IPSWICH INTEGRATED WATER STRATEGY 2015

A TOTAL WATER CYCLE FRAMEWORK FOR IPSWICH

STRATEGY SUMMARY

www.ipswich.qld.gov.au

Ipswich INTEGRATED WATER MANAGEMENT

City of Ipswich

Prepared by: Ipswich City Council

Date: March 2015

Acknowledgements The Integrated Water Strategy has been developed with input from multiple stakeholders. Their input is gratefully acknowledged.

This document is a summary of the Ipswich City Council Integrated Water Strategy 2015-2031.
A full version of the Integrated Water Strategy is available from Council – email water@ipswich.qld.gov.au or on www.ipswich.qld.gov.au

1	3	5
2	4	

Cover Images

1. *Green Infrastructure*
2. *Water Storage by P. Slater, Enviroplan Photographic Competition Entrant*
3. *God's Promise by P. Rettke, Enviroplan Photographic Competition Entrant*
4. *Streaming Cascades by D. Lynch, Enviroplan Photographic Competition Entrant*
5. *Father's Day Fishing Fest Entrant, Photograph by J. Young*

Mayor's Message

Ipswich is one of the fastest growing local government areas in Queensland.

Ensuring good management of our water resources as we grow as a city is essential so that the liveability of Ipswich is maintained.

Therefore it is important we have access to a safe and reliable water supply while protecting and enhancing our waterways. Increasing the resilience of the city to the impacts of flooding and droughts are also crucial.

The Ipswich Integrated Water Strategy is a long term planning tool designed to align and connect a range of stakeholders to provide a common direction for the future.

The strategy and its implementation will help improve water management so everyone is working towards a common direction where the economic, social and environmental benefits of effective water management are realised for the city now and into the future.

Mayor Paul Pisasale
City of Ipswich

Chair's Message

Integrated water management is an ongoing process of managing water quality and quantity in a coordinated way, recognising interconnections between different parts of the water cycle, increasing communication, and maximising social and economic benefits while protecting the environment.

Council has a crucial leading role in many parts of water management including flooding, waterway health and stormwater management, but many other key stakeholders have responsibility for other parts of the water cycle that also impact on our city.

The Ipswich Integrated Water Strategy uses a total water cycle management framework to address the water management issues within Ipswich City Council's influence, while also providing for integration with these other key stakeholders to achieve mutually beneficial, cost effective and environmentally sustainable solutions.

Cr Cheryl Bromage
Chairperson City Infrastructure Committee and
Total Water Cycle Management Steering Committee Chair

Integrated Water Strategy 2015

CONTENTS

View of Bremer River by G Bryant
Enviroplan Photographic Competition Entrant

Executive Summary

Water is essential for human survival; however, risks such as water shortages, water quality degradation and the increasing impacts of flooding mean communities require a new approach to water management.

Ipswich City Council's Integrated Water Strategy establishes a framework for the management of Ipswich's water cycle in accordance with a total water cycle management approach. Ipswich's water cycle combines a complex and interrelated mix of people, industries, catchments, rivers, dams, reservoirs, water service provider assets (potable water and sewerage networks), stormwater drainage features and flood mitigation works. Some elements of the water cycle are within the Ipswich Local Government Area (LGA), while others – such as Wivenhoe Dam – are outside the Ipswich LGA but impact on, or are impacted by, what happens here.

Integrated water management seeks to cost effectively improve water management in a way that meets community expectations while maximising social and environmental benefits. It recognises all the elements of the water cycle and considers the interactions between them when decisions are made.

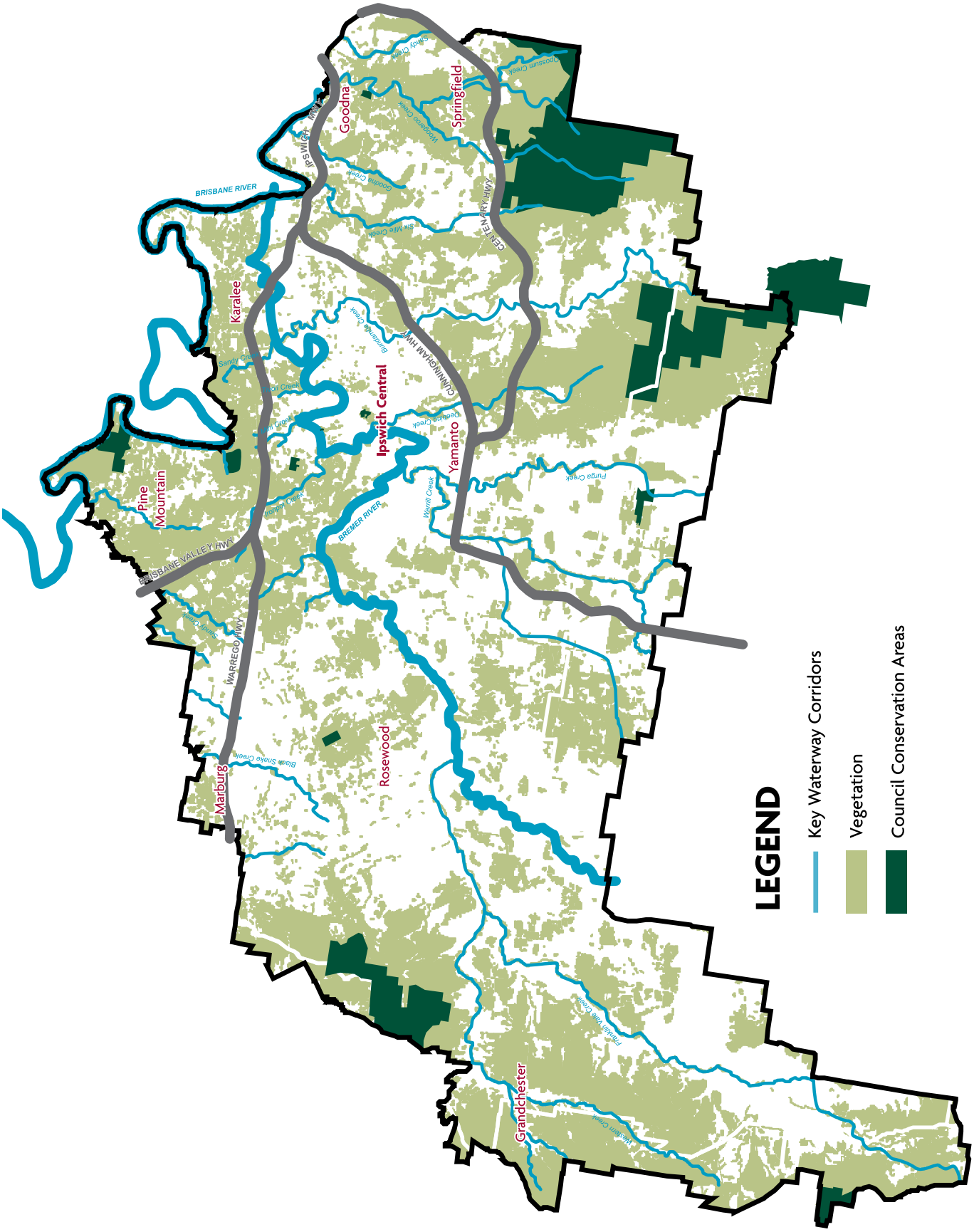
This strategy considers all elements of the water cycle that Ipswich City Council (ICC) is responsible for such as stormwater, flooding, waterways, Council water use, and catchments. It also considers areas where Council's decision making impacts on the water cycle - for example water supply, sewerage and groundwater.

This strategy aims to take the first, most significant step towards a water-sensitive future for Ipswich, by developing a shared understanding of the city's water cycle issues and providing a framework to identify and deliver strategic solutions to achieve long-term outcomes.

Addressing all issues in an integrated way, while working towards one clear direction for Ipswich's water management, will help optimise benefits to the community, influence innovative solutions, reduce waste and avoid duplication across water cycle stakeholders.

Kayaking on the Bremer River

Waterways of Ipswich



Key Water Cycle Management Issues for Ipswich

The following key water cycle issues for Ipswich City Council have been identified:

Floodplain management and flood risk

History shows Ipswich has experienced multiple floods since European settlement (the largest recorded being in 1893) and many parts of Ipswich are prone to the impacts of flooding. Recent floods in 1974, 2008, 2009, 2011 and 2013 have demonstrated Ipswich's vulnerability to local and regional flooding events.

While flooding cannot be stopped, the risk and impacts can be mitigated through various structural and non-structural interventions.

Bremer River on Bremrer Street by T. Rice

Drought resilience

Droughts are also a natural part of the water cycle. Despite the reduced focus on droughts due to recent flooding, it is inevitable Ipswich will face droughts again in the future. As a growing community Ipswich needs to consider the impacts future droughts will have on the City's liveability.

As the population of SEQ grows, a number of water supply options will need to be considered to ensure that the water supply is resilient to droughts. This may include a range of water supply options such as recycled water and desalinisation, in addition to conventional rainfall dependent water supply dams.

Urban growth and population increases

The SEQ regional population is expected to increase from around 3 million in 2011 to 4.2 million in 2031. Ipswich's population is expected to increase from around 175,000 in 2011 to 435,000 in 2031 across the LGA. An additional 118,000 dwellings are forecast to accommodate the anticipated regional growth, population increase and demographic change (Queensland Government, 2009).

The rising population will have an increasing need for water, and increasing impacts on our waterways. Urban development also provides opportunities to incorporate best practice water management techniques and technology such as adopting water sensitive urban design concepts, implementing localised integrated water management systems or incorporating recycled water pipelines. Planning for integrated water management helps to ensure the economic benefits of development are balanced with holistic consideration of the water cycle impacts and assessment of alternatives.

Climate change and urban heat island impacts

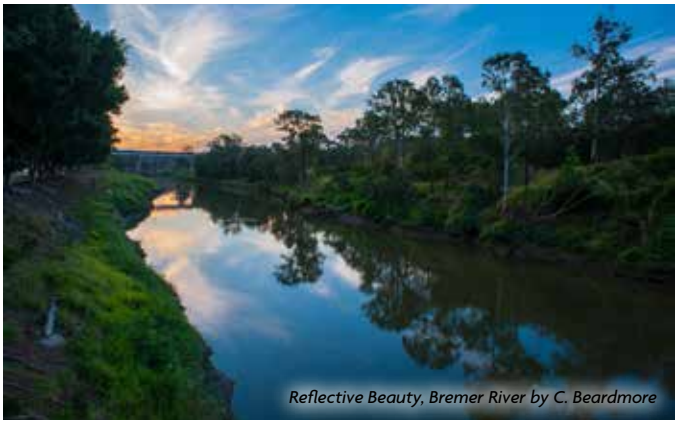
Climate change has the potential for broad impacts on Ipswich's water cycle by increasing the frequency and severity of droughts and floods and through rising temperatures. The highly urbanised population is also at risk of urban heat island impacts.

ICC needs to consider the impacts of climate change and urban heat island impacts on the water cycle and ensure the community is resilient to their effects. Integrated water management planning will take a significant step towards climate change adaptation and urban heat island resilience by identifying these issues for incorporation into further Council decision-making.

Waterway health and wetlands

Clean, safe and healthy waterways and wetlands are essential to Ipswich's liveability and economic viability and are crucial for sustaining biodiversity. The health of waterways in Ipswich has an impact on terrestrial and aquatic ecosystems locally and in Moreton Bay, as well as supporting ecosystem services to the community.

Better waterway health in Ipswich will be achieved through continued coordinated and collaborative approaches across all areas of Council. These approaches are consistent with the principles of integrated water management and this strategy's objectives.



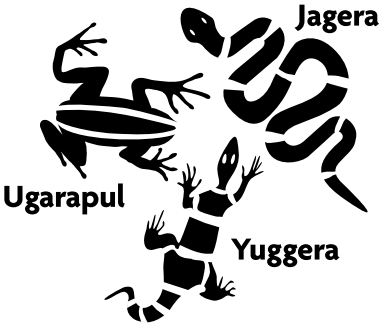
Reflective Beauty, Bremer River by C. Beardmore

Cultural heritage and traditional owner values

The Jagera, Yuggera and Ugarapul people are the traditional owners of land and waters that have been occupied and cared for by their ancestors for countless generations within the area now defined as the Ipswich LGA. This relationship is formally recognised in the Ipswich City Council's Indigenous Land Use Agreement.

Decisions impacting on the water cycle need to recognise the roles and responsibilities of traditional owners. Integrated water management planning helps ensure cultural heritage representatives are identified as water cycle stakeholders and aids communication and collaboration around water cycle management decisions.

Home of the Yagara People



Erosion, sediment and dispersive soils

Increasing amounts of sediment entering waterways has been identified as the major issue affecting waterway health in SEQ (Healthy Waterways, 2013). High levels of construction activity associated with urban growth, combined with Ipswich's highly erodible soils, are a significant risk to the water cycle in Ipswich and beyond to the broader Moreton Bay catchment. Gully and riverbank erosion also contribute to high sediment loads in waterways.

Stormwater quality management

Urban stormwater management is a crucial component of integrated water management. Urban stormwater is the runoff from roofs, roads, car parks and other impervious surfaces within the urban environment, as well as from open space, parks and yards. Urban stormwater flows from urban catchments into waterways at increased volumes and velocities compared to what occurs in naturally vegetated catchments, and brings with it increased contaminants such as nutrients, litter, hydrocarbons, pesticides, herbicides and metals.

Integrated water management planning will help to provide a framework so that decisions about stormwater management can be made in a balanced way, incorporating social, environmental and economic factors.

Stormwater Infrastructure Planning

Management and maintenance of stormwater drainage infrastructure networks is an important function of Council. It is essential for community resilience and liveability, as well as for managing impacts on waterways.

Community engagement

Council acts on behalf of the local community to ensure resources are managed effectively and efficiently to ensure the City's liveability is maintained. Good management of water supports the liveability of the City for now and future generations.

There is significant benefit in ensuring water planning considers and responds to the values of the community and there are many benefits from increasing the role communities have in understanding and managing water.

Consumption of water in Council facilities

Ipswich City Council is a significant consumer of potable water in facilities and buildings and for the irrigation of parks and sports fields. This use of water supports a number of social and amenity benefits to the community of Ipswich.

Recreational water quality

Ipswich is fortunate to have a number of opportunities for waterside recreation on many of its waterways. These waterside recreation opportunities are particularly important for Ipswich as an inland Council without direct access to the coast.

Waterway recreation brings a wide range of social and economic benefits to the City of Ipswich. However, there is a need to ensure appropriate information about water quality and public health risks is provided at these access points.

Managing salinity

In parts of Ipswich ground and surface water has a high concentration of salts which impact on water quality and productivity of soils. Salinity issues are often linked to geology but can be exacerbated by vegetation clearance.

Photograph by H. McLeod

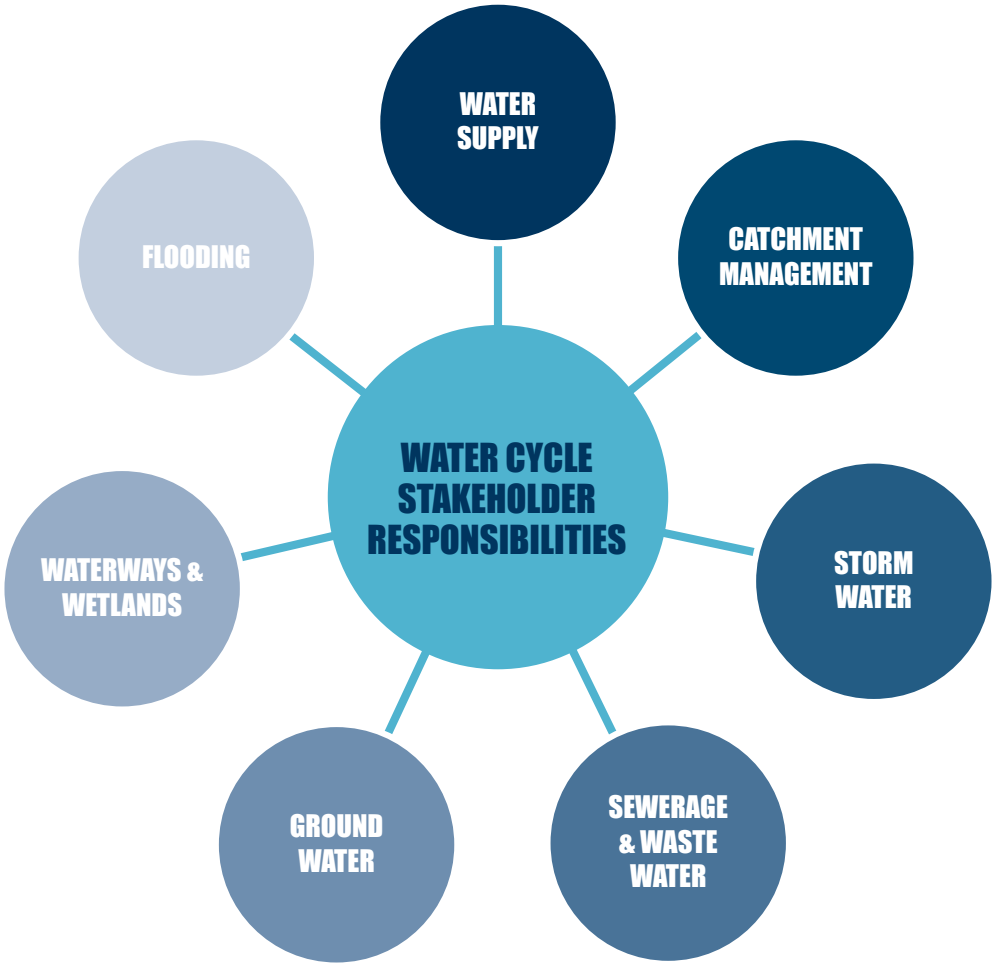
Water Cycle Stakeholders

Everyone has a role to play in managing water. Water is used by everyone and the cumulative actions of everyone in the community impact significantly on the water cycle. Within Ipswich, responsibilities for water management are shared across multiple agencies and stakeholders. These roles and responsibilities are all interrelated.

Many stakeholders including Council, Queensland Urban Utilities (QUU), Seqwater, SEQ Catchments, Ipswich Rivers Improvement Trust, Healthy Waterways Partnership, the Queensland State Government and the community are all key stakeholders.

These stakeholders have responsibilities for various parts of the water cycle, as demonstrated below.

Interrelated Water Cycle Stakeholder Responsibilities



The Integrated Water Strategy clarifies roles and responsibilities, and provides a platform for ongoing communication and collaboration.

Strategic Direction for Integrated Water Management

A long-term vision for integrated water management has been established for ICC, supported by four strategic objectives, and underpinned by a number of integrated water management guiding principles. The vision and objectives are set out below:

VISION

The City of Ipswich values its precious water recources to provide environmental, social and economic benefits to support the city's long term liveability

- Community resilience and liveability
- Economic development and efficient resource use
- Protection and enhancement of the natural environment
- Communication and collaboration

Night Falls by C Hooper
Enviroplan Photographic Competition Entrant

Strategic Objective:

Community Resilience and Liveability

The community is prepared for and resilient to the impacts of severe climatic events such as droughts, floods and the impacts of climate change. The water cycle and the natural resources it supports are valued for their contribution to the community's health, amenity, recreation and long-term liveability of Ipswich as it grows.

Guiding Principles

- Improve the understanding of flood risks and manage and communicate them appropriately to minimise these risks to the community.
- Consider environmental and social impacts of flood mitigation options.
- Support effective floodplain management to ensure community safety and resilience.
- Support efforts to prepare the community for droughts.
- Support the appropriate use of recycled water.
- Understand the impacts of climate change on the water cycle in Ipswich and develop climate change adaptation strategies.
- Ensure multiple functions are provided for within riparian corridors as the City develops.
- Utilise water to reduce urban heat island impacts.
- Enhance community pride in the Bremer River.
- Encourage and support water-based recreation opportunities in appropriate locations.
- Provide the community with opportunities to view and access waterways for recreation.
- Ensure recreational water access is accompanied by appropriate water quality information.
- Encourage appropriate sewerage and potable water services to Ipswich communities to protect public health and support planned growth.
- Encourage the implementation of holistic water sensitive design measures to improve stormwater management and community liveability, integrating systems into the landscape to provide amenity benefits to the community.
- Ensure long-term impacts and intergenerational equity are considered in water decision-making.
- Protect drinking water catchments to ensure a safe, resilient and efficient drinking water supply.
- Demonstrate Council stewardship and leadership in managing our impacts on the water cycle and communicate this to the community.

Strategic Objective:

Economic Development and Efficient Resource Use

Efficient and effective water management supports a thriving economy and well-managed growth and development, while negative impacts of land use change on the water cycle are minimised or avoided. New developments have access to cost effective integrated urban water services, utilising financially sustainable water sensitive urban design practices.

Water resources are used efficiently to ensure costs to the community are minimised and opportunities for more efficient uses are optimised.

The whole of life cycle costs of decisions associated with water management and activities impacting the water cycle are understood, forecasted and budgeted for. Costs are shared equitably by those who gain benefits from activities.

Guiding Principles

- Understand the long-term costs (including whole of life cycle costs) of decisions impacting the water cycle, particularly in relation to construction of assets, and communicate them to relevant stakeholders.
- Consider long-term maintenance and replacement costs when designing, constructing or approving assets for water management.
- Encourage diversity of water sources and ensure they are fit for purpose.
- Use water efficiently in Council operations, including facilities and in open space irrigation and seek opportunities for water reductions and cost savings.
- Investigate and support opportunities for alternative water supplies, including stormwater harvesting to reduce reliance on potable water supplies in Council operations.
- Ensure sufficient and appropriate water and sewerage infrastructure is provided to support development of a growing community and economic activity.
- Cost effectively manage stormwater assets to provide for development in the City while also managing water quality impacts.
- Increased focus on proactive management of Council's water assets to ensure continued performance.
- Support the appropriate use of stormwater offsets / alternative stormwater solutions where they deliver optimised multiple outcomes for stormwater management (environmental, social, economic).
- Provide for resilient economic development in the City by understanding and managing flood risks.
- Understand and promote the economic benefits and ecological services provided by the City's waterways.

Two Waterlillies by C. Poore

Strategic Objective:

Protection and Enhancement of the Natural Environment

Ipswich's waterways, catchments and riparian areas and the life they support are protected and enhanced, leading to improved environmental and waterway health outcomes, improved water quality, increased biodiversity values, and increased ecological services.

Development in Ipswich occurs in an ecologically sustainable way with regard to water. The multiple values of Ipswich's waterways are maximised - recognising their multiple functions for amenity, recreation, wetlands, economic values, cooling effects on cities, floodplain and ecological purposes.

Guiding Principles

- Protect or enhance all waterways and wetlands, recognising the multiple values they provide to the environment and the community.
- Manage the impacts of land development on waterways and wetlands.
- Ensure waterways, wetlands and riparian corridors are appropriately considered in Council's planning instruments.
- Recognise the contribution of lower order waterways to the effective functioning of the water cycle.
- Support and prioritise waterway health improvement projects.
- Ensure environmental and pre-development flows in Ipswich's waterways are maintained.
- Understand and maximise the benefits of catchment and riparian vegetation.
- Seek opportunities to protect natural waterways and wetlands prioritised ahead of creating artificial waterways.
- Effectively manage stormwater quality and quantity and ensure stormwater assets are well designed (including consideration of soil types), constructed and maintained to achieve water quality benefits.
- Improve water quality in the City's waterways.
- Achieve or exceed water quality targets set out in State Planning Policies.
- Manage high risk land uses to protect water quality.
- Improve erosion and sediment control practices to ensure minimum regulatory standards or better are met for all developments within the City, using methods appropriate for the soils and environmental conditions within Ipswich.
- Investigate and understand causes of water quality declines in the City and develop appropriate management strategies and responses.
- Ensure the impacts of Council's activities on the water cycle are managed in accordance with the Council's Environmental Management Policy and this strategy.
- Support the development of whole of waterway and catchment management plans and creek master plans.
- Ensure that water and sewerage infrastructure is provided in a way that achieves appropriate water quality outcomes.

Strategic Objective:

Communication and Collaboration

Ipswich's place within a broader water cycle is understood. The community has an increased awareness, understanding and engagement in water management and decision-making.

Council, the community, water providers, industry, government, environmental groups and other water cycle stakeholders have an improved understanding of each other's roles and responsibilities. Opportunities for communication, collaboration and partnerships across the water cycle are encouraged and supported.

Guiding Principles

- Encourage, support and seek opportunities for cross-boundary partnerships and collaboration on water cycle projects.
- Engage with appropriate water cycle stakeholders and external agencies to advance the principles of total water cycle management for Ipswich .
- Clarify and communicate roles and responsibilities for water management within Council and external agencies.
- Support opportunities for participation in water cycle research.
- Consider impacts on the water cycle at multiple scales (site, sub-catchment, catchment).
- Establish communication protocols across statutory water cycle stakeholders.
- Facilitate communication and collaboration across Council to maximise water cycle outcomes.
- Prioritise consideration of impacts on the water cycle early in decision-making for Council activities.
- Integrate water planning with other long-term planning within Council.
- Ensure cultural heritage and traditional owners are appropriately recognised and provided for in water cycle management.
- Support capacity building, regional collaboration and best practice forums regarding water management.
- Ensure up to date, relevant best practice is incorporated into Council water management activities.
- Provide information to the community about water management to support water smart behaviours, increase water cycle understanding, and build community understanding.
- Engage with the community about water cycle management.
- Support community education about water cycle management.
- Encourage community participation and support for water management initiatives and decision-making.
- Support appropriate regulation and enforcement to support water management decision-making.

Actions and Implementation

The implementation of the Integrated Water Strategy will involve an ongoing drive towards the long-term vision. Council has led the strategy's development but the implementation of actions to achieve the strategic direction will result from actions across multiple stakeholders.

Key actions will include the following:

- Developing action plans to address key water cycle issues in ways consistent with this strategy's principles
- Establishing integrated planning outcomes and enhanced communication with stakeholders
- Annual reporting on the progress towards Council's integrated water vision and strategic strategy outcomes.

The following areas of further investigation have been identified as high priorities for consideration in the initial action planning over the first five years of the Integrated Water Strategy's implementation:

High Priority Implementation Areas

- Development of a Council-wide implementation plan for stormwater quality offsets.
- Progress improved erosion and sediment control actions, including use of auditing tools and seeking partnership opportunities.
- Consider mechanisms for development of infrastructure masterplans for the stormwater network.
- Establish climate change adaptation policies that consider and respond to impacts on the water cycle.
- Continue to engage with Queensland Urban Utilities and other stakeholders regarding appropriate water and sewerage servicing of the City, with a particular focus on Ripley Valley and other growth areas.
- Floodplain management strategy development.
- Incorporating the Integrated Water Strategy approach into assessment of flood mitigation options.
- Review of the 2009 Waterway Health Strategy.
- Advancement of a stormwater harvesting pilot project.
- Implementation of actions identified in local waterway management plans, particularly Black Snake Creek Catchment Plan and Bundamba Creek Master Plan.
- Progress a bio retention basin maintenance and monitoring pilot study to inform the establishment of a proactive maintenance program.
- Adopt an Ipswich City Council Irrigation Management Strategy and associated actions.
- Establish waterway design guidelines / natural channel guidelines.
- Establish an Ipswich City Council Water Sensitive Urban Design (green infrastructure) guideline.
- Establish a riparian management framework for the interface between open space, waterways and stormwater management.
- Provide opportunities for engagement with the community about water cycle management.
- Develop and adopt decision-making criteria to guide Council-wide decision-making about water cycle issues.
- Undertake an assessment of the economic value of water to Ipswich City.

Bremer River at night by P. Rettke
Enviroplan Photographic Competition Entrant