Whittlesea Water for all

Our water strategy 2020-2030



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Acknowledgement of Traditional Owners

The City of Whittlesea recognises the rich Aboriginal heritage of this country and acknowledges the Wurundjeri Willum Clan as the Traditional Owners of this place.

Before European settlement, the Aboriginal people of the Wurundjeri Willum Clan lived on the land that now forms the City of Whittlesea and the northern suburbs of Melbourne. They lived on the tributaries of the Yarra River - along the Merri, Edgars and Darebin Creeks - the Plenty River and the Maribyrnong River.

The Wurundjeri Willum people have a strong connection to the land now known as the City of Whittlesea. They travelled the area in search of resources, fresh water, food and shelter; the Plenty River and many creeks offering various types of fish and birdlife.

The Wurundjeri Willum Clan speak the Woi wurrung language, and the word for water is *baan*.



Why water matters

Why we need better water management

Water is essential to our wellbeing and is imperative to the healthy functioning of our communities and our environment. It isn't just the water we drink, it is the water that nourishes our gardens and parks and flows in our creeks. There are several water types including potable water, stormwater and wastewater. All of this water is connected through the water cycle and eventually returned to the environment. It's important that we understand how water supports our communities and our environment, and how our individual and collective actions impact the full water cycle.

Our water cycle is changing

The City of Whittlesea's population is growing, with more homes and businesses being built every year. Our climate is also changing, with hotter, drier weather expected, and changes in rainfall patterns.

In the future, we expect more demand for potable water, with less water available in reservoirs. We expect more stormwater and wastewater to be released to the environment as our municipality grows. Without action, we expect more pollution of our waterways and more flooding to occur.

We need to change the way we manage water to respond to these changes, and there are great opportunities for us to do this. We can use alternative sources of water locally for agriculture and non-drinking uses in homes. We can design our cities to soak up more water, reduce pollution and reduce flooding while we create greener neighbourhoods. We can and should work together to create new solutions.



Overview

Whittlesea 2040: a place for all is Council's vision to create a better future. This water strategy helps to achieve all four Whittlesea 2040 goals, especially Sustainable Environment and Liveable Neighbourhoods.

How we will deliver better water management

Traditionally, different parts of the water cycle have been managed by different parts of government, with separate responsibilities and goals. It is now widely acknowledged that this approach can lead to missed opportunities.

This strategy describes a new and collaborative process where we recognise and coordinate the management of all aspects of the water cycle together. This includes considering how we select and use water supplies, how we manage wastewater and stormwater, how we protect and improve the health of our waterways and bays, and how we reuse and recycle water locally. By managing water in an integrated way, we can identify and deliver initiatives that will improve our towns and suburbs.

Our goal

By 2030, the City of Whittlesea will be leaders in the planning, use and management of water for the benefit of all.

Our five outcomes for success



Cleaner Our waterways are healthy and clean



Greener Our priority Our cc urban and rural landscapes are green and healthy availad

Smarter Our community uses potable water for drinking and alternative water is available for all other purposes



Prepared

Our city is

prepared for

droughts and

floods



United

Our community and partners value water and work together to improve water planning, use and management

Our priorities for action link directly to our five outcomes, with one additional category "Setting up for success", which will help Council to better manage and optimise council owned and shared water assets.

Working in partnership



Water management in the City of Whittlesea is a shared responsibility between many agencies and individuals. To coordinate all aspects of the water cycle together, its management needs to be integrated. These six entities play a key role in the management of our water.

Victorian Government	Melbourne Water	
Sets state-wide policy for water management	Oversees Melbourne-wide water resources, waterways and major stormwater systems	
Yarra Valley Water	City of Whittlesea	
Provides water and sewerage services to residents and businesses in the City of Whittlesea	Manages local stormwater systems, public spaces and facilities, and sets local policy for water management	
Wurundjeri	Local communities and businesses	
Represent the traditional owners of the land and water in City of Whittlesea	Manage their own water use, drainage and sewerage systems on private properties	

This strategy is aligned with state-wide and Melbourne-wide policy, and aims to improve local water management to benefit communities here in the City of Whittlesea.

How was this strategy developed?

This strategy has been developed in partnership with the agencies involved in water management in the City of Whittlesea, and with a community panel made up of local community members. The strategy was shaped by extensive data collection and analysis, the ideas and discussions which happened across eight workshops, and the results of a community survey.

To create our priorities for action, we started by asking our agency partnerships, as well as local community, businesses, developers and experts in water, environment, community, planning and infrastructure, for ideas on how to deliver our goal. These ideas were refined into actions and prioritised based on how well they help to deliver our goal and outcomes.



Water in the City of Whittlesea



Our water cycle

Water used in the municipality

The good news is that potable water use in the City of Whittlesea is currently lower than the Melbourne average on a per person basis. However, the overall need for water in the area will increase substantially as the population grows, and at the same time, regional water supplies from potable water reservoirs such as the Yan Yean Reservoir are likely to have less water as the climate changes.

DEMAND FOR WATER

Now: 15.2GL/yr 2040: 19.6GL/yr

WASTEWATER

Now: 12.4GL/yr 2040: 17.6GL/yr

STORMWATER

Now: 71.2GL/yr

2040: 81.8GL/yr

Wastewater produced in the municipality

As we increase water use in homes and businesses across the municipality, we also increase the wastewater entering our sewers from toilets, showers and sinks. The majority of local wastewater is transferred to the Western Treatment Plant for treatment and then released to Port Phillip Bay.

Stormwater produced in the municipality

The amount of stormwater entering into the stormwater pipes which connect to rivers and creeks, will increase significantly as more homes are built. The change in stormwater runoff will be biggest in the growth areas as this is where most new housing will be built, however, stormwater runoff from established suburbs will also increase as properties are sub-divided and more surfaces become paved.

Our residents currently use about 151 litres each day. That's less than Melbourne's average and the State Government target of 155 L/person/day

How are we currently managing our water?

Alternative water supplies

It will become more important to capture and reuse different sources of water, such as recycled wastewater and stormwater, for local uses where water is not being used for drinking. These 'fit-for-purpose' uses of alternative water could include toilet flushing or watering farms, gardens, ovals and parks. The amount of wastewater and stormwater produced in the City will be much greater than local demands for non-potable water, so

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estimated

30 per cent of homes in the

City of Whittlesea

have a rainwater

tank

the availability of water is not an issue. The challenge is identifying and delivering the most effective and affordable options for capturing, treating and supplying alternative water in the right locations.

What are we already doing?

We have already taken steps to be more prepared for droughts. Many homes and businesses already use rainwater tanks to capture water from the

roof to water the garden, use in the laundry, or toilets. Many of the newer suburbs also have access to a recycled water system. Council has also installed alternative water supplies for 11 per cent of the public open space in the City of Whittlesea, using a mix of recycled water and stormwater.



Reducing stormwater pollution

Council is responsible for stormwater management in the City of Whittlesea. It manages the local drainage system and takes steps to make stormwater cleaner before it enters rivers and creeks. Natural systems, such as wetlands can be built that use plants and soils to filter and hold water before it enters a waterway. These systems help to reduce pollution, The City of Whittlesea manages more than 350,000m² of stormwater treatment systems

provide habitat for local wildlife, while being attractive gardens and natural spaces for community to enjoy.

What are we already doing?

Council has built systems to reduce stormwater pollution in some locations, such as the wetland and stormwater harvesting system adjacent to the Melbourne Market in Epping. Under state law, developers are also required to reduce stormwater pollution when new properties are constructed so our new suburbs are being built with more effective and environmentally friendly water management systems and assets than in the past.

Reducing the impact of flooding

Like many cities, the City of Whittlesea has areas that are likely to flood during very intense rain. By capturing and storing rainwater in tanks, or using natural depressions and basins in the landscape to hold water where it falls, we can take measures to reduce the impact of flooding on our community. These measures can sometimes be designed to also be used as water harvesting systems to provide a local source of non-potable water.

What are we already doing?

Council and Melbourne Water have been working together to understand flood risk across the City of Whittlesea and to identify areas at risk of flooding. Council is currently completing work which will identify projects to reduce flood risk in key locations.

Mosaic wetland, Lalor

Why do we need to do more?

Water is fundamental in the City of Whittlesea, and the municipality also plays an important role in Melbourne's water cycle. This section highlights the key reasons why we need an integrated approach to water management in the City of Whittlesea.



A growing population and large growth areas

The population of the City of Whittlesea has grown significantly over recent years, and it is expected to continue to grow rapidly, with a 71 per cent increase expected by 2041. The creation of new urban areas impacts the water cycle in a range of ways, such as:

- More people needing water
- More wastewater created
- More hard surfaces (e.g. roofs and roads) creating more stormwater runoff that can pollute rivers and creeks, and cause flooding.

On average there are 76 babies born every week in the City of Whittlesea

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Preparing for more droughts

Climate change will influence all aspects of the water cycle in the future. Future climates are likely to be drier and hotter, increasing the chance that droughts will be more regular.

The Millennium Drought (1996-2010) resulted in extensive water restrictions being put in place in Melbourne, which had long-lasting impacts on the landscape and on the wellbeing of our communities. We were asked to use water sparingly, and gardens and open spaces became brown and dry. This reduced opportunities

We were asked to use water sparingly, and gardens and open spaces became brown and dry. This reduced opportunities for enjoying the outdoors and impacted our health and the health of our environment.

During the Millennium drought rainfall dropped by an average of 30 per cent locally



Preparing for heavier rain events

Climate change is likely to change how our rain falls, with bigger downpours expected in summer, meaning that the risk of flooding will increase in some areas. Locally there have been several floods in recent years caused by intense downpours, including the summer

flooding on 29 December 2016. On this day 40mm of rain fell in just 15 minutes, which was over 5 per cent of the total annual rainfall (720mm).





A range of challenges for our rivers and creeks JOUKD

The municipality is positioned at the top of the catchments of three major waterways, Plenty River, Merri Creek

and Darebin Creek, which all flow to the Yarra River and to Port Phillip Bay. The main challenges for waterways in the City of Whittlesea depend on where you live. In rural areas, some waterways and their tributaries have less water in them because water is taken for water supplies and agricultural irrigation.

Urban areas produce five times more stormwater than rural areas

In urban and developing areas, creeks receive very large amounts of dirty stormwater off our roofs and roads, which pollutes the environment harming plants and animals, and creates changes to the natural flow.

The need for trees

The City of Whittlesea does not have as many trees as other parts of Melbourne. Some suburbs, including Lalor and Thomastown, have seen even more trees go as properties are sub-divided into multiple homes and trees are taken out. Trees in the community

give homes to birds and animals, clean the air by removing pollutants, make the city more beautiful, and offer important shade and cooling during hot weather. Trees need water to remain healthy, and by using stormwater from roads and paved surfaces to water trees and gardens we can also filter pollution out of the stormwater. Using stormwater for watering trees and gardens is an important opportunity in the City of Whittlesea.

The City of Whittlesea plants 8000 trees every year

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The need for quality open space

Public open space, like parks, gardens, and sports grounds, are important to residents. Both the quality and the amount of public

open space varies across our municipality. The Council waters some priority open spaces to keep them green, and this is how most of Council's water gets used. Most of that



More than 207 hectares of open space is planned in new growth areas

watering is on sports fields, while areas that are widely used by the community for walking, picnics and social gatherings are usually not watered. The use of water will increase in the future when new sports grounds and open spaces are created and when more watering is needed in a hotter, drier climate to keep areas green and enjoyable. The Council and partner agencies can keep open spaces green by using different sources of water and can also create new green landscapes that can hold and filter stormwater to help the environment.



Agricultural areas that need water

The City of Whittlesea has large areas of rural land that support important agricultural economies, which could be further enhanced with access to water. With expected changes in climate, large areas of land in the City of Whittlesea will become

more suitable for growing crops, potentially bringing new economic benefits to the area. Given how close the agricultural land is to the future development areas in the City of Whittlesea, there is potential to capture and reuse wastewater and stormwater from the housing developments as alternative water supplies for agriculture.

The region is well suited to growing fruit trees and flowers, but they need a lot of water to grow

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Our vision for the future

Our goal

By 2030, the City of Whittlesea will be leaders in the planning, use and management of water for the benefit of all.

		Outcome	Outcome indicators	Measures of success (10 year targets)
1		Cleaner Our local waterways are healthy and clean	Improve the water quality of our local waterways	By 2030, Council will pro-actively maintain and budget for renewal and maintenance of all of its water assets to ensure they meet environmental standards, and are fit for the community's enjoyment and use.
2		Greener Our priority urban and rural landscapes are green and healthy	Increase the proportion of public open space supported by alternative water sources	By 2030, at least 25 per cent of public open space will be supported by an alternative water source.
3	Smarter Our community uses potable water for drinking and alternative water is available for all other purposes	Smarter Our community uses potable water	Decrease in community potable water use	Community potable water use will be at least 5 per cent below the Victorian Government Target for per capita consumption.
		Decrease in council potable water use	By 2030, Council potable water consumption will reduce by a further 20 per cent (on a kilolitre per capita basis).	
4	Prepared Our city is prepared for droughts and floods	Prepared		Less than 2 per cent residential properties at risk of flooding in a 1 in 5-year rainfall event.
		Decrease local flooding impacts	Less than 10 per cent commercial and industrial properties at risk of flooding in a 1 in 10-year rainfall event.	
5		United Our community and partners value water and work together to improve water planning, use and management	Increase in community stewardship of water resources	By 2030, the Plenty River, Merri, Darebin and Edgars Creek will have vibrant and effective community stewardship* programs.

*Stewardship activities including enhancement plantings, litter and weed removal, citizen science, community co-design for revitalisation projects and the celebration of cultural identity and place.

Our priorities for action in your neighbourhood



The City of Whittlesea is a large and diverse municipality, broadly made up of three distinct geographical areas, established, growth and rural, each with its own characteristics. We have specific priorities for action in each of these areas.

Established areas *e.g. Bundoora, Lalor, Mill Park, Thomastown, Epping and South Morang*

These are older urban areas with well-used but aging infrastructure and facilities, low tree canopy cover, and less open space (compared with planned growth areas). Established areas are still experiencing growth and change as properties are sub-divided or redeveloped.

1 We will look after and expand our existing stormwater treatment systems, and deliver showcase projects, such as the revitalisation of a priority section of a waterway, and divert local stormwater to support our significant trees.

Growth areas *e.g. Doreen, Mernda, Wollert, Beveridge, Donnybrook and designated growth areas*

These are recently developed and future development areas. New facilities, infrastructure and open spaces have been planned into these developments, and often recycled water supplies and stormwater treatment systems have been included.

2 We will plan better outcomes from the start and create new solutions, for example we will work with homebuilders, developers and the Victorian Planning Authority to support better water outcomes in new developments.

Rural areas e.g. Eden Park, Humevale, Kinglake West, Woodstock and Yan Yean

These are rural areas that fall outside of the designated growth areas, with large areas of land used for agriculture and conservation. Rural landowners often play an active role in managing water on their properties.

3 We will support local agriculture and improve water management, for example we will support the extension of recycled water use for agriculture, and work with rural landowners to soak more rain into the ground by improving vegetation and soils, and improve flows to rural waterways.

City of Whittlesea map



Our priorities for action across the City



Setting up for success

Council will change the way it works to ensure our water assets, and those that are shared, are optimised. These changes will help us become cleaner, greener, smarter, more prepared and united in water management across the City of Whittlesea.

In changing the way we work, we will:

- Establish a water practitioners group to share knowledge, and work together to improve processes and find new solutions
- Establish the right resources to manage and deliver this Strategy
- Update the water asset register and review the watering practices and maintenance programs for Council's parks, wetlands, sports fields, and stormwater treatment systems
- Actively monitor and manage the watering of Council's public open space such as sports grounds and the green spaces around buildings
- Improve the knowledge and skills of our staff and community to achieve better water outcomes through the delivery of innovative pilot projects, new technologies and targeted education



- Complete flood mapping and embed the findings into Council's mapping and planning mechanisms
- Develop a planning amendment which recognises the inherent and unique environmental values of our rivers and creeks. This is called an environmental significance overlay
- Update the Urban Development Guidelines and resources to improve water management practices, employ strategies to cool our suburbs and make our neighbourhoods great places to live
- Review and update the Water Asset Design Standards for Council's buildings, roads and public open spaces such as parks, gardens and sportsgrounds
- Ensure our plans and policies consistently support the outcomes and actions of this Strategy
- Work with key agencies (listed on page 6) and our local community on water efficiency and waterway improvement projects (see actions under our 'United' outcome on page 18).





We will deliver these actions to help keep our waterways healthy and clean.

Asset renewal and innovation

- Renew and improve the performance of Council's existing water assets such as stormwater treatment systems and nature strip raingardens
- Renew and replenish existing wetland systems including Carlingford Reserve, Botanica Park Lake, Peter Hopper Lake, and others
- Use smart technology to control our watering systems and monitor waterway health.

Community partnerships

- Engage with rural landowners to:
 - improve flows to rural waterways
 - improve their management of natural floodplains.

Smart water quality monitoring

The City of Whittlesea is leading a Smart Cities pilot program that will use a network of sensors to better manage our waterways, parks and sports fields.

Working in partnership with local schools and libraries, we installed water quality sensors to help protect platypuses in the Plenty River from stormwater pollution. This project was funded by Melbourne Water.

We also have water level sensors in other waterways to monitor flooding which could assist in early flood detection. We plan to extend the use of sensors across our City.





We will deliver these actions to ensure our priority urban and rural landscapes are green and healthy.

New works and innovation

- Renew and expand existing stormwater harvesting systems including Melbourne Markets Wetland, Painted Hills Recreation Reserve, and others
- Help water our River Red Gums through diverting local stormwater to water the trees, and smart watering controls
- Build new and expand existing stormwater harvest systems in suitable locations, such as Mill Park Lakes
- Divert stormwater from roads and carparks to water trees, nature strips and parks where this would help both flooding control and irrigation needs.

Partnership projects

- Plant more vegetation along local creeks with Melbourne Water and local waterway management committees
- Work with developers to deliver improved and innovative water management solutions in their estates
- Engage with rural landowners to soak more rain into the ground by improving vegetation and soils.

Rural landowners can retain existing locally native vegetation to preserve habitat and biodiversity links. Find out more: whittlesea.vic.gov.au

Stormwater harvesting at the Melbourne Markets

Built during the Millennium Drought (1996-2010), the Melbourne Markets Stormwater Harvesting project supports a large wetland, ponds for Growling Grass Frogs and the watering of local sports fields.

Stormwater harvesting projects like these are a great way to save potable water and also prevents our waterways from becoming too flooded. We are currently investigating other local projects.

Melbourne Markets project was made possible through Victorian and Australian Government funding.







Smarter

We will deliver these actions to help us conserve potable water for drinking purposes, and have alternative water available for all other purposes.

New works and innovation

- Work with Yarra Valley Water to extend the recycled water supply to key sites, such as Houston Street Depot where we grow trees and plants for our streets and parks
- Map opportunities for potential new stormwater harvesting systems in the growth areas
- Embed the principles of leading water management practise (i.e. Integrated Water Management) into facility design and masterplans.

Partnership projects and advocacy

- Develop a demonstration site for household water saving and other sustainable technologies
- Work with Yarra Valley Water to investigate how recycled water supplies could be used for agriculture
- Work with developers to include water harvesting for industrial, commercial, and larger residential development
- Advocate to the Victorian Government for more ambitious targets for potable water use reductions.

on a per person basis, Council has reduced its potable water use from 2.5kL/ person in 2001, to 1.3kL/person in 2018



To learn more about saving water at home, visit Yarra Valley Water's website yvw. com.au/help-advice/ saving-water





We will deliver these actions to help our city prepare for droughts and floods.

New works and innovation

- Work with developers and home builders to manage local flood levels, by installing smart rainwater tanks and use stormwater offset schemes, particularly in established areas where blocks are being subdivided or redeveloped
- Use the flood mapping data to inform new builds and works to reduce flooding and its impacts
- Install water play in suitable urban parks, creating cool spaces for play during hot times.





Partnership projects and advocacy

- Engage with our community on flooding issues
- Advocate for residential water saving initiatives including smart water meters, lower water use targets, community grants and education
- Engage with rural landholders to improve open floodplain management
- Plan for better water outcomes in new developments along Plenty River, Darebin Creek, and other significant waterways in our region.

Smart rainwater tanks

The Internet of Things has opened up great possibilities for controlling collection and release of rainwater. Council is trialling smart rainwater tanks at Mill Park Library that will provide rainwater for irrigation, and reduce flooding in the Plenty River. They do this by emptying themselves before heavy rain events so that they can absorb as much rain during storms, avoiding runoff into waterways.

These smart rainwater tanks can also be used in the home, they do all the things a normal tank does and much more, for instance they can be programmed to deliver the right amount of water to your plants in dry hot weather.



United

Together with our partners, these actions will help our community and partners to value water and work together to improve water planning, use and management.

They will be delivered in partnership with those who influence our water cycle, such as Melbourne Water, Yarra Valley Water, Department of Environment, Land, Water and Planning, Victorian Planning Authority, the Merri Creek and Darebin Creek Management Committees, the Wurundjeri Land Council, Whittlesea Community Connections, tertiary and adult learning institutions, local business groups, government bodies, and many other local business and community representatives.

Community and partnership projects

Develop household water saving education initiatives and materials that support our residents to improve their water practices at home

- Provide water focused community education and upskilling programs e.g. communities monitoring the health of our creeks and rivers
- Improve our public places along key waterways together, for example • redesign and revitalise the concrete drain sections along Darebin and Edgars Creeks, and connect walking and cycling pathways from Yan Yean Reservoir to Plenty Gorge
- Develop recycled water use in agricultural and industry practices through the Whittlesea Community Farm Collective partnership project. The Farm will showcase the use of recycled water; provide volunteering, education and employment opportunities; and grow and provide fresh food to the local food relief network
- Increase Creek Management Committees' action in the City of Whittlesea
- Establish a Plenty River Management Committee
- Together with our partners, develop and implement an innovative plan for integrated water management for the Upper Merri Creek sub-catchment.



Retter

water

we want?

When do

we want it?

Advocacy

- Advocate for stronger integrated water management requirements in the State Planning Provisions, the Victorian Planning Authority Guidelines, and Precinct Structure Plans
- Advocate to the Victorian Government to protect strategic agricultural land, and strengthen the focus on water in our natural rural areas through the Green Wedge Management Plan
- Advocate to the Essential Services Commission, Yarra Valley Water and Victorian Government to fund the extension of recycled water to support agriculture.

Indigenous values in water management

We are working with Traditional Custodians (Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation) and other partners to create a pathway to embed indigenous values (cultural flows) in the management of the Upper Merri Creek. Cultural flows are water flows that improve the spiritual, cultural, environmental, social and economic conditions of Traditional Custodians on their Country.

What will this look like? It might be that indigenous stories and artworks are shared in public spaces, that opportunities to grow and harvest native plants and produce become local businesses, that the Woi wurrung language is adopted for naming of natural features or streets, that Traditional custodians continue their cultural practices and connections around land and waterways on Country. For further information visit uppermerricreek.com.au

You can get involved by joining a local water group! Browse from over 15 environmental groups on the City of Whittlesea's community directory whittlesea.vic.gov.au

See what Council is currently advocating for: whittlesea.vic.gov.au

Monitoring our progress

Council will create a working group of skilled leaders and technical experts to deliver the actions of this Strategy. Together we will monitor our progress against our measures of success at least once every

Council term (4 years). This will allow us to monitor trends, celebrate achievements, recognise efforts and identify areas for further improvement.

The Strategy will be reviewed in 2025 and 2030 at which time the water needs and aspirations for the City of Whittlesea will be re-assessed for appropriate action.

Water (detail) from the Valuing Biodiversity Art Trail by Al Stark, Norris Bank Play Space, Bundoora

Street address

Council Offices 25 Ferres Boulevard South Morang VIC 3752

Call us

Phone: 9217 2170 National Relay Service: 133 677 (ask for 9217 2170) Free telephone interpreter service: If you speak a language other than English, please call 131 450

Email us info@whittlesea.vic.gov.au

Visit our website whittlesea.vic.gov.au

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