



Integrated Water Management Plan

Acknowledgement of Country

City of Moreton Bay acknowledges the Jinibara, Kabi Kabi, and Turrbal peoples and pays respects to Elders, past, present and emerging. Council recognises that the Moreton Bay region has always been a place of cultural, spiritual, social, and economic significance to its Traditional Custodians.

Council is committed to reconciliation and working in partnership with Traditional Custodians and Aboriginal and Torres Strait Islander communities to shape a shared future for the benefit of all communities within the City of Moreton Bay and beyond.

Acknowledgements

City of Moreton Bay is grateful to all members of the Stakeholder Group for contributing their time, expertise, and input throughout this extensive process. The work of the Stakeholder Group was coordinated and supported with significant time and engagement from Bligh Tanner.





Alignment with our vision

The Integrated Water Management Plan is helping to achieve our Corporate Plan 2022–2027 and realise our vision:

Our Moreton Bay. Amazing places. Natural spaces.

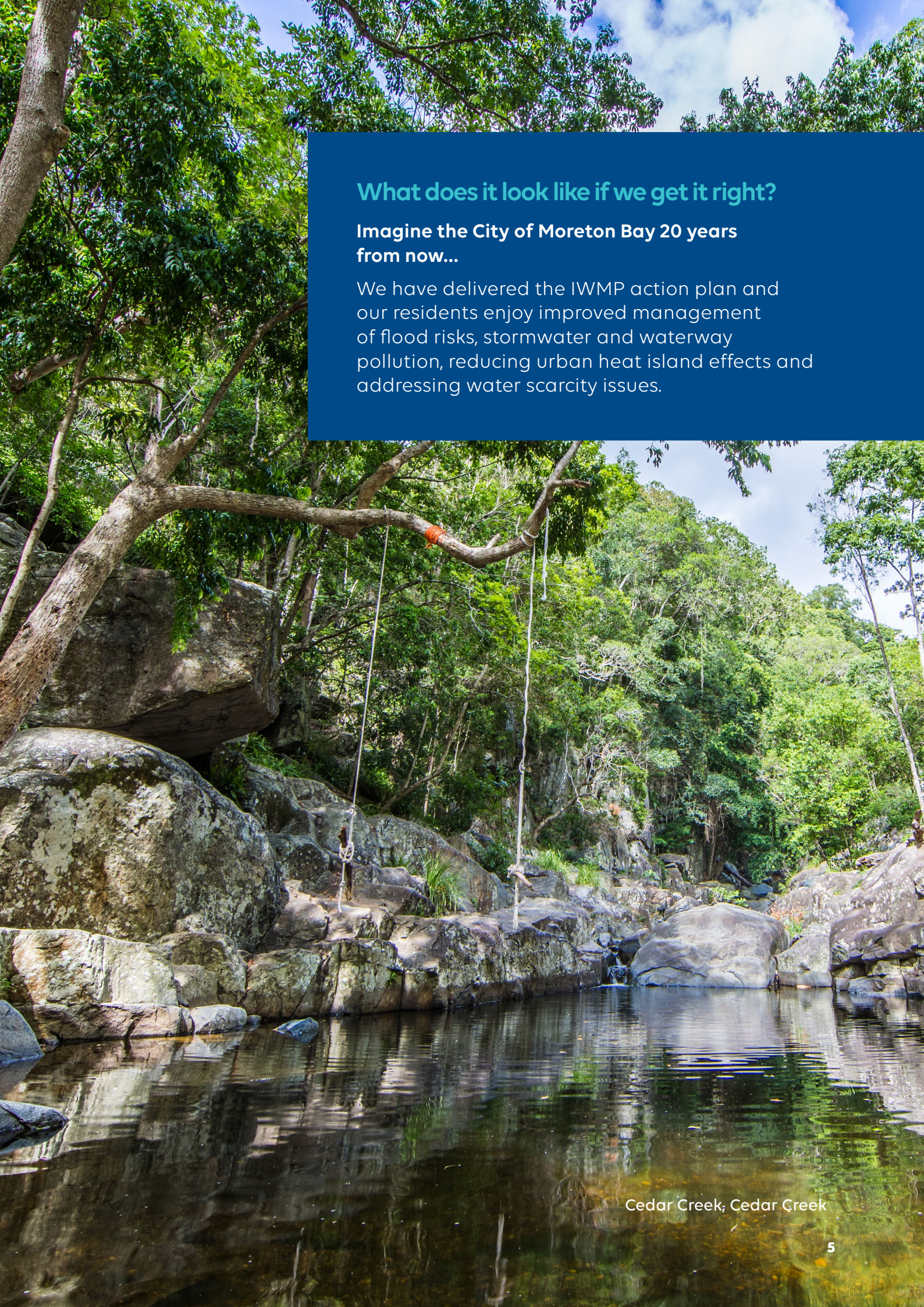
This Plan supports the following strategic pillar and goal:



OUR HEALTHY ENVIRONMENTS

Moreton Bay will be renowned for its healthy natural and built environments that enhance our identity, support biodiversity and our sustainable lifestyles.

Read more about [Council's Corporate Plan](#) and the pillars that underpin it.



What does it look like if we get it right?

Imagine the City of Moreton Bay 20 years from now...

We have delivered the IWMP action plan and our residents enjoy improved management of flood risks, stormwater and waterway pollution, reducing urban heat island effects and addressing water scarcity issues.

Cedar Creek, Cedar Creek





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1. Introduction

“To provide stewardship in land and water resource management that protects and restores water and ecosystem health to improve the quality of our local waterways and Moreton Bay.

To facilitate an adaptive, safe and resilient environment and community against challenges, including growth and climate variability, for current and future generations.”

Purpose

Council has developed the Integrated Water Management Plan (IWMP) which provides commitment, focus and structure to support implementation of the Action Plan and foster sustainable outcomes and a healthy environment for Moreton Bay.

This Plan provides strategic guidance to enable better decisions, provide a broader suite of community and environmental outcomes and ensure that future generations can enjoy the lifestyle and environmental benefits that we value today.

The IWMP drives and supports Council's aspirations and policies through four focus areas outlined in the table below, ensuring alignment and correlation with relevant strategies and plans, including:

- Environment and Sustainability Strategy 2042¹
- Regional Economic Development Strategy²
- Growth Management Strategy 2042³

1 [Environment and sustainability strategy](#)

2 [Regional Economic Development Strategy 2020–2041](#)

3 [Growth Management Strategy](#)



Water for environment

Water nurtures and contributes towards a healthy aquatic ecosystem and environmental sustainability. This theme enables safe and sustainable water use while maintaining water quality and quantity for the environment. This will be achieved through water management practices, including stormwater, wastewater and supply/demand.



Water for community

Water is a community resource central to Moreton Bay residents' health and wellbeing. It affects communities through impacts of climate variability and extreme events. This theme enables healthy environments for our communities and the availability of water resources to meet future needs.



Water for business

Water underpins Moreton Bay's priority industries and growth of the economy. Water security supports our Food and Agribusiness industry. Our tourism economy is strongly underpinned by our natural assets, particularly the valuable coastal amenity and wide range of aquatic recreation opportunities that good water management sustains. This theme enables increased water resource efficiency. It can stimulate developments in the knowledge and innovation industries as well as potentially support advanced manufacturing.



Water for culture

Acknowledgement and respect for Moreton Bay's Traditional Owners enables their unique ability to care for Country and deep spiritual connection to it. This theme acknowledges Moreton Bay's various cultural beliefs, and appreciates other perspectives and values.

Redcliffe Jetty, Redcliffe



What is Integrated Water Management?

Integrated Water Management (IWM) is a combination of land and water management practices that contribute to water security, public health, environmental and urban amenity outcomes for the community. It is a nationally accepted concept supported by the Australian Productivity Commission⁴ through its National Water Reform Inquiry (2020)⁵ and applied by state and local governments in Queensland.

The Queensland Government's ShapingSEQ 2023 report places significant pressure on Council to help accommodate housing and growth over the coming decades. The need for urbanisation means a significant increase in hard or impervious surfaces, such as roads and roofs. This is likely to impact waterways, rivers, foreshores, and bays. Council will continuously monitor, assess, and plan to ensure the risks are mitigated wherever possible to protect our waterways and Moreton Bay.

Council's Corporate Plan 2022-27 identifies that the IWMP replaces the Water Strategy 2012-2031 and Total Water Cycle Management Plan (TWCMP) to strengthen and align with state and Council's water management practices. Longer-term, it will improve the management of water, including catchment resilience, waterway health, water quality, flooding, sustainable water use, environmental processes and integration with the built environment.

Traditionally, the water cycle can be thought of as a linear process. Water falling on land runs off to waterways as runoff or stormwater. Some of this water is captured and/or extracted for human uses (such as a distributed drinking water supply).

Wastewater created by human uses is treated and discharged back into waterways. Sometimes, wastewater is treated and reused; however this is mostly only a small portion. Integrated water management aims to address the issues created by the traditional approach, and create opportunities to manage water resources more sustainably for humans and the environment.

The IWM approach supports resilient communities and local character through management of flood risks, stormwater and waterway pollution, urban heat island effect and water scarcity issues.

Our local government area continues to be one of the fastest growing in Australia, with a projected additional 200,000 residents by 2041. This population growth will increase pressure on water resources and waterway health. Through the stormwater quality and quantity network (Figure 1), the IMW responds to challenges and opportunities delivered through changes in land use and environmental values by managing pollution sources and risks to waterway health.

Improving waterway health is vital to sustain vast populations of animals and plants, provide opportunities for recreational activities, and support economic development through industries such as tourism and agriculture.

Figure 1 also shows where those disciplines overlap, highlighting opportunities for sustainable use of water resources. These opportunities may include better management of water supply demand, traditionally managed by water utilities.

4 <https://www.pc.gov.au/inquiries/current/water-reform-2024#issues>

5 <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report>

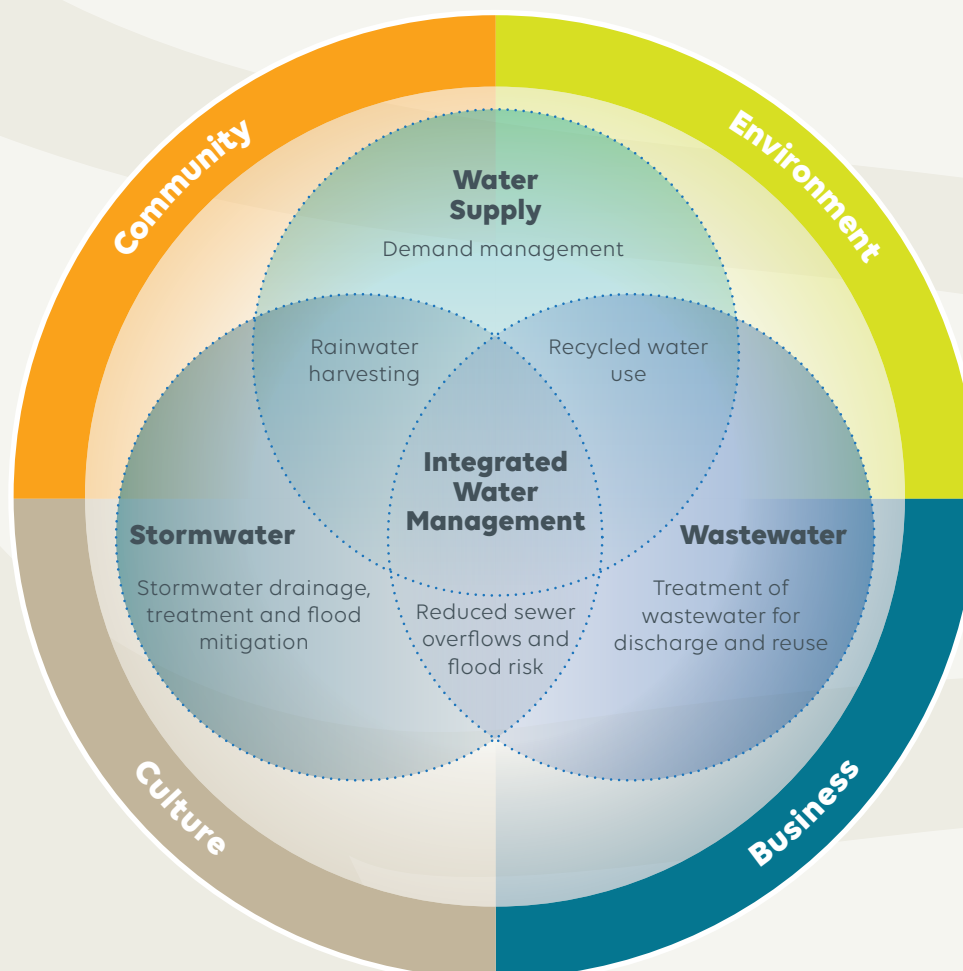


Figure 1. IWM approach

Figure 1 outlines the purpose-driven connections between existing water management disciplines to achieve:

- Resilient and sustainable solutions for non-potable water use, such as irrigation of open spaces, using **alternative water supplies** (including recycled water from sewage treatment plants or stormwater harvested through stormwater quality infrastructure) that enables water supply security for our communities.
- Reduced pressure from increased urbanisation, using water from **stormwater quality and quantity infrastructure** to mitigate flooding, improve waterways and water quality, and enable green infrastructure to treat and store water.

Further review of this plan, including Unitywater's participation in IWM planning, will achieve mutual outcomes and broaden the delivery role of water utilities to encompass improved community and environmental conditions.

2. Our city

The City of Moreton Bay is the third largest and fifth fastest growing local government area in Australia. Our population is expected to grow to over 750,000 by 2042. Our challenge is to balance this growth and the opportunities it presents with protecting our natural spaces, and maintaining the lifestyle our residents enjoy.

The City of Moreton Bay has a contemporary Corporate Plan and five high quality, informative, community focused and holistic strategies that provide a clear, consistent and connected direction to achieve the City's long-term vision. Implementing these strategies will help achieve our vision by balancing growth while protecting the natural beauty of our region and maintaining our unique lifestyles.

Moreton Bay's planned rapid urban growth requires a focus on keeping the city healthy and sustainable. Council is planning the next total water cycle management phase which aims to further link land use and water infrastructure planning with our commitment to the overall health and resilience of our catchments and receiving waterways.

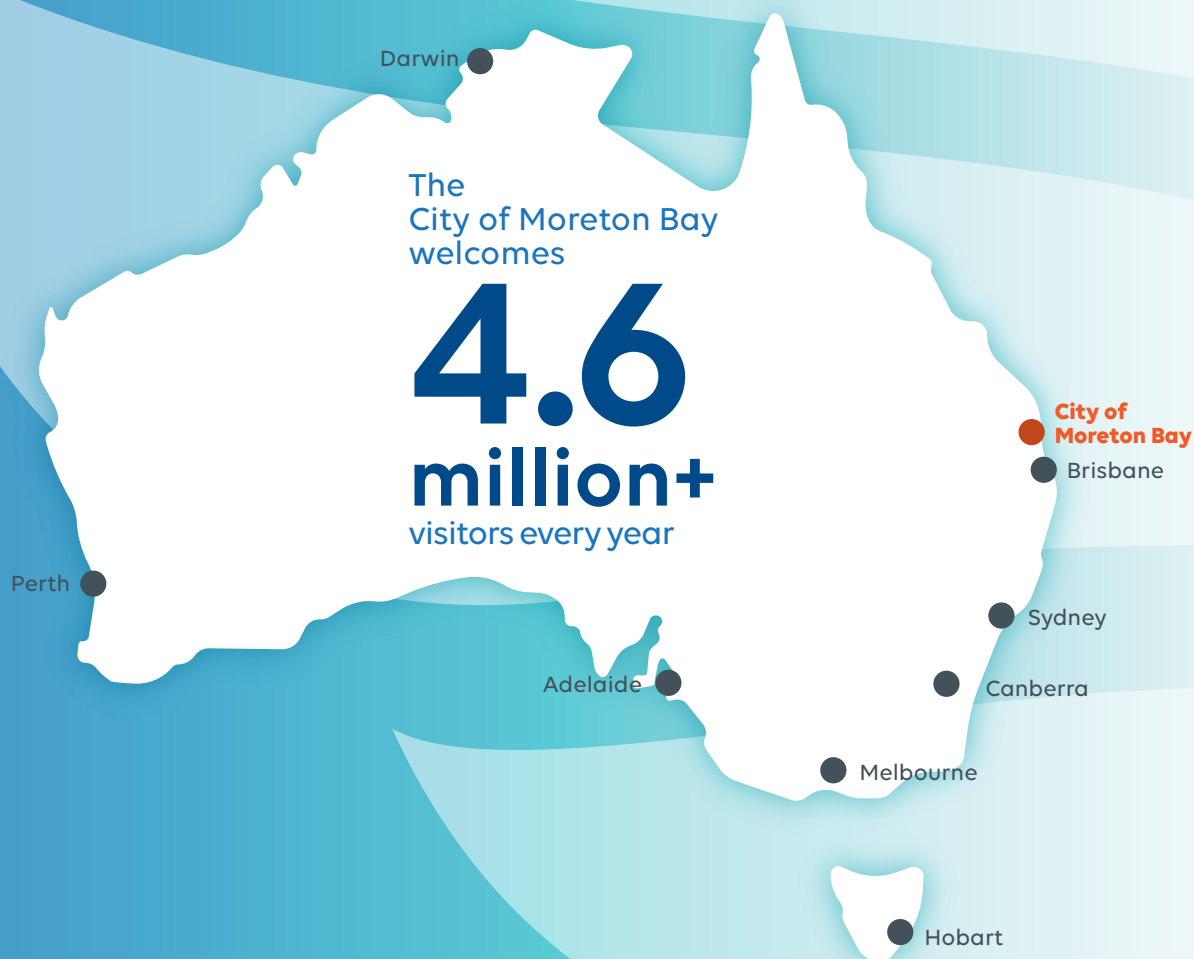
This Plan outlines policy positions to guide Council's decisions and actions relating to total water cycle management. It also outlines Council's commitment to integrated water management for the environment, culture, community, and businesses in Moreton Bay.

Integrated water management supports sustainable development that enables management of:

- Stormwater and waterway pollution.
- Flood risks.
- Safe and sustainable use of water.
- Water scarcity issues.
- Environmental processes and urban amenity outcomes.
- Human health.

Bunya Crossing, Albany Creek





\$20
billion+
economy (2023)



\$40
billion+
projected economy (2042)

510,104
population (2023)



Nearing
750,000+
estimated population (2042)

Data current as at May 2024.



510,000+
population
(additional 200,000
by 2041)



3rd largest
local government
in Australia by
population



3rd largest
number of residential
dwellings in Australia
(188,300+ dwellings plus
90,000+ by 2041)



5th fastest
growing
local government
in Australia by
population



2,045 km²
land area



294km
coastline



1,000km
waterways



14
river catchments



10,000ha
natural areas reserves,
riparian corridors and
road reserves with high
biodiversity values



7,721ha
seagrass beds,
supporting resident
turtle and dugong
populations
(Kovacs 2022)



13%
existing future
urban land use⁶



10%
of existing and
future peri-urban
land use



75%
target of the city
remaining as rural and
natural landscapes
without urban
development⁷



100,000
GST registered
businesses



**\$846
million**
agricultural
industry value⁸

⁶ Planning Scheme, Place Types (Activity Centre, Enterprise and Employment Area, Urban Neighbourhood, Next Generation Neighbourhood, Suburban Neighbourhood, Special Area, and Coastal Communities)

⁷ City of Moreton Bay Growth Management Strategy 2042

⁸ Regional Economic Development Strategy 2020–2041

Legacy work and benefits

Moreton Bay has a diverse network of waterways and coastal areas, from the upland streams of the D'Aguilar Range to the coastal rivers and Moreton Bay. These waterways and coastal foreshores are fundamental to our identity, lifestyle and economic prosperity.

Council has a long history in leading the best practice approach in decentralised management of the water cycle that considers natural hydrological and ecological processes.

It considers changes in land management and identifies mitigation of the impacts of urbanisation on our waterways, rivers, foreshores and bays by removing sediment and nutrients to maintain healthy aquatic environments and functional recreational and open space.

Stormwater infrastructure has been planned, designed and constructed to intercept and slow down water flow through landscapes, treating stormwater runoff before entering stormwater pits and pipes. This allows them to be integrated into the landscape and provide added urban cooling benefits to improve liveability and help mitigate heat.

The legacy stormwater infrastructure projects also include riparian vegetation to facilitate water quality treatment through erosion control of the creek banks and basin edges. These native vegetation treatments were chosen to provide fauna habitat and maintain a key role in increased landscape amenity.

These assets provide the following benefits to our communities and environment:

- improved aquatic and terrestrial ecological values of waterways and parks.
- reduced stormwater pollutant loads.
- improved water quality.
- expanded habitat corridor links and improved biodiversity.
- improved pedestrian connectivity.
- landscaped parklands with improved visual amenity.

The following examples of Council's operational legacy work and benefits to the local catchment ensure that Moreton Bay has the infrastructure to meet the liveability and sustainability challenges of a rapidly growing city.



Suttons Beach, Redcliffe

Bells Creek water quality improvements

Bells Creek is an important multi-use drainage corridor conveying primarily urban runoff from parts of Clontarf, Margate and Woody Point.

The water quality improvements enabled the establishment of riparian vegetation to facilitate waterway health and increase landscape amenity.

The rectification work included:

- combined naturalised sediment and bioretention basins to slow, spread, soak and filter water, resulting in better water quality leaving the basins.
- riparian vegetation stabilising disturbed areas with matting and vegetation ground cover.



Figure 2. Bells Creek water quality improvements

Humptybong Creek system improvements

Humptybong Creek is located next to Redcliffe city centre and foreshore precinct. The creek flows from MacDonnell Road in the south and discharges into Moreton Bay, north of Redcliffe Jetty.

Before the rectification work, the site had poor water quality due to untreated stormwater inflows, deteriorating concrete edges (introducing bank erosion), limited maintenance access, accumulated sediments and organic matter, and aquatic weed infestations.

The rectification work included:

- a naturalised sediment basin that reduces runoff by increasing infiltration.
- naturalised drainage channel and riparian vegetation to ensure a better water quality by slowing waterflow and mitigating bank erosion to enable bank stability and create floodplains with captured sediment and nutrients.



Figure 3. Humptybong Creek system improvements



Mount Mee Rocky Hole

3. Our drivers

Across South East Queensland, waterway health has been declining in urban and rural areas for a wide range of reasons. Water demands have increased, the landform is becoming more urbanised, pollutant loads are rising, and flow regimes are becoming more variable. Communities are also concerned about the impacts of flooding and climate change.

IWM brings together several water management disciplines by integrating land use and water infrastructure planning, including water, wastewater and stormwater services delivery to enable environmental and social resilience to the following challenges and drivers.

Challenges & drivers	Description
Waterway and estuarine water quality and pollutant loads in the catchment	Our 2023 Healthy Land and Water Report Card reports an average decrease across the region from B+ to B in condition score for freshwater and estuarine water quality, habitat, and pollutant load. Hays Inlet and Lower Pine catchment discharges are particularly significant as they affect a high ecological value area and a Ramsar ⁹ wetland.
Unsustainable pollutant loads	Council's comprehensive network planning for stormwater quality infrastructure indicates that sustainable load targets cannot be practically achieved for most Moreton Bay estuaries.
Conservation of waterways and habitats	Rivers, lakes, estuaries, floodplains and wetlands support diverse aquatic and riparian habitats. Conservation of these ecosystems is essential to sustain waterway health and vast populations of animals and plants.
Urbanisation driven by population and development	Waterways in urban areas are often impacted by threats from urban expansion or infill development. As a result, many of these waterways and the receiving environment are in a poor environmental state. Additionally, replacement of natural environment with impervious surfaces exacerbates heat island effect if not integrated with stormwater quality networks.
Rural and urban runoff	Intense storm events are expected to worsen, compounding water cycle management issues caused by rapid sediment loaded runoff due to increased land clearing and poor riparian management. Erosion and sediment control practices are an important area for further improvement, aiming to reduce pollutant loads, particularly in future growth areas.
Uncertain water security (for non-potable water use)	Recycled water is an underused resource, partly due to economic, regulatory and health considerations. However, recent commitments by Unitywater may provide a significant driver for expansion of recycled water supplies within the city.
Deregulation of onsite sewage management systems	Areas not connected to a sewerage network experience onsite sewage management system failures resulting in offsite transport of poorly treated wastewater causing negative environmental or public health outcomes. Seqwater and Unitywater data confirms there are waterway impacts in the Pine catchment from pathogens (ie from human or warm-blooded animals) due to poor maintenance of onsite sewage management systems, leading to sewerage leaking into waterways and groundwater.
Floodplain management and pollution during extreme events	Wet weather sewage overflows into local waterways are becoming a major pollution problem. Most urban waterways contain dangerously high levels of sewage contamination after heavy rain or flooding. Council must understand any subsequent health issues.

There are 15 high priority focus areas (of the 64 actions) outlined in the IWMP Action Plan to support the implementation of integrated water management initiatives and foster sustainable development and healthy environments across the City of Moreton Bay.

⁹ A Ramsar site is a wetland designated to be of international importance under the Ramsar Convention (also known as The Convention on Wetlands), an international environmental treaty signed on 2 February 1971 in Ramsar, Iran.

Community feedback

The IWM approach responds to Moreton Says survey feedback by 'supporting local character and resilient communities' through management of flood risks, stormwater and waterway pollution, reducing urban heat island effects and addressing water scarcity issues.

The Moreton Says Pulse Survey reports on our communities' love for natural areas, waterways and water management opportunities.

What we heard from our communities



90%

like "Preserving natural beauty and ecosystems" as an important or very important role of Council



59%

like programs that restore waterways and coastal areas



64%

willing to volunteer to improve their neighbourhood and the surrounding environment



53%

like to go for bushwalks and mountain biking



49%

like to have social gatherings in public outdoor spaces



43%

like spaces for relaxing and being with nature

The IWM approach enables an improved ecosystem health, and community connection with water and water security. More information on how council assists landowners with maintaining creeks and natural habitats running through properties.

Woodford – D'Aguilar and surrounds resident

Please develop strategies to protect native vegetation and waterways, reduce threats to threatened species and ecosystems and support community groups to restore communities like shellfish, sea grass, mangroves etc to provide critical habitat to species and to support essential ecological processes.

Bribie Island and coastal areas resident

Continued caring of coasts, waterways and the environment in general.

Naranga and surrounds resident

4. Our planning context

Legislative context

The Australian Government is pursuing integrated water management through the National Water Initiative that recognises stormwater management as equally important to potable water and sewerage.

The following federal and state government legislation provides the framework for the IWM.

Legislation	Context
<i>Environment Protection and Biodiversity Conservation Act 1999 (federal)</i>	Protects and manages unique plants, animals, habitats, and places. These include heritage sites, marine areas and Ramsar wetlands, including preparation of Ramsar site management plans and community consultation processes.
<i>Environmental Protection Act 1994 (Qld)</i>	Protects Queensland's environment while allowing for development that improves quality of life, now and in the future, through ecologically sustainable development.
<i>Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (Qld)</i>	This policy achieves the Environmental Protection Act 1994 objective to protect Queensland's rivers, streams, wetlands, lakes, groundwater aquifers, estuaries and coastal areas.
<i>Water Act 2000 (Qld)</i>	Provides for the sustainable management of water and other resources, including establishment and operation of water authorities.
<i>Water Supply (Safety and Reliability) Act 2008 (Qld)</i>	Provides for the safety and reliability of water supply and amends other Acts for particular water related purposes.
<i>Disaster Management Act 2003 (Qld)</i>	Enables an organised and coordinated response to a serious disruption in a community from the impact of an event, and help the community's recovery.
<i>Planning Act 2016 (Qld)</i>	Establishes an efficient, effective, transparent, integrated, coordinated, and accountable system of land use planning, and development assessment that facilitates ecological sustainability.

The IWM reflects the acceptable performance outcomes in the State Planning Policy 2017 and State Planning Policy – Water quality 2017 'to ensure development is planned, design constructed and operated to manage stormwater and wastewater in ways that support the protection of environmental values identified in the Environmental Protection (Water and Wetland Biodiversity) Policy 2019'¹⁰.

The IWMP also addresses relevant goals, supporting elements and strategies of ShapingSEQ 2023. Core IWM requirements are mapped within **Sustain** and **Live** goals with related requirements spread through multiple regional priorities and other goals, especially within new growth areas and expanded urban footprint. For example:

- natural hazard risk management
- water sensitive urban design
- integrated land use
- infrastructure planning and investment.

¹⁰ Department of Environment and Science, 2019. Healthy Waters Management Plan Guideline.

In the **Sustain** Theme and Outcome 5 of ShapingSEQ 2023: Water-sensitive communities: Water management in SEQ will use best practice and innovative approaches in urban, rural and natural areas to enhance and protect the health of waterways, wetlands, coast and bays.

- 5.1** *Protect and sustainably manage the region's catchments through a coordinated approach to catchment management under the Resilient Rivers Initiative.*
- 5.2** *Ensure urban land development and its construction avoids impacts on the natural hydrological function, quality and quantity of water in our waterways, aquifers, wetlands, estuaries, Moreton Bay and oceans to meet the needs of the environment, industry and community, including for future generations.*
- 5.3** *Promote water-sensitive urban design principles in catchment wide water management (such as total water cycle management planning) to increase the efficient use of water (including stormwater and wastewater), security of supply and to address climate change.*

Technical background

City of Moreton Bay has an extensive history of sustainable water planning, demonstrated through its commitment to total water cycle management principles for more than a decade.

In 2010, Council, Unitywater and state agencies prepared the Total Water Cycle Management Plan (TWCMP) in accordance with the requirements of the Environment Protection (Water) Policy 2009 (now rescinded).

Council also released the Water Strategy 2012–2031 that outlined the vision, principles and strategic outcomes to guide its integrated water management, including implementation of state and local government legislation and policies. The strategy also informed and led the development of subsequent strategies and plans, including the TWCMP and Floodplain Risk Management Plan.

Council embarked on a review and update of the TWCMP, as well as other IWM-related work, to develop an understanding of key issues and mitigation opportunities.

The TWCMP review identified:

- The impacts of growth areas, coupled with erosion and flooding, will continue to exacerbate this trend. Without significant investment in improved stormwater quality management through the land development approval process and waterway revegetation, this trend is projected to worsen.
- Comprehensive network planning for the regional stormwater quality infrastructure indicates that sustainable load targets cannot be practically achieved for the majority of Moreton Bay estuaries.
- The integration of bioretention/ passively irrigated street trees in new developments offers added urban cooling benefits which improve liveability and help to mitigate future impacts of heat island effect in urban and the future growth areas.
- Erosion and sediment control practices are an important area for improvement, aiming to reduce pollutant loads, particularly in future growth areas.

The stormwater quantity network planning identified:

- Comprehensive regional network planning for stormwater quantity infrastructure required to understand and identify flood mitigation opportunities in the region and ensure that Moreton Bay has the infrastructure to meet the liveability and sustainability challenges of a rapidly growing region.

An assessment of total water cycle principles within peri-urban identified:

- A challenge regarding access and maintenance of riparian corridors on private land (regardless of the tenure) where the waterway corridor flows (ie including all land up to the high banks of the waterway).
- A need to establish programs that support the rehabilitation of agricultural areas through rural best management practices.

An assessment of current water supply sources and end-uses identified:

- Strategies and actions required to achieve the vision for water cycle outcomes related to water security while ensuring sound environmental outcomes.
- A comprehensive approach integrating opportunities for sustainable outcomes, including expansion of alternative (non-potable) water reuse opportunities, to substitute for non-potable water use, contributing towards water security during drought for current and future land uses.

These IWM background work enabled a comprehensive understanding of issues and required management actions.

5. Our role and partnerships

Corporate framework

This IWMP is one of the supporting plans that will help deliver the Environment and Sustainability Strategy (ESS). The IWMP will drive and facilitate new projects and initiatives to achieve the Strategy's Outcome Area 2: Our coasts and waterway catchments are used sustainably, and environmental values are protected and enhanced.

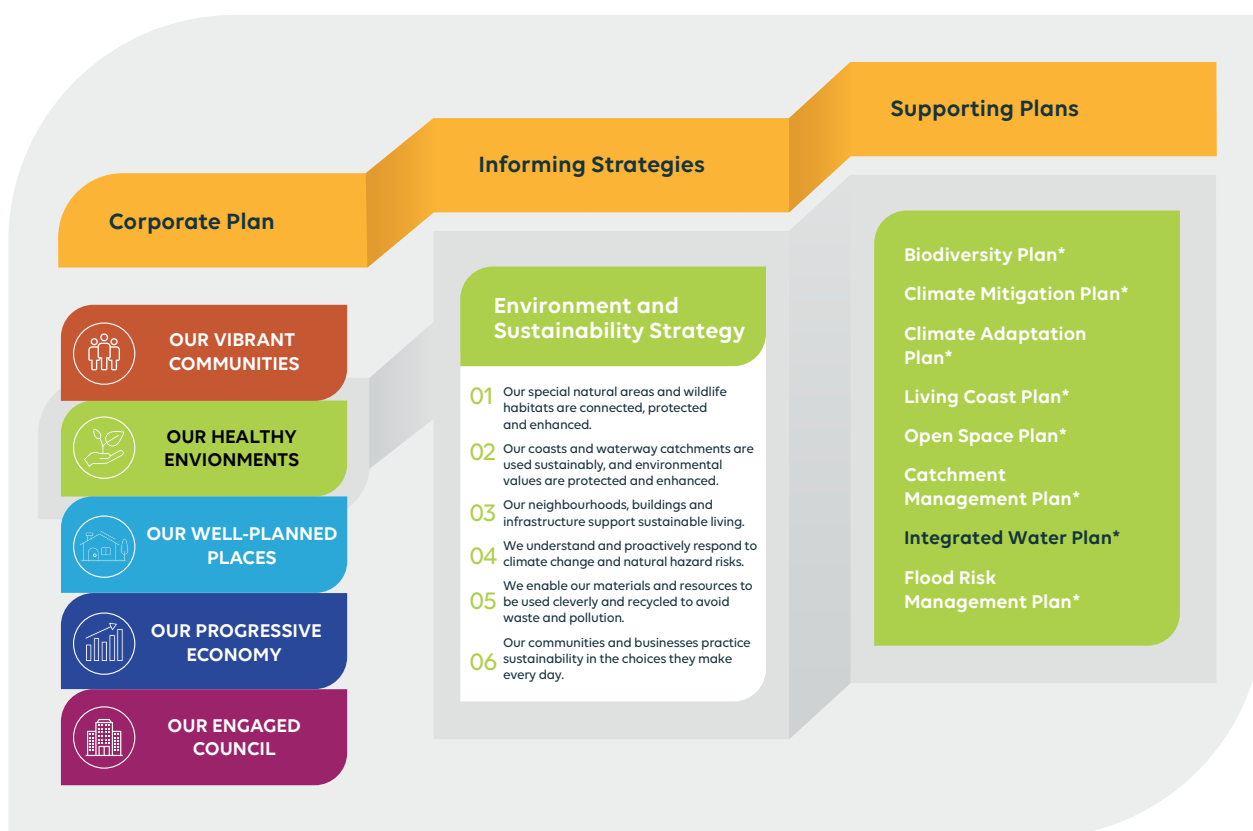


Figure 4. Environment and Sustainability Strategy Framework

Relationship between the IWMP and Council's strategic pillars:



Vibrant communities: IWMP enables planned delivery of integrated water infrastructure to meet community expectations and ensure resilient communities by managing flood risks, stormwater and waterway pollution, and water scarcity issues.



Healthy environments: IWMP enables integration and planning for infrastructure, flows and water quality regimes that contribute towards healthy natural and built environments to sustainably meet the region's future needs.



Well-planned places: IWMP enables planned delivery of stormwater quality and quantity infrastructure network, as well as planned consideration and use of all potential sources of water including reusing water and stormwater (for example water security) for major developments and high growth areas to achieve strategic outcomes.



Progressive economy: IWMP enables planning for water security to meet business needs and expectations, ensuring consideration and use of all potential sources of water including reusing water and stormwater. This complements the Regional Economic Development Strategy³ to leverage and support region-building projects like the Wamuran Irrigation Scheme.



Engaged Council: IWMP ensures long-term infrastructure planning, strategies and policies comply with statutory, policy and financial provisions to drive integrated and sustainable planning outcomes.

IWM shares many interests and discipline areas across Council. As such, Council engaged a wide range of internal stakeholders to ensure a holistic and practical approach in the IWMP's preparation.



Queens Beach South, Redcliffe

Our partnerships

City of Moreton Bay will engage and collaborate with Unitywater and consult with the Queensland Government and neighbouring councils to achieve all IWM outcomes.

The following roles and partnerships are based on processes and projects carried out through the rich legacy work that started with the Total Water Cycle Management Plan in 2010.

Key stakeholder	Roles
City of Moreton Bay	• Improve the quality and flow of stormwater to protect the environmental values of water affected by Council's urban stormwater system • Establish education programs through the IWMP • Promote healthy riparian and waterway health, and mitigate sediment erosion and loss of land • Incorporate water sensitive urban design into development • Actively engage with business and the community to identify opportunities for stormwater harvesting, recycling or re-use • Manage floodplain risks
Unitywater	• Ensure safe, reliable and secure water and wastewater services • Water supply demand planning • Partnership in integrated water infrastructure planning activities across the region, including recycled water opportunities • Provide water and wastewater services to new development areas where a positive business case can be put forward, including an orderly sequence of development
Seqwater	• Ensure safe, reliable and secure water services • Future water demand planning and working with SEQ providers on South East Queensland Water Security Program 2023 (building partnerships) • Catchment management, waterway health and drinking water quality management • Improve system reliability, resilience, sustainability and cost effectiveness
Healthy Land and Water	• Advocate for waterway health including ground and surface water interactions, wetlands • Education and communication programs • Work with local and state government, undertake research
Queensland Department of Regional Development, Manufacturing and Water	• Water security through water licences, allocations and permits • Fit for purpose supplies and sustainable water uses • Water regulation for recycled water and stormwater
Queensland Department of Environment, Science and Innovation	• Re-establish environmental values and water quality objectives and manage environmental approvals • Develop State Planning Policy for Stormwater and applications related to suitable management opportunities including treatment

6. Our focus areas

The IWMP promotes the coordinated development and management of water, land, and related resources to equitably maximise social and economic welfare without compromising the sustainability of vital ecosystems.

Focus area	Summary	Provisions
Water for environment	Water nurtures and contributes towards a healthy aquatic ecosystem and environmental sustainability. This theme enables safe and sustainable water use while maintaining water quality and quantity for the environment. This will be achieved through water management practices, including stormwater, wastewater and supply/demand.	- Improves quality of runoff/mitigates downstream environmental impacts. - Assists with adopting climate resilient practice. - Connects/improves natural habitats. - Protects or improves catchment cover/ riparian condition. - Contributes to improved wetland health. - Increases environmental flow volumes (baseline flows). - Slows down or reduces stormwater flows.
Water for community	Water is a community resource central to Moreton Bay residents' health and wellbeing. It affects communities through impacts of climate variability and extreme events. This theme enables healthy environments for our communities and the availability of water resources to meet future needs.	- Provides new or enhances existing recreation. - Educates or engages the community about water cycle issues. - Supports/enables community groups/ landholders to manage water cycle issues. - Improves water security for the region. - Improves public health outcomes (eg water quality, urban heat, all-cause mortality). - Improves resilience to drought and flooding. - Provides aesthetic benefit to community places.
Water for business	Water underpins Moreton Bay's priority industries and growth of the economy. Water security supports growth of our Food and Agribusiness industry. Our tourism economy is strongly underpinned by our natural assets, particularly the valuable coastal amenity and wide range of aquatic recreation opportunities that good water management sustains. This theme enables increased water resource efficiency. It can stimulate developments in the knowledge and innovation industries as well as potentially support advanced manufacturing.	- Improves water use efficiency. - Provides alternative water supply for business. - Contributes towards circular economy clustering/resource reuse. - Cross-funding / cost sharing opportunity for mutual benefits. - Innovation with potential to enhance water management. - Supports Moreton Bay's priority industries. - Low ongoing maintenance for Council.
Water for culture	Acknowledgement and respect for Moreton Bay's Traditional Owners enables their unique ability to care for Country and deep spiritual connection to it. This theme acknowledges Moreton Bay's various cultural beliefs, appreciates other perspectives and values.	- Provides opportunities for consultation and engagement with Traditional Custodians. - Provides opportunities for on-ground work with Traditional Custodians (ie employment). - Opportunities to educate wider community and tourists about cultural connections. - Returns environmental assets to a more natural, pre-development state. - Protects cultural heritage (eg artefacts, ceremonial sites etc).

7. Our Action Plan

This five-year action plan guides Council's responses and approaches to achieve the IWMP purpose.

Focus area 1: Water for environment

Theme	Action number	Action	Council role
Our stakeholders are engaged and contribute towards the integration of IWM practices	1.1	Establish key objectives and targets that promote ecological sustainable development for waterway health, recreation and flooding.	Deliver
Our waterways are stable and resilient to erosion and extreme events	1.2	Invest in improved stormwater measures that prioritise nature-based solutions and are informed by an understanding of natural processes, natural systems and water quality outcomes/targets for ecosystem health.	Facilitate
	1.3	Remediate bank erosion to enable bank stability and create floodplains with captured sediment and nutrients.	Facilitate
	1.4	Commit to support riparian projects and initiatives that promote healthy riparian vegetation connectivity, width and density; and prevent sediment erosion and loss of land.	Advocate
Our established and ongoing erosion and sediment control (ESC) practices mitigate risks to our waterways	1.5	Enable increased implementation of Erosion and Sediment Control on construction sites to mitigate risks of high sediment runoff entering waterways.	Facilitate
Our stormwater infrastructure enhances environmental values, healthy environments and delivers resilient communities	1.6	Implement stormwater quality treatment devices, through Water Sensitive Urban Design (WSUD) principles, into prioritised locations to mitigate pollution across the region achieving No Net Worsening as it relates to land use and pollutant loads prior intensification and or new development. ¹¹	Deliver
	1.7	Implement various means of returning waterways to a more natural state, eg removal of fish barriers, replace concrete drains with more natural waterways supporting recreation, amenity and eco-tourism opportunities.	Partner

¹¹ Consistent with the baseline specified in the Local Government Infrastructure Plan.

Focus area 2: Water for community

Theme	Action number	Action	Council role
Our stakeholders are engaged and contribute towards the integration of IWM practices	2.1	Promote our natural water assets as icons of our region's natural amenity and beauty to grow tourism and visitor numbers.	Advocate
	2.2	Establish education programs that encourage community led stewardship of water for the region.	Deliver
Our response to recognised and understood risks of onsite sewage management systems (OSSMS) are preventing groundwater pollution	2.3	Play an active role in understanding risks from OSSMS; potentially intervene where high risks are found (eg compliance action or funding for system replacement).	Partner
The incentivised use of sustainable water use by communities	2.4	Actively engage with business and the community to promote sustainable water management opportunities including rainwater tanks to reduce stormwater runoff from impervious catchments by managing the runoff peak flow.	Facilitate
Our ongoing commitment to best practice flood risk management maintains and increases flood resilience across Moreton Bay communities and delivers equitable and sustainable flood risk mitigation	2.5	Management of floodplains through risk-based land use planning, infrastructure, and disaster management plans.	Deliver
	2.6	Develop state-of-the-art flood models to generate evidence-based decision making.	Deliver
Stormwater harvesting and recycled water reuse is available for non-potable uses across Moreton Bay communities	2.7	Use alternative water supplies where possible to keep parks and sporting fields green and healthy to promote recreation, cool our communities, and keep our city beautiful.	Deliver

Focus area 3: Water for business

Theme	Action number	Action	Council role
Our stakeholders are engaged and contribute towards the integration of IWM practices	3.1	Collaborate with key partners to deliver long lasting sustainable water management outcomes.	Partner
	3.2	Establish an integrated decision making framework for sound decision making for sustainable water management investment.	Deliver
	3.3	Establish an internal cross disciplinary IWM working group to manage and report on IWMP implementation.	Deliver
	3.4	Prioritise IWM initiatives using multi-criteria analysis and consider whole of asset lifecycle costs.	Advocate
	3.5	Ensure the best available research and science informs technical investigations of future reviews of land use and infrastructure policy settings in the Planning Scheme.	Facilitate
	3.6	Ensure best practice integrated water management informs preparation of land use and infrastructure directions for preferred settlement patterns, including development and built form outcomes and locations.	Facilitate
	3.7	Establish an education program for industry and businesses on water reduction, efficiency measures and current and emerging technologies.	Deliver
Our waterways are stable and resilient to erosion and extreme events	3.8	Support landholders and business to undertake riparian restoration and rehabilitation through grants and facilitation.	Advocate
Our rural best management practices demonstrate an improvement in land management and water quality through engaged rural communities	3.9	Support better management of rural / agricultural land to improve water quality of runoff.	Advocate
Our recycled water schemes are delivered through, and in consultation with, Unitywater's capital works for recycled water infrastructure	3.10	Work with Unitywater to expand water recycling schemes (eg to Council sporting fields) and/or develop new opportunities (eg Wamuran water recycling scheme).	Partner
	3.11	Explore feasible opportunities to identify market demand, locational advantages, water quality requirements and existing and future potential demand for this as a resource.	Facilitate
City of Moreton Bay is the preferred location for businesses seeking water security through applied water efficiency practices	3.12	Work with business and industry to improve efficiency of water use to ensure business resilience, sustainability and water security.	Advocate
	3.13	Work with business to encourage precinct level water reuse outcomes, champion and promote best practice and technological innovations aligned to IWMP.	Advocate

Focus area 4: Water for culture

Theme	Action number	Action	Council role
Our stakeholders are engaged and contribute towards the integration of IWM practices	4.1	Invest in IWM projects in consultation with Traditional Custodians that recognise and use their connection to Country and protect the cultural value of water.	Deliver



Bunya Crossing, Albany Creek

8. Monitoring our success

We will monitor and review this Plan annually to ensure progress against the Action Plan. This plan will also be updated to include new actions as they are identified.

Annual feedback will be provided to the community through the IWMP Card, which could include:

Total area committed to preserving natural beauty and ecosystems.

Percentage of alternative water used for non-potable use.

Volume of sediment captured by the stormwater quality network.

Increased erosion and sediment control practices.

Reduced groundwater pollution.

Increased community use of sustainable water.

Reduction in flood risks.

Increased engagement with rural communities.

Delivery of recycled water schemes.

Number of businesses implementing water efficiency.



Suttons Beach, Redcliffe

9. Glossary

Type	Description
Bioreactors	A treatment system used to treat groundwater or surface water from crops to improve water quality leaving farms.
Bioretention basin	A well-vegetated retention cell or pond designed to enhance water filtration through a specially prepared sub-surface sand filter. Bioretention cells may be incorporated into grass or vegetated swales or as a stand-alone treatment system. The system incorporates vegetation with medium-term stormwater retention and sub-surface filtration/infiltration. Also known as biofiltration systems or biofilters.
Constructed wetlands	An artificial system containing pond, marsh and swamp features. The dominant element is the vegetation of the marsh and swamp zones which can withstand wetting and drying. It supports a diverse range of micro-organisms and plants that break down organic material and trap nutrients. Wetlands may be designed as permanent wet basins (perennial), or ephemeral systems.
Detention basin	A large, open, free draining basin that temporarily detains collected stormwater runoff. These basins are normally maintained in a dry condition between storm events.
Hazard	A potential harm.
Likelihood	Probability or frequency of an event.
Natural Channel Design	Emulates natural waterways while enabling redirection to treat stormwater by filtering and nutrient uptake.
No Net Worsening (NNW) target	Trunk stormwater treatment infrastructure is required to meet the NNW pollutant load targets specified for each service catchment under Council's Desired Standard of Service for trunk infrastructure, and the business as usual practice in the State Planning Policy (2017) for non-trunk stormwater treatment infrastructure.
Peri-urban	Rural residential areas located at the urban-rural fringe.
Riparian areas	Land areas next to streams that have distinctive hydrologic, soil and vegetative characteristics.
Risk	The chance of something happening and its consequences.
Runoff	Rainfall which is not lost to infiltration, evaporation, transpiration or depression storage.
Rural best practice management for grazing lands	This solution includes buffer strips of inter row cover on horticultural land uses to reduce the loss of soil from the site and reduce the export of sediment and nutrients to the waterways.
Sedimentation basin	A tank or basin that traps coarse sediment particles from stormwater runoff.
Urban footprint	
Urban heat island effect	An urban or metropolitan area that is significantly warmer than surrounding rural areas due to a concentration of hard sealed surfaces, such as roads, pavement and buildings which absorb and retain heat.
Water Sensitive Urban Design (WSUD)	Design solutions that aim to minimise impacts on the water cycle from the built urban environment.

10. References

Queensland Government (2017) State Planning Policy

Queensland Government (2017) State Planning Policy – Water quality 2017

Queensland Government (2023) ShapingSEQ

Disclaimer

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