils and Melbourne Water. Therefore, a <a href="#">review</a> has begun to consider the role of councils and Melbourne Water in stormwater management. The review is also considering how future roles and responsibilities can account for management of population changes and climate change impacts for stormwater management issues.</p>	<p>Potential to change the way ownership and management of stormwater assets is divided between MW and councils</p> <p>The review of the 60 hectare rule could therefore have significant financial implications for councils depending on the scope and scale of any agreed changes to councils’ roles and responsibilities for stormwater drainage assets and services and may form the basis for legislative changes concerning councils’ drainage responsibilities.</p>	<p>High potential consequence</p> <p>Any changes to this informal rule would have important financial and practical impacts on MW and councils, because they may be expected to manage more or less infrastructure</p>	<ul style="list-style-type: none"> <li>• <b>2017-2018:</b> Consultation on the Melbourne Urban Stormwater Institutional Arrangements (MUSIA) review between DELWP, Melbourne Water, MAV and a local government steering group</li> <li>• <b>Early 2019:</b> A draft agreement is expected</li> </ul>	<p>DELWP, Melbourne Water and MAV have agreed to a <a href="#">process</a> and governance arrangements for this review. MAV is coordinating a local government working group. If councils would like to be involved or informed of outcomes of this review please contact MAV Senior Water Policy Adviser, <a href="#">Heather McClaren</a></p>
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<p><b>VPPs Clause 56.07-4 + associated BPEM guidelines</b></p>	<p><b><u>Water for Victoria Action 5.5</u></b> commits DELWP to:</p> <ul style="list-style-type: none"> <li>Amend the <u>VPPs</u> and related building regulations aimed at improving stormwater management</li> <li>Lead the development of local place-based targets for stormwater management</li> <li>Finding the best mix of legislative, regulatory, financial and market-based incentives to complement the VPPs and building regulations</li> </ul> <p><b><u>Yarra River Action Plan Action 19</u></b> commits to:</p> <ul style="list-style-type: none"> <li>extending coverage of the stormwater provisions in the VPPs to apply to all subdivisions</li> </ul> <p><b><u>Plan Melbourne Action 80</u></b> relates to reviewing planning and building systems to support environmentally sustainable outcomes for building, and Action 94 is similar to Water for Victoria Action 5.5</p>	<ul style="list-style-type: none"> <li>Extending Clause <u>56.07</u> to include industrial and commercial areas (first priority)</li> <li>Re-evaluating the current <u>BPEM</u> generic quality targets</li> <li>Whether SW quantity/flow targets should be included/enforced</li> <li>Whether targets should be different for different locations/situations (place based targets rather than generic)</li> <li>May at some point be extended to include small scale redevelopments</li> </ul>	<p>High potential consequence</p> <p>Any changes to Clause <u>56.07</u> and <u>BPEM</u> would have significant impacts on urban planning and development, because developers may have to pay for additional infrastructure (or build smarter), but there may also be associated benefits such as increased amenity</p>	<ul style="list-style-type: none"> <li><b>Ongoing:</b> Activities currently being scoped; the consultation process will be developed as part of the scoping</li> <li><b>Oct/Nov 2017:</b> Targeted consultation around VPPs</li> <li><b>Early 2018:</b> Wider sector consultation on VPPs</li> <li><b>2018:</b> EPA review on BPEM</li> </ul>	<p>These reviews will be an ongoing process over an extended period. Targeted initial consultation around extension of the VPPs to cover industrial and commercial areas occurred in Oct/Nov 2017. Wider consultation for the local government sector is expected in early 2018.</p>
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For policy support on behalf of the sector, MAV may be contacted for advice on policy and regulatory changes and is able to direct you to consultation opportunities. The MAV also prepares submissions and maintains a water contacts email list which is used to update Councillors and council staff of the latest policy changes and opportunities. If you would like more detailed advice about any of these initiatives, please contact Rosemary Hancock, MAV Water Policy Manager on 9667 5520 or rhancock@mav.asn.au

## **2. Strategic and collaborative initiatives**

Collaborative planning forms a significant component of IWM practice. To achieve the objectives of IWM, all relevant organisations need to work together to develop strategies and plans for implementation. In practice, this is achieved through programs that bring stakeholders together to discuss problems and collective solutions. Several collaborative initiatives and strategy development or review processes are underway in Melbourne and Victoria. These are particularly relevant to local government, as many rely on input from council leadership and officers alike.

### **Collaborative initiatives**

#### **Integrated Water Management Forums (DELWP)**

One of the core actions undertaken by DELWP following the release of Water for Victoria has been the development of an “IWM Framework” (see Documents section of this report), which sets out the plan for upcoming “IWM Forums”. Five Forums in metropolitan Melbourne have been set up along the following catchment boundaries: Werribee, Maribyrnong, Yarra, Dandenong and Westernport. Additional Forums have been established for regional Victoria.

These Forums will:

- Develop a Strategic Direction Statement (vision), identify priority actions and projects, and support their implementation
- Determine priority actions and projects (including local IWM plans/strategies)
- Support the delivery of IWM strategies, policies and projects (and address issues and challenges) on an ongoing basis

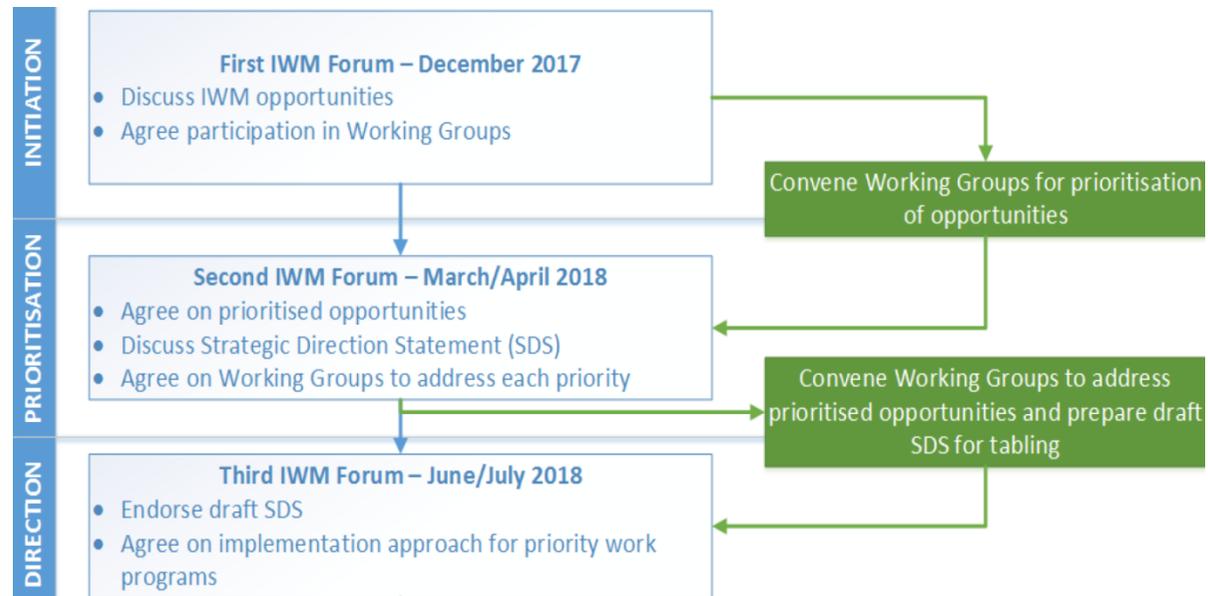


Figure 2 – Explanation of the first three IWM Forums, after which it will become a regular process of between three and four Forums per year

**Engagement process:** All local governments in Melbourne are highly encouraged to actively participate in the IWM Forums, which will provide opportunities to assist local government in realising IWM projects and objectives. Because the Forums will involve catchment-level decision-making, senior leadership from councils, water corporations, catchment management authorities and related organisations have been invited to ensure top-down buy-in and alignment.

### CRC for Water Sensitive Cities Victorian Regional Advisory Panel

The CRC for Water Sensitive Cities (CRCWSC) is an Australian research centre that brings together interdisciplinary research expertise, thought-leadership and industry to revolutionise urban water management in Australia and overseas. The Victorian Regional Advisory Panel is composed of CRCWSC participants from government, councils, utilities, consulting organisations and capacity building organisations. The Panel is a collaborative forum for strategic guidance, advice and recommendations to ensure the regional activities of the CRCWSC support the delivery of Water for Victoria and the IWM needs of the Victorian CRCWSC Participants more generally. Additional local government participation in the Victorian Regional Advisory Panel is welcomed.

## **Metropolitan Partnerships (DELWP)**

The Metropolitan Partnerships are a Victorian Government initiative designed to make state government more responsive to community needs. The Partnerships in each region of Melbourne (West, North, East, South, Inner South East, and Inner Metro) are comprised of eight representatives of various professional backgrounds. One local council CEO per region has been recruited to each Partnership. Further participation from council staff appears to be limited to voluntary participation in the Assemblies.

**Engagement process:** Each year the Partnerships will hold Assemblies, open to their wider community, to identify community priorities, feedback and ideas, and will share these outcomes with government before the next annual budget is formulated. This will enable government to be more responsive to priority areas of action, and better target their investment. The first round of Assemblies was completed August – October 2017; the prioritised outputs from these events and Partnership processes were released on 24 December 2017.

## **Relevant strategies and projects underway**

### **Water for Victoria Action 5.1 (DELWP)**

The implementation of actions from Water for Victoria will require collaboration with local government. In particular, Action 5.1, “Use diverse water sources to protect public spaces” will require collaboration to select priority parks, gardens, public open spaces and playing fields to look after during drought.

### **Yarra Strategic Plan (Melbourne Water)**

The Yarra Strategic Plan is being led by Melbourne Water. It is designed to align and coordinate the various organisations, plans, policies and legislation that manage the Yarra River corridor. It was outlined in the Yarra Action Plan, which was informed by the Yarra Ministerial Advisory Committee. During the development of this strategic plan, local governments adjacent to the Yarra River have the opportunity to participate in the development of a 50 year community vision for the Yarra. The first phase of engagement (September to November 2017) focused on gathering community input into the development of the 50-year vision, which will become the cornerstone of the Yarra Strategic Plan. The next phase of our community engagement will commence in April 2018.

### **Plan Melbourne 2017-2050 implementation (DELWP)**

The implementation of actions from Plan Melbourne 2017-2050 will require collaboration between DELWP and other parties, including local government. Implementation actions include items relating to increasing urban greening, mapping vegetation coverage, cooling, and also stormwater reform (relating to the stormwater reforms already mentioned). However the specifics of how many these actions will be implemented are not yet known, and so the level of participation required from councils is also not yet known.

### **Healthy Waterways Strategy Refresh (Melbourne Water)**

Melbourne Water's Healthy Waterways Strategy (HWS) sets the long term strategy for protecting and improving the health of Melbourne's waterways. Core components of the current HWS are the key values that waterways support, and the portfolio of management options available to Melbourne Water. The HWS is currently being refreshed, with a focus on community engagement to determine what the community values most, and what managed options should be prioritised. The refreshed HWS will also incorporate stormwater issues, which were previously managed through a separate Stormwater Strategy. Local governments have been involved in a variety of workshops in each of Melbourne's catchments to help inform the HWS refresh.

### **Metropolitan Sewerage Strategy (Melbourne Water and retailers)**

The Melbourne Sewerage Strategy is a 50 year strategy which is being developed collaboratively between Melbourne Water, Yarra Valley Water, City West Water, South East Water, and Western Water. The Strategy will provide the future direction for Melbourne's sewerage system, ensuring it continues to protect public health and the environment along with defining its role in supporting Melbourne as a Water Sensitive City. The strategy is currently being developed and local councils and other agencies may wish to contribute to the strategy through the engagement process in early 2018.

### **Urban Cooling Program (Melbourne Water)**

The Urban Cooling Program is a tangible subset of Melbourne Water's 'resilience' (and 'climate change adaptation') portfolio within the Land, Liveability & Stewardship Team. Focused on building organisational capacity in 'urban cooling', the Program aims to engage with staff, customers and partners on shading and cooling solutions to embed resilience initiatives into business-as-usual operations.

The Urban Cooling Program is working towards achieving a greener, thriving and cooler Melbourne region, resilient to shocks and stressors in the long-term. In the short term, Melbourne Water has adopted a target to invest directly in improving 30 ha of green spaces for shade and cooling across Melbourne by 2021. To deliver this target, a pilot program has been established aimed at increasing canopy cover or irrigation to provide a cooling benefit where it is needed most. While currently focussed on Melbourne Water land, the program's wider partnership opportunities are currently being explored.

There is significant potential for local government to engage with this program. A series of workshops have already been conducted. More engagement will occur in the future but is yet to be determined.

### **Melbourne Metropolitan Urban Forest Strategy (Resilient Melbourne and The Nature Conservancy)**

A Flagship action within the Resilient Melbourne strategy is the development of a metropolitan urban forest strategy to extend and link existing urban greening, reforestation and nature conservation initiatives across Melbourne, to improve wellbeing and reduce exposure to hazards such as heatwaves and flooding. The Nature Conservancy, a global platform partner with 100 Resilient Cities, is leading the development of the

Strategy in collaboration with metropolitan Melbourne's 32 councils and a variety of other stakeholders, including water utilities and state government agencies. The objective of the Strategy is to enable strong natural assets and ecosystems alongside a growing population.

In particular, the:

- Associated improvement of sustainability (e.g. stormwater water runoff, ecosystem improvements), liveability (e.g. heat and flood mitigation), viability and community wellbeing (e.g. amenity physical, mental, neighbourhood pride and overall enjoyment of a place)
- Enhancement, maintenance or increase in vegetation, with a particular emphasis on native vegetation, and the ecosystem services that they support with stress on outcomes relating to biodiversity and conservation and community health and wellbeing
- Enhancement of natural values (biodiversity) such as the native fauna presence and movement.

This strategy will map the current state of urban vegetation and analyse its relationship to ecosystem services and some elements of urban biodiversity within the context of urban growth and densification. This analysis will be used to develop recommendations about policy, partnerships, financing, implementation and maintenance.

Local government participation is required for a series of workshops to collect available data, determine useful outputs of the strategy, and review findings.

### **3. Available IWM support, tools and resources**

In order to assist local governments in IWM project implementation, a number of programs have been established. This section explains two key programs, Living Rivers and Clearwater. This section also contains a spread of recently released documents, resources and tools that may be of interest to stakeholders.

#### **Capacity-building and funding programs**

##### **Living Rivers (Melbourne Water)**

The Living Rivers program offers councils funding, expertise and guidance to build their understanding, skills and commitment to manage stormwater within an integrated water management approach. Funding rounds usually open in February and September each year.

##### **Clearwater Capacity Building Program**

Clearwater is hosted and co-funded by Melbourne Water and the Department of Environment, Land, Water and Planning (DELWP). Clearwater engages a wide range of audiences (such as Local Government, State Government, consultants, water authorities, universities and research centres) in a wide-range of capacity building programs, including training courses and seminars. These capacity building exercises help to build partnerships across the water sector.

Local government stakeholders can easily stay up to date with Clearwater events by signing up to the Clearwater mailing list, which currently has 2300 subscribers (<https://www.clearwater.asn.au/>).

## Recently released documents and tools

Table 3 shows recently released documents and resources separated into: government policy, strategies, tools and studies.

**Table 3 – Recently released documents and resources**

<b>Government Policies</b>	
<p><b>Water for Victoria</b>  <a href="https://www.water.vic.gov.au/_data/assets/pdf_file/0030/58827/Water-Plan-strategy2.pdf">https://www.water.vic.gov.au/_data/assets/pdf_file/0030/58827/Water-Plan-strategy2.pdf</a></p>	<p>DELWP released Water for Victoria in October 2016. This document provides the overarching strategic direction for all water management activities within the state. Topics covered by this policy document include: water allocation, climate change, waterways and catchments, agriculture, resilience and liveability, aboriginal values, recreation, water entitlements, the water grid, the economy, and an implementation plan.</p>
<p><b>IWM Framework</b>  <a href="http://www.water.vic.gov.au/_data/assets/pdf_file/0022/81544/DELWP-IWM-Framework-FINAL-FOR-WEB.pdf">www.water.vic.gov.au/_data/assets/pdf_file/0022/81544/DELWP-IWM-Framework-FINAL-FOR-WEB.pdf</a></p>	<p>DELWP released a draft of the IWM framework in 2016, but have recently released the final version. The IWM Framework predominantly describes how the IWM Forums will work in terms of governance, process and support. For example important elements include: guidance around the development of local IWM plans, economic evaluation, and indicative project case studies.</p>
<b>Industry strategies</b>	

<p><b>Water for a Future-Thriving Melbourne</b></p> <p><a href="https://media.yvw.com.au/inline-files/water-for-a-future-thriving-melbourne.pdf">https://media.yvw.com.au/inline-files/water-for-a-future-thriving-melbourne.pdf</a></p>	<p>This document provides an overview of the common elements of Urban Water Strategies by City West Water, South East Water and Yarra Valley Water and the Melbourne Water System Strategy by Melbourne Water and outlines how the water corporations are preparing to meet the challenges of a growing city in a changing climate.</p>
<p><b>Melbourne Water Systems Strategy</b></p> <p><a href="http://www.melbournewater.com.au/aboutus/reportsandpublications/key-strategies/Documents/Melbourne-Water-System-Strategy.pdf">www.melbournewater.com.au/aboutus/reportsandpublications/key-strategies/Documents/Melbourne-Water-System-Strategy.pdf</a></p>	<p>Melbourne Water recently released their Systems Strategy. This strategy replaces the old requirement for a Water Supply and Demand Strategy. It outlines the long-term supply and demand projections for Melbourne. Including when Melbourne could potentially face water shortage conditions again, options for alternative water sources, and community preferences. This document provides important context for small-scale alternative water source projects such as council stormwater harvesting.</p>

<b>Tools and resources</b>	
<p><b>IWM Tool Scan</b>  <a href="#">Due for release soon</a></p>	<p>DELWP has commissioned a “tool scan” report which looks at Australian guidelines, policies, documents and models that support the implementation of IWM, mostly focusing on councils. DELWP considers this scan not to be an end point, but rather a starting point for future work. The report focuses more on “integrated” tools for masterplanning vs. more specific day-to-day tools used by councils, with an emphasis on existing tools that can be applied more fully.</p> <p>Practice notes in the tool scan can be used in tender documents.</p> <p>Clearwater has uploaded all documents identified in the Tools Scan into WSAA’s Water Research Access Portal. This is now a one-stop-shop for tools and resources. Clearwater is in the process of developing communication material to promote the tool and provide guidance on how to find tools relevant for delivering IWM initiatives.</p>
<p><b>Hydra mapping</b>  <a href="http://www.clearwater.asn.au/resource-library/factsheets-and-tools/hydra-a-collaborative-mapping-tool-for-iwm.php">www.clearwater.asn.au/resource-library/factsheets-and-tools/hydra-a-collaborative-mapping-tool-for-iwm.php</a>   <a href="http://mapshare.maps.vic.gov.au/gvh270hydra">mapshare.maps.vic.gov.au/gvh270hydra</a></p>	<p>“Hydra is the fantastic new web-based mapping tool that is changing the way we share information and work with stakeholders to enable collaborative integrated water management (IWM). What does that mean in practice? Hydra allows authenticated users (DELWP, local government, CMAs and water corporations among others) to add and share information about existing IWM projects and case studies. Hydra will also be a useful communication tool through the IWM Forum process, where the sector can prioritise opportunities for collaborative IWM planning. Information can be made live to the public or restricted to viewing by authenticated users. DELWP invites you to get started on showcasing the great work your organisations do by adding case studies. Follow the <a href="#">Hydra link</a> and register for a log in.”</p>
<p><b>Review of existing Benefit Cost Analysis tools relevant to water-sensitive cities</b>  <a href="https://watersensitivecities.org.au/content/review-of-existing-benefit-cost-analysis-bca-tools-relevant-to-water-sensitive-cities/">https://watersensitivecities.org.au/content/review-of-existing-benefit-cost-analysis-bca-tools-relevant-to-water-sensitive-cities/</a></p>	<p>The CRC for Water Sensitive Cities recent review document provides a starting point to understanding the benefit cost analysis tools already being used, by whom, and the extent to which their use is informing IWM decision-making</p>

<b>Studies and reviews</b>	
<p><b>Productivity Commission Draft Report on water reform</b>  <a href="https://www.pc.gov.au/inquiries/current/water-reform/draft/water-reform-draft.pdf">https://www.pc.gov.au/inquiries/current/water-reform/draft/water-reform-draft.pdf</a></p>	<p>In September 2017 the Productivity Commission released a report looking at national water reform. While much of this is not relevant to councils, one section of it relates to making urban water management more robust and responsive. This report finds that it is important to be able to consider the value of many small-scale IWM projects, in comparison to large scale water supply augmentations such as future desalination plants. It finds that all potential infrastructure options need to be considered including centralised and decentralised, indirect and direct potable reuse of wastewater and stormwater.</p>
<p><b>Ideas for Victorian Planning Controls</b>  <a href="https://watersensitivecities.org.au/content/ideas-vic-planning-controls/">https://watersensitivecities.org.au/content/ideas-vic-planning-controls/</a></p>	<p>This CRC for Water Sensitive Cities synthesis document outlines a potential approach to improve stormwater management in Victoria centred around changes to planning controls</p>
<p><b>Review of non-market values of water sensitive systems and practices: An update</b>  <a href="https://watersensitivecities.org.au/content/review-of-non-market-values-of-water-sensitive-systems-and-practices-an-update/">https://watersensitivecities.org.au/content/review-of-non-market-values-of-water-sensitive-systems-and-practices-an-update/</a></p>	<p>CRC for Water Sensitive Cities presents the key benefits and services delivered through the use of water sensitive practices. The review is summarised in major services, including green infrastructure, climate change mitigation, flood reduction, and ecological values of water</p>
<p><b>Greening the West case study report</b>  <a href="http://cur.org.au/cms/wp-content/uploads/2017/10/greening-the-west_online.pdf">http://cur.org.au/cms/wp-content/uploads/2017/10/greening-the-west_online.pdf</a></p>	<p>RMIT recently released a case study report on Greening the West (GTW). GTW is a regional initiative in western Melbourne that brings together 23 member organisations to protect and enhance urban greenery. This report documents the functionality of the GTW initiative, and focuses on its challenges, factors for success, achievements, areas for improvement, future directions, and implications for current projects in Melbourne.</p>